ISSN-0974-9349 (Print) • ISSN-0974-9357 (Electronic)

Volume 12 | Number 4 | October-December 2020

International Journal of Nursing Education

www.ijone.org

International Journal of Nursing Education

29. **Bivin Jose**
Lecturer in psychiatric Nursing, Mar Baselios college of Nursing, Kothamangalam, Kerala

30. **Poonam Sharma**
Assistant Professor, INE, Guru Teg Bahadur Sahib (C) Hospital, Ludhiana, Punjab.

31. **Kapil Sharma**
Associate Professor, INE, G.T.B.S.(C) Hospital, Ludhiana (Punjab)

32. **Simer Preet Kaur**
Lecturer, U.P R.I.M.S N R, Saifai, Nursing college

33. **Mr. Vineeth Joseph**
Asst.Professor, St.Thomas College of Nursing, Chethipuzha, Chenganasherry

34. **Dr. Sameer Babu M,**
Assistant Professor, Central University of Rajasthan India.

35. **Anjali Kaushik**
Faculty, Dept of Pediatric Nursing Rufaida College of Nursing Jamia Hamdard

36. **Dr. G. Radhakrishnan PhD**
Principal, PD Bharatesh College of Nursing, Halaga, Belgaum, karnataka, India-590003.

37. **Krishnaveni**
Principal, Muzaffarnagar Nursing Institute unit of Muzaffarnagar Medical College, Muzaffarnagar

38. Fatima D'Silva
Principal, Nitte Usha Institute of nursing sciences, Karnataka

39. **G. Malarvizhi Ravichandran**
PSG College of Nursing, Coimbatore, Tamil Nadu

40. **Prof. S. Baby**
PSG College of Nursing, Coimbatore, Tamil Nadu Ministry of Health, New Delhi

41. **Dr. Elsa Sanatombi Devi**
Professor and Head, Meidcal Surgical Nursing, Manipal Collge of nursing, Manipal

42. **Dr. Baljit Kaur**
Prof. and Principal, Kular College of Nursing, Ludhiana, Punjab

43. **Mrs. Josephine Jacquline Mary. N.I**
Professor Cum Principal, Si-Met College Of Nursing, Udma, Kerala

44. **Dr Sukhpal Kaur**
Lecturer at National Institute of Nursing Education, PGIMER, Chandigarh

45. **Dr. L. Eilean Victoria**
Professor in Dept. of Medical Surgical Nursing at Sri Ramachandra College of Nursing, Chennai, Tamil Nadu

46. **Dr Mary Mathews N**
Professor and Principal Mahatma Gandhi Mission College of Nursing, Kamothe, Navi Mumbai PIN-410209 Cell No. 09821294166

47. **Dr. Mala Thayumanavan**
Dean, Manipal College of Nursing, Bangalore

48. **Dr. Ratna Prakash**
Professor, Himalayan College of Nursing, HIHT University, Dehradun, Uttarakhand

49. **Pramilaa R**
Professor and Principal of Josco College of Nursing, Bangalore

50. **Babu D**
Associate Professor/HOD, Yenepoya Nursing College, Yenepoya University, Mangalore

51. **Dr. Theresa Leonilda Mendonca**
Professor and Vice Principal, Laxmi Memorial college of Nursing. A.J. Towers, Balmatta, Mangalore, Karnataka

52. **Prof Madhavi Verma**
Amity College of Nursing, Amity University Haryana

53. **Latha Srikanth**
Vice Principal, Indirani College of Nursing, Ariyur, Puducherry

54. **Rupa Verma**
Principal, MKSSS college of nursing for women, Nagpur

55. **Sangeeta N. Kharde**
Rofessor Dept. of OBG Nursing KLES's Institute of Nursing Sciences, Belgaum

56. **Dr. Suresh K. Sharma**
Professor (Nursing), College of Nursing, All India Institute of Medical Sciences, Rishikesh (UK) 249201

57. **Sudha Annasaheb Raddi**
Principal & Professor, Dept of OBG Nursing, KLEU's Institute of Nursing Sciences, Belgaum

58. **Rentala Sreevani**
Professor & HOD Dept. of Psychiatric Nursing, Sri. Devaraj Urs College of Nursing, Kolar, Karnataka

59. **Accamma Oommen**
Associate Professor and Head of the Department, Child Health Nursing, Sree Gokulam Nursing College, Trivandrum, Kerala, India

60. **Shinde Mahadeo Bhimrao**
Professor, Krishna Institute Of Nursing Sciences Karad Tal-Karad Dist Satara Mahashtra State

61. **Dr. Judith A Noronha**
Professor and HOD, Department of Obstetrics and Gynaecological Nursing, Manipal University

62. **Prof. Balasubramanian N**
Head, Psychiatric Nursing, Shree Devi College of Nursing, Mangalore

63. **Mrs. Harmeet Kaur**
Principal, Chitkara School of Health Sciences, Chitkara University, Punjab.

64. **Mrs. Chinnadevi M, Principal**
Kamakshi Institute of Nursing, Bassa wazira, Bhugnara Post, The Nurpur, Dist Kangra, HP,

Print-ISSN: 0974-9349, Electronic - ISSN: 0974-9357,
Frequency: Quarterly (Four issues in a year)
www.ijone.org

Editor

Dr. R.K. Sharma
Institute of Medico-legal Publications
Logix Office Tower, Unit No. 1704, Logix City Centre Mall,
Sector- 32, Noida - 201 301 (Uttar Pradesh)

Printed, published and owned by

Dr. R.K. Sharma
Institute of Medico-legal Publications
Logix Office Tower, Unit No. 1704, Logix City Centre Mall,
Sector- 32, Noida - 201 301 (Uttar Pradesh)

Published at

Institute of Medico-legal Publications
Logix Office Tower, Unit No. 1704, Logix City Centre Mall,
Sector- 32, Noida - 201 301 (Uttar Pradesh)

International Journal of Nursing Education is an international peer reviewed journal. It publishes articles related to nursing and midwifery. The purpose of the journal is to bring advancement in nursing education. The journal publishes articles related to specialities of nursing education, care and practice. The journal has been assigned international standard serial numbers 0974-9349 (print) and 0974-9357 (electronic). The journal is covered by Index Copernicus, Poland and is included in many international databases. We have pleasure to inform you that IJONE is a double blind peer reviewed indexed international journal and is now covered by EMBASE (Scopus), Indian citation index, GOOGLE SCHOLAR, INDEX COPERNICUS (POLAND), EBSCOHOST (USA), and many other international databases.

International Journal of Nursing Education

www.ijone.org

Contents

Volume 12, Number 4 **October-December 2020**

DOI Number: 10.37506/ijone.v12i4.11204

Assess the Prevalence of Dementia in the Elderly at SRM General Hospital, Kattankulathur, Kancheepuram District

Abirami P.[1], Sangeetha Jagdeesh[2], Sanabam Darshinichanu[3]

[1]Professor, [2]Asst. Prof, [3]B.Sc. (N), SRM College of Nursing

Abstract

Objective: The aim of the study was to determine the prevalence of Dementia among Elderly and to associate the level of Dementia with their Demographic Variables.

Method: Quantitative approach and non-experimental descriptive research design was used. The data collection included three parts. Part A: Demographic variables, Part B: Four point rating scale to assess the Level of Dementia among elderly. A total of 100 students who fulfilled the inclusion criteria were chosen as samples using non-probability convenient sampling technique. The study was conducted at SRM General hospital, Kattankulathur.

Results: The data were analyzed and interpreted based on the objectives using descriptive and inferential statistics. The study concluded that 28 (28%) of them have same than Normal level of Dementia; 50 (50%) have Worse than Normal level of Dementia; and 22 (22%) have Much Worse than Normal level of Dementia and there is association between the "Age, Education, Occupation, Family Income, Residence and No of Children with the "levels of Dementia.

Conclusion: Dementia is progressive brain dysfunction which result in a restriction of daily activities. The early stage of dementia is often overlooked and incorrectly labeled as normal old age outcomes.

Keywords: *Dementia, prevalence, Progressive brain dysfunction.*

Introduction

Alzheimer's disease is known to men since 100 years only, Alzheimer's day is celebrated throughout the world on 21st September every year. The theme of world Alzheimer's day 2007 is; "Identify Dementia early for better care. No time to lose" Alzheimer's disease is a form of dementia. Dementia is derived from the Latin word de- "apart, away" and "Mens" – mind. Dementia is progressive brain dysfunction which result in a restriction of daily activities and in most cases leads in the long term to the need for care.[1]

Demanding illness are the most commonest disorders among elderly and through to be the fourth leading cause of death among adults in many developed nations following heart disease, cancer and stroke. Dementia robs the quality of not only the elderly, but also the family members who are forced to devote their lives caring for their impaired loved ones. Dementia is the most feared and devastating disorder of late life. Current estimates reveals that there are about 18 million suffering from dementia. The overall prevalence of dementia ranges from 5 percent to 7 percent. Dementia is the most common demanding disorder accounting for 80 percent of all cases of dementia. Dementia attacks the part of the brain that control thought, memory and language. The onset of the disease is gradual and the person's decline is usually slow.

Clinical sings of dementia are characterized by progressive cognitive deterioration together with, declining activities of daily living and by neuropsychiatric symptoms or behavioral changes. The pathophysiological hallmarks of the disease are specific Neuropathologic and biochemical changes found in patients with Dementia. These include Neurofibrillary tangles and senile or neuritic plaques. This neuronal damage occurs primarily in the cerebral cortex and results in decreased brain size. Similar changes are found to a lesser extent in normal brain tissue to older adults. Cells

principally affected by this disease are the ones that use the neurotransmitter acetylcholine. Biochemically, the enzyme active in producing acetylcholine is decreased. Acetylcholine is specifically involved in memory processing. The ultimate cause of dementia is unknown. In dementia there are mainly three stages of disease, they are early stage, middle stage and late stage. In the early stage the patient have a tendency to become less energetic or spontaneous through changes in their behavior often go un-noticed even by the patient's immediate family.[2]

The early stage of dementia is often overlooked and incorrectly labeled as normal old age outcomes. As the disease stage progresses to the middle stage, patient might still be able to perform tasks independently, but may need assistance with more complicated activities. In the late stage patient will not be able to perform even the sample tasks independently and will require constant supervision. They many eventually to lose the ability to swallow food and fluid and this can ultimately lead to death. There is currently no cure for dementia. Currently available medications offer relatively small symptomatic benefit for some patient but do not show disease progression. It helps a little for the memory. Right now, dementia is diagnosed by battery of mental and other tests and even the diagnosis rest on the judgment of the physician. The sun will continue to show its rays on the world. The waves of the vast ocean will continue their rush to reach the shore and the wind will continue to blow the leaves of the tree. But let us all accept the patient with dementia and give them a better tomorrow.[3]

Alzheimer's is a major public health challenge since the median age of he industrialized world's population is increasing gradually. In the fight against Dementia, awareness is key. As baby boomers age, it is expected that the number of people will triple by the year 2050. Many famous personalities of the world have been attacked by Dementia like former U.S. President Ronald Reagan, Harold Wilson, Iris Murdoch, Eddie Robinson, Puskas, Rita Hayworth, Eddie Albert and Hazel Haike.

Dementia patient care is the road ahead is long and hard. Care giving in such cases is intensive and prolonged. Hence caregivers play a very crucial role. Caregivers need to be educated about the nature of the disease and its progression, they must be counseled to handle negative emotions and feelings care gives must be encouraged to join support groups. Caregivers need to be alert to alert to signs and symptoms of stress and burn out. Often cares neglect themselves teaching them to listen to their own bodies, respond to their own needs and maintain a regular regime of self care is essential.[4]

Werner P conducted a study on knowledge about symptoms of Dementia among 150 community dwelling persons aged over 45, who did not have a closed relative diagnosed with Dementia, participated in the study results found that participants knowledge about Dementia found that participants knowledge about Alzheimer's symptoms over all, was fair, only a sight percentage reported memory problems to be symptoms of the disease. The study concluded the efforts to increase knowledge about Dementia symptoms should be expanded with special attention to risk groups.[5]

Laforce R Jr. Mclean S conducted a study on knowledge and fear of developing Dementia in a sample of healthy adults. Survey method was used 127 young adult and 118 older adults participated. Younger adults obtained a score of 54 percent, which older adults obtained 58 percent on knowledge test knowledge and fear scores were not significantly correlated with having a family member of knowing someone with Dementia.[6]

Ayalon L. Arean PA conducted out a study on knowledge Dementia in four ethnic groups of older adults. Participants were ninety six Anglo, 17 Latino, 30 Asia and 30 African American older adults completed a short survey about Dementia. The result suggest that certain minority groups do not have sufficient information about Dementia, and this may explain the lack of Dementia service use by minorities. The investigator during his clinical posting and his interactions with the adults in the communityhas observed that adults have the lacunae in their knowledge bank on Dementia. The investigator also observed various myths and misconceptions about Dementia.

Nurses are vital source in education the public on various health related issues. Hence the investigator is interested to assess the knowledge of adults regarding Dementia. Furthermore, the study of this kind will serve as guidelines for future nurses to provide comprehensive care for Dementia and remember those who cannot remember. Keeping above facts in view the researcher is keen to assess the knowledge of adult regarding Dementia so that the knowledge gaps can be filled up by educating the public and increasing the awareness about Alzheimer's and to accept an individual who is suffering from Alzheimer's as an important member of the society.[7]

Method

Quantitative approach and Non Experimental descriptive research design was used. 100 elderly who fulfilled the inclusion criteria were selected as samples using non-probability convenient sampling technique. The study was conducted at S.R.M General Hospital, Kattankulathur. The data collection consisted of 2 parts. Part A was demographic variables, Part B was a four point rating scale to assess the Level of Dementia among elderly. The Study variable was Prevalence of Dementia among elderly and the Demographic variables were age, gender, education, occupation**,** family income, residence, type of family, living status, no of children, type of support and source of income.

Ethical Consideration: Formal approval was obtained from the Institutional review board and Institutional ethical committee of SRM IST, Kattankulathur, Chennai, Tamilnadu, India. In addition, the participants were informed of their right to withdraw anytime during the course of the study.

Instruments: The tool was developed by the investigator himself based on the review of literature discussion with experts and investigators personal experience. The tool comprise of two sections. Part A Demographic Variables and Part B was a four point rating scale to assess the Level of Dementia among elderly. Total items of the questionnaire for dementia was 15. A four point rating scale was used and the responses were better than normal, same than normal, worse than normal and much worse than normal . The total score was 60. The total score reflects the level of dementia.. The maximum score indicates much worse than normal and the minimum score indicates better than normal. The scores were categorized as follows:

Better than normal: 1 to 15

Same than normal: 16 to 30

Worse than normal: 31 to 45

Much worse than normal: 46 to 60

Method of Data collection: The investigator has collected data with effect from 10.1.15 – 15.4.15 at SRM General hospital Kattankulathur. The investigator introduced her to the samples and the purpose of the study was explained to ensure better co-operation and collaboration during the data collection period. The written consent from the samples was taken and they were assured confidentiality.

Using Questionnaire method, data collection procedure was completed. The Four point rating scale was used to assess the prevalence of Dementia among Elderly. Approximately 10-15 minutes was spent to elicit the data for each Elderly.. The data gathering process was continued till the sample size was 100.

Statistical analysis: The information collected from the study participants was scored and tabulated. The data was entered into the master coding sheet and saved in EXCEL. Statistical analysis was conducted with the help of the Statistical Package for Social Sciences (SPSS)-16. Mean, percentage and Standard deviation was used to explain the demographic variables and Chisquare test was used to associate the demographic variables with level of Dementia

Results

Table 1. Frequency and percentage distribution of Prevalence of Dementia N=100

S.No.	Levels of Dementia	No. of Respondents	Percentage
1	Same than Normal	28	28%
2	Worse than Normal	50	50%
3	Much Worse than Normal	22	22%
Total		**100**	

Regarding association the p-values corresponding to the demographic variables “Age, Education, Occupation, Residence and No. of Children” are significant at 1% level and hence we conclude that there is significant association between these demographic variables and the levels of dementia at 1% level of significance. While,

the p-values corresponding to the demographic variable "Family Income" is significant at 5% level and hence we conclude that there is significant association between Family Income and the levels of dementia at 5% level of significance.

The p-values of other demographic variables "Gender, Type of Family, Living Status, Type of support and Source of Income" are not significant

Discussion

According to Dr. Harlem "Tomorrow's elderly people are today's adult and yesterday's children". Adulthood is a unique phase of human development. Adults are the important feature of every society and also a great resource of a nation. Life expectancy has gone up from 20 years at the beginning of the 20th century to 62 years today. India has large segment of older people in the population. This segment is growing fast with the rapid increase of the grey population in India. Indian aged population is currently the second largest in the world. By 2020, of the countries with the largest elderly population in the world, five will be in developing world, china 230 million, Pakistan 18 million. According to the 2006 world population prospects by the United Nations department of economic and social affairs by 2050, the number of Indians aged above 80 will increase more than 6 times from the current number of 78 lakhs to nearly 5.14 crores [8]

Alzheimer's and other forms of dementia are becoming more prevalent among the elderly. The prevalence of Dementia is projected to quadruple by the year 2047, very little is known about the prevalence of dementia outside the more developed countries. The idea that illness like Alzheimer's a disease of a rich developed nation is a myth. Dementia can occur to any adult at any age. Women are three times more likely to be affected than men. In Indian context prevalence of Dementia is one in every five elderly citizens suffers from Alzheimer's. IN Kolkata there are about 46,000 patients with Alzheimer's. In Delhi it accounts for about 50,000 Alzheimer's patient and in Bangalore there are 30,000 elderly patients suffering from Dementia. Today in India 32,00,000 people are affected by dementia. The figure is expected to double every 20 years. An estimated 4.5 million Americans are afflicted with Dementia and other 20 million family must care for them. There are currently 800,000 people living with dementia in United Kingdom today, a number expected to double within twenty years. The number of people with dementia in the Asia Pacific region will rise from about 14 million today to 65 million by 2050.[9]

The aim of the study was to assess the level of dementia among elderly. The findings were 28% of elderly has same level of dementia, 50% of elderly has worse level of dementia and about 22% of elderly has much worse level of dementia.

The second aim of the study was to associate between the level of dementia with their selected demographic variables. There is significant association between level of selected samples regarding dementia and the demographic variable of 'presence of old person at home'. So, there is 1% level of dementia significance and there is association between family income and the levels of dementia at 5% level of significance.

Dementia in Alzheimer's Disease (Chronic organic Brain Syndrome) Dementia is an acquired global impairment of intellect, memory and personality but without impairment of consciousness. Alzheimer s-type dementia is an irreversible diseased market by global, progressive impairment of cognitive functioning memory and personality. Dementia occurs more commonly in the elderly than in the middle aged. It increases with age from 0.1 percent in those below 60 years of age to 15 to 20 percent in those who are 80 years of age.[10]

Conclusion

The study Concludes that 28% of elderly has same level of dementia, 57% of elderly has worse level of dementia and about 22% of elderly has much worse level of dementia. There is significant association level of dementia among age group and the demographic variables of 'presence of old person at home'. The most of the people have inadequate knowledge regarding dementia.

Acknowledgement: The author acknowledges Dr. C.kanniammal Dean, SRM College of Nursing for constant guidance, We would like to thank study participants for their constant support.

Conflict of Interest: Dr. Abirami. P, Mrs.Sangeetha Jagdeesh., Ms. Sanabam Darshinichanu declares that no conflict of interest. In addition, this study was not funded

Statement of Humanand Animal Rights: All procedures followed were in accordance with the ethical standards of the responsible committee on human

experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2008

Statement of Informed Consent: Informed consent was obtained from all the study participants for being included in the study.

References

1. Alzheimer's Disease statistics world wide Url: http; www.google.com (titled on 2007 oct, 7)
2. Alzheimer's Disease in the media URL : http; www.google.com (tited on 2007, out 8)
3. Dementia statistics would wide URL; http; www. google.com (tilted on 2007 sep 20)
4. Life expecting in India URL; http; www.google. com (tilted on 2007 Sep 20; pp 12-20;
5. Werner P knowledge about symptoms of Alzheimer's Disease correlative and relationship to help seeking behavior, international end journal of geriatric psychiatric 2003 Nov; 18 (11); P; 1029 – 36.
6. LaforceR Jr. Mclean S knowledge and year of developing dementing in a sample of healthy adults; psychol Sep 2005 feb; 96 (1), p 204 -6
7. Ayalen L, Arean PA knowledge of Alzheimer's Disease in four ethnic groups older adults; international journal of geriatric psychiatric 2004;19 (1) : p; 51-57,79.
8. Arnals Ganaguly: Struck by Alzheimer's elders left to struggle. The Times of India. 2006. Sep. 22; Sect. A:3 (vol 1).
9. Potter R, Ellard D, Rees K, Thorogood M. A systematic review of the effects of physical activity on physical functioning, quality of life and depression in older people with dementia. Int J Geriatric Psychiatry. 2011 Jan 6; 73:61
10. Kirlinger FN. Foundation of Behavioral Research, 2nd ed. London: Mc. Millan Company; 1986. P.50.

DOI Number: 10.37506/ijone.v12i4.11209

Learning Environment Stressors and Coping Styles among Nursing Students

Amal Ismael Abdelhafez[1,2], Nermine M. Elcokany[1,3], Asmaa Saber Ghaly[1,3], Fahima Akhter[1]

[1]Assistant Professor, College of Applied Medical Sciences, King Faisal University, Saudi Arabia, [2]Associate Professor, Faculty of Nursing, Assiut University, Egypt, [3]Lecturer, Faculty of Nursing, Alexandria University, Egypt

Abstract

Stress is non-ended problem associated with learning. Coping styles are the only approaches that help students to overcome the stress and enhance the educational success. The study aimed to identify stress are as and coping styles of nursing students. A descriptive research design was used. 118 nursing students were asked to fill out the questionnaire. The highly learning environment stressors were coming from assignments and workload (12.14+4.19) and taking care of patients (10.14+4.19). The highly used coping styles were religion (3.28 + 1.0), Acceptance (3.06 + 0.89) and active coping (2.92 + 0.68).. It can be concluded that the clinical workload found in the courses is the common stressor for last year students.

Keywords: *Nursing students, stress, coping styles, learning environment.*

Introduction

Nursing program is an integral part of health professionals and nursing students are obliged to pass through the planned courses to graduate. During academic life, students suffer numerous stressors due to the requirements needed from the teachers either on the theoretical or clinical events. Indeed, the clinical components of the nursing courses are more stressful in comparison of the theoretical component[1]. The prevalence rates of stress among nursing students are likely to be about 14.3 % - 56% globally[2]. Minimal stress enhances students' performance and it could be a motive for further achievements but stress which exceeds the limit may have detrimental effects on students' performance and overall well-being [3]. In the academic areas, stress is becoming a notable concern mostly due to its undesirable effect on students' Psychology as well as physical well-being[4].

As nursing students are recurrently exposed to numerous stressful situations which is unavoidable, it is essential for them to improve potentiality to adjust with stress which helps to improve their learning outcome and developing respectable patient care practice[1,5].

Three main sources of stress are identified in recent studies which are categorized into academic, clinical, and personal/social stress. Factors of academic stress could be the preparation for theoretical exams, assignments from the teachers, lack of integration between theory and practical areas, continuous negative criticism from the instructors, anxiety from passing exams or periodic assignments, disappointment regarding teaching systems, lack of proper direction from instructors and heavy course materials[5]. The second type of stress is clinical stress. The frequently reported clinical stressors are involvement in many clinical events, fear of the unknown[6], taking care of patients[6,7], fear of disappointment, unskilfulness in clinical area, anxiety of making errors[8], experience of death and dying in the clinical setting[9], unfamiliarity with patients' medical history, lack of knowledge about patients' diagnoses,

Corresponding Author:
Amal Ismael Abdelhafez
Assistant Professor, College of Applied Medical Sciences, King Faisal University, KSA
Associate Professor, Critical Care & Emergency Nursing, Faculty of Nursing, Assiut University
e-mail: aabdelhameed@kfu.edu.sa

and treatments[10]. The last type of stress is considered personal/social stress. This type of stress could be caused by time management in every daily life, interactions with friends, colleagues and instructors[11], being placed in unusual circumstances, working with unknown people, being noticed by trainers. So, retaining psychosocial adjustment during stressful academic life, students need help from society, family, friends and even from the teachers. Many studies have revealed that stress can be useful for nursing students as it performs as an influential promoter for understanding the situation but long time of exposure to stress can let the students being unable to implement positive coping efficiently[12].

The capability to stress assessment and to handle it, depends mostly on the coping styles offered by the students. Coping was defined early by Lazarus and Folkman (1984) as "constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person [13]. Nursing students practice various types of strategies to adjust themselves in different stressors that are necessary for their physical and mental fitness.

Very limited studies were done in Kingdom of Saudi Arabia to assess stress and coping style among nursing students during their BSN program. As the nursing students are forthcoming care givers of the patients, the present study was undertaken to identify learning environment stressors (LES) and the used coping styles to overcome stress.

Materials and Method

Design: A cross sectional descriptive research design.

Setting: College of Applied Medical Science, Nursing Department in King Faisal University, Saudi Arabia.

Study participants: A convenience sample consists of 118 female nursing students who enrolled in coordinator of care course under fourth-year BSN program in the academic year 2019- 2020.

Tools for data collection: Learning environment stressors and coping styles questionnaire was used to investigate the learning environment stressors as perceived by nursing students. It consists of three parts. The first part includes the students' demographic data as age, status, GPA, The second part is Perceived Stress Scale (PSS) which is adopted from Sheu et al, 1997[14]. This part consists of six- main stress domains and 29 sub-items totally to explore the areas of stressors. The six domains are taking care of patients, assignment and workload, lack of professional knowledge and skills, area of clinical practice. All items were rated on 5-point-likert scale. A score of"0" denotes never, "1" for almost never, "2" for sometimes, "3" for fairly often, and 4 for very often. The overall score was ranged from 0-29. Finally, the third part is the brief Cope inventory. It was developed by Sheu[3], it is a four-point Likert scale used to identify nursing students' coping styles. The scale consists 28 items which measured 14 different coping styles. Responses to each item ranged from 'I usually don't do this at all' to 'I usually do this a lot' ("1" I usually don't do this at all, "2" I usually do this a little bit, "3" I usually do this a medium amount, "4" I usually do this a lot).

Study procedures: Pilot study was carried out on 10 % of nursing students to test clarity and applicability of the study tools, and then necessary modifications were done. Reliability was also tested by Cronbach's Alpha coefficient statistical test. It was 0.88.

The researcher distributed the questionnaire in 15th week after finishing their clinical exposure. It took from 20 to 30 minutes for each student to complete the questionnaire.

Findings:

Figure (1) displays that the highly learning environment stressors (LES) among nursing students were from the assignments and workload (12.14±4.19) followed by stressors from taking care of patients (10.14+4.19). The lowest LES were related to the area of practice (4.32+ 2.62) and lack of professional knowledge and skills (3.90± 2.61).

Table (1) & figure (2) show that the highly used coping style among nursing students was religion (3.28 ± 1.0) which has the first rank. Acceptance (3.06 ± 0.89) and active coping (2.92 ± 0.68) were the second and third ranked among the coping strategies. on the other hand, denial (1.68 ±0.94) and substance abuse (1.08 ± 0.34) had been the least used coping styles among nursing students which are in the lower ranking

Table (2) illustrates that the highest total mean score (6.56 ±1.99) and percent score (75.99 ± 33.23) were

related to religion coping style. Whereas, the lowest total mean score (2.15 ±0.69) and percent score (2.54 ± 11.45) were related to substance abuse.

Table 3 indicates the relationship between LES with the Brief COPE Inventory. A significant positive correlation was found between stress from taking care of patients and students' coping with self-distraction (r=0.181, p=0.049), substance abuse (r=0.359, p=<0.001) and venting (r= 0.304, p=0.001) styles. on the contrary, negative correlation were existed between stress from assignments & workload and students using behavioral disengagement (r= -0.344, p=<0.001), positive reframing (r=-0.272, p=0.003), and acceptance (r=-0.250, p=0.006) styles. The results also show that stress from lack of professional knowledge & skills has both positive correlation with substance abuse (r=0.304, p=0.001) and negative correlation with active coping (r= -0.391, p= <0.001), use instrumental support (r=-0.222, p=0.016), and religion (r=-0.183, p=0.048). Also, significant positive relationships present between stress from area of practice and students' coping with substance abuse (r=0.200, p=0.030), behavioral disengagement (r=0.228, p=0.013) and humor (r=0.272, r=0.003). Regarding stress from peers & daily life, it was correlated positively with substance abuse (r=0.182, p=0.048) and negatively with acceptance (r=-0.226, p=0.014) styles. In addition, stress from teachers and nursing staff was correlated positively only with substance abuse (r=0.268, p=0.003), and negatively with the using of active coping (r=-0.208, p=0.024), emotional support (r=-0.233, p=0.011), instrumental support (r=-0.380, p<0.001), positive reframing (r=-0.426, p<0.001), acceptance (r=-0.354, p<0.001), religion (r=-0.238, p=0.009), and self-blame (r=-0.257, p=0.006).

Table (4) focuses on the correlation between the overall stress score and coping styles used by nursing students. It shows that a positive correlation was found related to substance abuse (r=0.379, p=<0.001), whereas, the existed negative correlations were related to use of instrumental support (r=-0.195, p=0.034), positive reframing (r=-0.310, p=0.001), and acceptance (r=-0.232, p=0.011).

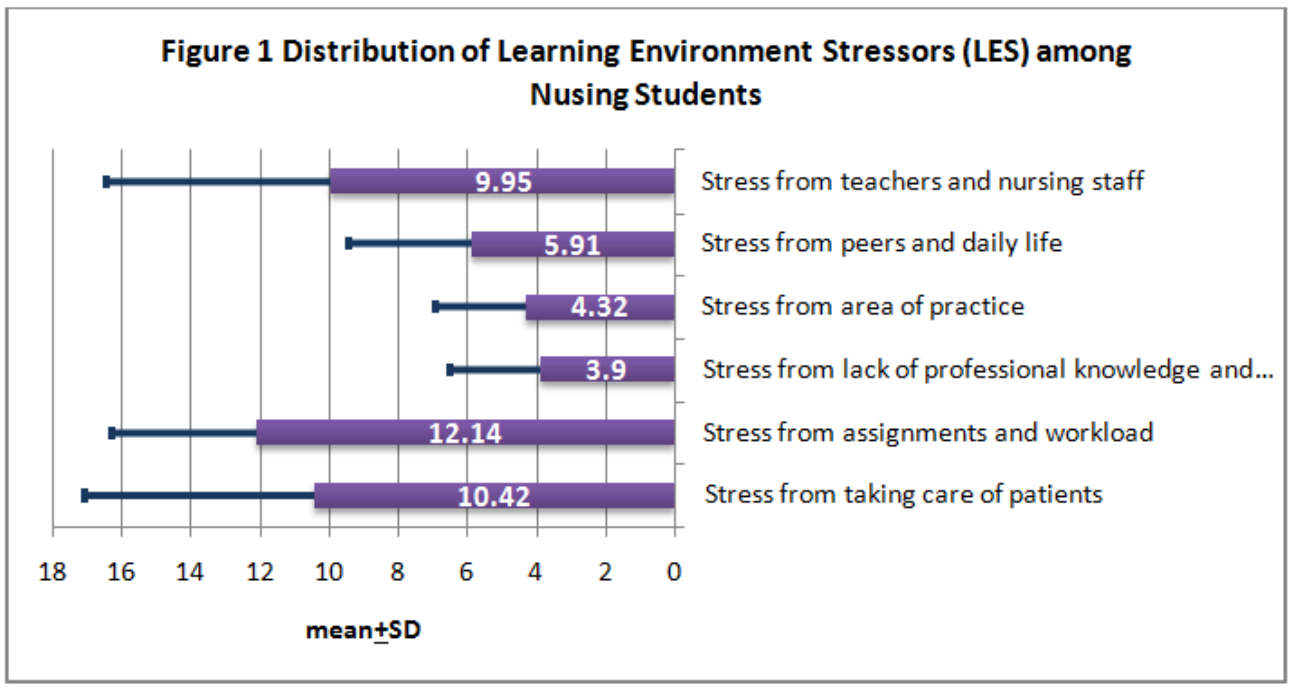


Figure (1) Distribution of learning environment stressors among nursing students

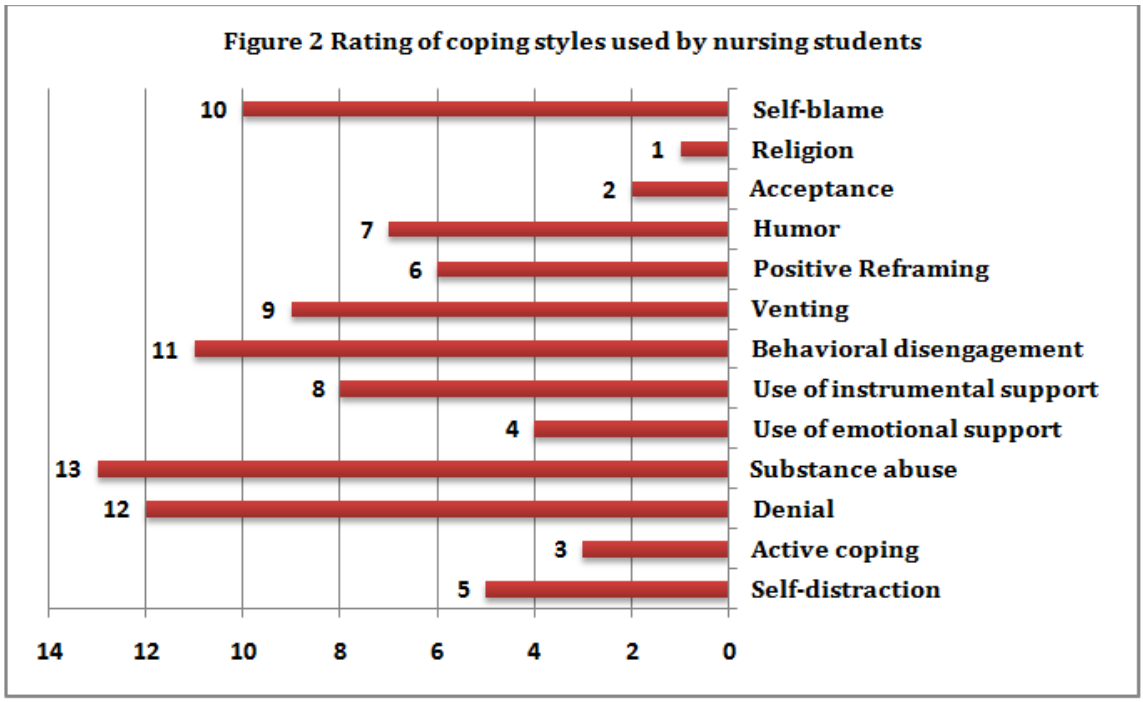


Figure (2) Rating of coping styles used by nursing students

Table(1): Descriptive analysis of the Brief COPE inventory among nursing students (n=118)

The Brief COPE	Mean	SD
Self-distraction	**2.88**	**0.82**
1. I've been turning to work or other activities to take my mind off things.	2.75	0.94
2. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping or shopping.	3.02	1.06
Active coping	**2.92**	**0.68**
1. I've been concentrating my efforts on doing something about situation I'm in.	2.85	0.83
2. I've been taking action to try to make the situation better.	2.98	0.82
Denial	**1.68**	**0.94**
1. I've been saying to myself: "This isn't real."	1.75	1.07
2. I've been refusing to believe that it has happened	1.60	0.93
Substance abuse	**1.08**	**0.34**
1. I've been using alcohol or other drugs to make myself feel better.	1.08	0.46
2. I've been using alcohol or other drugs to help me get through it.	1.07	0.36
Use of emotional support	**2.89**	**0.83**
1. I've been getting emotional support from others.	2.91	0.92
2. I've been getting comfort and understanding from someone.	2.88	0.95
Use of instrumental support	**2.67**	**0.93**
1. I've been getting help and advice from other people.	2.64	0.96
2. I've been trying to get advice or help from other people about what to do.	2.70	1.05
Behavioral disengagement	**2.24**	**1.03**
1. I've been giving up trying to deal with it.	2.30	1.10
2. I've been giving up the attempt to cope	2.18	1.06

Venting	**2.48**	**0.88**
1. I've been saying things to let my unpleasant feelings escape	2.42	1.01
2. I've been expressing my negative feelings.	2.55	0.99
Positive Reframing	**2.85**	**0.78**
1. I've been trying to see it in a different light, to make it seem more positive.	2.67	1.03
2. I've been looking for something good in what is happening.	2.84	0.95
3. I've been trying to come up with a strategy about what to do.	2.89	0.90
4. I've been thinking hard about what steps to take.	3.01	0.96
Humor	**2.67**	**0.93**
1. I've been making jokes about it.	2.69	1.04
2. I've been making fun of the situation.	2.65	0.92
Acceptance	**3.06**	**0.89**
1. I've been accepting the reality of the fact that it has happened.	3.09	0.92
2. I've been learning to live with it.	3.02	0.95
Religion	**3.28**	**1.0**
1. I've been trying to find comfort in my religion or spiritual beliefs.	3.27	1.01
2. I've been praying or meditating.	3.29	1.06
Self-blame	**2.46**	**0.92**
1. I've been criticizing myself.	2.47	1.04
2. I've been blaming myself for things that happened.	2.44	0.95

Table (2): Distribution of The Brief COPE Inventory among nursing students (N = 118)

Copying styles	Total Score Mean± SD	Percentage Score Mean± SD
Self-distraction	5.76±1.64	62.71±27.36
Active coping	5.83±1.35	63.84±22.57
Denial	3.36±1.88	22.60±31.32
Substance abuse	2.15±0.69	2.54±11.45
Use of emotional support	5.79±1.67	63.14±27.81
Use of instrumental support	5.34±1.86	55.65±30.99
Behavioral disengagement	4.47±2.06	41.24±34.30
Venting	4.97±1.77	49.44±29.47
Positive Reframing	11.41±3.10	61.72±25.83
Humor	5.35±1.86	55.79±30.92
Acceptance	6.11±1.78	68.50±29.62
Religion	6.56±1.99	75.99±33.23
Self-blame	4.92±1.83	48.59±30.55

Table(3): Correlation between Learning Environment Stressors (LES) with the Brief COPE Inventory (n =118)

		Learning Environment Stressors (LES)					
Brief COPE Inventory items		**Taking care of patients**	**Assignments & workload**	**Lack of professional knowledge & skills**	**Area of practice**	**Peers & daily life**	**Teachers & nursing staff**
Self-distraction	r	0.181*	-0.028	-0.133	0.121	-0.020	-0.097
	p	0.049*	0.767	0.150	0.191	0.829	0.297
Active coping	r	-0.058	-0.137	-0.391*	-0.023	0.072	-0.208*
	p	0.531	0.138	<0.001*	0.805	0.439	0.024*
Denial	r	0.062	-0.067	-0.135	0.004	0.081	-0.014
	p	0.508	0.472	0.144	0.963	0.382	0.882
Substance abuse	r	0.359*	0.153	0.304*	0.200*	0.182*	0.268*
	p	<0.001*	0.098	0.001*	0.030*	0.048*	0.003*
Use of emotional support	r	0.050	-0.091	-0.050	0.176	-0.027	-0.233*
	p	0.588	0.326	0.590	0.057	0.774	0.011*
Use of instrumental support	r	0.015	-0.094	-0.222*	0.048	-0.070	-0.380*
	p	0.876	0.313	0.016*	0.609	0.454	<0.001*
Behavioral disengagement	r	-0.146	-0.344*	0.165	0.228*	0.162	-0.082
	p	0.115	<0.001*	0.074	0.013*	0.080	0.377
Venting	r	0.304*	-0.057	-0.075	0.139	-0.032	-0.092
	p	0.001*	0.540	0.421	0.134	0.730	0.322
Positive Reframing	r	-0.061	-0.272*	-0.292*	0.017	-0.132	-0.426*
	p	0.509	0.003*	0.001*	0.852	0.155	<0.001*
Humor	r	0.014	-0.175	-0.104	0.272*	0.115	0.073
	p	0.884	0.058	0.264	0.003*	0.216	0.430
Acceptance	r	0.072	-0.250*	-0.206*	0.033	-0.226*	-0.354*
	p	0.440	0.006*	0.026*	0.725	0.014*	<0.001*
Religion	r	0.037	0.081	-0.183*	0.063	-0.151	-0.238*
	p	0.688	0.384	0.048*	0.495	0.103	0.009*
Self-blame	r	0.002	-0.034	0.008	0.135	-0.113	-0.257*
	p	0.980	0.717	0.936	0.153	0.232	0.006*

r: Pearsoncoefficient, *:Statistically significant at p ≤0.05

Table (4) Correlation between the overall stress score and coping styles used by nursing students (n=118)

		Coping styles						
		Self-distraction	**Active coping**	**Denial**	**Substance abuse**	**Use of emotional support**	**Use of instrumental support**	**Behavioural dis-engagement**
Overall stress score	r	r=0.020	-0.177	-0.001	0.379*	-0.075	-0.195*	-0.076
	p	P=0.829	0.055	0.992	<0.001*	0.420	0.034*	0.413

		Venting	Positive Reframing	Humor	Acceptance	Religion	Self-blame	
Overall stress score	r	0.070	-0.310*	0.038	-0.232*	-0.102	-0.101	
	p	0.452	0.001*	0.681	0.011*	0.273	0.285	

r: Pearsoncoefficient, *:Statistically significant at p ≤0.05

Discussion

The current findings showed that the total stress level was moderate among nursing students. This can be interpreted due to age group of the students which increases their self-confidence and the ability to cope with stress as mature adults, their clinical experiences, and the real training experience on hospitals. Students face various stressors such as academic stressors with an obligation to succeed. Moreover, it may be difficult for the student to integrate into the education experience. Our results are congruent with Labrague L et al 2018 who reported that nursing students struggled with many difficult situations and experienced moderate to severe stress, presenting a diversity of coping strategies in the studying years [15].

Regarding the sources of the stressors, Devkotaand Shrestha (2018) reported that a moderate stress was coming from assignments, workload, teachers and clinical environment as well[16]. In the present study, the nursing students were highly stressed from the assignments; workload and stress from taken care for the patient. on the other hand, the lowest stress level was related to the lack of professional knowledge and skills. This can be attributed due to the heavy burden of patients care, need for continuous monitoring to the patient's condition, assignment need to be up to date, language challenge, and medical terminology. This is in line with Alghamdi, et al 2019 who stated that the mean source of stress for the nursing students was due to their academic load, due to the variety of materials, assignments, or subjects needed from them[17]. Our findings also consistent with the study completed by Al-Gamal, Alhosain, and Alsunaye (2018) who stated that the most common stressors were stress from the instructors and nursing staff, course' requirements and patient care[18]. Bhurtun, etal (2019) mentioned that main causes of stress were the teachers and clinical staff[19].

In addition, Labrague L et al. (2018) found that academic workload was the most common source of stress as reported by more than half of the nursing students, which means that the content taught in the classes could be far from the students' expectations of the college coursework[15]. Moreover, a recent study done by Ab Latif R et al. (2019) found that the academic stressors were the main source of stress among the diploma nursing students[20].

Regards the coping approach, the current data analysis clarify that the highly rank coping style was religion as the students tend to pray, followed by acceptance and active coping. This can be justified due to the religion guidance of parents and school in Saudi Aribia; fear of god; feeling guilty if inappropriate care has been given to the patient; feeling inspired with giving help which can heal soul; growth of the ethical, personal and professional condition which help students to overcome the obstacles they met. Stress could be due to their academic load, clinical concerns, and personal problems so they accept any problem as being not the end of the world.

Bodys-Cupaketal (2019) reported that as the stress level increased, the frequency of coping using avoiding behavior increased. They interpreted that the students in the difficult situations more often relied on problem-focused strategies rather than the emotion-focused strategies[21]. Shiferaw et al. (2015) observed that the interpersonal, environmental, and academic stressors are closely linked to the unhealthy coping strategies[22].

Noticeably, the present study-work found that the denial and substance abuse were the least used coping styles. This is not supported with Fares et al (2016) who confirmed that use alcohol and smoking act as coping method in the difficult situations amongst the medical students[23]. But, staying optimistic; problem solving and; transference coping strategies were also used by the majority nursing students.

Concerning the overall stress among nursing students, a negative correlation was found in relation to

the substance abuse. This can be interpreted due to the religion base; knowledge of the nursing student about the harm effect of substance abuse on health. Fornés-Vives et al (2016) reported that students were least likely to cope in the difficult stress situations through the use of psychoactive substances[24].

On the other hand, a negative correlation was found related to the use of instrumental support; positive reframing; and acceptance. Bodys-Cupaketal (2019) noted that the students in the difficult situations ask for the social and instrumental support[21]. Bhurtun, etal (2019) indicated that nursing students managed stress using both problem- and emotion-based coping strategies[19]. Problem-based behaviors including staying optimistic, adopting various strategies to solve the problem, and finding meaning for the stressful events, are more effective at reducing stress than emotion-based strategies. Therefore, the nurse educators should actively engage in solving students' difficulties. Religion; acceptance; and the sense of humor were seen as independent factors.

Conclusion

Nursing students mainly stressed from assignments, workload and taking care of the patients. In addition, nursing students also seem to use some coping strategies that can help decrease their stress to pass the stressful experience faced by them. These coping strategies are confined in religion which has the highest rank among other coping strategies.

Conflicts of Disclosure: None

Source of Funding: Self

Ethical considerations: An ethical clearance and approval for data collection was obtained from the college Scientific Research Committee after submitting the research proposal and questionnaire. All participants were informed about the objectives of the study. All students willingness to participate in the study signed an informed consent form. Confidentiality, privacy, and anonymity of the students and their responses were assured through the study.

References

1. Rafati F, Nouhi E, Sabzevari S, Dehghan-Nayeri N. Coping strategies of nursing students for dealing with stress in clinical setting: A qualitative study. Electron Physician. 2017;9(12):6120-6128. doi:10.19082/6120
2. Salam, A., Yousuf, R., Bakar, S. M. A., & Haque, M. Stress among medical students in Malaysia: A systematic review of literatures. Int Med J, 2013. 20(6): p. 649-655.
3. Owusu, P. and G. Essel, Causes of students' stress, its effects on their academic success, and stress management by students. 2017http://urn.fi/URN:NBN: fi:amk-201704134793.
4. Gibbons, C., M. Dempster, and M. Moutray, Stress and eustress in nursing students. J Adv Nurs, 2008. 61(3): p. 282-90.
5. Al-Dubai, S.A.R., Ganasegeran K, Perianayagam W, Rampal KG. Emotional Burnout, Perceived Sources of Job Stress, Professional Fulfillment, and Engagement among Medical Residents in Malaysia. The Scientific World Journal, 2013. p. 137620.
6. Labrague LJ. Stress, stressors, and stress responses of student nurses in a government nursing school. Health Science Journal. 2013;7 (4).
7. Sheu, S., H.-S. Lin, and S.-L. Hwang, Perceived stress and physio-psycho-social status of nursing students during their initial period of clinical practice: the effect of coping behaviors. International Journal of Nursing Studies, 2002. 39(2): p. 165-175.
8. Yamashita, K., M. Saito, and T. Takao, Stress, and coping styles in J apanese nursing students. International Journal of Nursing Practice, 2012. 18(5): p. 489-496.
9. Jimenez, C., P.M. Navia-Osorio, and C.V. Diaz, Stress and health in novice and experienced nursing students. Journal of advanced nursing, 2010. 66(2): p. 442-455.
10. Gorostidi, X.Z., et al., Stress sources in nursing practice. Evolution during nursing training. Nurse Education Today, 2007. 27(7): p. 777-787.
11. Timmins, F. and M. Kaliszer, Aspects of nurse education programmes that frequently cause stress to nursing students–fact-finding sample survey. Nurse education today, 2002. 22(3): p. 203-211.
12. Lee, M.-H., W.L. Holzemer, and J. Faucett, Psychometric evaluation of the Nursing Stress Scale (NSS) among Chinese nurses in Taiwan. Journal of nursing measurement, 2007. 15(2): p. 133-144.

13. Lazarus, R.S. and S. Folkman, Stress, appraisal, and coping. 1984: Springer publishing company.
14. Sheu, S. L., Lin, H. S., Hwang, S. L., Yu, P. J., Hu, W. Y., & Lou, M. F. (1997). The Development and Testing of a Perceived Stress Scale for Nursing Students in Clinical Practice. Nursing Research, 5(4), 341-352.
15. Labrague, L.J., et al., Stress and coping strategies among nursing students: an international study. Journal of Mental Health, 2018. 27(5): p. 402-408.
16. Devkota R, Shrestha S. Stress among Bachelor Level Nursing Students. Nepal Med Coll J., 2018; 20(1-3): 33-40.
17. Alghamdi F, Al-Zahrani A, Alabdulaziz H. Associated Factors and Outcomes of Dysmenorrhea Among Female Nursing Students at King Abdulaziz University. American Journal of Nursing. 2019;8(1):18-25.
18. Al-Gamal, E., A. Alhosain, and K. Alsunaye, Stress and coping strategies among Saudi nursing students during clinical education. Perspect Psychiatr Care, 2018. 54(2): p. 198-205.
19. Bhurtun HD, Azimirad M, Saaranen T, Turunen H. Stress and Coping Among Nursing Students During Clinical Training: An Integrative Review. J Nurs Educ. 2019;58(5):266-272.
20. Ab Latif R, Mat Nor MZ. Stressors and coping strategies during clinical practice among diploma nursing students. Malays J Med Sci. 2019;26(2):88–98.
21. Bodys-Cupak, I.; Majda, A.; Grochowska, A.; Zalewska-Puchała, J.; Kamińska, A.; Kuzera, G. Patient relatedmstressors and coping strategies in baccalaureate nursing students during clinical practice. Med. Stud. 2019, 35, 41–47.
22. Henok Shiferaw, N., S. Anand, and N. Gugsa Nemera, Stress and coping strategies among generic B. Sc. nursing students of Jimma University, South West Ethiopia. International journal of recent advances in multidisciplinary research, 2015. 2(07): p. 511-517.
23. Fares J, Al Tabosh H, Saadeddin Z, El Mouhayyar C, Aridi H. Stress, Burnout and Coping Strategies in Preclinical Medical Students. N Am J Med Sci. 2016;8(2):75-81.
24. Fornes-Vives J, Garcia-Banda G, Frias-Navarro D, Rosales-Viladrich G. Coping, stress, and personality in Spanish nursing students: a longitudinal study. Nurse Educ Today. 2016;36:318–323.

DOI Number: 10.37506/ijone.v12i4.11210

A Quasi Experimental Study to Evaluate the Effectiveness of Information Education and Communication Package Regarding the Knowledge and Attitude on Bio Medical Waste Management among the GNM Students in Selected Schools of District Sonipat, Haryana

Asha Malik[1], Meena Kumari[2]

[1]M.Sc. Nursing, Ved Nursing College Baroli Panipat, [2]Nursing Tutor College of Nursing Pandit Deen Dayal Upadahayay University of Health Sciences Karnal

Abstract

"Let the Wastes of "The Sick" Not Contaminate the Lives of "The Healthy".

The pioneer of modern Nursing, Miss. Florence Nightingale considers health is linked with environmental factors like pure or fresh air, pure water, efficient drainage, cleanliness and light especially direct sunlight hospitals and other health care facilities generates lots of waste which can transmit infections, particularly HIV, Hepatitis B and C and tetanus, to the people who handle it or come in contact with it[1].

According to WHO (World Health Organization) report 2013, around 85% of hospital waste is non infectious, 10% is infective and remaining 5% is non infectious but hazardous. Biomedical waste should be managed through a pathway that includes point of generation, storage, and segregation, collection, processing, transportation, treatment and disposal. Nursing as a profession is now accountable of staff and students nurses for competence and performance. The nurses spend maximum time with patients in the ward than any other member of the health team, this increases their exposure and risk to the hazards present in hospital environment, mainly biomedical waste they need to be well equipped with latest information, skills and practice in managing this waste besides reducing hospital acquired infections to protect their own health they are also responsible for preventing risk due to waste to the other members of health team and community at large.[2]

Aims: The study aims to evaluate the effectiveness of information education and communication package regarding the knowledge and attitude on bio medical waste management among GNM students in selected schools of district sonipat, Haryana.

Methodology: The research approach for this study was Quantitative and evaluative, the design used for this study was Quasi experimental research design. Sample Size of the study was 80 GNM1st year students selected by purposive sampling.

Conclusion: Near about more then half of the students had average level of knowledge 62.50% regarding management of bio medical waste management and 57.50% had less favorable attitude on bio medical waste management.

Keywords: *Effectiveness, IEC package, Bio medical waste, bio medical waste management, Knowledge, Attitude.*

Introduction

Since beginning the hospital are known for the treatment of sick persons but we are unaware about the environment. Now it is well established fact that there are many adverse and harmful effects to the environment include human beings which are caused by the biomedical waste generated during patient care[3].

"BIO MEDICAL WASTE" is any waste, which is generated during diagnosis, treatment or immunization of human beings. This waste is also generated during research activities or in the production or testing of biological material. Infectious waste risks the health of not only the hospitals staffs, patients and their relatives who are visiting or attending them but also the health of general public also.[4]

Biomedical waste consists of solids, liquids, sharps and laboratory waste that are potentially infectious or dangerous and are considered bio-waste. It must be properly managed to protect the general public, especially healthcare and sanitation workers who are regularly exposed to biomedical waste as an occupational hazard. Proper handling, treatment and disposal of biomedical waste are important elements of healthcare infection control programme[5]. Health care workers need to understand the difference between biomedical waste and other waste connected with the hospital. Hospital waste refers to all waste, biological or non biological that is discarded.

According to WHO (World Health Organization) report 2013, around 85% of hospital waste is non infectious, 10% is infective and remaining 5% is non infectious but hazardous. Biomedical waste should be managed through a pathway that includes point of generation, storage, and segregation, collection, processing, transportation, treatment and disposal.[6]

Color Coded Bags or Containers:

- **Red bag:** Infected plastics like infusion set, tubing's, catheters and microbiological waste.
- **Black bag:** All sorts of non infected general waste in which food waste from wards, canteens and dining halls.
- **White/Blue bag:** Glasses.
- **Yellow bag:** Soiled Waste (Items contaminated with blood, and body fluids, Animal waste (animal tissues, organs, bleeding parts, fluids, Microbiology & Biotechnology Waste (Wastes from Lab. ect) [8]

Among all workers nurses spending more and long time in hospitals. It has been proved that the nurses are more victims of hepatitis B and HIV infection because not handling biomedical waste properly. For the prevention of infections, nurses should take precautions according to the Centre for Disease Control and Prevention and Occupational Safety and Health Administration. Universal precautions refer to an infection control system which assumes that any direct contact with patients particularly their body fluids have the potential for transmitting the diseases[9].

Statement of the Problem: A Quasi Experimental Study to Evaluate the Effectiveness of Information Education and Communication (IEC) Package Regarding Knowledge and Attitude on Bio Medical Waste Management Among the GNM Students in Selected Schools, of District Sonipat, Haryana.

Objectives:

- To assess the pre test and post test level of knowledge and attitude among GNM students on bio medical waste management in experimental and control group.
- To evaluate the effectiveness of information education and communication package in term of knowledge and attitude on bio medical waste management, between experimental and control group.
- To find out the correlation between pre test knowledge score and pre test attitude score among GNM students on bio medical waste management in Experimental group.
- To find out the level of association between mean pre test knowledge score and andmean pre test attitude selected socio demographic variables in experimental and control group.

Operational Definitions:

- **Evaluate:** It means to look and determine whether the purpose of information education communication package on bio medical waste management was achieved or not.
- **Effectiveness:** It refers to the extent to which information education and communication package on bio medical waste management achieves the desired effect in improving the knowledge and attitude of first years GNM students evidenced by gain in post test knowledge and attitude scores.
- **Information education and communication package:** In this study it refers to systematically developed instructional method and visual aids designed and used for first years GNM students to provide information regarding biomedical waste management prepared in English and Hindi language.

- **Knowledge and attitude:** In this study, it refers to the awareness of GNM 1st year students regarding biomedical waste management.
- **Bio medical waste:** In this study, bio medical waste refers to the waste generated during the diagnosis, treatment or immunization of human being which include from categories I to categories X.
- **Biomedical waste management:** In this study, bio medical waste management means a technique, of dealing with bio medical waste, from the point of generation to the disposal of waste.
- **GNM (General Nursing Midwifery) students:** In this study, it refers to GNM 1st year students of selected nursing schools of district Sonipat Haryana.

Material and Method

In this study the quantitative approach was used to carry out the study. The sample size for the present study was 80 GNM students in selected schools of district sonipat by using quasi experimental research design and purposive sampling technique.

Tools and Techniqe of Data Collection: In this study researcher used self structured knowledge questionnaire and self structured attitude scale to measure knowledge and attitude on bio medical waste management.

Result

Table 1: Distribution of samples according to level of knowledge in experimental and control group experimental group (N=40)

S.No.	Level of knowledge	Pre test	Post test
		Frequency Percentage	FrequencyPercentage
1.	Low (1-12)	15 37.50	4 10.00
2.	Average (13-22)	25 62.50	34 85.00
3.	High (23-32)	0 0.00	2 5.00
Control group (N = 40)			
1.	Low (1-12)	17 42.50	12 30.00
2.	Average (13-22)	23 57.50	28 70.00
3.	Hig h(23-32)	0 0.00	0 0.00

The above table shows the distribution of samples according to the pre test and post test level of knowledge in experimental group.

With regards to pre test level of knowledge on bio medical waste management majority of samples 25 (62.50%) had average level of knowledge. Samples with low level of knowledge were 15 (37.50%). None of the samples belong to high level of knowledge.

According to post test level of knowledge on bio medical waste management an over whelming majority of samples 34 (85.00%) had average level of knowledge. One tenth of the samples 4 (10.00%) had low level of knowledge. Few samples with high level of knowledge were 2 (5.00%)

The table shows the distribution of samples according to the pre test and post test level of knowledge in control group.

With regards to pre test level of knowledge on bio medical waste management majority of samples 23 (57.50%) had average knowledge. Samples with low level of knowledge were 17 (42.50%). None of the samples were present with high level of knowledge.

With regards to post test level of knowledge on bio medical waste management majority of samples 28 (70.00%) had an average knowledge. Samples with low level of knowledge were 12 (30.00%). None of the samples were present with high level of knowledge.

Self structured attitude rating scale on bio medical waste management: For assessing the attitude of GNM students on bio medical waste management the researcher constructed a 5 point likert scale. It consists of 12 questions based on the bio medical waste management. The maximum score was 60 and minimum score was 12.

For Positive Statement Score

Strongly Agree	Agree	Uncertain	Disagree	Agree
5	4	3	2	1

For Negative Statement Score

Strongly Agree	Agree	Uncertain	Disagree	Agree
1	2	3	4	5

Out of 12 statements, the positive statements were 1, 2, 3, 4, 7. 8.10 and 12. The negative statements were 5, 6, 9 and 11.

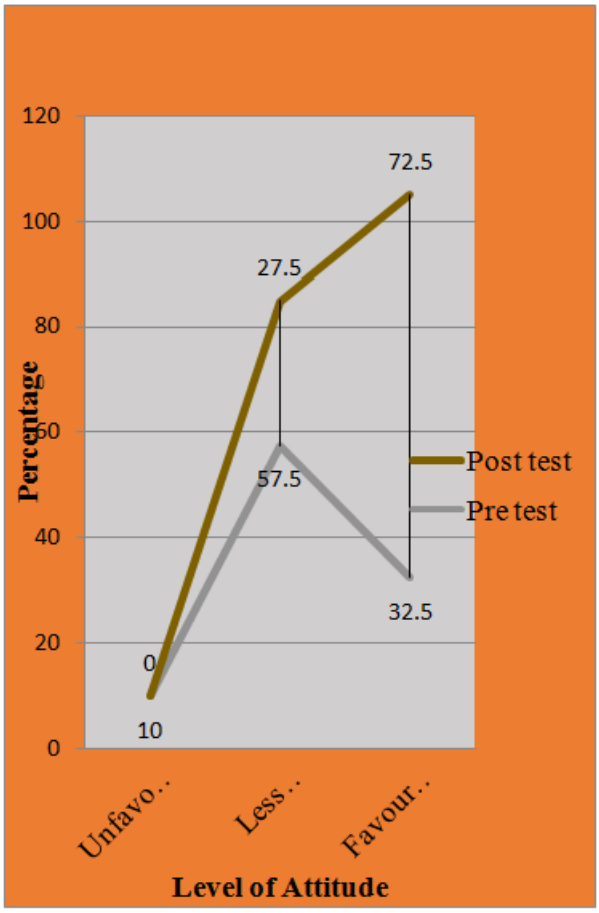


Fig. 1: Line Diagram Shows Attitude Distribution Between in Experimental Group

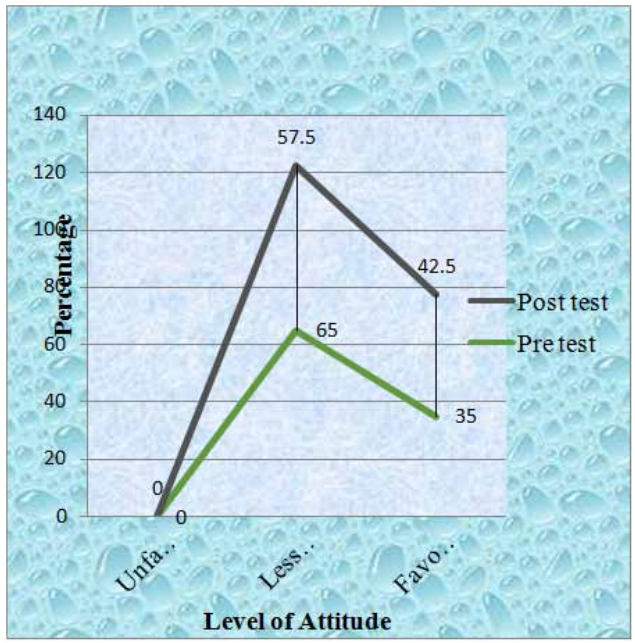


Fig. 2: Line Diagram Shows Level of Attitude Distribution in Control Group

Effectiveness of Iec Package on Bio Medical Waste Management: Both (knowledge and attitude score) in experimental group.

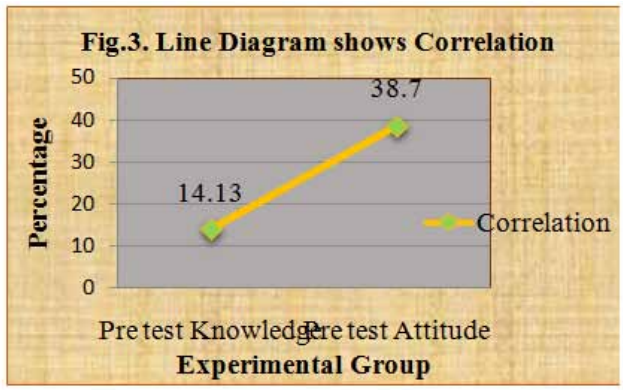


Fig. 3. Line Diagram shows Correlation

Level of Correlation between Pre Test Knowledge Score and Pre Test Attitude Score (Experimental Group): The above diagram shows mild positive correlation between pretest knowledge and pre test attitude score.

Discussion

The finding of the study according to the objectives and quotes various supportive studies, similar to those of the present study which had been done in the past.

The aim of the present study was to evaluate the effectiveness of Information Education and

Communication Package on Bio Medical Waste Management in terms of improving knowledge and attitude of GNM students.

- With regards to age (Years) of the samples in experimental and control group. Majority were belongs to 18-19 years in both groups. [(Experimental group: 67.50%, control group: 52.50%)].
- With regards to marital status majority of the samples were unmarried samples both the group. [(Experimental group: 60.00%, control group: 72.50%)]
- With regards to place of domicile, majority of samples were belongs to rural area in both the groups. [(Experimental group: 62.50%, control group: 60.00%)]
- With regards to Father's education, majority of samples were metrice education in both groups. [(Experimental group: 30.00%. Control group: 65.00%)]
- With regards to Mother's education, majority of samples were belongs to illiterate in experimental group, where in control group majority of samples had metrice education. [(Experimental group: 40.00%. Control group: 50.00%)]
- With regards to Family income's (Rupees), majority of samples had income less than Rs10, 000/month in both groups. [(Experimental group: 40.00%, Control group: 42.50%)]
- With regards to Father's occupation, majority of the samples were farmer in both groups. [(Experimental group: 55.00%, Control group: 32.00%)]
- With regards to Mother's occupation, majority of samples were home maker in both groups. [(Experimental: 95.00%, Control group: 90.00%)]

Conclusion

A quasi experimental study to evaluate the effectiveness of information education and communication package regarding the knowledge and attitude on biomedical waste management among the GNM 1st year students in selected schools, of district Sonipat, Haryana. The finding of the study revealed that the Information Education and communication package was more effective in improving the knowledge and attitude of the GNM 1st year students regarding bio medical waste management. There was no association between pre test knowledge score, pre test attitude score with selected socio demographic variables in experimental group. Bio medical waste management was effective for hospital use as well as for students. As a health care professional we are in the position to educate the GNM 1st year students and thereby to adopt good and healthy practice.

Implications: The study has many implications in the field of nursing. This include, nursing practice, nursing education, nursing administration and nursing research.

Implications for Nursing Practice:

- Nursing students should understand the importance of different color coding system, categories, technique of waste management etc which they can use effectively and independently.
- GNM students after completing their studies at the time of working in the hospitals. They will possess adequate knowledge about bio medical waste management.
- Intensive training programs at regular time interval for all the staff with special importance to the new comers.
- Need for orientation programs for newcomers to understand the hospital function.

Implications for Nursing Education:

- The students should be taught in detail about the all aspect of bio medical waste management to impart education for nurses in hospital and as well as in community in order to reduce mortality and morbidity and improve the management outcome.
- Education programme help's community health nurse and primary health nurse to gain knowledge about bio medical waste management and disposal of waste properly, so different education programmes should be conducted in different setting.

Implications for Nursing Research:

- Nurse researcher must know the cause of improper bio medical waste management.
- The health care environment today is dynamic and more demanding. There is a need to promote research based practice on bio medical waste management and use of evaluative method to major outcome.

Implications for Nursing Administration:

- Health administrator should make the education department aware about the prevailing health problems and should assign the staff to conduct health teaching related to bio medical waste management.
- Nurse administrator can assess the practice of staff nurses regarding bio medical waste management.

Limitations:

- Knowledge of GNM students are assessed only through the self structured questionnaire.
- The study was done by means of quasi experimental method.
- The study was limited to GNM 1st year students only.
- Small sample was limited to 80 only.

Recommendations for Further Study:: The present study was conducted on smaller samples, a more extensive study on large samples is recommended for wider generalization.

- A comparative study can be done among GNM and B.Sc students in different setting.
- A similar study was being conducted with an experimental research approach and pre test and post test control group design.
- A true experimental study can be done among GNM students to evaluate the effectiveness of information education and communication package on knowledge, attitude and practice on bio medical waste management.
- A longitudinal study can be conducted to see the impact of Information education and communication package on bio medical waste management.
- A study can be done to assess the acceptability of nursing staff regarding the information education and communication package on bio medical waste management.
- A cross sectional study to assess the effectiveness of information education and communication package on bio medical waste management among the interns.

Ethical Clearance: Taken from Research Committee.

Source of Funding: Self

Conflict of Interest: Nil

References

1. Sing R, Kishore J, G Mathur, Mandal K, Puri S, The role of informational booklet on biomedical waste management for nurses, Nursing Journal of India, 2002,August; 271-272
2. Chandorkar A.G. et.al.,(2008),Hospital waste management, (3rd edi.), Paras publishers, Hyderabad
3. Bhaskar Bhagya, Nidugala Hema, Avadhani Ramakrishna. Biomedical Waste Management–Knowledge and Practices among Healthcare Providers in Mangalore. Nitte university journal of health science, March 2012; 29(1): ISSN 2249-7110. Available from: http://www.bagyabs@gmail.com.
4. BT Basavanthppa, Foundamental of nursing. 2nd edition. New Delhi: Jaypee brothers; 2009. page no 692-693.
5. Hegde V, Kulkarni RD, Ajantha S. Bio medical waste management. Journal of oral maxillofacial pathol, 2007; 11(1):5-9.
6. Harding AK, Klangsin P, air waste management association, Oregon state university USA, January 1998 48:516-26
7. Dr. Mohan D. Rama, Dr. Parasad M. Veera, Dr. Kanagaluru Sai Kumar. Impact of training on bio medical waste management a study and analysis. International journal of multidisciplinary management studies, 6june 2012; 2(6). Avaliable from: http://www.Zenithressearch.org.in/ISSN 22498834
8. Basheer P.S, Khan S.Y, A concise text book of Advanced Nursing Practice. EMMESS publication 2013, page no. 335-341. Available from: www.emmessmedpub.com
9. Central pollution control board. Environmental standard and guidelines for management of hospital waste. CPCB, Ministry of Environment and Forest, New Delhi, 1996.

DOI Number: 10.37506/ijone.v12i4.11211

The Effects of the Interprofessional Education on Readiness for Interprofessional Learning of Health Science Students

Ausanee Wanchai[1], Vannapa Prathumtone[1], Rungtiwa Wangruangsatid[1], Jaruwan Rungsiyanond[2], Piyanate Wiriyapramote[2], Somtakul Rasiri[3], Ananya Kooariyakul[4]

[1]PhD, RN, Boromarajonani College of Nursing Buddhachinaraj, Muang, Phitsanulok, Thailand, [2]MSN, RN, Boromarajonani College of Nursing Buddhachinaraj, Muang, Phitsanulok, Thailand, [3]PhD, Sirindhorn College of Public Health Phitsanulok, Thailand, [4]EdD, RN, Boromarajonani College of Nursing, Uttaradit, Thailand

Abstract

Although interprofessional program has been bloomed in developed countries, it remains unclear how should it be in developing countries? The purpose of this study was to examine the effect of interprofessional education on readiness for interprofessional learning among Thai health science students. This was a quasi-experimental design. Samples were 47 Thai health science students from nursing, Thai traditional medicine, and public health programs. The program took 5 days. Activities included: group relationship building, learning about interprofessional skills, preparing a care plan for patient, and presenting their experiences. All samples were measured readiness for interprofessional learning before and after the program. The results of the study reported that after attending the program, samples had significantly higher total scores of readiness for interprofessional learning and scores in each dimension: teamwork and collaboration; negative and positive professional identities, and roles and responsibilities. It can be concluded that the short interprofessional education program could improve readiness for interprofessional learning among health science students.

Keywords: *Interprofessional education, Readiness for interprofessional learning; Health science students*

Introduction

Interprofessional education (IPE) is an education reform method for preparing health science students to provide the overall quality of health care for patients as they know how to collaborate with other health care professionals.[1] IPE means education that occurs when students from two or more professions learn about, learn from, and learn together to achieve effective cooperation and improve the outcomes of health care.[2] IPE has benefits for learners by allowing them to be more aware and understand roles of other health professionals.[3] These in turn lead to quality of care for clients, cost reduction of patient's care, and length of patient hospitalization reduction.[1,4,5] Therefore, it is imperative that institutions should prepare health science students to have interprofessional learning experiences before graduation as interprofessional working skills are very important when they graduate and work in healthcare setting.[6]

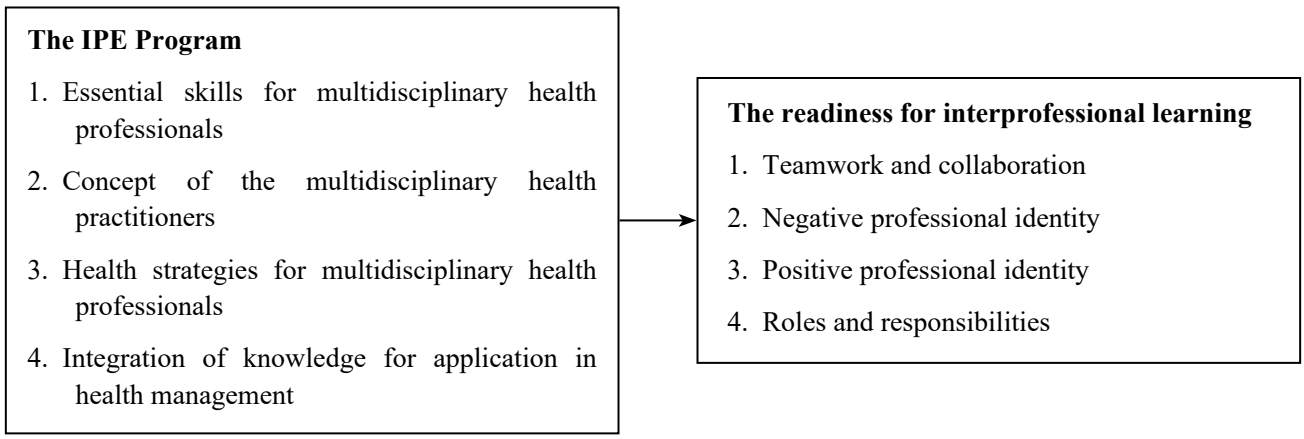
However, IPE courses for health science students have been implemented most in developed countries, but few papers found in developing countries.[7] It remains unclear how will IPE programs in developing countries should be? Therefore, as the roles of health science institutions, we developed the IPE program for used with health science students from 3 programs, including: nursing students, public health students, and Thai traditional medicine students from 3 health science institutions in the North of Thailand. The IPE program developed by the research team was consisted of 4 learning

Corresponding Author:
Ausanee Wanchai
PhD, RN, Boromarajonani College of Nursing Buddhachinaraj, Muang, Phitsanulok, Thailand
e-mail: ausanee@bcnb.ac.th; wausanee@hotmail.com

units: 1) essential skills for multidisciplinary health professionals, 2) concept of the multidisciplinary health practitioners, 3) health strategies for multidisciplinary health professionals, and 4) integration of knowledge for application in health management. Activities included active learning, visiting patients in the community, and planning care plans for patients, as well as sharing learning experiences together with mentors.

The purpose of the study was to examine the effect of IPE program on readiness for interprofessional learning of health sciences students. The readiness for interprofessional learning of health sciences students referred to state of students with all aspects of multidisciplinary learning,based on the concept of McFadyen, et al.[8] It was consisted of 4 sub-components:1) teamwork and collaboration, 2) negative professional identity, 3) positive professional identity, and 4) roles and responsibilities. The researchers expected that we will receive the guidelines for developing the effective IPE program for health science students. Our research hypothesis was that after attending the IPE program, the scores of readiness for interprofessional learning among health sciences students would be higher than those before attending the IPE program.

Research framework:



Materials and Method

Materials: Tools used in this research included 1) the IPE program, developed by the research team, consisted of 4 learning units, namely: 1.1) essential skills for multidisciplinary health professionals, 1.2) concept of the multidisciplinary health practitioners, 1.3) health strategies for multidisciplinary health professionals, and 1.4) integration of knowledge for application in health management; 2) the Readiness for Interprofessional Learning Scale (RIPLS) developed by McFadyen et al.[8] and were translated in Thai by Rakrung, et al.[9] The RIPLS is a 19-item tool that is divided into 4 subgroups: 1) teamwork and collaboration, 2) negative professional identity, 3) positive professional identity, and 4) roles and responsibilities. The questionnaire is graded on 5-point scale, from strongly agree, agree, moderate, disagree and strongly disagree.

Quality of tools: The IPE program and the RIPLS in Thai version were validated by 5 experts. Then, the RIPLS reliability was analyzed by Cronbach's Alpha Coefficient. Its reliability was 0.82.

Population and Samples: Population used in this study included of 397 undergraduates in the 4th year of the health science programs from 3 health educational institutions in Thailand. Samples were selected by the purposive random sampling method, consisted of 20 nursing students, 15 public health students, and 15 Thai traditional medicine students. The inclusion criteria were: 1) consciousness and were able to communicate in Thai language, 2) had never attend the IPE program, and 3) were willing to participate in the research project. The exclusion criteria were: 1) had not participate in all educational activities and 2) resigned or terminated from the study due to severe illness. When the research ended, it was found that data of the sample group were incomplete for 3 cases. Therefore, there were 47 samples used for data analysis, representing for 94.00%.

Research design: A quasi-experimental with one group pretest-posttest design was used as the design of this study. This research was conducted in 3 health institutions in Thailand.

Data collection procedures: Data were collected over period of 2 months. Each sample completed the RIPLS two times before and after the IPE program. The IPE program was conducted on two phases.

Phase 1: Took about 3 days. First day: group relationship activity. Goal was to create relationships among students. Second day: instructors taught about IPE skills, including: 1) essential skills for multidisciplinary health professionals, 2) concept of the multidisciplinary health practitioners, 3) health strategies for multidisciplinary health professionals, and 4) integration of knowledge for application in health management. Third day: instructors divided students into 5 groups with 10 students in various fields in each group. Then, each group visited selected patient at home to collect data and set a care plan for patient and their family members by using knowledge of each profession. Each group had mentors from health science institution and from health service setting.

Phase 2: Took about 3 days. First day: Each group implemented the planned project or innovation for their patients at home. Second day: Students presented the results of the project that were implemented and shared ideas with mentors. Mentors discussed the learning results with students so that they could clearly understand roles of each profession while working together. After that, the researchers collected research data by asking sample to do all the questionnaire.

Data analysis: Demographic data were analyzed using frequency and percentage. The RIPLS scores were analyzed by means and standard deviation. The RILPS scores before and after attending the IPE program were compared by paired t-test statistics.

Results

Demographic data: The respondents were predominantly female (78.72%) with a mean aged of 22.27±1.28 years old. The majority of respondents were Buddhist (97.87%). The cumulative GPA was 2.88±0.36 (2.50-3.00). The range of income was 4,001 - 6,000 baht a month.

The readiness for interprofessional learning of samples before and after attending the IPE program: The results of the study showed that after attending the IPE program, samples had significantly higher RIPLS scores than those before attending the IPE program ($p < .001$). When considering in each dimension, the results of the study showed that the RIPLS scores in all aspects were significantly higher than those before attending the IPE program ($p < .001$). (Table 1).

Table 1: Compare the RIPLS scores of samples before and after attending the IPE program

RIPLS	Before		After		Paired t-test
	χ	S.D.	χ	S.D.	
Teamwork and collaboration	35.55	0.85	39.6	0.19	6.211***
Negative professional identity	10.2	0.15	11.68	0.69	3.284***
Positive professional identity	15.13	1.33	17.23	0.18	5.102***
Roles and responsibilities	8.30	1.72	9.57	1.64	4.336***
Total	**69.23**	**2.96**	**78.09**	**2.83**	**6.751*** **

***p < .001

Discussion

The results of the study revealed that health science students had higher scores of readiness in interprofessional learning after attending the IPE program. This showed that the IPE program could increase students' positive perceptions regarding their readiness to be working with multidisciplinary team. This might be because many activities in the IPE program allowed these students to learn from and learn about other health disciplines. These activities included 1)

group relationship when they first met; 2) the facilitation of learning about interprofessional skills by experienced interprofessional educators; 3) a requirement for multidisciplinary group to prepare care plan for patient; and 4) presentation and sharing their success with peers and mentors. More specifically, while visiting patient at home together, students in each health discipline must share their ideas about how they act as their roles so that a care plan for patient would be more suitable and appropriate. The findings of study were congruent with a previous study showed that an eleven-hour IPE program could increase attitudes towards interprofessional teams, interprofessional learning, and ability to function with an interprofessional team.[10] The interprofessional learning experiences will foster them to gain more understanding about how other professions are valuable in terms of improving quality of patient care and how to collaborate with other healthcare professions.[3]

In terms of teamwork and collaboration, the results of the study also showed increasing scores among health science students after attending the interprofessional program. This might imply that the respondents had positive attitudes towards interprofessional education and shared learning.[11] The findings of the study confirmed a previous paper which reported that the interprofessional education is essential in improving collaborative practice and teamwork skills of health care providers, which in turn, it will improve patient outcomes.[5] The findings were congruent with a previous study showed that compared to the control group, the trainees who attended the protocol-driven training program about Parkinson's disease had significantly higher scores of understanding roles of other disciplines ($p < 0.001$) and attitudes toward health care teams scale ($p < 0.001$).[12]

With regarding to the negative and positive professional identity scores, the samples also had higher scores after attending the IPE program. Although some previous paper reported that the IPE course for undergraduates might not be able to strengthen professional identities,[13] the finding of this study showed that the short IPE program could improve students' perceptions regarding professional identities. According to one previous paper, professional identity in health professions has been developed through socialization.[14] However, it is a complex process in the real world. Therefore, preparing experiences during pre-qualification training will be helpful for these health science students. In addition, this might be related to Thai culture. Thai culture has its own specific way of honoring other people because they believe that showing respect towards other people is a duty and the basis of good manners.[15] Therefore, the IPE program in the context of Thai culture might enhance health science students to strengthen individual professional identities and also understand of identities of others.

Finally, the results of the study reported that after attending the IPE program, samples had higher of roles and responsibilities. This could imply that they perceived their roles and other health professions' roles better after attending the IPE program. It can be explained by the fact that activities in the IPE program, such as setting a care plan for patient together as a whole aspect could enhance students to gain more understanding about their roles as well as other health professions.[7] The findings of the study were congruent with a previous study showed that students in the interprofessional teams had higher scores in role clarification than those in the intraprofessional teams.[7] Another previous study reported that significant improvements scores were found in the subscale of teamwork, roles, and responsibilities for three program students, including: occupational therapy, physical therapy, and physician assistants.[16]

There are several practical implications for the IPE program for health science students that we have learned from this study. First, 2-phase IPE sessions with total 5 days period can provide a positive learning experience for graduates from various health science programs. Therefore, although it has been recognized that it is challenging to organize and implement a successful IPE program for multiple health science professions, it may be possible to start with a short IPE program for these undergraduates before they graduate. Secondly, when setting a case visiting requirement, it should be appropriately selected with knowledge level of students. For example, in our study, we selected patients with non-communicated disease, such as diabetes or hypertension for each group because these students were the 4th year students. They had learned about how to manage patient with non-communicated disease. Therefore, they would not be stressed too much when visiting these patients in the communities. Lastly, mentors were also important persons for the key success factor of IPE program implementation. Before implementing the IPE intervention, all mentors from all health science programs should plan together on how to advise their students so that no confusion occurs while performing the IPE program.

There were some limitations in our study. First, long-term effect of the IPE program on the readiness for interprofessional learning was not examined. Secondly, this was a quasi-experimental research with one group pretest-posttest design. So further studies with rigorous design are needed to confirm the effect of the IPE program.

Declaration of interest: Authors report no conflicts of interest relative to this manuscript.

Ethical Clearance: Taken from Sirindhorn College of Public Health Phitsanulok, Thailand Committee; IRB approved No. SCPHPL 4/2562-02

Source of Funding: Boromarajonani College of Nursing Buddhachinaraj, Thailand.

References

1. Buring SM, BhushanmA, Broeseker A, Conway S, Duncan-Hwewitt W, Hansen L, Westberg S. Interprofessional education: Definitions, student competencies, and guidelines for implementation. Am J Pharm Educ, 2009;73(4), 1-8.
2. World Health Organization. Framework for action on interprofessional education & collaborative practice. 2010, Retrieved from https://apps.who.int/iris/bitstream/handle/10665/70185/WHO_HRH_HPN_10.3_eng.pdf;jsessionid=6A28A816395BA060149F309FB855D5F9?sequence=1
3. Guraya SY, Barr H. The effectiveness of interprofessional education in healthcare: A systematic review and meta-analysis. Kaohsiung J Med Sci. 2018;34(3):160-165.
4. Anderson ES. Evaluating interprofessional education: An important step to improving practice and influencing policy. J Taibah Univ Medical Sci. 2016;11(6), 571-578.
5. Reeves S. "Why we need interprofessional educaqtion to improve...." the delivery of safe and effective care. Interface (Botucatu). 2019; 20(56):185-196.
6. Marcussen M, Nørgaard B, Arnfred S. The effects of interprofessional education in mental health practice: Findings from a systematic review.Acad Psychiatry. 2019; 43(3):200-208.
7. SoubraL,Badrb S, Zahrand EM, Aboul-Seoudf M. Effect of interprofessional education on role clarification and patient care planning by health professions students. Health Prof Educ. 2018; 4:317–328.
8. McFadyen AK, Webster V, Strachan K, Figgins E, Brown H, McKechnie J. The readiness for interprofessional learning scale: A possible more stable sub-scale model for the original version of RIPLS. J Interprof Care. 2005;19(6):595-603.
9. Rakrung K, Rakrung K, Tanjan K, Ketschool K, Netwong K, Pokpipat K, Janmak, K, Phokhwang W. Readiness for inter professional learning of sophomore and junior nursing students at Boromarajonani College of Nursing, Suratthani. Proceedings in the 6th National Academic Meeting "Active Learning", 26-27 March 2018, Walailak University.
10. Darlow B, Coleman K, McKinlay E, Donovan S, Beckingsale L, Gray B. The positive impact of interprofessional education: A controlled trial to evaluate a programme for health professional students. BMC Medical Education. 2015;15:98.
11. Soriano GP. Readiness of health science students towards interprofessional learning. Int J Nurs Educ. 2019;11(3):74-79.
12. Cohen EV, Hagestuen R, González-Ramos G, Cohen HW, Bassich C, Book E, et al. Interprofessional education increases knowledge, promotes team building, and changes practice in the care of Parkinson's disease. Parkinsonism Relat Disord. 2016; 22:21-27.
13. Stull CL, Blue CM. Examining the influence of professional identity formation on the attitudes of students towards interprofessional collaboration. J Interprof Care. 2016;30(1):90-96.
14. Joynes V. Defining and understanding the relationship between professional identity and interprofessional responsibility: Implications for educating health and social care students. Adv in Health Sci Educ. 2018;23:133–149.
15. Klinchan N. Thai culture that ASIAN students should know. Mahachula Acad J. 2015;4(1):188-203.
16. Kim YJ, Radloffb JC, Stokesc CK, Lysaghtdet CR. Interprofessional education for health science students' attitudes and readiness to work interprofessionally: A prospective cohort study. Braz J Phys Ther. 2018;23(4):337-345.

DOI Number: 10.37506/ijone.v12i4.11212

Deep Understanding about Strategies for Self-resilience of Newly Appointed Nurses; Qualitative Approach

B. Sunil S. De Silva[1], Faiz MMT Marikar[1,2]

[1]Department of Nursing, Faculty of Health Sciences, The Open University of Sri Lanka,
[2]Staff Development Centre, General Sir John Kotelawala Defence University, Sri Lanka

Abstract

The purpose of this study was to examined existing strategies for self- resilience of newly appointed nurses in National Hospital of Sri Lanka. Authors studied physical, psychological and socio-cultural strategies for self-resilience of newly appointed nurses. The target population of this study was eleven months experiences in various clinical settings in National Hospital of Sri Lanka and number of samples was fifteen. Nurses were selected using purposive sampling method as qualitative study. The data were collected from January to August 2019. According to this study, result outcomes were taken from the fifteen interviews and those findings categorized into three main themes. Some special findings were presented as quotations. Those themes were a) happy and strong mind, b) pretty and healthy life and c) good and loving social bond for enhancing self-resilience. These findings suggest to future generation of nursing profession to increase their self-resilience. Additionally, nurses and nursing administrators learning how to enhance and improve resilience while working in the profession of nursing.

Keywords: *Self resilience, Newly appointed, Nurses, Qualitative.*

Introduction

Nursing is profession within the health care sector focused on the care of individual families and communities. Nurse is a person trained to care for sick or infirm special in hospital[1]. Newly appointed nurse is assigned to the nursing duty freshly or recently. Practice is within a prolonged time period and he/she is unable to use discretionary judgement[2]. Registered Nurses were among the top occupations in terms of growth through 2022. As a nursing population face a more daunting future in terms of supply and demand of available nurses to fill open positions[3]. The shortage is based on nurse's turnover their job due to lack of self-resilience and less job satisfaction[4].

Corresponding Author:
Faiz MMT Marikar
Staff Development Centre, General Sir John Kotelawala Defence University, Sri Lanka
e-mail: faiz.marikar@fulbrightmail.org

Emotional changes directly may affect to physical changes such as reduce quality of their work, dispute with work clique, poor concentration, poor judgment, poor time keeping, reduce motivation, avoidance of difficult situation, increase sick leave, increase nervous habit such as nail biting, crying. As well as further describes, these negative stress outcomes can impact not only on the wellbeing of nurses, but also on their ability to care effectively for others[5,6].

Resilience is defined as "the human ability to adapt in the face of tragedy, adversity, trauma, hardship, and ongoing significant life stressors"[7]. Zito et al., explained, resilient persons have lower level of depression, respond better to unfavourable feedback, make a positive judgement about others, more productive, have happier work and home live, and have better quality of life, health and longevity[6]. Resilience is the ability of individuals to bounce back or to cope successfully despite. Resilience has been referred to as a personality trait and dynamic process [8,9].

Resilient people can adapt difficult situation in their

life[10-14]. Nursing is associated with excessive workloads. Newly appointed nurses face to so many difficulties in their day today practice[4]. In today's world, the nurse shortage is a global issue. and it is Due to the shortage nurses are more prone to making mistakes and medical errors and it leads to turnover[15,16]. Outlo[4], revealed the shortage based on nurses' turnover their job due to lack of self-resilience.

There is a nurse shortage also in Asian countries because of nurses' less job satisfaction[17]. There is relationship between resiliency and turnover was mediated by job satisfaction and job stress[18]. If there were many studies done by the developed countries but lack of evidence in developing countries,South Asian countries and Sri Lanka for identify strategies for self-resilience of nurses. According to the above factor's authors examined existing strategies for self- resilience of newly appointed nurses in National Hospital of Sri Lanka. Authors studied physical, psychological and socio-cultural strategies for self-resilience of newly appointed nurses in National Hospital of Sri Lanka.

Methodology

Research Approach and Design: This qualitative research method provided opportunity and allows newly appointed nurses to speak in their own voice. Newly appointed could explore their own emotions about psychological, physical and socio-cultural strategies that they used for self-resilience. Phenomenological design used as encourage newly appointed nurses to give full description of their experience in newly appointed period and explore strategies that used for their self-resilience.

Study Setting: Participants were experienced only eleven months in National Hospital of Sri Lanka. National hospital is largest and central government hospital in Sri Lanka. Select newly appointed nurses worked in varies clinical setting like medical ward, surgical ward, theatre, and intensive care unit.

Study Participants: The target population of this study was the newly appointed nurses who were eleven months experiences in various clinical settings in National Hospital of Sri Lanka and number of nurses were 15. Nurses were selected using purposive sampling method. This study lead to get details of newly appointed nurses' personal ideas and experiences.

Data Collection: Qualitative data that have been collected into some form of explanation, understanding or interpretation of the people and situations.

Data Analysis: The data were analysed according to themes which were extracted from data using content analysis. Qualitative data analysis is a process that seeks to reduce vast amount of information often from different sources, so that impressions that shed light on a research question can emerge. Data analysis were consisting of three parts and they are noticing, collecting and thinking about interesting things.

Ethical Consideration: Ethical approval was obtained from Ethical Research Committee of National Hospital of Sri Lanka. Before obtaining ethical approval, permission for data collection was granted from the director. Participants invited through the invitation letter. The informed consent obtained from all participants.

Trustworthiness: This study clearly established credibility, transferability, conform ability, dependability and authenticity criteria as benchmarks for trustworthiness that are relevant to qualitative research.

Results

According to this study fifteen interviews can classified into three main themes. Some special findings were presented as quotations. Those themes were a) happy and strong mind, b) pretty and healthy life and c) good and loving social bond for enhancing self-resilience.

Qualitative findings: themes and quotations for Happy and strong mind for enhancing self-resilience:

(a) Complete attention and concentration: Participants said,when they faced difficult moment, they need to maintain complete attention and concentration for the work. Therefore, the work succeeded in spite of all difficulties. Maintain complete attention and concentration that help to prepare good working environment and it leads keep their mind strong and happy. Nurse 'C' said as follows

'……Stressful days Then I could do my assigning duty easily and correctly. Therefore, I used to keep my complete attention and concentration to duty.' (Nurse 'C' Interview 03).

(b) Finding mind relaxation hobbies: Participants said, after heavy workload, engage in activities that they can enjoy and find relaxing in their leisure

time. They said it helped them to relaxed and cope with stressful event they faced. They are watching dramas and films, listen to the music. Nurse 'L' said as follows

....'. After listen to the songs I was assured, and it is helped to away ashamed feelings about me. Now hearing music is my hobby.' (Nurse 'L', Interview 12)

(c) Maintain spiritual practices: Participants explained that they maintain spiritual practices in their leisure time. They said, that they felt liberty after participating spiritual practices such as obtaining Sil, going temple and lightening the oil lamps, worship, praying and participating meditation programs. Nurse B said as follows.

' I usually obtaining Sil on Poya days.... I face to more conflict and critical situations on my day to day practice...I think obtaining Sil is very valuable to my life because after it I feel that I am quiet now. I face to problems successfully. ..'(Nurse'B', Interview 02).

(d) Developing knowledge and skills: Participants said that developing knowledge and skills wes helped to enhance self-resilience. They further explained that they develop their theoretical understanding of subjects regarding their units by participating educational program, self-studying. Nurse 'J' said as follows,

...'Firstly, I am hesitating, when doing assigning duty because lack of knowledge about our staff, minor staff and about doctors. I took an orientation from our senior nurse. But it was not enough to me.' (Nurse'J' Interview No:10).

Qualitative findings: themes and quotations for Pretty and healthy life for enhancing self-resilience: Participants said that get better sleep and adequate rest helps them to release body ach and tiredness. Participants also said, they thought about their beauty. Then they explained it helps for healthy life as follows. Nurse N said as follows

'When I faced heavy duty, I came to the quarters and get long hour sleep. I felt better to my body ach after that. I used to sleep get less than six hours sleeping per day. I think it is better for my healthy life..."(Nurse'N' Interview 13).

Qualitative Findings: themes and quotations for Good and loving social bond to enhancing self-resilience

(a) Maintaining good communication: Participants said it was very valuable to maintain good communication pattern with others. They explained, it is useful to get support from others. Nurse'H'said,

'.... When I faced trouble in my duty place, I said everything with my friend, and I relaxed my mind. She also gives advice for me.'(Nurse 'H', Interview 09).

(b) Maintaining good relationship with family: Participants said that there is very valuable to maintain good relationship with family to solve day to day problems. Further said, Family reassure them, giving advice, support to the life, give more love, give better care. Nurse'G' said as follows

'.I had faced stressful occasion during twenty four hours duty. We never worked like that in our student period in that times, I went home and tell everything with my parents. They always reassure me and encourage me to success my further duties. It help to do my duty well.'(Nurse'G', Interview 07).

Discussion

This report shows strategies for self-resilience regarding psychological, physical and socio cultural of newly appointed nurses. Newly appointed nurses struggle with the differences between their academic preparation and the real world of the nursing practice. Because they become frustrated with their work environment. This report present findings about strategies for self-resilience of eleven months experience nurses.

Sierra[19], explained knowledge and skills are necessary for the successful performance or a position. Knowledge is the theoretical or practical understanding of a subject and skills are usually something that has been learned. Gaining well orientation about relevant unit, developing theoretical understanding of subjects of each unit, is essential for to build successful position. Cameron and Brownie.[20], suggested developed clinical knowledge, skills and experience as a psychological strategy in a research done in Australia. Gillespie et al. [21], also discussed, according to a research done in Boston improving clinical knowledge as a psychological strategy. Then doing procedures repetitive, and gaining ideas from superiors, get advice from them also strength a person's skills. According to above factors developing knowledge and skills is a leading factor to build confident and it helps to good performance as well as to build a position. Enhancing ability, skills and knowledge helps build resilience[22-24].

Mckay & Mckay.[25], said, attention is a precious resource and further explained it is very valuable to utilize and allocate our attention effectively. According to the study, attention can limit errors. Cherry et al.,[26], said, Resilient people are aware of situations, their own emotional reactions and the behaviour of those around them. In order to manage feelings, it is essential to understand, what is causing them and why. By remaining aware, resilient people can maintain control of a situation and think of new ways to tackle problems. Grant and Kinman[27], strategies are self-awareness conducted a research in state university of Florida and identified following self-awareness as psychological strategy.

Shneiderman and Bederson[28], in USA, explained, "when face with a challenging goal knowledge worker need to concentrate on their task so that they move forward towards completion. Since frustration distractions and interruption can interfere with their smooth progress, designing strategies should enable users to maintain concentration". Rushton et al.,[29], explained that resilient people give attention to the situation. Participants further said, maintain complete attention and concentration that help to prepare good working environment because of limit errors, and it leads keep their mind strong and happy.

Cameron and Brownie. [20], in Australia found hobbies and relaxation activities act as psychological strategies. Barker et al., [30], explained as follow, "Laughter can reduce stress and help us feel more positive. Even if you don't feel 'in the mood', making an effort to do fun activities, can mitigate the effects of stress".In this study participants further said, hobbies hearing music, watching drama cause to keep their mind strong and happy. According to the above factors in this paper, authors found finding a hobby as a psychological self-resilient strategy.

Conclusion

In this study, researchers explored psychological, physical and socio-cultural strategies in newly recruited Nurses in Sri Lanka. In section one psychological strategies were highlighted in four categories; a) maintaining complete attention and concentration, b) finding mind relaxation hobbies, c) maintain spiritual practices andd) developing knowledge and skills. Most of participation builds good relationship with friends and workplace for resilience their new environment, and on the other hand participants practicegood communication to build good social bond and keep their mind relax.

Conflict of Interest: There is no conflict of interest

Funding Source: Self-funded project

References

1. Andrews DR, Dziegielewski SF. The nurse manager: job satisfaction, the nursing shortage and retention. Journal of nursing management. 2005 Jul;13(4):286-95.
2. Benner PE, Wrubel J. The primacy of caring: Stress and coping in health and illness. Addison-Wesley/ Addison Wesley Longman; 1989.
3. Bureau S. Labour force survey. Management and Coordination Agency.(In Japanese). 2013.
4. Oulton JA. The global nursing shortage: an overview of issues and actions. Policy, Politics, & Nursing Practice. 2006 Aug;7(3_suppl):34S-9S.
5. Hodges HF, Troyan PJ, Keeley AC. Career persistence in baccalaureate-prepared acute care nurses. Journal of Nursing Scholarship. 2010 Mar;42(1):83-91.
6. Zito M, Cortese CG, Colombo L. Nurses' exhaustion: the role of flow at work between job demands and job resources. Journal of nursing management. 2016 Jan;24(1):E12-22.
7. American Nursing Association ANA. Journal of nursing administration, 2016;42,148-159
8. Lee JH, Nam SK, Kim AR, Kim B, Lee MY, Lee SM. Resilience: a meta-analytic approach. Journal of Counseling & Development. 2013 Jul;91(3):269-79.
9. Fredrickson BL. The value of positive emotions: The emerging science of positive psychology is coming to understand why it's good to feel good. American scientist. 2003 Jul 1;91(4):330-5.
10. Lim EJ, Noh JH, Jeong YS. The relationships among type D personality, self-resilience, and health promoting behaviors in nursing students. International Journal of Bio-Science and Bio-Technology. 2016;8(2):341-52.
11. Mealer M, Jones J, Newman J, McFann KK, Rothbaum B, Moss M. The presence of resilience is associated with a healthier psychological profile in intensive care unit (ICU) nurses: results of a national survey. International journal of nursing studies. 2012 Mar 1;49(3):292-9.
12. Numminen O, Leino-Kilpi H, Isoaho H, Meretoja R. Newly graduated nurses' occupational

commitment and its associations with professional competence and work-related factors. Journal of clinical nursing. 2016 Jan;25(1-2):117-26.

13. MacDonald M, Pauly B, Wong G, Schick-Makaroff K, van Roode T, Strosher HW, Kothari A, Valaitis R, Manson H, O'Briain W, Carroll S. Supporting successful implementation of public health interventions: protocol for a realist synthesis. Systematic reviews. 2016 Dec;5(1):54.
14. Jahner EE. Resting as Knowing: A Lagged Structure Analysis of Resting State fMRI with Application to Mind Wandering during Oral Reading. University of California, Riverside; 2017.
15. Aiken LH. US nurse labor market dynamics are key to global nurse sufficiency. Health services research. 2007 Jun;42(3p2):1299-320.
16. Lankshear S, Kerr MS, Laschinger HK, Wong CA. Professional practice leadership roles: the role of organizational power and personal influence in creating a professional practice environment for nurses. Health care management review. 2013 Oct 1;38(4):349-60.
17. Sriratanaprapat J, Songwathana P. Nurses' job satisfaction within the context of Asian cultures: a concept analysis. Pacific Rim International Journal of Nursing Research. 2011;15(1):57-73.
18. Ghandi P, Hejazi E, Ghandi N. A study on the relationship between resilience and turnover intention: with an emphasis on the mediating roles of job satisfaction and job stress. Bull. Soc. R. Sci. Liege. 2017 Jan 1;86:189-200.
19. Sierra-Piedrahita, A. M. Developing knowledge, skills and attitudes through a study group: A study on teachers' professional development. Ikala,2007; 12(1), 279-305.
20. Cameron F, Brownie S. Enhancing resilience in registered aged care nurses. Australasian journal on ageing. 2010 Jun; 29(2):66-71.
21. Gillespie BM, Chaboyer W, Wallis M, Chang HY, Werder H. Operating theatre nurses' perceptions of competence: a focus group study. Journal of advanced nursing. 2009 May;65(5):1019-28.
22. Walach H, Lewith G, Kohls N. The impact of positive and negative spiritual experiences on distress and the moderating role of mindfulness. Archive for the Psychology of Religion. 2009 Jan 1;31(3):357-74.
23. Currie CL, Wild TC, Schopflocher DP, Laing L, Veugelers P. Illicit and prescription drug problems among urban Aboriginal adults in Canada: the role of traditional culture in protection and resilience. Social Science & Medicine. 2013 Jul 1;88:1-9.
24. Semple RJ. Does mindfulness meditation enhance attention? A randomized controlled trial. Mindfulness. 2010 Jun 1;1(2):121-30.
25. McKay B, McKay K. The Problem With Minimalism. The Art of Manliness. 2014.
26. Cherry KE, Sampson L, Galea S, Marks LD, Stanko KE, Nezat PF, Baudoin KH. Spirituality, humor, and resilience after natural and technological disasters. Journal of nursing scholarship. 2018 Sep;50(5):492-501.
27. Grant L, Kinman G. 'Bouncing back?'Personal representations of resilience of student and experienced social workers. Practice. 2013 Dec 1;25(5):349-66.
28. Shneiderman B, Bederson BB. Maintaining concentration to achieve task completion. InProceedings of the 2005 conference on Designing for User eXperience 2005 Nov 3 (pp. 9-es).
29. Rushton CH, Batcheller J, Schroeder K, Donohue P. Burnout and resilience among nurses practicing in high-intensity settings. American Journal of Critical Care. 2015 Sep;24(5):412-20.
30. Barker J, Linsley P, Kane R. Evidence-based practice for nurses and healthcare professionals. Sage; 2016 May 16.

DOI Number: 10.37506/ijone.v12i4.11213

Accuracy of Allen Score in Predicting Stroke Type

Berna Detha Meilyana[1], Sri Andarini[2], Yati Sri Hayati[2]

[1]Magister Students of Brawijaya University, Medical Faculty, Malang, Indonesia,
[2]Lecture of Brawijaya University, Medical Faculty, Malang, Indonesia

Abstract

Background: *Cerebrovascular Accident (CVA) or Stroke* is an emergency condition that makes the decrease of nerve function that is impacted by main nerve injury, therefore it can make the physic weakness moreover the move function will be disappear. Stroke is divided become iskemik and hemoragik. In determining stroke type, the most important is doing assessment by using CT *scan*. But, it has a resistance in the develop country that is influenced by the low economic. Thus, In determining the stroke type it needed the helping equipment as stroke score, one of stroke score that can be used is Allen score.

Purpose: This systematic review having an objective for knowing the accuration of Allen score in determining stroke type and providing treatment.

Method: Systematic review is begin by some stages, there are making questions and determining the objectives, after that finding the right key word to identify the searching data that suitable with the objective by using "AND" and "OR" method. The article analysis that is published in 2010 up to 2019 by using Pubmed, *Proquest and Science direct*. After using article data then doing the selection by using Prism flow chart and JBI critique tool.

Result and Discussion: The scoring system to the stroke patients is using Allen score that can help in determining stroke types, diagnose and as the basic giving care to the patient. After doing some analysis, Allen score has sensitivity, specific, positive prediction and negative prediction that is better used in determining iskemik stroke.

Conclusion: From some research result that has been done, shows that *Allen* score tent to have sensitivity, specification, and positive prediction for determining stroke type.

Keyword: *Score stroke, Allen score stroke, Allen or Guys Hospital score validity, validity of Allen score stroke*

Introduction

Cerebrovascular Accident (CVA) or stroke is an emergency condition that is signed by the decrease of nerve function so make the suffer unable to do their daily activities(1) stroke is a condition that threat the people life an need fast and right treatment. Thus can decrease disability and even death to the suffer. Stroke can be divided become two based on the cause, there are iskemik and hemorrhagic stroke. Ischemic stroke is caused by the disruption of blood supply to the brain., there is because of narrowing and blockage in the form of wad or emboli in artery to the brain. Hemorrhagic stroke is caused by the breakage of rain blood vessel, because the really high blood pressure(2).

Prevalence stroke in the world according to(3) is 6,5 Million that caused detah and 25,7 million people is getting physic disability that make weakness of motion part body. The research data by (4) shows that in Southwest of Asia, Indonesia become the biggest stroke suffers. The stroke prevalence stroke in Indonesia is increase from 8.2 to 12.1 per 1000 people in 2013.(4) This research did in(5) shows that the high of disability is 62%-90,1% that caused by stroke is physic disability.

The physic change that rarely happen between them are motorist function[5]. The management of stroke is start from early examination and diagnostic examination appropriately, fast and right [6]. The management of stroke is doing based on the type of stroke. The right early examination is able to prevent the worst condition that will be suffer by the patient. That condition can be disability even death [7].

The examination of kind of stroke can be held by using stroke scoring system. on of the stroke coring that have been implemented is *Allen* score[8]. Allen score or *Guys Hospitalscore* is stroke scoring that can be used to determined kinds of stroke that is suffered by the patient[9]. Stroke examination using Allen score is held because there are many reason. There are no available of CT scan examination, the difficult of transportation access And the high of cost. The obstacle can be influenced in determining diagnose in the medication that is given to the patient [10]. The research that has been done by[11] about stroke scoring system shows that Allen score has good accuracy. The researcher said that high sensitivity is 94,54% and specify 80% in ischemic stroke while in hemorrhagic the sensitivity is 94,54% and the specify is 80%[11]. The other result that held by Mwita, Kajia, Gwer Etyang and Newton (2014) shows that Allen score has sensitivity and specify in ischemic stroke is 0,70 (95% CI 0.53-0.83) and 0.79 (95% CI 0.68-0.87), while in hemorrhagic stroke the sensitivity and specify is 0.54 (95% CI 0.42-0.66) dan 0.89 (95% CI 0.83-0.94). The objective of this study is to know how is the degree of the accuration in Allen scoring system in determining stroke type to the patient.

Method

The arrange of systematic review is consist by many stages. The first is determining the research question that is used PICOS method. The next stage Is collecting the data and literature for doing the review by using searching method “AND” and “OR” in each key. Analisis dilakukan dengan menggunakan data base Pubmed, Proquest dan Science direct. In the literature review stage is using diagram there are : The identification to literature, screening, the selection of the literature and the determining the criteria of inclusion and eksklusi. The last stage in the systematic review is doing in synthesis of literature to get the systematic review. Selection and document choosing by PRISMA diagrin picture.[1]

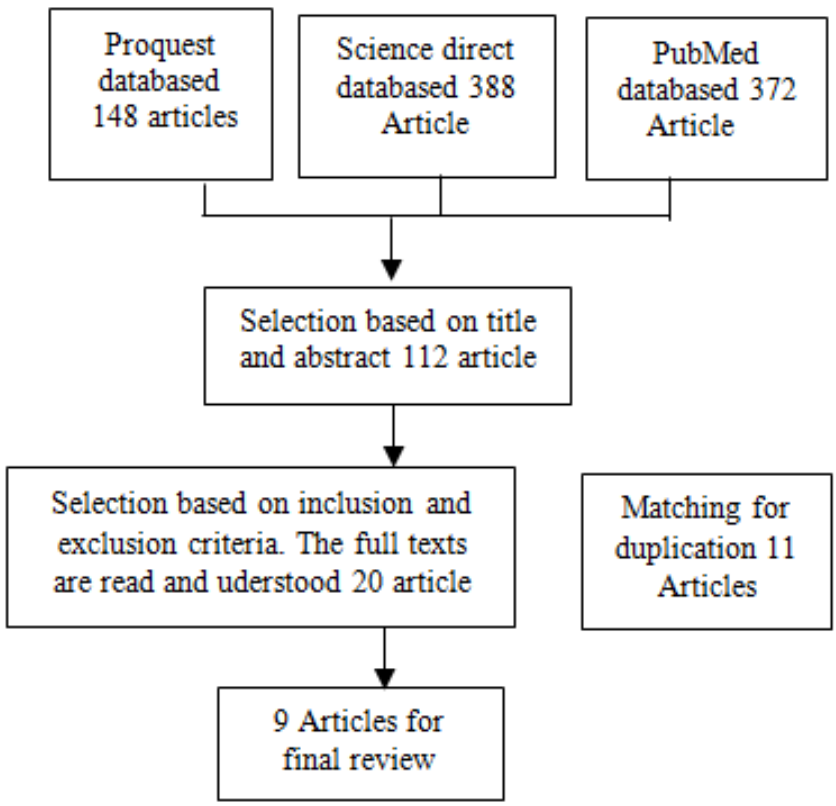


Figure 1. Framwork search systematic review adapted from Prisma

Result and Discussion

The results of several articles show that studies conducted on stroke patients get the results that Allen score have advantages in predicting ischemic stroke. Allen score has several characteristics that are use in assessing patients to predict the type of stroke. Observations were made on stroke patients use the characteristics of Allen score.

Stroke is a condition when the patient lost the neurology function that is caused by the disruption in main of nerve system and become the cause of death that rarely happen in the society[1]. Stroke prevalence increases every year caused mortality and morbidity in whole the world. The stroke incident often happen in develop country and become the cause of higest disability[12].

Stroke is divided become two type[13]. Ischemic stroke is a condition there is artery blood blockage that is caused blockage blood circulation to the brain[14] while hemorrhagic is caused because of the break of blood nerve that is caused by high blood pressure[2].

Stroke has big impact to the people life quality, where most of stroke patient getting the decrease of motorist function because of neurology disruption, so the patient unable to do their daily activities[15]. The physic change of the patient is a serious problem because it caused long term physic disability. Thus it need right and appropriate handling in stroke management[6].

Stroke management consist of care that is given to the patient, start from early examination and diagnostic assessment. The appropriate early examination and diagnostic assessment is a accurate data source in determining the diagnostic, determining the type of stroke and giving the right and accurate therapy, so prevent the disability even death that often happen to the stroke patient[7].

The early examination of stroke can be held by scoring system to help for determining the stroke type, diagnose and stroke management [6]. Scoring system can be held if there is no helping equipment *computerized tomography (CT) scan*[15].There is no CT scan in some hospital caused the late of early examination to the patient so influence the right and appropriate handling[16]. Scoring system really helpful in determining the stroke type in unavailable CT scan hospital. One of the scoring system using *Allen*[17].

Allen Scoring system is used by doing an observation when the patient is coming. The nurse doing some examination of aware level, plantar level, blood pressure, atheroma, hypertension, stroke attack before and heart sick and apoplectic onset that include vomit during 2 hours, leher kaku and headache[9] A disruption of brain function cause other sign is appear for 6 up to 24 hours onset[18]. Allen score examination is held based on gained data from the signed by the patient, then it doing validity assessment to see the accuracy from that score.

Research conducted in several countries, showed that the Allen score has a high accuracy value to predict the type of ischemic stroke. The accuracy value can see from the sensitivity, specificity, positif predictive value and negative predictive value. Based on [18]research Allen score has 63% accuracy and 95% specify, the sensitivity said good if has 80% and better sensitivity 95. So, in this study, Allen score have not get good accuracy score in determining hemorrhagic strok, but this study shows that Allen score has a good score in determining ischemic stroke diagnose. That research same as[9] research. That shows Allen score sensitivity level 38% for hemorrhagic stroke it means that less sensitive in determining hemorrhagic stroke.

The next clinically studies that has been held by Pandey R P [19] the 100th patients who comes to the hospital with symptoms and stroke symptoms the stroke examination and observation is using Allen score. This research shows that Allen score the good sensitivity and the prediction of positive score (96,2% dan 91,22%) for examine type of ischemic stroke. But it has a different result with stroke type of hemorrhagic that has bad sensitivity and positive prediction (75% dan 88,23%)[19].

Nouira, Boukef [20] in his research shows that when a patient with stroke and comes to the hospital it must be held the examination using Allen score for determining the type of stroke. The result shows that Allen score has sensitivity and specify 55% dan 70%, while for the negative prediction is 80%. From several research that has been done shows the same result that is the sensitivity, specify, negative prediction and positive prediction in Allen score is right for assessing the type of ischemic stroke, but the score result is influenced by the condition, sign and the symptoms that is suffers by the patients.

Stroke score can be said ideal for determining the type of stroke must be have the balance score in validity,

simplicity and the function, but Allen score is enough accurate for being used in epidemiology research [21].

Caring continuous stroke management really depend on the kind of stroke, hemorrhagic or ischemic. The stroke scoring system is a clinically tools that able to help to prediction type stroke type has balancing in validity, simplicity, and the use. This stroke assessment become one of important tools for determining the diagnose and the examination that will be given to the patient. Beside that the determining of stroke type really useful to prevent the stroke attack[22]. There is a mistake in determining the stroke diagnose cause postpone of caring system and inappropriate caring[23].

This stroke is a simple system that can be used to determine the stroke type. The knowledge about stroke and there is risk factor that can influence is dynamic things that can be changed later [24]. There is a change that influence stroke score that must be revalidated in the assessment and the way to scoring to the patient based on the symptoms.

Conclusion

The successful of stroke management is depend on the determining the type of stroe that will be the key of giving the examination to the stroke patient. The helping score like scoring system can be help to determining the type of stroke whether hemorrhagic or ischemic. One of the example score that can be used is Allen score or Guys Hospital.

Ethical Clearance: This article has been approved by the Medical faculty of Brawijaya University

Source of Funding: Self founding

Conflict of Interest: Nil

Reference

1. Sacco RL, Kasner SE, Broderick JP, Caplan LR, Connors JJ, Culebras A, et al. An updated definition of stroke for the 21st century: a statement for healthcare professionals from the American Heart Association/American Stroke Association. Stroke. 2013 Jul;44(7):2064-89. PubMed PMID: 23652265. Epub 2013/05/09. eng.
2. An SJ, Kim TJ, Yoon B-W. Epidemiology, Risk Factors, and Clinical Features of Intracerebral Hemorrhage: An Update. J Stroke. 2017;19(1):3-10. PubMed PMID: 28178408. Epub 01/31. eng.
3. Feigin VL, Krishnamurthi RV, Parmar P, Norrving B, Mensah GA, Bennett DA, et al. Update on the Global Burden of Ischemic and Hemorrhagic Stroke in 1990-2013: The GBD 2013 Study. Neuroepidemiology. 2015;45(3):161-76. PubMed PMID: 26505981. Pubmed Central PMCID: PMC4633282. Epub 2015/10/28. eng.
4. Putri NN, Islam MS, Subadi I. COMPARISON OF ACUTE ISCHEMIC STROKE FUNCTIONAL OUTCOME IN SMOKERS AND NONSMOKERS MEASURED BY CANADIAN NEUROLOGICAL SCALE (CNS) AND NIHSS. Malang Neurology Journal. 2018;4(2):65-71.
5. Oyewole OO, Ogunlana MO, Oritogun KS, Gbiri CA. Post-stroke disability and its predictors among Nigerian stroke survivors. Disability and health journal. 2016 Oct;9(4):616-23. PubMed PMID: 27387815. Epub 2016/07/09. eng.
6. Middleton S, Grimley R, Alexandrov AW. Triage, treatment, and transfer: evidence-based clinical practice recommendations and models of nursing care for the first 72 hours of admission to hospital for acute stroke. Stroke. 2015 Feb;46(2):e18-25. PubMed PMID: 25563641. Epub 2015/01/08. eng.
7. Ojaghihaghighi S, Vahdati SS, Mikaeilpour A, Ramouz A. Comparison of neurological clinical manifestation in patients with hemorrhagic and ischemic stroke. World J Emerg Med. 2017;8(1):34-8. PubMed PMID: 28123618. eng.
8. Nilanont Y, Komoltri C, Saposnik G, Côté R, Legge S, Jin Y-P, et al. The Canadian Neurological Scale and the NIHSS: Development and Validation of a Simple Conversion Model. Cerebrovascular diseases (Basel, Switzerland). 2010 07/01;30:120-6.
9. Sherin A, Khan A, Rehman S, Shah NH, Shabbier G, Zarif M. Comparability and validity of Siriraj stroke score and Allen stroke score in differentiation of acute ischemic and haemorrhagic stroke. Journal of Postgraduate Medical Institute (Peshawar-Pakistan). 2011;25(3).
10. Amjad Z, Nadeem M, Mustafvi SA, Baqai HZ. Accuracy of Siriraj Stroke Score in Ascertaining the Type of Stroke. Journal of Islamabad Medical & Dental College (JIMDC). 2015;4(4):167-70.
11. RAGHURAM P, Biradar MS, JegaNathaN J. Comparison of the Siriraj Stroke Score and the Guy's Hospital Score in South India. Journal of

Clinical & Diagnostic Research. 2012;6(5).

12. Donkor ES. Stroke in the Century: A Snapshot of the Burden, Epidemiology, and Quality of Life. Stroke Research and Treatment. 2018;2018:10.
13. Chukwuonye II, Ohagwu KA, Uche EO, Chuku A, Nwanke RI, Ohagwu CC, et al. Validation of Siriraj Stroke Score in southeast Nigeria. Int J Gen Med. 2015;8:349-53. PubMed PMID: 26604813. eng.
14. Krishnamurthi RV, Moran AE, Forouzanfar MH, Bennett DA, Mensah GA, Lawes CMM, et al. The Global Burden of Hemorrhagic Stroke: A Summary of Findings From the GBD 2010 Study. Global Heart. 2014 2014/03/01/;9(1):101-6.
15. Rahman A, Jamal Q. Comparison of Siriraj Stroke Score With Computerized Tomography in Establishing the Type of the Stroke Among Pakistani Population (P1.078). Neurology. 2015;84(14 Supplement):P1.078.
16. Somasundaran A, Mohammed H, Kezhukatt J, George AT, Potty SN. Accuracy of Siriraj stroke scale in the diagnosis of stroke subtypes among stroke patients. 2017. 2017 2017-02-20;5(3):6. Epub 2017-02-20.
17. Hwong WY, Bots ML, Selvarajah S, Kappelle LJ, Abdul Aziz Z, Sidek NN, et al. Use of a Diagnostic Score to Prioritize Computed Tomographic (CT) Imaging for Patients Suspected of Ischemic Stroke Who May Benefit from Thrombolytic Therapy. PLoS One. 2016;11(10): e0165330-e. PubMed PMID: 27768752. eng.
18. Goswami R, Karmakar P, Ghosh A. Bedside utility of clinical scoring systems in classifying stroke. Indian journal of medical sciences. 2013;67(5/6):137.
19. Pandey R P PAIM. A Comparative Study of Clinical Scoring System of Cerebrovascular Accident with CT Scan. The Indian Practitioner. 2019 08/09;68(8).
20. Nouira S, Boukef R, Bouida W, Marghli S, Dridi Z, Benamou S, et al. Accuracy of Two Scores in the Diagnosis of Stroke Subtype in a Multicenter Cohort Study. Annals of Emergency Medicine. 2010 2009/03/01/;53(3):373-8.
21. Connor M, Modi G, Warlow C. Accuracy of the Siriraj and Guy's Hospital Stroke Scores in Urban South Africans. Stroke; a journal of cerebral circulation. 2016 02/01;38:62-8.
22. Arsava EM, Helenius J, Avery R, Sorgun MH, Kim G-M, Pontes-Neto OM, et al. Assessment of the Predictive Validity of Etiologic Stroke Classification. JAMA Neurol. 2017;74(4):419-26. PubMed PMID: 28241214. eng.
23. Glober NK, Sporer KA, Guluma KZ, Serra JP, Barger JA, Brown JF, et al. Acute Stroke: Current Evidence-based Recommendations for Prehospital Care. West J Emerg Med. 2016;17(2):104-28. PubMed PMID: 26973735. Epub 03/02. eng.
24. Ntaios G, Papavasileiou V, Michel P, Tatlisumak T, Strbian D. Predicting functional outcome and symptomatic intracranial hemorrhage in patients with acute ischemic stroke: a glimpse into the crystal ball? Stroke. 2015 Mar;46(3):899-908. PubMed PMID: 25657189. Epub 2015/02/07. eng.

DOI Number: 10.37506/ijone.v12i4.11214

A Study to Assess the Effectiveness of Role Play on Team Nursing among 2nd Year B.Sc. Nursing Students in Selected Nursing College Tirupati, AP, India

C. Usha Kiran[1], Sreelatha[2]

[1]Associate Professor, College of Nursing, SVIMS,
[2]Associate Professor, College of Nursing, SVIMS, Tirupati, Andhra Pradesh, India

Abstract

The aim of the study was to assess the effectiveness of role play on team nursing among 2nd year B.Sc(N) students in CON, SVIMS, Tirupati.

Objectives:

- To assess the level of knowledge on team nursing among 2nd year B.Sc (N) students in CON, SVIMS, Tirupati.
- To assess the effectiveness of role play among 2nd year B.Sc (N) students in CON, SVIMS, Tirupati.
- To find the correlation between level of knowledge and selected demographic variables of 2nd year B.Sc (N) students

Methodology: By using convenient sampling technique a preexperimental research design was adopted, 100 2nd year B.Sc.(N) students were choosen as samples, and data collection was done by using a self structured questionnaire.

Results: The study results revealed that out of 100 samples 53% (53) had inadequate knowledge, 31%(31) had moderate knowledge, and 16%(16) had adequate knowledge in their pre test and the post test results had shown as 28%(28) had moderate knowledge, and 72%(72) had adequate knowledge, none of them had inadequate knowledge.

Conclusion: As the technology in nursing education has been increasing day by day; role play is one of the best live innovative method of giving essential information to the students. In the present study the results showed that, the role play was effectively improved the knowledge of 2nd year B.Sc(N) students regarding team nursing.

Keywords: *Role-Play, Team nursing, Effectiveness*

Introduction

"We Can Always Make a Difference to Someone, No Matter What Role We Play" –Lindsey Stirling

Background of the Study: Role playing: "A teaching method that has been used widely for experiential learning" and that "provides an imaginary context in which issues and behaviours may be explored by participants who take on a specific role or character" (Ching, 2014).BECAUSE NURSING work environments are complex, prioritizing work is essential and nursing workloads often need to be reprioritized on a shift-by-shift basis. Research suggests that the model of nursing care is critical in defining the nursing work environment.[1] Organizational structures, leadership, autonomy, multidisciplinary collaboration, and interpersonal relationships influence nursing work environments and satisfaction.[1]

Challenges in clinical nursing are receiving more attention because they relate to nurse satisfaction and, ultimately, to patient satisfaction. Reimbursement changes mean that patients' perspectives on hospital care, as quantified by the Hospital Consumer Assessment of Healthcare Providers and Systems, carry a reimbursement weight of 30%.[2] Healthcare leaders must develop and sustain environments that support patient safety and evidence-based care while restoring high levels of satisfaction in the workplace.

To redesign clinical care delivery to improve patient outcomes, The Institute of Medicine report, *The Future of Nursing: Leading Change, Advancing Health*, recommends that nurses serve as key contributors.[3] This article describes our evidence-based project to improve the delivery of care and patient and staff satisfaction with team nursing. *Team nursing* is defined as "a group of people who are mutually dependent on one another to achieve a common goal."4 The primary benefit of this approach is that pairing nurses provides a resource and supplement to patient care.

Because Nursing work environments are complex, prioritizing work is essential and nursing workloads often need to be reprioritized on a shift-by-shift basis. Research suggests that the model of nursing care is critical in defining the nursing work environment.[1] Organizational structures, leadership, autonomy, multidisciplinary collaboration, and interpersonal relationships influence nursing work environments and satisfaction.[1]

Challenges in clinical nursing are receiving more attention because they relate to nurse satisfaction and, ultimately, to patient satisfaction. Reimbursement changes mean that patients' perspectives on hospital care, as quantified by the Hospital Consumer Assessment of Healthcare Providers and Systems, carry a reimbursement weight of 30%.[2] Healthcare leaders must develop and sustain environments that support patient safety and evidence-based care while restoring high levels of satisfaction in the workplace.

To redesign clinical care delivery to improve patient outcomes, The Institute of Medicine report, *The Future of Nursing: Leading Change, Advancing Health*, recommends that nurses serve as key contributors.[3] This article describes our evidence-based project to improve the delivery of care and patient and staff satisfaction with team nursing. *Team nursing* is defined as "a group of people who are mutually dependent on one another to achieve a common goal."[4] The primary benefit of this approach is that pairing nurses provides a resource and supplement to patient care.

Because Nursing work environments are complex, prioritizing work is essential and nursing workloads often need to be reprioritized on a shift-by-shift basis. Research suggests that the model of nursing care is critical in defining the nursing work environment.[1] Organizational structures, leadership, autonomy, multidisciplinary collaboration, and interpersonal relationships influence nursing work environments and satisfaction.[1]

Challenges in clinical nursing are receiving more attention because they relate to nurse satisfaction and, ultimately, to patient satisfaction. Reimbursement changes mean that patients' perspectives on hospital care, as quantified by the Hospital Consumer Assessment of Healthcare Providers and Systems, carry a reimbursement weight of 30%.[2] Healthcare leaders must develop and sustain environments that support patient safety and evidence-based care while restoring high levels of satisfaction in the workplace.

To redesign clinical care delivery to improve patient outcomes, The Institute of Medicine report, *The Future of Nursing: Leading Change, Advancing Health*, recommends that nurses serve as key contributors.[3] This article describes our evidence-based project to improve the delivery of care and patient and staff satisfaction with team nursing. *Team nursing* is defined as "a group of people who are mutually dependent on one another to achieve a common goal."[4] The primary benefit of this approach is that pairing nurses provides a resource and supplement to patient care.

Role-playing as a teaching strategy highlighted its importance for the self-knowledge, humanization of care, enhancement of communication and other social interaction skills as well as the articulation of the theory to real situations of care Because Nursing work environments are complex, prioritizing work is essential and nursing workloads often need to be reprioritized on a shift-by-shift basis. Research suggests that the model of nursing care is critical in defining the nursing work environment.[1] Organizational structures, leadership, autonomy, multidisciplinary collaboration, and interpersonal relationships influence nursing work environments and satisfaction.[1]

Challenges in clinical nursing are receiving more attention because they relate to nurse satisfaction and, ultimately, to patient satisfaction. Reimbursement changes mean that patients' perspectives on hospital care, as quantified by the Hospital Consumer Assessment of Healthcare Providers and Systems, carry a reimbursement weight of 30%.[2] Healthcare leaders must develop and sustain environments that support patient safety and evidence-based care while restoring high levels of satisfaction in the workplace.

To redesign clinical care delivery to improve patient outcomes, The Institute of Medicine report, *The Future of Nursing: Leading Change, Advancing Health*, recommends that nurses serve as key contributors.[3] This article describes our evidence-based project to improve the delivery of care and patient and staff satisfaction with team nursing. *Team nursing* is defined as "a group of people who are mutually dependent on one another to achieve a common goal."4 The primary benefit of this approach is that pairing nurses provides a resource and supplement to patient care.

Nursing work environments are complex, prioritizing work is essential and nursing workloads often need to be reprioritized on a shift-by-shift basis. Research suggests that the model of nursing care is critical in defining the nursing work environment. Organizational structures, leadership, autonomy, multidisciplinary collaboration, and interpersonal relationships influence nursing work environments and satisfaction.[7]

Challenges in clinical nursing are receiving more attention because they relate to nurse satisfaction and, ultimately, to patient satisfaction. Reimbursement changes mean that patients' perspectives on hospital care, as quantified by the Hospital Consumer Assessment of Healthcare Providers and Systems, carry a reimbursement weight of 30%. Healthcare leaders must develop and sustain environments that support patient safety and evidence-based care while restoring high levels of satisfaction in the workplace.

To redesign clinical care delivery to improve patient outcomes, The Institute of Medicine report, *The Future of Nursing: Leading Change, Advancing Health*, recommends that nurses serve as key contributors. *Team nursing* is defined as "a group of people who are mutually dependent on one another to achieve a common goal." The primary benefit of this approach is that pairing nurses provides a resource and supplement to patient care.

The use of team nursing is considered to provide patients with continuity of care by a team therefore addressing the potential for fragmented care often resulting from more task oriented care delivery models (Adams, Bond, & Hale, 1998). For nurses team nursing facilitates increased potential for meaningful care giving and provides the opportunity for developing responsibility in team members (Adams et al., 1998).

From the contributions of role-playing to nursing education described in the literature, the interest in using the strategy for discussing the meanings and practices related to nursing care with nursing students aroused. This focus of the study was chosen not only because of the centrality and importance of care as the central axis of the professional practice of nursing, but also due to the need for the development of attitudes and relational competencies for conducting a care beyond the instrumental dimension.

Today, innovative ideas and new strategies in nursing education is encouraged to provide the learning needs and demands of constantly changing health care (Chan, 2012). Improving students to focus on the needs of patients and their families is one of the concerns of nursing teachers (Holland, 2002). Nursing education can maintain its dynamic quality when it moves toward innovation and modern method of teaching and learning. Therefore, teachers are required to employ up to date method in their teaching plans(Pourghaznein et al., 2015). Problem-based learning method for integration of theory and practice in the classroom and clinical settings is an appropriate method to resolve these concerns (Williams & Beattie, 2008; Khiri & Mohammadi, 2016). [3]

The most widely adopted pedagogical approach used for conveying knowledge in majority of the construction programs today is the traditional teaching method that include lectures, seminars, and tutorials to expose the students to different aspects of construction (Bhattacharjee, 2014). In addition to traditional method, other forms of active learning pedagogical approaches adopted in construction education include construction site visit, site trainings, computer games and simulations, and problem-based learning, Though roleplaying is not a popular pedagogical approach adopted in construction education, it has major benefits and potentials for improving students learning (Bhattacharjee & Ghosh, 2013). Due to the involvement of multiple stakeholders

in any construction project, roleplaying teaching method that replicates the real life scenario by assigning different roles to the students can prove to be very effective in construction education.

Role-playing is being used as a pedagogical approach for many years, predominantly in sports education, theater, history and other social science disciplines. Utilizing the techniques of drama, role-playing teaching is a holistic teaching method that inculcates the process of critical thinking, instigates emotions and moral values, and informs about factual data. It has been found that role-playing teaching increases the efficacy of the learning experience and makes it more grounded in reality (Bhattacharjee, 2014).[4]

Role-playing is a schematic approach in which interpersonal interactions will be observed, analyzed and interpreted by others (Billings & Halstead, 2005) and also as a method of problem-based learning increases the ability of learners in facing with situations, decision making, situations interpretation and critical thinking.

Learning with role playing decrease anxiety and also increase reliability of learners (Khiri & Mohammadi, 2016). Also by helping the learners in situations and roles, questions and answers, and also active listening, professional knowledge of learners will be increased; and providing repeating opportunities, rethinking and habituation, cause to learning. In this simulation method, which actively and continuously puts students in real situations, individual autonomy, creativity, and self-efficacy will be strengthened too (Martinez et al., 2010). The other benefit of this method is increasing of observation-based skills, decision-making, instant feedback on communication skills which used in role playing (Billings & Halstead, 2005).In this method, interaction between students and teachers will be reinforced inside and outside of classroom and create a safe environment in which students freely express their points and teacher can modify them.[5]

Need for the Study: Role-playing method mentally prepares the students for learning as the students are given the chance to demonstrate their education technical skills in quasiclinical setting and control their stress. on the other hand, role-playing gives the students not only a chance to practice their clinical skills, but also have the opportunity to polish their communicational skills and experience the patient's reaction to the care. All these lead to positive effects on the cares provided by students to patients. Role-playing is widely used for educating communication skills. It is a useful method for repeating, observing, and discussing the roles and directing the roles toward other educational programs. Bosse et al. and Burns et al. showed that role playing method improved communicational skills of subjects. In addition, role play method enables a nursing student to practice the role of a nurse in an environment similar to clinic. Therefore, the student is prepared to face professional situations and by increasing self-esteem, enables the student to accurately address the patient's problems.

Samsibar Samsiar (2018).et al, The effectiveness of role play method towards students motivation in English conversation. Quantitative research through pre-experimental method by using pre- test and post- test design. The results revealed that there was significant difference on the students speaking achievement taught by using role play. The mean of pre-test is 54.2 and post test after experiment is 65. It could be said that role play method was effective in teaching conversation.[1]

JANECIOFFI (2009). et.al conducted a study on "Team nursing in acute care settings, Nurses' experiences" findings of the qualitative study revealed that experiences of nurses working in teams in acute care settings in an area health service. Main findings are benefits of team nursing, team approach, team effectiveness, increased responsibility, availability of support and engagement with the multidisciplinary team.[7]

The reviews give a clear idea regarding the importance of team nursing and effectiveness of role play so the researcher is interested in combining the both concepts to bring an effective outcome.

Materials and Methodology

Research Approach: Pre - experimental one group pre test post test research design

Setting of the study: College of Nursing, SVIMS, Tirupati

Study population: Students studying 2nd year B.Sc. (N)

Study sample: Students studying 2nd year B.Sc.(N) in SVIMS, Tirupati

Sample size: 100 students were taken

Sampling technique: Non probability convenient sampling technique was adopted for the present study.

Criteria for Sample Selection:

Inclusion criteria:

- Who are studying 2nd year B.scNursing in SVIMS, CON TIRUPATI.
- Who are willing to participate.

Exclusion Criteria:

- Who are absent on the day
- Who are not willing to participate
- Who are belongs to 1st, 3rd, and 4th year B.Sc.(N) students

Instrument: The tool was developed with the help of related literatures from various textbooks, journals, websites discussion and guidance from experts.

Section-I: It consists of questions related to demographic data like personal profile, education of the father and mother, occupation of the father and mother, income of the father and mother, residence and type of family were included.

Section-II: It consists of questions on team nursing.

Scoring Key: Correct answer was given a score of 1 and wrong answer was given a score of 0.

Content Validity: The tool was given 10 experts constituting nursing professionals and taken their valuble suggestions.

Reliability of the Tool: Reliability of the tool is defined as the extent which the instrument yields the same results in repeated measures. The tool was administered to 10 2nd year B.Sc(N) students, who were not included in the, ain study. The reliability was established by cronbachs alpha method of correlation coefficient formula. The obtained r score was r=0.92 which shows that instrument was reliable. Hence the tool was reliable for proceeding with the pilot study

Data Collection Procedure: Prior permission was obtained from the head of the department of the college 100 samples were selected by non probability convenient sampling technique. Questionnaire was given to them and the pre test knowledge was assessed by the investigators who were trained in assessing the level of knowledge among students, later on around 30 minutes role pay was been performed by a team of members on team nursing and the theme has been explained. 2 sessions of role play was performed with a time gap of 2-3 days, after the 2 sessions of role play, one week gap was given and then again the knowledge of the students has been collected by the team of investigators by using a self structured questionnaire and has given ample time to answer the questions, later the data was scrutinized and analysed.

Data Analysis: Descriptive (Percentage, Mean, and Standard deviation) and inferential statistics(t-test, Chi-square) were used for the study.

Findings:

Table 1: Distribution of level of knowledge on team nursing among B.Sc.

S.No	Post test Knowledge	Frequency	Percent
1.	Inadequate	0	0.00
2.	Moderate	28	28.00
3.	Adequate	72	72.00
	Total	**100**	**100.00**

Table 2 It indicates that there is significant improvement in the level of knowledge among students and shows the effectiveness of role play.

Table 2: Effectiveness of role-play on team nursing among 2nd year B.Sc(N) students in SVIMS, Tirupati

	Mean	N	Std. Deviation	t-value	p value
Pre test Total Knowledge	5.400	100	2.270	13.164**	0.000
Post test Total Knowledge	8.090	100	1.016		

Note: **(Significance at 0.01)

Table: 3 Association between the selected demographic variable and level of knowledge among 2nd year B.Sc(N) students

Demographic variable	Chi-square	P value	Chi-square	P value
	Pre test		Post test	
Age	5.729	0.454	0.487	0.922
Sex	5.453	0.065	10.113**	0.001
Religion	2.648	0.618	1.538	0.464
Type of family	4.235	0.375	3.258	0.196
Education of father	26.362**	0.001	10.578*	0.032
Education of mother	47.705**	0.000	11.652*	0.020
Occupation of father	33.624**	0.000	24.463**	0.000
Occupation of mother	15.321	0.053	10.762*	0.029
Income	7.747	0.257	2.508	0.474
Area of residence	6.584	0.160	9.242**	0.010
Source of information	18.462*	0.018	10.652*	0.035

*Significant at 0.01 level, **Significant at 0.05 level

Table-3 It reveals that there is significant association between level of knowledge and education of the mother, education of father, occupation of father, were significant at $p<0.05$ level and source of information is significant at $p<0.01$ level in pretest. And age, occupation of the father, area of residence are significant at $p<0.05$ level, education of father, education of mother, occupation of mother, source of information is significant at $p<0.01$ level in post test.

Discussion

The finding of the study was the role play had a great impact among the students which was clearly evident by the results it revealed that the majority of the students gained the knowledge on team nursing after the role play. Among 100 students 72% had adequate knowledge in the post test results.

The first objective of the study is to assess the level of knowledge on tem nursing and found that out of 100 students 53% (53) had inadequate knowledge, 31%(31) had moderate knowledge, and 16%(16) had adequate knowledge.

Beatrice J. Kalisch, RN, Ph.D, F.A.A.N., Titus Distinguished Professor of Nursing and Director, Hyunhwa Lee, RN, PhD, Post-Doctoral Research Fellow, and Monica Rochman, RN, BSN, Research Associate and Doctoral Student conducted a study on Nursing Staff Teamwork and Job Satisfaction. This was a cross sectional study with a sample of 3,675 nursing staff from five hospitals and 80 patient care units. Participants completed the Nursing Teamwork Survey. Participants' levels of job satisfaction with current position and satisfaction with occupation were both higher when they rated their teamwork higher ($p < 0.001$) and perceived their staffing as adequate more often ($p < 0.001$). Type of unit influenced both satisfaction variables ($p < 0.05$). Additionally, education, gender and job title influenced satisfaction with occupation ($p < 0.05$) but not with current position Results of this study demonstrate that within nursing teams on acute care patient units, a higher level of teamwork and perceptions of adequate staffing leads to greater job satisfaction with current position and occupation.

The second objective of the study to assess the effectiveness of role play which was been clearly shown in the post test results it has shown that 28%(28) had moderate knowledge, and 72%(72) had adequate knowledge.

Samsibar Samsiar (2018).et al, The effectiveness of role play method towards students motivation in English conversation. Quantitative research through pre experimental method by using pre test and post test

design. The results revealed that there was significant difference on the students speaking achievement taught by using role play. The mean of pre-test is 54.2 and post test after experiment is 65. It could be said that role play method was effective in teaching conversation.[1]

The third objective of the study is assess the association between the level of knowledge and the demographic variable

The present study found that significant association between the selected demographic variable at $p<0.01$, $p<0.05$.

Thao (2013) et al conducted a research entitled "Applying role play in increasing student interest in learning and speaking among grade ll students at Lai Vung 2 high school results showed that significance between role play activities encouraged students thinking and creativity helped students at (P=0.05).

Conclusion

Role play is one of the most effective method of teaching strategy which helps the students to gain knowledge regarding a specific topic the present study has shown that the role play has been shown to be effective in incorporating the knowledge among the students regarding team nursing, this clearly evident that to improve the involvement of the students in learning and to improve their performance the management should adopt any one of the innovative method of teaching the role is one of such innovation where the students interest can be maintained and education can be more interesting.

Acknowledgement: I liked to extend my sincere thanks to the director and vice-chancellor Dr. B. Vengamma, Professor and H.O.D of Neurology, Dr. P. Sudha Rani, MSc(N)., Ph.D., Principal I/C College of Nursing, SVIMS, Tirupati. Last but not the least I express my gratitude to all the subjects for their participation and co-operation for the study.

Ethical Clearance: Taken from scientific research ethics committe, faculty of nursing, SVIMS.

Source of Funding: self

Conflict of Interest: Nil

Reference

1. Shari Lynn Redden & Walden University, Walden Dissertations and Doctoral Studies on "The Effectiveness of Combining Simulation and Role Playing in Nursing Education" Shari Lynn Redden Walden University (2015).
2. Rev. Bras. Enferm. vol. 71 supl. 6 Brasília Role playing: Teaching strategy encourages reflections on nursing care (2018).
3. Negin Larti, Elaheh Ashouri, Akram Aarabi " The effects of an empathy role-playing program for operating room nursing students in Iran"(2018).
4. Deborah L. Ulrich, Gordon Lee Gillespie et al; Reflective Responses Following a Role Play Simulation of Nurse Bullying (2017).
5. Fatemeh Vizeshfar, Fereshtehdehghanrad et al;Effects of Applying Role Playing Approach on Nursing Students' Education (2016).
6. Safoura Dorri1, Mansoureh Ashghali Farahani 2, et al; Effect of roleplaying on learning outcome of nursing students based on the Kirkpatrick evaluation model(2019).
7. Jane marie Team nursing in acute care settings: Nurses' experiences, pubmed DOI: 10.5172/conu. 33.1.2, September 2009

DOI Number: 10.37506/ijone.v12i4.11215

Patient and Family Centered Care: Practices in Pediatrics

Deepika[1], Seema Rani[2], Jahanara Rahman[3]

[1]M.Sc. Nursing Student, Rufaida College of Nursing, Jamia Hamdard, [2]Associate Professor, Rufaida College of Nursing, Jamia Hamdard, [3]Assistant Professor, Rufaida College of Nursing, Jamia Hamdard

Abstract

Patient and Family Centered Care is an approach to planning, delivery, and evaluation of health care that is grounded in mutually beneficial partnerships among health care providers, patients, and families. In pediatrics, Patient and Family Centered Care (PFCC) is based on the understanding that the family is the child's primary source of strength and support. Respect each child and his/her family, ensuring flexibility in organizational policies, procedures, and provider's practices, sharing complete, honest, and unbiased information with patients and their families, providing formal and informal support for the child and family, collaborating with patients and families at all levels of health care and recognizing and building on the strengths of individual children and families are the principles of PFCC. This approach is not only beneficial for patient and family but also for health care providers.

Keywords: *PFCC- Patient and family centered care, PCC-Patient centered care, FCC-Family centered care, NICU-Neonatal Intensive care unit, MCHB-Maternal and child health Bureau, FC-Family care, SC-Standard Care, FIC-Family Integrated care, CI- Confidence Interval, NIPI-UNDP-Norway India Partnership Initiative under United Nations Development, SNCU-Sick newborn care unit.*

Introduction

'Patient and Family Centered Care'(PFCC) is an approach to the planning, delivery, and evaluation of health care that is grounded in mutually beneficial partnerships among health care providers, patients, and families.[1] When PFCC is practiced; it shapes health care policies, programs, facility design, evaluation of health care, and day-to-day interactions among patients, families, physicians, and other health care professionals. In pediatrics, patient- and family-centered care is based on the understanding that the family is the child's primary source of strength and support. The term 'family-centered care,' is replaced with the term 'patient and family centered care,' to more explicitly capture the importance of engaging the family and the patient in a developmentally supportive manner as essential members of the health care team.[2]

Corresponding Author:
Seema Rani
Associate Professor, Rufaida College of Nursing, Jamia Hamdard

Patient and Family Centered care in Past: PFFC emerged as an important concept in health care during the second half of the 20th century, at a time of increasing awareness of the importance of meeting the psychosocial and developmental needs of children and of the role of families in promoting the health and well-being of their children. Building on the work began in the previous decade; the Institute for Family-Centered Care (now the Institute for Patient- and Family-Centered Care) was also founded in 1992 to foster the development of partnerships among patients, families, and health care professionals and to provide leadership for advancing the practice of family-centered care in all settings.[3]

The First Hospital to care exclusively for children was the L'Hospital Des Enfants-Malades in Paris in 1802[4] and in the United States, the children's Hospital of Philadelphia in 1855.[2] In 1989 the Maternal and Child Health Bureau (MCHB) changed its mission to read: Provide and promote family centered, community-based, coordinated care for children with special health care needs and to facilitate the development of community–based systems of services for such children and their families.[5]

In 2001, the Institute of Medicine named Patient Centered Care (PCC) as crucial for health care quality and by 2003; the American Academy of Pediatrics had incorporated FCC into multiple policy statements and affirmed Family Centered Care (FCC) as the standard of health care for all children.[6]

Ortenstrand A etal. conducted a study to evaluate the effect of a new model of family care (FC) in a level 2 NICU, where parents could stay 24 hours/day from admission to discharge. A randomized, controlled trial was conducted in 2 NICUs (both level 2), including a standard care (SC) ward and an FC ward, where parents could stay from infant admission to discharge. In total, 366 infants born before 37weeks of gestation were randomly assigned to FC or SC on admission. The primary outcome was total length of hospital stay, and the secondary outcome was short-term infant morbidity. The analyses were adjusted for maternal ethnic background, gestational age, and hospital site. Total length of hospital stay was reduced by 5.3 days: from a mean of 32.8 days (95% confidence interval [CI]: 29.6-35.9) in SC to 27.4 days (95% CI: 23.2-31.7) in FC (P = .05). This difference was mainly related to the period of intensive care. No statistical differences were observed in infant morbidity, except for a reduced risk of moderate-to-severe bronchopulmonary dysplasia: 1.6% in the FC group compared with 6.0% in the SC group (adjusted odds ratio: 0.18 [95% CI: 0.04-0.8].[7]

Marion Mitchell etal, conducted a study to evaluate the effects on family-centered care of having critical care nurses partner with patients' families to provide fundamental care to patients. Total of 174 family members participated; 75 in control and 99 in intervention group. At the control site, patients' families experienced usual care; at the intervention site, patients' families were invited to assist with some of their relative's fundamental care with nurse's support. This study concludes that partnering with patient's family members to provide fundamental care to the patients significantly improved the respect, collaboration and support.[8]

Karel O'Brienetal. conducted a pilot prospective cohort analytic study to explore the feasibility, safety, and potential outcomes of implementing this model in a Canadian NICU. Families were provided with daily education sessions and were mentored at the bedside by nurses. The primary outcome was weight gain, as measured by change in z-score for weight 21 days after enrolment. For each enrolled infant, we identified two matched controls from the previous year's clinical database. They analyzed the differences in weight gain between the two groups by using a linear mixed effects multi variable regression model. They also measured parental stress levels using the Parental Stress Survey: NICU, and interviewed parents and nurses regarding their experiences with FIC (Family Integrated Care). They included 42 mothers and their infants in their study. They enrolled the infants for the study among which 31 completed the study. Researcher concluded that there was a significant increase in the incidence of breastfeeding at discharge (82.1 vs. 45.5%, $p < 0.05$). The mean Parental Stress Survey: NICU score for FIC mothers was 3.06 ± 0.12 at enrolment, which decreased significantly to 2.30 ± 0.13 at discharge ($p < 0.05$). This study suggests that the FIC model is feasible and safe in a Canadian healthcare setting.[9]

Components of Family-Centered Care practice include:

- Working with the family unit to ensure the safety and well-being of all family members.
- Strengthening the capacity of families to function effectively by focusing on solutions
- Engaging, empowering, and partnering with families throughout the decision and goal making processes.
- Developing a relationship between parents and service providers characterized by mutual trust, respect, honesty, and open communication
- Providing individualized, culturally responsive, flexible, and relevant services for each family
- Linking families with collaborative, comprehensive, culturally relevant, community-based networks of supports and services.[10]

Core concepts of Patient and Family Centered Care[11]:

1. Listening to and respecting each child and his or her family. Honoring racial, ethnic, cultural, and socioeconomic background and patient and family experiences and incorporating them in accordance with patient and family preference into the planning and delivery of health care.
2. Ensuring flexibility in organizational policies, procedures, and provider practices so services can be tailored to the needs, beliefs, and cultural values

of each child and family and facilitating choice for the child and family about approaches to care.

3. Sharing complete, honest, and unbiased information with patients and their families on an ongoing basis and in ways they find useful and affirming, so that they may effectively participate in care and decision-making to the level they choose. Health information for children and families should be available in the range of cultural and linguistic diversity in the community and take into account health literacy. In hospitals, conducting physician rounds in the patients' rooms with nursing staff and family present can enhance the exchange of information and encourage the involvement of the family in decision-making.
4. Providing and/or ensuring formal and informal support (eg, peer-to-peer support) for the child and family during each phase of the child's life. Such support is provided so that Health Insurance Portability and Accountability Act and other relevant ethical and legal guidelines are followed.
5. Collaborating with patients and families at all levels of health care: in the delivery of care to the individual child; in professional education, policy making, program development, implementation, and evaluation; and in health care facility design. As part of this collaboration, patients and families can serve as members of child or family advisory councils, committees, and task forces dealing, for example, with operational issues in health care facilities; as collaborators in improving patient safety; as participants in quality-improvement initiatives; and as leaders or coleaders of peer-support programs.In the area of medical research, patients and families should have voices at all levels in shaping the research agenda, in determining how children and families participate in research, and in deciding how research findings will be shared with children and families.
6. Recognizing and building on the strengths of individual children and families and empowering them to discover their own strengths, build confidence, and participate in making choices and decisions about their health care.

Benefits of Patient and Family Centered Care[12]:

For patient and family:

- High-quality, patient- and family-centered primary care is associated with a significant reduction in non-urgent emergency department visits in children.
- Family presence during health care procedures decreases anxiety for the child and the parents. Research indicates that when parents are prepared, they do not prolong the procedure or make the provider more anxious.
- After redesigning their transitional care center in a way supportive of families, creating 24-hour open visiting for families, and making a commitment to information sharing, another children's hospital experienced a 30% to 50% decrease in the infants' length of hospital stay. Other outcomes included fewer re-hospitalizations, decreased use of the emergency department, greater parent satisfaction, and a decrease in maternal anxiety.

For Staff Nurses:

- Staff members have more positive feelings about their work than do staff members in an emergency department that does not emphasize emotional support. This may lead to improved job performance, less staff turnover, and a decrease in costs.

For Pediatricians

- Improved clinical decision-making based on better information and collaborative processes.
- An opportunity to learn from families how care systems really work and not just how they are intended to work.
- A possible decrease in the number of legal claims, claim severity, and legal expenses.

Family centered care In India: The Ministry of Health and Family Welfare, Government of India, has approved the adaptation and introduction of FCC in the public health services, and this initiative is supported by the Norway India Partnership Initiative under United Nations Development Programme (NIPI-UNDP) newborn project. Five demonstration sites at district Sick Newborn Care Units (SNCUs) have been set up namely at Alwar (Rajasthan), Raisen (Madhya Pradesh), Hoshangabad (Madhya Pradesh), Jharsuguda (Odisha) and Nalanda (Bihar).[13]

In 2015, the FCC (Family Centered Care) was set up in Alwar's district hospital in cooperation with the Norway India Partnership Initiative (NIPI).After testing Family Centered Care (FCC) in the district of Alwar, the

state health department of Rajasthan has now decided to expand the innovation to all 33 districts of Rajasthan. In addition to Rajasthan, the states of Bihar, Madhya Pradesh, and Odisha are also in the process of scaling up Family Centered Care (FCC) using existing government funds.[14]

A randomized control trial was conducted at the Post Graduate Institute, RML Hospital, New Delhi, during 2010-2012 with an aim to adapt principles of FCC to partly overcome the problem of human resource constraints and improve neonatal outcomes in a setting of a tertiary referral neonatal unit.[13]

Recommendations:

- Promote, introduce and expand the projects related to Patient and Family Centered Care in various institutions
- Aware the health care provider regarding importance of Patient and Family Centered care
- Parental Counselling and training regarding Patient and family centered care
- In hospitals, family members attending physician rounds,patient presentations and discussions in the patients' rooms with nursing staff should be standard practice.[5,6,7]
- In collaboration with patients, families, and other health care professionals, pediatricians should modify systems of care, processes of care, and patient flow as needed to improve the patient's and family's experience of care.

Conclusion

Patient and Family Centered care approach helps in increasing awareness of the importance of meeting the psychosocial and developmental needs of children and of the role of families in promoting the health and well-being of their children. Health care professionals should modify systems of care, processes of care and patient flow as needed to improve the patient's and family's experience of care. This approach will help in enhancing the trust-based relationship between health care providers, patients and their families. Transparency in care and communication will reduce apprehensions and fears inherent with hospitalization.

Conflict of Interest: None

Source of Funding: Self

Ethical Clearance: As the article is a review article so there is no requirement of Ethical Clearance

References

1. Institute for Patient and Family Centered Care-Transforming health care through partnerships. 2020 (cited on 13/04/2020).Available from: https://www.ipfcc.org/bestpractices/sustainable-partnerships/background/pfcc-defined.html
2. Patient- and Family-Centered Care and the Pediatrician's Role. Committee on Hospital Care. Pediatrics. 2003;112(3):691-696.Available from: https://doi.org/10.1542/Peds.112.3.691
3. Tripodi M,Siano MA, Mandato C, Anseris AGE, Paolo Q, Nuzio SG. Humanization of pediatric care in world: Focus and reviews of existing models and measurement tools. Italian Journal of Pediatrics. 2017 August 30; 43: 76. DOI: 10.1186/s 13052-017-0394-4.
4. L'Hospital Des Enfants-Malades, The World's First Children's Hospital. Pediatrics. 1981; 67(5):670. Available from: https://pediatrics.aappublications.org/content/67/5/670.
5. Jolley J, Shields L. The Evolution of family centered care. Journal of Pediatric Nursing. 2009 April; 24(2): 164-170. doi: 10.1016/j.pedn.2008.03.010. Epub 2008 Oct 18. Available from: https://www.ncbi.nlm.nih.gov/pubmed/19268238
6. Kuo DZ, Houtrow AJ, Arango P, Kuhlthau KA, Jeffrey MS and John MN. Family Centred Care: Current Applications and Future Directions in Pediatric Health Care. Maternal and Child Health Journal. 2012 February; 16(2): 297-305. doi: 10.1007/s10995-011-0751-7.
7. Ortenstrand A, Westrup B, Broström EB, Sarman I, Akerström S, Brune T, Lindberg L, Waldenström U. The Stockholm Neonatal Family Centered Care Study: effects on length of stay and infant morbidity.Pediatrics. 2010 February; 125(2): e 278-85. doi: 10.1542/peds.2009-1511. Epub 2010 Jan 25.Available from: https://www.ncbi.nlm.nih.gov/pubmed/20100748
8. Maron Mitchell, Wendy Chaboyer, Elizabeth Burmeister, Michelle Foster. Positive effects of a nursing intervention on family centered care in adult critical care. American Journal of Critical care. 2009November; 18 (6): 543-552. doi: 10.4037/ajcc 2009-226. Available from: https://

www.researchgate.net/publication/38059176_Positive_Effects_of_a_Nursing_Intervention_on_Family-Centered_Care_in_Adult_Critical_Care

9. Brien KO, Bracht M, Macdonell K, McBride T, Robson K, Leary LO, Christie K, Galarza M, Dicky T, Levin A, Lee S. A pilot cohort analytic study of family integrated care in a Canadian neonatal intensive care unit. BMC Pregnancy and childbirth. 2013; 13 (1):S12. Available from: https://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/1471-2393-13-S1-S12
10. Philosophy and Key Elements of Family-Centred Practice. Child Welfare Information Gateway. Available from: https://www.childwelfare.gov/topics/famcentered/philosophy/ accessed on 13/04/2020
11. National Academies of Sciences, Engineering, and Medicine, Health and Medicine Division, Board on Health Care Services, Committee on Improving Health Outcomes for Children with Disabilities. Opportunities for Improving Programs and Services for Children with Disabilities. USA: National Academies Press; 2018.
12. Patient- and Family-Centered Care and the Pediatrician's Role. Committee on Hospital Care. Pediatrics. 2012 February; 394-404. DOI: https://doi.org/10.1542/peds.2011-3084. Available from: https://pediatrics.aappublications.org/content/129/2/394
13. Maria A, Dasguta R.Family-centered care for sick newborns: A Thumbnail View.Indian Journal of Community Medicine.2016; 41 (1), 11-15. Available from: http://www.ijcm.org.in/article.asp?issn=0970-0218;year=2016;volume=41;issue=1;spage=11;epage=15;aulast=Maria
14. Rajasthan will Introduce Family Centred Care in District Hospitals. Business Standard. 2016 October. Available from: https://www.business-standard.com/article/news-ani/rajasthan-will-introduce-family-centered-care-in-district-hospitals-116100400579_1.html

DOI Number: 10.37506/ijone.v12i4.11216

Determinants of Nurse Patients Communication Barrier as Perceived by Patients :A Case of Chitwan Medical College Teaching Hospital, Chitwan

Dhungana G.[1], Dhungana S.M.[2]

[1]Training Institute for Technical Instruction, Bhaktapur, Bagmati, Nepal,
[2]Agriculture and Forestry University, Chitwan, Bagmati, Nepal

Abstract

The quantitative descriptive cross sectional design was employed to find out nurse- patient communication barriers as perceived by patients. The Pretested semi-structure interview schedule along with likert rating scale ranging from five to one was used. Total patients (201) admitted in general wards at least three days of hospital stay were selected. Chi square test was used bivariate analysis to find association of nurse pateint communication barrier with their socio-economic, demographic factors as perceived by pateint. Common factors, nurse related, patients related, and environment related factors were major factor under study. During research, 78.10 % of patients percieved most barriers during nurse-patient communication. There was statistical association between common factors with age(p=0.004), marital status (p=0.025), education status (p=0.049), and types of family (p=0.022). Likewise, association also evident between nurse-related factors, types of family (p=0.02), and occupation (p=0.01). Similarly, regarding the environment-related factors, age (p=0.041), education status (p=0.05), and religion (p=0.009) had statistical association. The Result found that there was positive correlation among all factors. Among them, nurse-related factors and patient-related factors (r=0.54) have shown moderately positive correlation. It is concluded that majority of patients had perceived level of barriers in over all as most barriers.

Keywords**:** *Barriers, communication, nurse and patient.*

Introduction

Communication is the pillar of all human relationships and the means to develop and expand our horizon of knowledge, promote technological dimensions and our culture. In another way, it is the hub for human existence and a basic self-tool for survival[1]. Communication is a two-way process, which primarily involves both sending information and receiving messages through a variety of means. Effective communication in the field of nursing is a skill that can be learned and continually improved[2]. Communication has its barriers as well. In the context, nursing communication may occur at three levels: personal, professional and organizational level. Personal barriers are those resulting from the personality of the nurse these personal barriers involve gender, psychological status, age and language of nurses during communication with patients. Individuals differ significantly in terms of values, expectation and even how they interpret information, thus the variances in the nursing workplace[3]. The results of previous studies have shown that nurses have been trained to establish an effective communication; however, they do not use these skills to interact with their patients in clinical environments[4]. Communication frequently present barriers between nurses and clients, especially when nurses and clients are from different cultural background if the nurse and the client do not speak the same

Corresponding Author:
Gita Dhungana
Training Institute for Technical Instruction, Bhaktapur, Bagmati, Nepal,
e-mail: getacharya16@gmail.com

language or if communication styles and patterns differ, both nurse and client can feel alienated and helpless[5]. Norouzinia, Aghabarari, Shiri, Karimi and Elham[6] descriptive analytic study revealed that perception of patient the most and least important barriers were nurse related factors (mean score 2.15) and patient related factors (mean score 1.97) between nurse and patient. Aghabarari, Mohammadi, and Varvani[7] revealed that effective communication skills of health professionals are vital to effective health care provision, and can have positive outcomes including decreased anxiety, guilt, pain, and disease symptoms. Also in the study of nurse and patient barriers were more important than environmental barriers, in terms of common factors between nurse-patient, language, culture and gender difference were high important factors for communication factors[8]. Many challenges remain to effective communication among health personals. Members of the health care system need to investigate these challenges and implement solutions that fit particular work areas and requirements. All caregivers have responsibilities to improve communication as a vital component of health professional practice[9]. The impact of gender differences on communication is mostly emphasized by the patients. Patients' perception showed that among nurse-related barriers, the nurses' unwillingness to communicate, and lack of understanding of patients' needs were the most important barriers. Shortage of nurses increases the work load, and therefore, there is not enough time to establish a good therapeutic relationship[10]; also, nurses' low income has been mentioned as barrier to nurse-patient interaction[8,11]. Stress, being overworked, and lack of welfare facilities could decrease nurses' satisfaction and quality of health care provision[12]. Based on the results of the study by Park and Song, being overworked is a nurse-related communication barrier, which affects the quality and quantity of the relationship between nurses and patients[10].

The effective communication play important role for improving nursing care and quality service. For this we should identify what and how the communication barrier perceived by patient. Understanding patient perception of barriers should be considered the first step to solving communication problems, as satisfactory communication is impossible without an adequate understanding of the perceptions of the patients[13]. Likewise in our context there are many factors are affect the nurse-patient communication therefore the study methodology approach in order to find-out nurse-patient communication barriers as perceived by patient. These factors are lacking and then there may be high perceived barriers. As they might have significant influences in nurse patients relations, treatments, and also the barriers to communication. The objective of the study is to find out the determinants of nurse pateint communication barrier from pateint aspect.

Research Methodology

A descriptive cross-sectional research design based on quantitative approach was used. The Chitwan Medical College teaching hospital was selected purposively. The occupancy rates were more than 70 percentages as per hospital record book. Therefore, the researcher was selected this setting. Patients admitted in general wards (Medical, tropical, surgical, and orthopediatric) and two hundred one admitted patients were enumerated for the study. The inclusive criteria were patients admitted in general wards for at least 3 days, above 18 years old, oriented, alert and able to communicate verbally. Pretested Semi-structured interview schedule based on different literature reviews was developed to find out nurse-patient communication barriers as perceived by the patients. Perception was measured in four major factors of nurse-patient communication barriers. Five points likert scale was used to measure the level of perceived barriers. The content validity of the instrument was ensured by seeking opinion of the subject- matter specialist, research advisor, and faculty. For internal consistency, instrument was measured by Cronbach's alpha test which was 0.767 among 36 items which showed a high degree of internal consistency. Data were checked, reviewed and organized for its completeness, consistency and accuracy. The data were analyzed and calculated according to the nature of variables in terms of descriptive and inferential statistics. The level of perceived barriers which is categorized into two level with mean score >3 as most barrier and ≤3 least barriers. Chi square test was done for bivariate analysis, which is to examine the association of nurse pateint communication barrier with their socio-economic, demographic factors as perceived by pateint.

Result

The study revealed that the average patient age 40.64±14.75. More than 50% of respondent were male. Similarly, 87.1% were got married, 57.2% respondents were from nuclear family. Nearly equal percentage (40%) of respondent were belong to Brahmin/Chhetri

and Janajati. Most of the respondents were Hindu (71.6%). It revealed that out of 201 respondents' 86.4% were literate. Among them 41.5% of were attained basic education and only 4% were attained higher education. Out of study sample, 51.8% were agriculture as main occupation where service was 23.9% of respondents. The mean score of nurse-patients communication barriers as perceived by patients. Among four factors patient related factors (3.77±0.55), nurse related barrier (3.29±0.59), environmental barrier (3.12±0.23) and common barrier (2.73±0.79) were the most and least important factors respectively. The study revealed that barriers as perceived by patients were catagoried into four factors. i.e. common factor, nurse related barrier, patient related barrier and environmental barrier. The result found that common factors (20.4%) were least barried percieved by patients. Among the four subscale, patient realted factors (88.6%) were percieved by patient themselves which was followed by enviromental factors(76.6). Nurse related factors were also contributed more than 2/3rd as most barrier during communication between nurse and patients. Overall nurse patient communication barriers (NPCB), about 3/4th of patient were perceived most barrier .

Table 1 shows that there were statistically significant association between level of perception by patient regarding common factor of nurse patient communication barriers and age group (p=0.004). Marital status (p=0.025) and education (p=0.049). whereas sex of patient had no significant association with level of perception as perceived by patient regarding common factors of nurse patient communication barrier.

Table 2 shows that there were statistically significant association between level of perception by patient regarding common factor of nurse patient communication barriers and type of family (p=0.022) whereas occupation, ethnicity, and religion of patient had no significant association with level of perception as perceived by patient regarding common factors of nurse patient communication barrier.

Table 1: Association between Levels of Perception regarding common factor with age group; sex;,marital status and education

Variables	Categories	Least barrier	Most barrier	χ^2
Age Group	19 -39 years	92(88.46)	12(11.54)	10.82*
	40-64 years	55(71.43)	22(28.57)	
	>64 years	13(65.00)	7(35.00)	
Sex	Female	72(78.27)	20(21.73)	0.18
	Male	88(80.73)	21(19.27)	
Marital status	Married	135(77.00)	40(23.00)	5.039*
	Unmarried	25(96.20)	1(3.80)	
Education	Illiterate	17(63.00)	10(37.00)	7.838*
	Adult education	27(87.00)	4(13.00)	
	Basic education	64(77.00)	19(23.00)	
	Secondary and above	52(86.66)	8(13.30)	

Source: Field 2017; Parenthesis indicate percentatge

Table 2: Association between levels of perception regarding common factor with type of family; occupation; ethinicity religions

Variables	Categories	Least barrier	Most barrier	χ^2
Type of Family	Nuclear	98(85.00)	17(15.00)	5.220*
	Joint	62(73.00)	24(27.00)	

Variables	Categories	Least barrier	Most barrier	χ^2
Occupation	Agriculture	79(75.9)	25(24.1)	2.386
	Business	30(81.8)	7(18.2)	
	Service	40(25.0)	8(16.6)	
	Abroad service	11(91.8)	1(8.2)	
Religion	Hindu	115(79.8)	29(20.2)	0.507
	Buddhist	31(81.5)	7(18.5)	
	Others	14(73.6)	5(26.34)	
Ethnicity	Brahmin/ Chhetri	67(86.0)	11(14.0)	7.629
	Janajati	65(81.0)	15(19.0)	
	Dalit	10(67.0)	5(33.0)	
	Madeshi/ Muslim	18(64.0)	10(36.0)	

Source: Field 2017; Parenthesis indicate percentatge

In table 3, socio-demographic variables like, sex, age group, marital status and education had no significant association with level of perceived barriers by patient regarding nurse related factors. That mean whatever the pateint sex, age, marital status and education there is no effect on barrier between nurse and pateint communication.

Table 3: Association between Levels of Perception regarding Nurse related factor with age group; sex;,marital status and education

Variables	Categories	Least barrier	Most barrier	χ^2
Age Group	19 -39 years	38(36.5)	66(49.3)	0.996
	40-64 years	23(29.8)	54(51.2)	
	>64 years	6(30.0)	14(70.0)	
Sex	Female	32(33.60)	60(66.40)	0.160
	Male	35(32.10)	74(67.90)	
Marital status	Married	58(33.10)	117(69.90)	0.022
	Unmarried	9(36.30)	17(65.70)	
Education	Illiterate	7(25.90)	20(74.10)	1.101
	Adult education	11(34.50)	20(65.50)	
	Basic education	30(36.10)	53(63.90)	
	Secondary and above	19(31.70)	41(68.30)	

Soruce: Field Survey 2017; Parenthesis indicate percentatge

Table 4 depicts association of perception on nurse related barrier with type of family, occupation, religion and ethinicity. The study found that type of family (p=0.02) and main occupation of patient (p=0.01) were significantly associated with level of perception as perceived by patient regarding nurse related factors. Others variable such as, religion and ethnicity were no significantly associated with nurse related barrier as perceived by patient.

Table 4: Association between levels of perception regarding nurse related factor with type of family; occupation and ethinicity religions

Variables	Categories	Least barrier	Most barrier	χ^2
Type of family	Nuclear	46(40.070)	69(60.00)	5.376*
	Joint	21(24.00)	65(86.00)	
Occupation	Agriculture	32(30.70)	72(69.30)	11.267*
	Business	7(19.00)	30(81.00)	
	Service	20(81.00)	28(19.00)	
	Abroad service	8(67.00)	4(33.00)	
Religion	Hindu	49(34.00)	95(66.00)	1.531
	Buddhist	14(37.00)	24(63.00)	
	Others	4(22.00)	15(78.00)	
Ethnicity	Brahmin/ Chhetri	26(33.30)	52(66.70)	1.275
	Janajati	28(35.00)	52(65.00)	
	Dalit	6(40.00)	9(60.00)	
	Madeshi/ Muslim	7(25.00)	21(75.00)	

Soruce: Field Survey 2017; Parenthesis indicate percentatge

None of variable viz. sex, age group marital status and type of family had significance association with level of barrier as perceived by patient regarding patient related factors.

Table 5 depicts association between level of perceived barrier according to environmental related barriers with sex, age group, education and marital status. Data obtained from study, age group (p=0.041) and education status (p=0.05) were significantly associated with level of barrier as perceived by patient regarding to environmental factors. Rest of variable had no association with level of perception as perceived by patient regarding to environmental factors.

Table 5: Association between Levels of Perception regarding Enviroment related factors with age group; sex;,marital status and education

Variables	Categories	Least barrier	Most barrier	χ^2
Age group	19-39 years	24(23.0)	80(77.0)	6.385*
	40-64 years	14(18.2)	63(81.8)	
	>64 years	9(45.0)	11(55.0)	
Sex	Female	22(23.9)	70(76.1)	0.027
	Male	25(22.9)	84(77.1)	
Marital Status	Married	42(24.0)	133(76.0)	0.287
	Unmarried	5(19.2)	21(80.8)	
Education	Illiterate	8(29.60)	19(70.40)	7.803*
	Adult education	5(16.20)	26(83.80)	
	Basic education	26(31.40)	57(68.60)	
	Secondary and above level	8(13.30)	52(89.70)	

Soruce: Field Survey 2017; Parenthesis indicate percentatge

From table 6, there were association between level of barrier regarding environmental factors, with type of family; occupation; religion and ethinicity. Among them religion (p=0.009) were significantly associcate with barrier between nurse patient communication as perspective of patient.

Table 6: Association between Levels of perception regarding Enviroment related factors with type of family; occuaption; religion and ethinicity

Variables	Categories	Least barrier	Most barrier	χ^2
Type of family	Nuclear	28(24.3)	87(75.7)	0.140
	Joint	19(22.1)	67(77.9)	
Occupation	Agriculture	26(25.00)	78(75.00)	0.524
	Business	8(21.60)	29(78.40)	
	Service	11(22.20)	37(77.80)	
	Abroad service	2(16.60)	10(83.40)	
Religion	Hindu	42(29.20)	102(70.80)	9.53**
	Buddhist	3(7.80)	35(92.20)	
	Others	2(10.60)	17(89.40)	
Ethnicity	Brahmin/Chhetri	21(21.40)	57(89.60)	1.964
	Janajati	18(22.50)	62(77.50)	
	Dalit	4(26.60)	11(73,40)	
	Madeshi/ Muslim	4(14.30)	24(85.70)	

Soruce: Field Survey 2017; Parenthesis indicate percentatge

Conclusion

It is concluded that the patients perceived level of barriers as most barriers during nurse–patient communication. Among four factors, the patient related factors as most barriers which regarding nurse-patient communication. There was statistical association between the level of perception of common factors with age (p=0.004), marital status (p=0.025), education status (p=0.049), and types of family (p=0.022). In nurse related factors, types of family (p=0.02), and occupation (p=0.01) had statistical association. Similarly in environment related factors, age (p=0.041), education status (p=0.05), and religion (p=0.009) had statistical association. Communication is essential in order to provide quality health care, promote patient satisfactions and nurse should therefore understand perception differences between nurse and patient, and practices strategies to reduce the associated communication barriers. Accordingly, health planner and staff nurse should first try to remove these barriers and emphasize those specific factors expressed as most perceived barriers for patient.

Conflict of Interest: There are no conflicts of interest between the authors.

Source of Funding: National Health Research Council (NHRC), Nepal

Ethical Considerations: The investigator obtained clearance from Chitwan Medical College Institutional Review Committee (CMC-IRC) for giving ethical clearance to conduct this study and has taken informed written consent from each participant. Participant information sheet was also shared which assured privacy and confidentiality of data.

Reference

1. Singh I. Leading and Managing in Health. Kathmandu: J.B Singh. (2013).
2. Gilton K, Robinson H, Boscart V, Spanjevic L. Communication enhancement: nurse and patient satisfaction outcomes in a complex continuing care facility. Journal of Advanced Nursing. 2006;54(1):35–44. doi: 10.1111/j.1365-

2648.2006.03787.x. [PubMed] [Cross Ref] doi:10.1016/j.ijnurstu.2004.10.004

3. Finke E, Light J, Kitko L. A systematic review of the effectiveness of nurse communication with patients with complex communication needs with a focus on the use of augmentative and alternative communication. Journal of clinical Nursing; 2008.17(16):2102-15. doi: 10.1111/j.1365-2702.2008.02373.
4. Heaven C, Clegg J, Maguire P. Transfer of communication skills training from workshop to workplace: impact of clinical supervision. Patient Educational and Counseling, 2006. 60(3). doi:10.1016/j.pec.2005.08.008
5. Bridges J, Nicholson C, Maben J, Pope C, Flatley M, Wilkinson C, Tziggili M. Capacity for care: Meta-ethnography of acute care nurses' experiences of the nurse-patient relationship. Journal of Communication: A systematic literature review, 2013.17(5), 339-353. Retrieved from www. ncbi. nlm.nih.gov/pubmed/23163719.
6. Norouzinia R, Aghabarari M, Shiri M, Karimi M, Elham Samami E. Communication barriers perceived by nurses and patients. Global Journal Health Science,2015. 8 (6), 65–74. doi:10.5539.
7. Aghabarari M, Mohammadi I, Varvani FA. Barriers to application of communication skills by nurses in nurse-patient interaction. Nurses and patients' perspective. Iranian Journal of Nursing, 2009. 22(16), 19-31. Retrieved from www. http:// ijn.iums.ac.ir
8. Aghamolaei T, Hasani L. Communication barriers among nurses and elderly patients. Bimonthly Journal of Harmozgan University of Medical Sciences,2011. 14(4),312-318. Retrieved from www. ncbi.nlm.nih.gov › NCBI › Literature › PubMed Central (PMC).
9. Nazdam Q. Nurses role in communication and Patient safety. Journal Nurse Care Quality,2009.24(3),184–188. Retrievedfromhttp:// medprolifeline.com/docs/David/Nurses_Role_in_ Communication_and_Patient_Safety3.pdf.
10. Park EK, Song M.Communication barriers perceived by older patients and nurses. International Journal of Nursing Studies,2005. doi:10.1016/j. ijnurstu.2004.06.006.
11. Baraz PS, Shariati AA, Alijani RH, Moein MS. Assessing barriers of nurse-patients effective communication in educational hospital of Ahwaz. Irian Journal of Nursing Research, 2010. 5(16).45-52. Retrived from www.en.jpurnals.sid.ir/View Paper.Aspx.
12. Nayeri ND, Nazari AA, Salsali M, Ahmadi F. Irianian staff nurses' views of their productivity and human recourse factors improving and impending it: A qualitative study. Human Resources for Health, 2005.3(1), 9.doi 10.1186 /1478-4491-3-9
13. Shukla AK, Yadav VS, Kastury N. Health care provider communication: An important but often ignored aspect in clinical medicine. Journal Indian Academy Clinical Medicine, 2010. 11, 13.

DOI Number: 10.37506/ijone.v12i4.11217

Ambulatory Nurse Education Improves Metabolic Profile and Physical Activity in Patients with Cardiovascular Disease

Elvana Podvorica[1], Ibadete Bytyci[2], Musa Oruqi[3]

[1]PhD. Can. Faculty of Medical Technical Sciences, Department of Nursing. Tirana, [2]Lecturer, College Universi -Department of Nursing-Kosovo, [3]Lecturer, College Universi-Department of Nursing–Kosovo

Abstract

Introduction: Although interventions combining patient education and post discharge management have demonstrated benefits in patients with cardiovascular disease the benefit attributable to ambulatory nurse education (ANE) alone is uncertain.

Material and Method: A quasi experimental study was conducted in Specialist Cardiology Ambulance D & D in Pristinaamong 98 patients. Ambulatory nurse education was implemented to assess the effectiveness on awareness on life style where pretest and posttest design without control group was used. A complete clinical and laboratory measurements before and after ANE (at 30, 60 and 90 days) were performed. The clinical outcome were physical activity, body mass index, blood pressure, lipid and diabetic profile. The pre-post tested (validity, reliability and pilot testing) structured questionnaire was used for data collection.

Results: At follow up to 90 days, in patients that underwent ANE program, the following indices were decreased: BMI ($p<0.001$), glycemic level ($p<0.001$), HbCA1 ($p=0.02$), lipid profile (cholesterol, triglycerides and LDL-C, $p<0.001$ for all). HDL-C was increased ($p=0.01$) In addition, physical activity was significantly improved: total activity and daily activity were increased (($p<0.001$) and $p=0.002$, respectively).

Conclusion: The ambulatory nurse education improves glycemic and lipidic control, BMI and physical activity in patients with cardiovascular disease.

Keywords: *Ambulatory nurse education, cardiovascular disease, clinical outcome.*

Introduction

Cardiovascular diseases (CVD) are the most common cause of morbidity and mortality worldwide, becoming a major public health problem in recent decades.[1] Despite investment in the diagnosis and treatment of these diseases, the mortality rate still remains high and quality of life still is not satisfied.[2] While promoting health has been the classic goal of public health, recently the accurate assessment of CVD risk is an essential objective of disease prevention.[3,4] Moreover, Patients suffering from chronic cardiovascular disease are prone not only to a continuous poly-therapy intake but also to significant lifestyle changes. These alterations are incorporated and affect the psychological sphere which lead into influencing the psychosocial wellbeing.[5,6] In addition, lifestyle changes may be very difficult challenge and associated with poor precipitation of having lost control of their live.[7] The role of nurse in this delicate phase of disease is very important, starting from developing a close relationship with these patients to carrying out educational activities and achieving the patient's therapeutic adherence.[8,9,10] The educational role of nurse in primary and secondary prevention was found to be effective in these patients.[11,12] According to recommendation of European Society of Cardiology (ESC) on CVD prevention in clinical practice, educational stage, which is indispensable in nursing professional care, needs to be developed in a targeted manner.[12] Although interventions combining patient education and post discharge management have demonstrated benefits in patients with CVD,[13,14] the benefit attributable to ambulatory nurse education (ANE)

alone is still uncertain. Therefore, we underwent this study, aiming to assess the effect of ANE on metabolic profile and physical activity in patients with CVD.

Method

Study population: This study included 98 consecutive CV patients with median age 44 (36-80) years, 52% were male. A complete clinical and laboratory measurements before and after ANE (at 30, 60 and 90 days) were performed. Patients were referred Specialist Cardiology Clinic at the University Clinical Center of Kosovo, Pristina, Kosovo, between January 2019 and Jun 2019. At the time of the study all patients were on convectional medical treatment. Patients that had clinical evidence for other non-cardiac disease, which may cause deterioration of physical activity (e.g. rheumatic disease, limited physical activity, chronic obstructive pulmonary disease, anemia, recent stroke and advanced chronic renal failure) were excluded from the study. The study was approved by the local Ethics Committee and patients gave written informed consent to participate.

Data collection: Detailed history and clinical assessment were obtained in all study patients. The primary outcomes of the study were: change in physical activity, body mass index (BMI), blood pressure (BP), lipid and diabetic profile by ANE program. ANE was focused mainly in the assessment of patients' knowledge of self-management and self-care of risk factors such as, arterial hypertension, smoking, diabetes mellitus, dyslipidemia and physical activity.

Ambulatory nurse education: Educational sessions were developed and were provided to nurses on a medical telemetry unit. Educational method were Face-to-Face education session, printed materials and pictures, which were provided to the participants.

The patient centered care and nursing education models was used to develop the immense potential of the profession, with the objective of a continued growth in competence, responsibility and autonomy and to make professionals aware of the important role they play in terms of quality of care and health in chronic conditions.

It also emerges that nurses are not yet fully aware of the self-care concept, which should play a part in the management of patients with CVD, but that participating in training programs for skills development has led to an increase in knowledge of the principles of self-care.

Follow-up and outcomes: Ambulatory nurse education was performed at 30, 60 and 90 days. The primary outcomes were physical activity, BMI, BP, lipid and diabetic profile, after the ANE program.

Statistical analysis: Values are expressed as mean ± SD for continuous variables and percentage for dichotomous data. Continuous data was compared with two-tailed Student *t*- test and discrete data with Chi-square test. Quantitative data were analyzed through the SPSS statistical program.

Results

Demographics data of study patients are presented in **Table No 1**. Most of respondents were Male (52.1%), 52.2% were > 65 years of age, followed by (51%) had worked in the Professional (51%) and attended secondary school (62.2%).

All patients underwent educational sessions (98), all of whom were diagnosed with cardiovascular disease. 53 of them were with heart failure (HF), 13 with coronary heart disease (CHD), 6 with valvular heart disease (VHD), 5 with atrial fibrillation (AF), while 18 of them had another cardiac comorbidities. All patients underwent education sessions by an experienced ambulatory nurse education on day 30, 60 and 90 days, Figure No 1.

At follow up 90 days, the BMI was decreased ($p<0.001$), glicemic level and HbCA1 were decreased ($p<0.001$, $p=0.02$, respectively). The lipid profile was also changed at the 90 days follow-up: cholesterol, tryglicerides and LDL-C were decreased ($p<0.001$ for all),whereas HDL-C was increased ($p=0.01$). In addition, physical activity significantly was improved: total activity and daily activity were increased ($p<0.001$ and $p=0.002$, respectively) by educational program at 90 days follow-up. Whereas, blood pressure remains unchanged. **Table No 2 and Figure No 2 and 3.**

Discussion

In this study we evaluate changes of metabolic profile by educational program in patients with cardiovascular disease. The main findings of our study were: 1) BMI was decreased by ANE; 2) The control of diabetes and lipid profile were improved by ANE; and 3) The capacity of physical activity was improved by ANE. Our finding regarding improvement of BMI by educational program I in line with previous studies,

which found that in cardiac patients BMI is reduced after the implementation of health education programs.[15, 16, 17]

Previously was also reported that regular physical activity decreases the risk of many adverse health conditions, including CHD, stroke, diabetes and premature death. [18, 19] It was also found that the increase of physical activity for any level is associated with risk reduction for cardiovascular disease.[23] on the other hand, the body weight and BMI regular monitoring is important for the prevention of further heart-related health complications in these patients with known cardiovascular disorders. Furthermore, a regular physical activity in these patients is recommended. The patients´ weight is associated with their blood pressure and therefore it is related to cardiovascular risk profile in general population[20] and it can be also in patients with known cardiovascular disease.

Providing educational interventions to patients is one of the most important activity of a nurse, which has a major role in overall health of general population and of patients with different known diseases. By this activity, they can help different patients to improve their outcomes through self-management. In this line, by self-education of patients and increasing their knowledge about understanding and living with cardiovascular disease, through educational sessions, there was achieved an improvement in the control of the level of lipids and glucose in our study patients with cardiovascular disease. These our findings are similar with previous studies, which suggested that in addition to the treatment of the cause and symptoms of a diseases, to underwent continuing educational programs aiming prevention of additional and-or deterioration of known cardiovascular disorders in study patients with heart disease.[21,22]

As a result, the study found that the role of ambulatory nurses was crucial and that nursing education sessions results in increased knowledge of self-management of the disease and convincing patients to adhere to lifestyle modifications while achieving modification of modifiable factors that may be threatening in living with cardiovascular disease.

Table No 1. Distribution of the demographic data (n = 98)

		N	%
Gender	Female	47	47.9
	Male	51	52.1
Age-group	36-45 old years	13	11.5
	46-55 old years	12	10.6
	56-65 old years	14	12.4
	old years > 65	59	52.2
Occupation	Not working	40	40.8
	Non-professional	8	8.2
	Professional	50	51
Education level	Primary	16	16.3
	Secondary	61	62.2
	Tertiary	21	21.5

Table No 2. Clinical measurement data between patients pre educational and post educational

Variable	Pre educational (n = 98) Mean ± Std. Deviation	Post educational (n = 98) Mean ± Std. Deviation	P value
Age (years)	36 ± 80	36 ± 80	0.07
Sex (male, %)	52	52	0.08
Smoking (%)	43	43	0.79
BMI (kg/m^2)	3.08 ± 0.74	2.7 ± 0.79	0.000

Variable	Pre educational (n = 98) Mean ± Std. Deviation	Post educational (n = 98) Mean ± Std. Deviation	P value
SBP (mmHg)	2.43 ± 1.33	2.33 ±1.32	0.709
DBP (mmHg)	82.2 ± *8.88*	81.9 ±*7.68*	0.564
Glucose (mmol/L)	1.64 ± *0.86*	1.51 ± *0.82*	0.23
HbA1c (mmol/L)	1.64 ± *0.85*	1.52 ± *0.84*	0.23
Cholesterol (mmol/L)	1.64 ± 0.86	1.31 ± 0.63	0.000
HDL (mmol/L)	2.77 ± 1.05	2.13 ± 0.94	0.000
LDL (mmol/L)	3.26 ± 1.01	2.73 ± 0.72	0.000
Triglyceride (mmol/L)	2.08 ± 0.79	1.78 ±0 .66	0.001
Physical activity	2.14 ± 0.71	1.66 ±0 .57	0.000
DPA	1.73 ± 0.44	1.60 ±0. 49	0.002
TPA	1.26 ± 0.97	1.07 ± 0.43	0.08
PAD	1.73 ±0.58	1.34 ± 0.47	0.000
CTU	1.75 ± 0.43	1.0 ± 0.00	0.000

BMI: body mass index; SBP: systolic blood pressure; DBP: diastolic blood pressure., DPA: Daily physical activity, TPA: Type of physical activity, PAD: Physical activity duration, CTU: Cholesterol type f use.

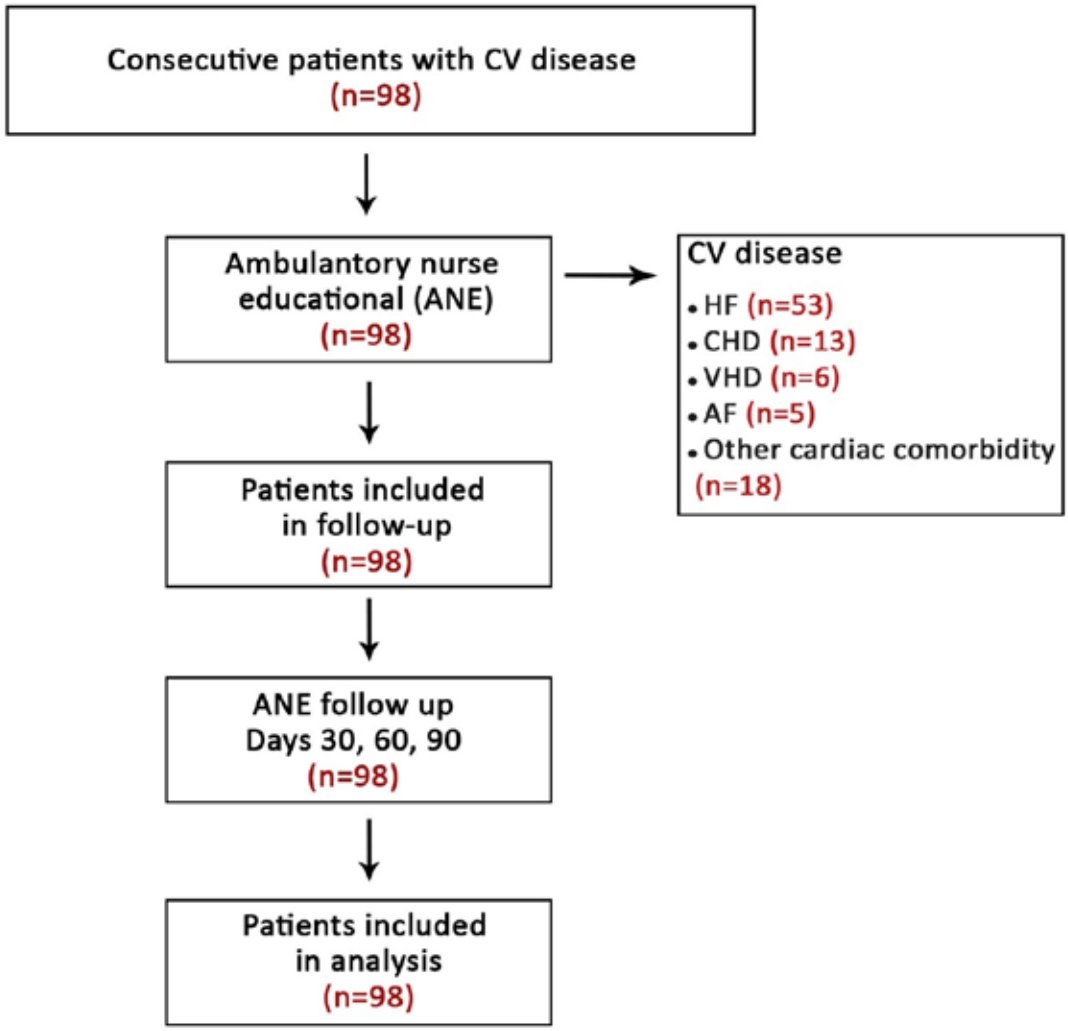


Figure No 1. Presents Consecutive patients with Cardiovascular disease (n=98)

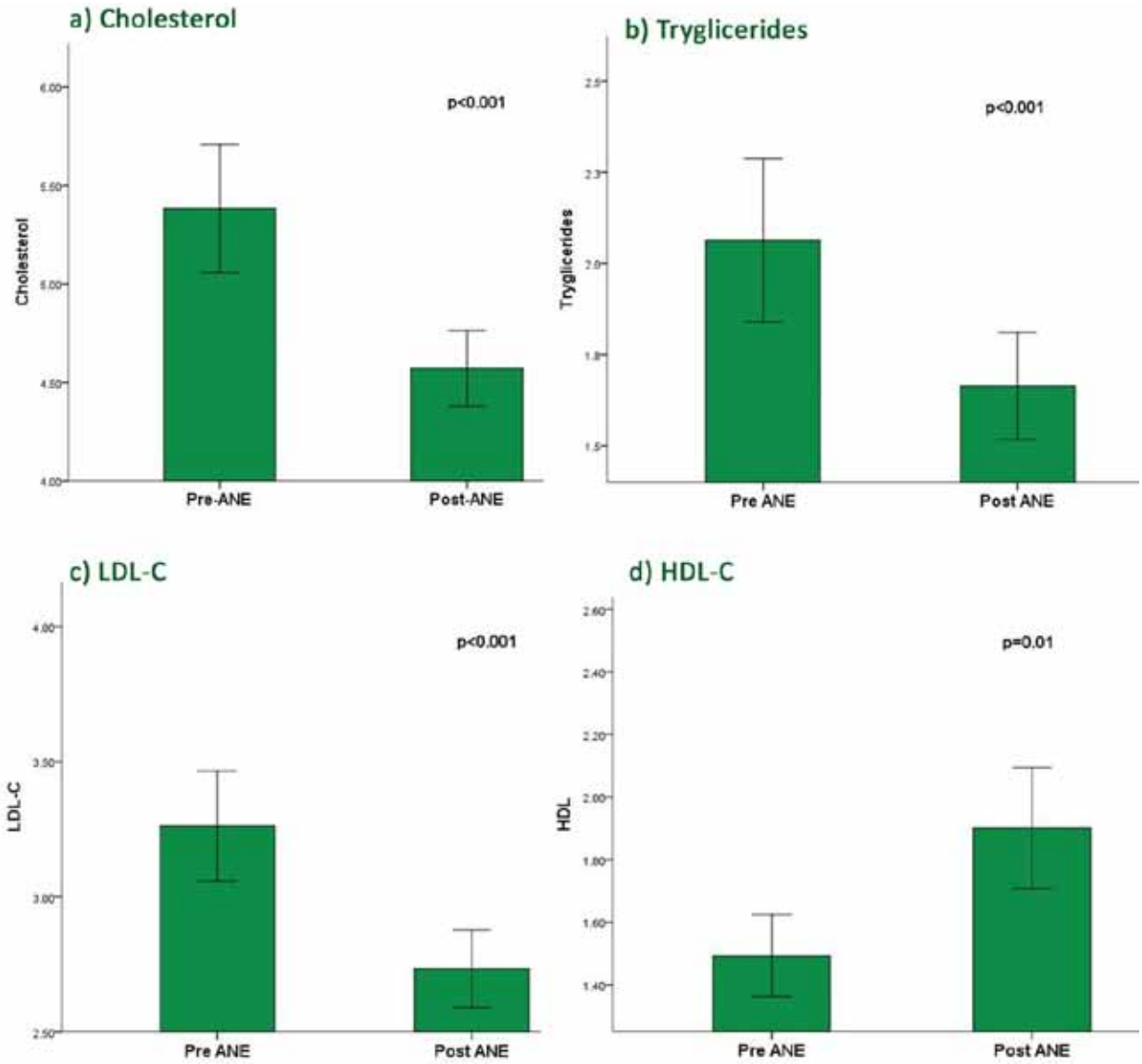


Figure No 2. Lipid profile before and after ANE: a) cholesterol; b) triglycerides; c) LDL-C; d) HDL-C. ANE: ambulatory nurse education; LDL; low density lipoprotein; HDL: high density lipoprotein.

Figure No 2. Presents: The differences of cardiovascular disease cholesterol levels between pre-test and post-test

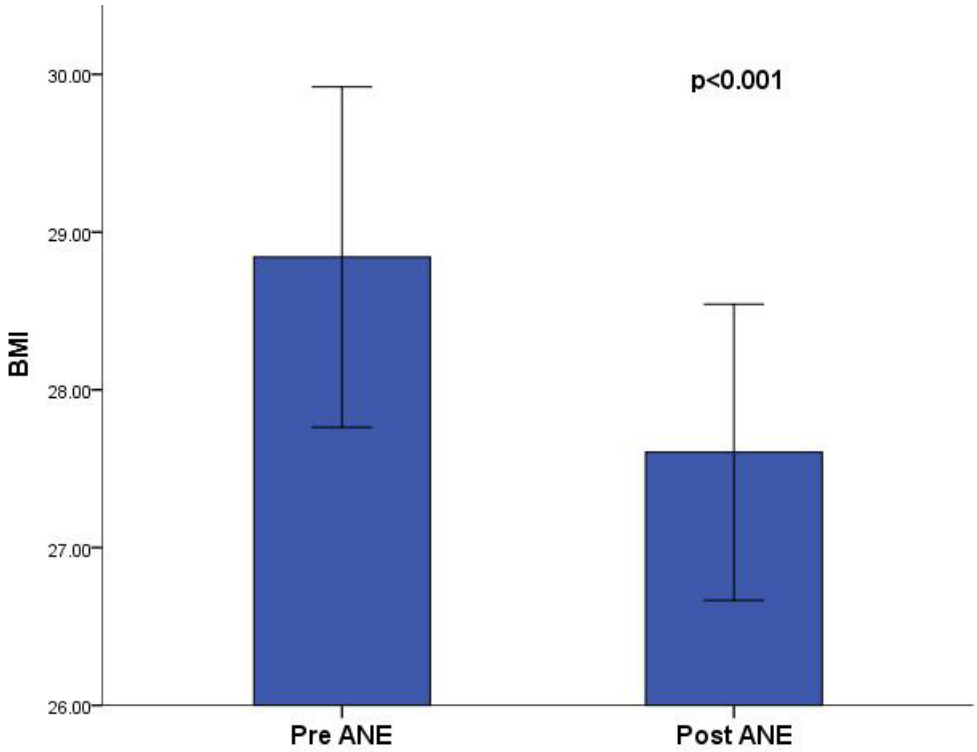


Figure No 3. Presents: The differences of cardiovascular disease BMI between pre-test and post-test

Figure 3. BMI before and after ANE. BMI: body mass index; ANE: ambulatory nurse education

Conclusion

The ambulatory nurse education improve BMI, control of diabetes and lipid profile in patients with known cardiovascular disease. This education also improves the capacity of physical activity in these patients. These findings emphasis the need of ambulatory nurse educational program implementation in all patients with cardiovascular disease.

Ethical Cleansing: The study was approved by the local Ethics Committee and patients gave written informed to participate and ethical principles were followed while conducting a study.

Source of Funding: Self

Conflict of Interest: Nil

References

1. Go AS, Mozaffarian D, Roger VL, et al. Heart disease and stroke statistics--2013 update: a report from the American Heart Association. Circulation. 2013;127: e6–e245.
2. Bytyçi I, Bajraktari G. Mortality in heart failure patients. Anatol J Cardiol. 2015; 15: 63–68.
3. Xu J, Murphy SL, Kochanek KD, Bastian B, Arias E. Deaths: final data for 2016. Natl Vital Stat Rep. 2018; 67:1–76.
4. World Health Organization. The top 10 causes of death. Geneva Switzerland: World Health Organization; 2018.
5. Wilson PWF, D'Agostino RB, Levy D, Belanger AM, Silbershatz H, Kennel WB. Prediction of coronary heart disease using risk factor categories. Circulation. 1998; 97:1837–1847.
6. Goff DC, Lloyd-Jones DM, Bennett G, Coady S, D'Agostino RB, Gibbons R, Greenland P, Lackland DT, Levy D, O'Donnell CJ, Robinson JG, Schwartz JS, Shero ST, Smith SC, Sorlie P, Stone NJ, Wilson PWF. 2013 ACC/AHA guideline on the assessment of cardiovascular risk. Circulation. 2014; 129: S49–S73.
7. Brindle P, Beswick A, Fahey T, Ebrahim S. Accuracy and impact of risk assessment in the primary prevention of cardiovascular disease: a systematic review. Heart. 2006; 92:1752–1759

8. Bodenheimer T, Lorig K, Holman H. Patient self- management of chronic disease in Primary care. Innovations in Primary Care. Jama. 2002;288(19):2469–75.
9. Curtin RB, Mapes D, Petillo M, Oberley E. Long-Term Dialysis Survivors: A Transformational Experience. Qual Health Res. 2002;12(5):609–24.
10. Sahlsten M J, Larsson I, Sjostrom B, Plos K A. Nurse strategies for optimising patient participation in nursing care. Scand J Caring Sci. 2009;23(3):490–7.
11. Johansson P, Dahlstrom U, Brostrom A. Factors and interventions influencing health-related quality of life in patients with heart failure: a review of the literature. Eur J Cardiovasc Nurs. 2006;5(1):5–15.
12. Jørstad HT, et al. RESPONSE study: Randomised Evaluation of Secondary Prevention by Outpatient Nurse Specialists. Neth Heart J. 2009;17(9):322–8.
13. Fuochi G, Foà C. Quality of Life, Coping Strategies, Social Support, and Self-efficacy in Women after Acute Myocardial Infarction: a Mixed Method Approach. Scand J Caring Sci. 2017:1471–6712.
14. Foà C, et al. Bio-clinical and psycho-social nursing practice. An experimental research in a Intensive Coronary Care Unit. Acta Biomed. 2015;86(2):116–26.
15. Vardanjani SA, Fanisberi L, Shahraki F, Khalilzadeh A, Vardanjani AT, Dehkordi FG. The effect of face-to-face education and educational booklet on heart health indexes of hospitalized patients with myocardial infarction. Nurs Res Pract. 2013;2013:1–8. https://doi.org/10.1155/2013/675634.
16. Abu Shuaib K, Ismail M, Fouad NAM. Effect of educational program on compliance of myocardial infarction patients in Gaza. JEP. 2014;5:5–14.
17. Reddy KS, Prabhakaran D, Jeemon P, Thankappan KR, Joshi P, Chaturvedi V, et al. Educational status and cardiovascular risk profile in Indians. Proc Natl Acad Sci U S A. 2008;104:16263–16268. https://doi. org/10.1073/pnas.0700933104.
18. Physical Activity Guidelines Advisory Committee. (2008) Physical activity guidelines advisory committee report. Washington DC: US Department of Health and Human Services; 2008.
19. Iller TD, Balady GJ, Fletcher GF. Exercise and its role in the prevention and rehabilitation of cardiovascular disease. Annals of behavioral medicine : a publication of the Society of Behavioral Medicine. 1997 Summer;19(3):220–229.
20. Chobanian AV, Bakris GL, Black HR, Cushman WC, Green LA, Izzo JL, et al. Seventh report of the joint national committee on prevention, detection, evaluation and treatment of high blood pressure. Hypertension. 2006; 42:1206–1252. https://doi.org/10.1161/01.HYP.0000107251. 49515.c2
21. Marta Gorina, Joaquín T Limonero, María Álvarez. Effectiveness of Primary Healthcare Educational Interventions Undertaken by Nurses to Improve Chronic Disease Management in Patients With Diabetes Mellitus, Hypertension and Hypercholesterolemia: A Systematic Review. DOI: 10.1016/j.ijnurstu.2018.06.016.
22. Francis Jude Selvaraj, Mafauzy Mohamed, Khairani Omar et alii, The impact of a disease management program (COACH) on the attainment of better cardiovascular risk control in dyslipidaemic patients at primary care centres (The DISSEMINATE Study): a randomised controlled trial. DOI: 10.1186/1471-2296-13-97
23. Jeffrey B Lanier, David C Bury, Sean W Richardson. Diet and Physical Activity for Cardiovascular Disease Prevention. Am Fam Physician93 (11), 919-24. 2016 Jun 1

DOI Number: 10.37506/ijone.v12i4.11218

Factors Affecting the Implementation of Career Path and Mentor Method among Hospital Based Clinical Nurses: A Study in Indonesia

Fauziah, M. Kep[1], Jenny Marlindawani Purba[2], Roxsana Devi Tumanggor[3], Yuswardi[4], Elly Wardani[4]

[1]Master Student, Faculty of Nursing, [2]Associate Professor, Faculty of Nursing, [3]Lecturer, Faculty of Nursing, Universitas Sumatera Utara, Medan, Indonesia, [4]Associate Professor, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh, Indonesia

Abstract

Objective: To determine the factors affecting the implementation of career path and mentor method for clinical nurses in generalhospital, Banda Aceh-Indonesia.

Method: This study used descriptive correlation with cross-sectional design,which was performed from April to July, 2019, on a population of 226 with 126 clinical nurses,selected using cluster sampling technique. Furthermore, the data obtained were analyzed using chi-square statistical tests and logistic regression.

Result: The results identified a significant relationship between education (p = 0.017; OR = 5.489 95% Cl: 1,357-22.204) and competence (p = 0.020; OR = 0.349 95% Cl: 0.144-0.846) on the implementation of career path and mentor method. This research suggests the need for nurses to improve on the career paths chosen, by continuing education. Also, it is important for hospitals to facilitate scholarship budget, and organize mentor training, in order to create qualitative human resources (HR), which is followed by the achievement of professional services.

Conclusion: The nurse's education and competence is the path to improve the nurse's career system. Therefore, continuing education is a breakthrough that has a positive impact and a great support for the nursing profession in developing its professionalism.

Keywords: *Factor analysis, Career path, Mentor method.*

Introduction

The professionalism of Nurses plays an important role in the service quality improvement. Therefore, there is a need for hospitals as health service institution to promote workers' value,through the implementation of career path system. This scheme has been proven to possess the capacity to enhance performance and ensure job satisfaction(1). Furthermore guidance and mentoring from leader are needed for a successful method implementation, duet to the greater efficiency of knowledge transfer,using appropriate policy. The application of this mechanism in hospitals prompts individuals to learn directly from experts at work with respect to the development of career path(2), which, for nurses, encompasses the competence to perform nursing care according to authority(3). In addition, career path is often determined through the credential process, alongside clinical authority,which is a description of nursing intervention, based on the area of practice. These nurses are further recognized to perform jobs in the defined practice area identified through clinical assignments, and specified in the hospital's Director's

Corresponding Author:
Fauziah, M. Kep
Fakultas Keperawatan USU, Jl. Prof. Maas no. 3
Kampus USU, Medan–Indonesia
e-mail: fauziah.z86@yahoo.com

Decree. Furthermore, the credential process is carried out to guarantee improved competence in providing care according to professional standards of a hospital nursing committee, based on the regulation of the Minister of Health Number 49 on 2013[4].

This method is interrelated with the nurse's career path, where the mentor acts as a role model to demonstrate clinical skills in professional practice[5], as the harmonious relationship fosters commitment to the hospital[6], and the guidance provided serves as professional support for junior nurses [4]. However, the function as a tutor, role model, and counselor requires implementing the theory into practice [8],eliminate anxiety and uncertainty on new practice assignments[9]. Price and Reichet (2017) reported on the importance of providing support to new nurses at the inception of a career through mentoring by senior,due to the ability to serve as a resource towards professionalism.

In Indonesia, career path development of nursesis standardized by the Ministry Regulation of State Apparatus Empowerment and Bureaucratic Reform No. 25 of 2014, concerning levels, function, career paths, positions, ranks, and room classes/category of functional employee intended for Civil Servants (*PNS*). Meanwhile, the non-Civil Servants are not bound by governmental policy to regulate careers functionally [1].

The employment data in 2019 at the General Hospital in Aceh showed the presence of 226 professional nurses, 538 with Diploma-III,10with Master degree of Nursing. Also,in the aspect of midwifery, 81 hadDiplom-III, 18 Diploma-IV,with 2 having Diploma IV, 1 Master degree, although19 possess SPK (Nursing Education School). This large HR is a potential workforce for the development of professionalism in the nursing career path system

The adoption of this scheme involvesa pattern of functional and professional career development, which is focused on education. In addition, those who employed with D-III Nursing education identify witha career path consisting of skills acquisition, proficiency and supervisors, while first, young, intermediate and primary expert nurses are considered by thosewith bachelor degree in Professional Nursing[10]. The development of personal professional career is attained through a credential process, initiatedat clinical nurse one to five, as set by the Ministry of Health Regulation No. 40 of 2017 [3]. This applies equally to all nurses in the General Hospital Banda Aceh,for both theCivil and Private Servants[4].

The study background showed conduction of particularly clinical nurses' career path in accordance with roles and functions. This implementation,alongside mentor method is assumed to be influenced by several factors. Hence, this research isaimedat examining the influence of the following factors: education, perception, motivation, leadership, competence and compensation which affect the execution of career paths and mentor method for clinical nurses in Banda Aceh Hospitals.

Material and Method

This research uses descriptive correlation with a Cross Sectional design, and was conducted in the Banda Aceh General Hospital for 4 months, from April to July, 2019. The population of this study was all clinic nurses surmounted to 226 people, and 126 was selected as the sample size, using cluster sampling techniques. The calculations used the Power Analysis table with power $(1-\beta) = .80$, effect size $(\gamma) = .25$ and $\alpha = .05$.

A questionnaire validatedby experts was used in data collection, covering the areas of factors influencing the implementation of career paths, as well as mentor method, which were based on literature studies. Furthermore, the career path questionnaire was modified from Hasib (2016), with four Likert Scales, followed by the conduction of reliability testing on 30 nurses in different hospitals. Hence, an Alpha Cronbach value of 0.89 was obtained for implementation of career paths, 0.91 for mentor method, and 0.90 for the implementation of career levels, using the Pearson Product Moment Analysis.

Findings: The results from respondent showed the existence of nursesmainly in the inpatient installations, at 15.87%,with the least in the emergency room (ER) at 3.96%. In addition, the females were more than the males,with 68.25%, while the respondent's working period of 4-6 years is higher than those with over 20 years experience, at 28.57%. Conversely, all the participants followed the career path credentials, where clinical nurses characterized the majority (36.70%), with 7-10 year working period. The mentors, known to have never participated in training, were dominated by the head of the room,rather than the nursing staff, based on career paths (44.60%).

Table 1. Characteristics of Clinical Nurses

Characteristics	F	%
Work Unit/Installation/Room		
UGD	6	4,76
Arafah	4	3,17
Mina	22	17,47
Zamzam	11	8,73
Aqsa	11	8,73
Raudhah	25	19,84
Nabawi	5	3,96
Safa	5	3,96
OK	11	8,73
HCU Surgical	4	3,17
ICU	11	8,73
ICCU	6	4,76
PICU	5	3,96
Total	12	100
Gender		
Male	40	31,74
Female	86	68,25
Total	126	100
Work period		
1-3 years	30	15,87
4-6 years	36	28,57
7-10 years	30	23,80
≥ 10 years	20	15,87
≥ 20 years	20	15,87
Total	126	100
Have followed career path credentials		
Yes	126	100
No	-	-
Level of PK (clinical nurse) career path		
PK I	40	31,74
PK II	46	36,50
PK III	40	31,74
PK IV	-	-
PK V	-	-
Total	126	
Who is the mentor		
Head of the room	86	68,25
Nursing staff is appointed by the hospital according to career path	40	31,74
Total		

** p < .05

The statistical evaluation using multiple linear regression tests shows education and competency as the dominant variable that mostly influences the implementation of career paths and mentor method. Based on the OR for education, the Exp (B) was 5.489,with a Sig. P value of 0.017. Therefore, the upper and lower limits were 95% Cl: 1,357-22,204. Meanwhile, the competencies grounded on ORs are shown as Exp (B) at 0.349. with a Sig. P Value of 0.020, where the upper and lower limits are 95 Cl: 0.144-0.846).

Table 2. The factors that most affect the implementation of career paths and the Mentor Method for clinical nurses in the Hospital Aceh Indonesia

Variable	B	Sig	Exp (B)	95% CI for Exp (B)	
				Lower	Upper
Education	1.703	0.017	5.489	1.357	22.204
Competence	-1.053	0.020	0.349	0.144	0.846

** p < .05

Discussion

This research identified limitations in the number of nurses with profession level of education of over 20 years. This was due to the death of many in the 2016 tsunami, followed by a replacement with new workers through the civil servant (CPNS) test. In 2017, non civil servant admissions received mainly diploma-IV Nurses,rather than professionals.

The variation in working period result from the differences in personal educational degree. In addition,

a bachelor grade was set as the minimum requirement, with reference to the commitment of the Ministry of Health of the Republic of Indonesia (MOH) in 2015, regarding nursing professionalism. Meanwhile, only 28.57% fulfilled these standards at the general hospital, Aceh. The variation in level of education include the nursing school (SPK), Diploma_III and Diploma-IV, while bachelor and master's degree tend to serve as an obstacle in career development. In addition, IT is long stage within the process, which ought to be passed, in order to attain professionalism, hence the need for hospitals to prioritize staff development through the continuity of studies, especially in a formal setting.

The professional nurse education system in Indonesia is currently under development, and has not been well organized, hencethe impact on career advancements. This is in contrast with what is obtainable in developed countries,including America and Canada,comprising of fast growth in career path. The Indonesian National Qualifications Framework (KKNI) regulates the type of nurse education, including vocational with a Diploma-III, Bachelor, Masters, Doctors and Specialists. This institution was formed to juxtapose, equalize and integrate the fields of teaching, training and work experience with competence.

The organized education levels subsequently become policy, aimed at ensuring the availability of provisions to be achieved in the career path[11] and also in the categorization of nurses in practice,on a qualification basis. In association with the existing policies, professionals are classified as those with a bachelor degree in nursing (RN), while Diploma-III is known as vocational. Also, a decline in the level of education is assumed to affect the quality of services, although most reportedly demonstrated high interest in further studies, where the high cost, difficulty in obtaining permission from superiors, and the lack of family support were observed as the major hindrance. These situations describe the challenges faced during the realization of career paths, which is why government and the hospitals in particular need to promote development through an association between the education system policies and the continuously integrated professional nursing practice. This is necessary because education is a major indicator in attaining a career path[3], which is the hope for all nurses worldwide[12], with the enhanced tendency to assess professional development, performance evaluation, and persistent competence [13]. Furthermore, education plays an important role in the achievement of organizational goals, through the development and improvement of human resource quality[14], subsequently providing benefits for hospitals,due to the availability of competent nurses for accreditation [13]. Also, it is possible for hospitals to offer support by providing special programswith better accessibility, and scholarships, therefore increasing satisfaction and professionalism[4], further enabling advancements and prosperity. Chaghari, Saffari and Ebadi, *et al* (2016) reported on the important role of nurses in refining health standards, hence to need to continuously update theoretical and practical knowledge.

The competencies are tested through credentials[4], being a concept for assessing worthiness in accordance with safe practice standards[15]. This is related to professional skills[3], and is also important in providing qualified nursing care[16]. Furthermore, competence entails the critical efforts required to provide expert and safe care[17], which is used to judge professionalism[18], based on the responsibility to ensure patient safety[1]. Therefore, the hospital is obliged to ensure continuous and consistent improvement in this aspect[15],conducted by refining the attributes of the profession, conducting audits, discussions, reflection, cases, case studies, seminars, symposia and trainings in and out of the working environment[4]. Hence, competence ought to be maintained through the constant participation in education and training [19].

Implementation of Career Paths and Mentor Method: The implementation of career paths reduces turnover for nurses, followed by the increase in resistance experienced,through the career paths valued personally. Also, a deficiency in appreciation tends to facilitate the shift of professions to other fields[20]. Moreover, the achievement of career paths using the Mentor method opens opportunities for continuous learning, and the subsequent advocation for action, therefore reducing the stressors for new nurses[21]. This is perceived in the provision of mentorship and guidance on works assigned (15), as a useful tool to increase job satisfaction[4]. The overall planning and implementation supports development through hospital policy[22], implicated in the opening of career paths, improving competence, developing professionalism, and rewarding clinical performance[19]. Duckworth and Maxwell (2015) expressed the need for mentors to be more supportive through trainings in pedagogical approaches,which therefore contributes to extensive teaching. The results suggest that nurses make attempts to improve personal

career path through continuous education. Also, there is need for hospitals to render support by providing scholarship budgets and improving training, in order to enhance competency. Meanwhile, a mentor plays the role of influencing service performance, and also to serve as a means of encouragement, hence the necessity for hospitals to improve mentorship quality through training. Further research ought to evaluate the effectiveness in relation with the implementation of career path policies on a legal basis, in order to enhance hospitals, input in the development of nursing as a profession.

The limitations of this study include the use of cross sectional designs,where all variables are measured at the same time, using a questionnaire. This leads to bias, as the true data depends on respondents' honesty. This problem was overcome through the establishment of mutual trust, attained by convincing respondents that this study had no negative impact. Hence, it was expected that answersto questions were provided correctly, in accordance with individual perception.

Conclusion

The nurse's education and competence is the path to improve the nurse's career system. Therefore, continuing education is a breakthrough that has a positive impact and a great support for the nursing profession in developing its professionalism.

Conflict of Interest: There is no conflict of interest in this study result.

Source of Funding: There is no financial support for this study since it's an independence work.

Ethical Clearance: All the participants were explaining the aim of the study previously before the data collection. The participants were agreed to sign the informed consent as the agreement to involve in the study. Conversely, the research passed the ethics test from the ethics committee of the Faculty of Nursing, Sumatra Utara University, number: 1749 / IV / SP / 2019 and also of the hospital, Aceh with the ethical approval number: 93 / EA / FK-RSU / 2019.

References

1. Supri A, Rachmawaty R, Syahrul S. Nurses' Performance Assessment Based on Nursing Clinical Authority: A Qualitative Descriptive Study. J Nurs Pract. 2019;2(2):80–90.
2. Özkalp E, Kirel C, Sungur Z. Mentoring Relations in the Aircraft Industry: A Case Study In Turkey. Int J Evid Based Coach Mentor. 2008;6 (2)(2):67–77.
3. Moelok, N. F. Peraturan Menteri Kesehatan Republik Indonesia Nomor 40 Tahun 2017. Kementerian Kesehatan Republik Indones [Internet]. 2017;0(0):1–72. Available from: http://www.tandfonline.com/doi/abs/10.1080/14639947.2011.564813%0Ahttp://dx.doi.org/10.1080/15426432.2015.1080605%0Ahttps://doi.org/10.1080/15426432.2015.1080605%0Ahttp://heinonline.org/HOL/Page?handle=hein.journals/abaj102 & div=144 & start_page=26 & collection
4. Mboi N. Pearturan Menteri Kesehatan Republik Indonesia Nomor 49 Tahun 2013 Tentan Komite Keperawatan Rumah Sakit. Kementeri Kesehat Republik Indones. 2013;1–32.
5. Gazaway S, Gibson RW, Schumacher A, Anderson L. Impact of mentoring relationships on nursing professional socialization. J Nurs Manag. 2019;27(6):1182–9.
6. Weng RH, Huang CY, Tsai WC, Chang LY, Lin SE, Lee MY. Exploring the impact of mentoring functions on job satisfaction and organizational commitment of new staff nurses. BMC Health Serv Res. 2010;10.
7. Gagliardi AR, Webster F, Perrier L, Bell M, Straus S. Exploring mentorship as a strategy to build capacity for knowledge translation research and practice: A scoping systematic review. Implement Sci. 2014;9(1):1–10.
8. Matin SA. 'Understanding Effective Mentoring in Nursing Education: The Relational-Reliant Concept'. JOJ Nurs Health Care. 2017;2(5):1–3.
9. Thomes J. Changing career paths: From expert to novice. Orthop Nurs. 2003;22(5):332–4.
10. Abubakar A. Peraturan Menteri Pendayagunaan Aparatur Negara Dan Reformasi Birokrasi Republik Indonesia Nomor 25 Tahun 2014 Tentang Jabatan Fungsional Perawat Dan Angka Kreditnya. Kementeri Pendayagunaan Apar Negara Dan Reformasi Birokrasi Republik Indones. 2014;2010:1–47.
11. Susilo Bambang widoyono. PP NO 8 th 2012 ttg KKNI. Peratur Pres Republik Indones. 2012;(1):1-5.
12. Price S, Reichert C. The Importance of Continuing Professional Development to Career Satisfaction

and Patient Care: Meeting the Needs of Novice to Mid- to Late-Career Nurses throughout Their Career Span. Adm Sci. 2017;7(2):17.

13. Lockhart., S. J. Creating an Educational Plan. Cj0n B Excerpt Ser. 2004;10(2):257–66.
14. Chaghari M, Saffari M, Ebadi A, Ameryoun A. Empowering Education: A New Model for In-service Training of Nursing Staff. J Adv Med Educ Prof [Internet]. 2017;5(1):26–32. Available from: http://www.ncbi.nlm.nih.gov/pubmed/28180130%0Ahttp://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=PMC5238493
15. Liu Y, Aungsuroch Y. Current Literature Review of Registered Nurses' Competency in the Global Community. J Nurs Scholarsh. 2018;50(2):191–9.
16. Istomina N, Suominen T, Razbadauskas A, Martinkenas A, Meretoja R, Leino-Kilpi H. Competence of nurses and factors associated with it. Medicina (B Aires). 2011;47(4):230–7.
17. Pertiwi B, Hariyati RTS, Anisah S. SWOT Analysis of Nursing Clinic Professional Career Ladder System (SJKP2K) in Military Hospital Jakarta. Int J Nurs Heal Serv. 2018;1(1):60–7.
18. López-Entrambasaguas OM, Martínez-Yebenes R, Calero-García MJ, Granero-Molina J, Martínez-Linares JM. Newly qualified nurses' perception of their competency achievement on leaving university: A qualitative study. Int J Environ Res Public Health. 2019;16(21).
19. Kim KH, Lee AY, Eudey L, Dea MW. Improving Clinical Competence and Confidence of Senior Nursing Students through Clinical Preceptorship. Int J Nurs. 2014;1(2):183–209.
20. Zhu J, Rodgers S, Melia KM. Can Education Resolve Nursing Shortage in China? Athens J Heal. 2015;2(3):177–90.
21. Duckworth V, Maxwell B. Extending the mentor role in initial teacher education: embracing social justice. Int J Mentor Coach Educ. 2015;4(1):4–20.
22. Al-Shawabkeh KM. Career Path Development and its Impact on Organizational Citizenship Behavior in Greater Amman Municipality. Int J Bus Manag. 2017;12(3):79.

DOI Number: 10.37506/ijone.v12i4.11219

Evaluation of a Brief Mindfulness Strategy in the Classroom: A Feasibility Study

Jamie Leslie[1], Carolyn R. Smith[2], Myrna K. Little[3], Deborah Jane Schwytzer[4], Jeanine Goodin[4], Matthew C. Rota[5], Greer Glazer[6]

University of Cincinnati, College of Nursing

[1]Assistant Professor Educator, [2]Associate Professor, [3]Assistant Professor of Clinical, [4]Associate Professor of Clinical, [5]Assistant Dean of Technology, [6]Dean, Schmidlapp Professor of Nursing and Associate Vice President of Health Affairs

Abstract

Purpose: The purpose of this quality improvement pilot project was to evaluate preliminary outcomes and student acceptance of integrating a brief mindfulness strategy in the classroom of a required pre-licensure nursing course.

Method: A one-group pre- and post-test design was used to pilot a brief mindfulness strategy with pre-licensure nursing students during the last six weeks of the term. Outcome measures included anxiety, depression, and perceived stress. Participation in data collection activities was voluntary. Data were collected at the beginning (T1), middle (T2), and end of the 14-week term (T3). A focus group was conducted to gather student acceptance data at the end of the project.

Findings: There was no significant change in outcome measures over time. Recommendations included introduction of mindfulness early in the prelicensure nursing program, integration of a variety of activities, and making mindfulness an optional in-class activity.

Conclusion: Mindfulness practices introduced early in pre-licensure programs may assist students with adoption of strategies to regulate anxiety, depression and perceived stress.

Keywords: *Mindfulness, mindfulness intervention, anxiety, depression, stress.*

Abstract

Nursing students often experience increased levels of stress and anxiety during prelicensure programs.[1] Strategies to improve mindfulness show promise for reducing stress and anxiety among college students and for improving student attention.[2-4] Brief mindfulness strategies have shown reduced pain in patients,[5] improve mood,[6] and has been introduced in the college classroom.[7] Although it is important to introduce college students to mindfulness practice,[8-10] it is challenging for course instructors to become familiar enough with mindfulness practice to bring it into the classroom.[11] The purpose of this quality improvement pilot feasibility project was to evaluate preliminary outcomes and student acceptance of integrating a brief mindfulness intervention in the classroom of a senior level pre-licensure course.

This feasibility study was a quasi-experimental one-group study in a required course with senior level nursing students receiving no intervention followed by six weeks of the intervention. While it is known that mindfulness practice reduces stress and anxiety,[4]

Corresponding Author:
Jamie Leslie
3110 Vine Street, Procter 275; Cincinnati OH, 45219
e-mail: Jamie.leslie@uc.edu

the "dose" or amount of time for mindfulness practice and strategy have not been established. To reduce time used in the classroom, we are working to develop a brief classroom mindfulness practice. For this study, we assessed elements of feasibility: process, resources, management, and scientific aspects,[12,13] along with acceptability.

Our questions for this quality improvement project were:

1. Is it feasible to collaborate with faculty to introduce nursing students in a required course to mindfulness practice through use of a five- minute body scan video in class for six weeks?
2. What are the mean levels of anxiety, stress, and depression for nursing students at the start, after six weeks of awareness of mindfulness practice, and again after six weeks of the brief in-class mindfulness intervention?
3. What are student perceptions of brief mindfulness practice in a required nursing course for six weeks?

Method

A one-group pre- and post-test design was used to pilot a brief mindfulness strategy in two classrooms with undergraduate prelicensure students in their last term of the program (n=156), and one class of second-degree graduate students in the first term of the prelicensure program (n=22). Because this was a quality improvement project with the possibility of incorporating this into future courses, this intervention was introduced at the start of a required course to all students and was considered exempt by the university Institutional Review Board.

Outcome measures included anxiety, depression, and perceived stress. The in-class mindfulness activity of a freely available online guided body scan was shared every week during the last six weeks of the term. Participation in mindfulness practice and data collection activities was voluntary. Data were collected via electronic survey administered at the beginning (T1), middle (T2), and end of the 15-week term (T3).A focus group was conducted to gather student perceptions at the end of the project.

Intervention: The Principal Investigator (PI), a PhD-prepared Registered Nurse, attended the first meeting of each class to introduce mindfulness practice. Students were invited to complete a survey to collect demographic information and assess anxiety (4-item PROMIS),[14] depression (4-item PROMIS),[14] and stress (Perceived Stress Scale)[15] within one week at the start of the study. The research team developed a brief video with information about mindfulness practice including benefits which was made available through the Learning Management System after they completed the initial survey and after the first week. This interaction was followed by six weeks without mention of mindfulness practice and then students were invited via email to complete the same survey at midterm (T2).

The second survey was followed by the six-week intervention. Each week, the PI arrived a few minutes prior to the start of class. The course instructor called students to attention, then the PI invited students to take five minutes to turn their attention to mindfulness practice. The lights were dimmed, and the PI sat in a chair and broadcast a five-minute body scan video from Youtube.com. The PI participated in the mindfulness activity, stopped the recording at the end, turned the lights on, thanked students for their attention, and left the room as the course instructor proceeded with class. Students were invited via email to complete the survey a third time at the end of the semester (T3).

Instruments:

Anxiety: Anxiety was assessed using the previously validated PROMIS Short form v1.0 – Anxiety 4a which assesses anxiety with 4 items participants rate 1 (never) to 5 (always) (i.e., In the last 7 days… I felt uneasy).[14] The instrument was accessed through RED Cap[16] with automatic scoring on a standardized scale with a mean of 50, standard deviation 10.[17]

Depression: Depression was assessed using the previously validated PROMIS – short form v1.0 – Depression 4a.[14] This instrument records responses on a scale of 1 (never) to 5 (always) for agreement to statements such as "In the past 7 days…I felt worthless." The instrument was accessed through RED Cap with automatic scoring on a standardized scale with a mean of 50, standard deviation 10.[17]

Perceived stress: Perceived stress was assessed using the previously validated Perceived Stress Scale (PSS).[15] The PSS is an instrument of 10 items scored 0 (never) to 4 (very often) for agreement with statements such as "In the last month, how often have you felt nervous and "stressed"?" with four items reverse-scored

and a possible score of 0 to 40. A score of 0-13 indicates low stress, 14-26 is moderate stress, and 27-40 indicates high perceived stress.

Analysis: Analysis was completed on all data using IBM SPSS Statistics 26 by the PI. We calculated a paired t-test for students with complete initial and final surveys (n=29). A RM-ANOVA was run on the data for outcomes for the students who completed surveys at all three times (n=14). Data was normally distributed and ANOVA assumptions met for the 14 completers.

For the final meeting with students, a faculty member new to students led the discussion with a colleague taking notes. We asked students for feedback on our classroom mindfulness practice. Notes from this session were reviewed by three members of the research team to identify themes.

Findings: Students expressed support for the study at the initial meeting, with one group clapping after hearing our initial presentation. of the 156 students who completed an initial survey, 135 were traditional undergraduate senior nursing students (95.7%), 21 were graduate nursing students in an accelerated program (13.5%), 134 were women (n=85.9%), 142 identified as white (91%), 10 as African American (6.4%), 131 identified as not Hispanic (84.0%), average age was 23.12 years (sd 5.08).

At the start of this study, 62.6% of respondents (n=87) had practiced mindfulness in the prior four weeks. At midterm, 86.5% of respondents (n=45) reported practicing mindfulness in the prior four weeks, and at the end of the study 85% of respondents (n=34) reported practicing mindfulness in the prior four weeks. of these, 17.3% (n=24) reported practicing five minutes or less per day at time 1, 30.8% (n=16) at time 2, and 42.5% (n=17) at time 3.

Popular strategies for mindfulness practice reported by all students (n=156) are provided in Table 1. Although exercise is not typically identified as a mindfulness strategy, most students selected that activity as their preferred strategy for mindfulness practice.

Table 1: Preferred strategies for mindfulness practice

Mindfulness practice strategy	Start (n=139) #(%)	End (n=40) #(%)
Sitting meditation	22 (15.8)	14 (35)
Walking meditation	16 (11.5)	9 (22.5)
Guided imagery	11 (7.9)	4 (10)
Body scan	13 (9.3)	5 (12.5)
Yoga	40 (28.8)	11 (27.5)
Pursed lip breathing	24 (17.3)	8 (20)
Exercise	112 (80.6)	28 (70)
Progressive Muscle Relaxation	17 (12.2)	4 (10)
Positive visualization	31 (22.3)	5 (12.5)
Positive self-talk	73 (52.5)	22 (55)
Other	4 (2.9)	1 (2.5)
None	6 (4.3)	3 (7.5)

Table 2: Mean (standard deviation) for outcomes (n=14 completers)

	Depression	Anxiety	Perceived Stress
Start (January)	53.46 (6.46)	59.35 (8.63)	16.14 (6.82)
Midterm (Feb/March)	51.27 (7.73)	54.21 (10.2)	15.43 (7.47)
End (April)	52.50 (7.64)	56.50 (8.48)	15.71 (8.28)

The repeated measures ANOVA identified no significant effect in depression, anxiety, or perceived stress within subjects (n=14). Of the 29 students who completed the initial and final surveys, more of them recommended mindfulness practice for future nursing students at the end (n=19, 65.5%) than at the start (n=15, 51.7%). Also for this group, 12 (41.4%) had never practiced mindfulness at the start of the study, and that number was reduced to 4 (13.8%) at the end of the study. The paired t-test for students who provided complete data for both the initial and final surveys (n=29) revealed a significant reduction in anxiety from T1 to T3 (t=2.085, df=28, p=.046).

Qualitative outcomes: Participants provided written feedback on the initial and midterm surveys. At the end of the study, a focus group was held with participants with teaching faculty and PI absent.

Starting recommendations: At the initial survey, 128 participants recommended that we introduce mindfulness practice in other courses. Participant recommendations included a variety of apps, mindfulness sessions at the College of Nursing, some at the beginning or end of class, one with essential oils. Other participants suggested yoga for nursing students at the college.

Some participants were already aware of the benefits of mindfulness for anxiety and depression. One participant mentioned that "I have been meditating and working on mindfulness as part of how I deal with my anxiety and depression and I think this is a great idea to incorporate it into school." Another said that we should remind students to take care of themselves and "mental health is just as important as their physical health."

Midterm feedback: We assessed used of the brief body scan video before the midterm exam. Thirteen students provided a positive response to the activity, twelve were negative, and two were neutral. Those who were positive responded with comments such as: "Before the exam I was feeling very stressed and my heart was beating very fast. The mindfulness meditation gave me time before the exam to help me relax. It lowered my heart rate and I felt a lot calmer going into the exam."

Students who responded negatively to mindfulness before the exam seemed to see it as a distraction from an important activity. "I find it hard to do the mindfulness activity in class. I do not feel comfortable sitting in class with my peers doing the mindfulness video. Therefore, I did not think that the mindfulness video before the exam helped at all….I think that the video may have been more helpful if played after the exam when everyone could truly relax." For the final exam, we provided the body scan video 30 minutes prior as an optional activity. Just three students arrived for that session.

Final discussion: Participants said they liked the video but felt rushed going through different areas of the body. Use of the same video for six weeks was perceived as redundant and the activity should have been optional.

Other participants viewed it as optional and did not engage in the mindfulness activities saying that they had a lot to complete. Participants were senior nursing students, and they said they already had a routine established and preferred to do their "own thing." Some participants suggested that it would work better after class ended to wind down and allow people to leave. Participants recommended that mindfulness activities be started during freshman year so that students could be acculturated. Other strategies recommended included music therapy, stretching or physical movement, aromatherapy, with a different approach each week.

Discussion

At the start of the study, participants welcomed the idea of introducing mindfulness practice in a required course and expressed experience with a variety of mindfulness strategies. Of the participants who completed the surveys at the start and end of this study, there was an increase in the percentage who practiced mindfulness over the prior four weeks, and in those who recommended mindfulness practice for future nursing students. Although no change in depression or stress was detected, there was a reduction in stress for students completing surveys at T1 and T3.

It was helpful to have an open discussion of this study with participants at the end of the semester. Participants had mixed feelings about practicing mindfulness prior to an exam so it may be helpful to provide an optional mindfulness activity prior to exams. Senior nursing students recommended introducing mindfulness practice early in the nursing program with more than one strategy. We introduced mindfulness practice at the start of each class, but students suggested that it occur at the end of each class and allow students to leave if preferred.

Limitations: This study is limited by lack of a control group, a small sample of completers, and a focus on nursing students. The mindfulness strategy introduced was repetitive and brief.

Conclusion

Although our intervention was brief, there were more participants who practiced mindfulness at the end of the study than at the start. There was also an increased percentage of those who recommended mindfulness practice for future nursing students. Though mindfulness is a strategy to reduce stress and anxiety, improve self-knowledge, and improve attention and concentration, it is challenging to make it available to nursing students in a way that is comfortable for everyone. Future research could introduce a wider variety of mindfulness strategies early in a nursing or other college program and look for ways to motivate students to practice on their own.

Conflict of Interest: Nil.

Source of Funding: Self

Ethical Clearance: This study was identified as exempt from the University of Cincinnati Institutional Review Board.

References

1. Song Y, Lindquist R. Effects of mindfulness-based stress reduction on depression, anxiety, stress and mindfulness in Korean nursing students. Nurse Educ Today. 2015; 35:86-90.
2. Hindman RK, Glass CR, Arnkoff DB, Maron DD. A Comparison of Formal and Informal Mindfulness Programs for Stress Reduction in University Students. Mindfulness. 2015; 6:873-884. DOI 10.1007/s12671-014-0331-1
3. O'Driscoll M, Byrne S, McGillicuddy A, Lambert S, Sahm LJ. The effects of mindfulness-based interventions for health and social care undergraduate students – a systematic review of the literature, Psychology, Health & Medicine. 2017; 22(7):851-865. DOI: 10.1080/13548506.2017.1280178
4. Shapiro SL, Brown KW, Astin J. Toward the integration of meditation into higher education: A review of research evidence. Teachers College Record. 2011 Mar; 113(3):493-528. Available from https://www-tcrecord-org.proxy.libraries.uc.edu/library ID Number: 16058.
5. Ussher M, Spatz A, Copland C, Nicolaou A, Cargill A, Amini-Tabrizi N, et al. Immediate effects of a brief mindfulness-based body scan on patients with chronic pain. J Behav Med. 2014; 37:27-134. DOI 10.1007/s10865-012-9466-5
6. Basso JC, McHale A, Endea V, Oberlin DJ, Suzuki WA. Brief, daily meditation enhances attention, memory, mood, and emotional regulation in non-experienced meditators. Behav Brain Res. 2019; 356:208-220. https://doi.org/10.1016/j.bbr.2018.08.023
7. Napora L. The impact of classroom-based meditation practice on cognitive engagement, mindfulness, and academic performance of undergraduate college students. 2013. Proquest, LLC. Dissertation.
8. Lu J, Mumba MN, Lynch S, Li C, Hua C, Allen RS. Nursing students' trait mindfulness and psychological stress: A correlation and mediation analysis. Nurs Educ Today.2019;75:41-46. https://doi.org/10.1016/j.nedt.2018.12.011
9. Manocchi P. Fostering academic success in nursing students through mindfulness: A literature review. TeachLearn in Nurs. 2017;12:298-303. http://dx.doi.org/10.1016/j.teln.2017.05.002
10. Moscaritolo LM. Interventional strategies to decrease nursing student anxiety in the clinical learning environment. J Nurs Educ. 2009;48(1):17-23.
11. Leslie J, Goodin J, Little M. Incorporating mind-body skills into one required nursing course: How does this work? Paper presentation at Summit on promoting well-being and resilience in healthcare providers, Columbus, OH.2018, September.
12. Thabane L, Ma J, Chu R, Cheng J, Ismaila A, et al. A tutorial on pilot studies: The what, why and how. BMC Med Res Methodol.2010;10:1. Doi: 10.1186/1471-2288-10-1
13. Tickle-Degnen L. Nuts and bolts of conducting feasibility studies. Am J OccupTher. 2013; 67(2):171-176. Doi: 10.5014/ajot.2013.006270
14. Northwestern University. (2020).Obtain and administer measures. Health Measures. Retrieved from http://www.healthmeasures.net/explore-measurement-systems/promis/obtain-administer-measures
15. Cohen S, Williamson GM. Perceived stress in a probability sample of the United States. In: Spacapan S., Oskamp S., editors. The social psychology of health. Newbury Park, CA: Sage Publications;1987. pp. 31-68.

16. Harris PA, Taylor R, Minor BL, Elliott V, Fernandez M, O'Neal L, et al. The REDCap consortium: Building an international community of software partners, J Biomed Inform. 2019; Jul, 95:103-208. doi: 10.1016/j.jbi.2019.103208

17. Obeid JS, McGraw CA, Minor BM, Conde JG, Pawluk R, Lin M, et al. Procurement of shared data instruments for Research Electronic Data Capture (REDCap). J Biomed Inform X. 2012;46(2):259-265. 10.1016/j.jbi.2012.10.006.

DOI Number: 10.37506/ijone.v12i4.11220

Using Team-based Learning for Junior Nursing Students' Preparation Before Mental Health and Psychiatric Nursing Practicum

Jiratchayaporn K.[1], Christraksa W.[1]

[1]Lecturer, Division of Psychiatric and Mental Health Nursing, Faculty of Nursing, Prince of Songkla University (Hat Yai campus), Thailand

Abstract

Introduction: Junior nursing students who are enrolled in the psychiatric and mental health practicum may feel anxious and stressed due to a lack of self-preparation before taking part in the clinical work. Such feelings can have an influence on self-confidence, which, in turn, can affect achievement of learning outcomes (LOs) and knowledge. Team-based Learning (TBL) is one of the useful techniques that clinical instructors can apply to promote junior nursing students' self-confidence, thus increasing both their knowledge and LOs.

Aims: To compare the pre-test and post-test scores of knowledge and self-confidence to achieve LOs of junior nursing students in both the experimental and control groups.

Materials and Method: This quasi-experimental study employed a two-group pre-test and post-test design. The conceptual framework was developed based on an integration of the framework proposed by Michaelsen et al. (2004) and the Thai qualification framework (TQF). The sample consisted of junior nursing students recruited by means of purposive sampling, with 32 in the experimental group receiving TBL in the orientation class and 32 in the control group who had only self-preparation. Students' knowledge questionnaire, self-confidence for achieving learning outcomes questionnaire, and demographic data questionnaire were used to collect the data.

Results: There were statistically significant differences in both the scores of knowledge and self-confident to achieve learning outcomes of the experimental group received TBL ($p < .001$) and the control group.

Conclusion: TBL can be used to enable nursing students to achieve learning outcomes in the psychiatric and mental health nursing field.

Keywords: *Readiness's preparation, team-based learning, learning outcomes, Thai qualification framework.*

Introduction

Practicum in mental health and psychiatric nursing is an important subject. At the Faculty of Nursing, Prince of Songkla University, this subject is a required course for junior nursing students in the Bachelor of Nursing Program. The principal content addresses holistic nursing and practice of caring of patients with mental illness as well as people who are at risk of a psychiatric disorder. Nursing students must practice myriad activities such as communicating with patients, performing psychotherapy both individually and in groups, and providing care to patients by doing group activities as the leader, co-leader, or just an observer of the group. In addition, they have to be responsible for medication administration in the wards. The ultimate goal of nursing students is to achieve learning outcomes (LOs) specified in the

Corresponding Authors:
Mrs. Kenika Jirachayaporn
Lecturer, D.N.S.
e-mail: kenika.j@psu.ac.th
Phone No.: 66894712440

Thai Qualifications Framework for Higher Education (TQF: HEd), the National Education Act 1999 and the revised version (Issue2) 2002, in all six Los as follows: 1) moral and ethics, 2) knowledge, 3) intellectual skills, 4) interpersonal skills and responsibilities, 5) skills related to analysis, number, communication, and use of information technology, and 6) professional skills[1].

A previous study has revealed that practice and training of nursing students caused students to develop a higher level of anxiety than traditional lectures in the classroom because they have to work in a real situation and adjust to a supervisor or related nursing team[2]. Additionally, in a study of learning outcomes in a mental health and psychiatric nursing course, which is a subject that nursing students must pass in their second year before doing the nursing practicum, it was found that most students perceived that the mental health and psychiatric nursing course was an interesting subject but there were around 25 percent of nursing students who thought it was a difficult subject and required a lot of time for preparation for the nursing practicum in the third year.[3] The results of the study showed that there were some students who were still not confident and worried about the practicum in the field. This may be a hindrance that prevents some nursing students from accomplishing their learning outcomes. However, there are previous studies that have shown that if students have an opportunity to learn, to be guided, and to practice in a simulated situation, or when they are able to establish a good relationship with teachers or mentors, their anxiety while doing the practicum in the field could be reduced.[4]

Therefore, in preparing students before doing the practicum in a real situation to enable them to achieve learning outcomes in accordance with the standard of learning outcomes in all six areas, which are important goals in the teaching and learning, it is necessary to develop strategies to teach and assist them. For example, teaching strategies can be changed or adjusted in order to ensure accomplishment of the expected standard of learning outcomes. One way to do that is to use project-based learning and team-based learning, both of which have been reported in previous research as effective teaching strategies that resulted in satisfaction of and positive learning benefits for nursing students.[5,6]

In fact, team-based learning, or TBL, is a method of teaching that focuses on students learning and working together as a small team based on individual differences among team members. This technique is believed to help nursing students to develop the level of cognitive skills in classrooms, particularly weak learners. It also promotes development of interpersonal communication skills and teamwork. In addition, TBL is also a teaching method that helps learners to efficiently apply the knowledge they have gained in classrooms in an actual care setting.[7,8,9]

Prior studies have revealed that when implemented in a classroom, TBL could increase the scores of knowledge with statistical significance ($p < 0.001$).[10] However, in a clinical setting, especially during orientation sessions, there were no studies that have investigated the effectiveness of TBL. Therefore, the present study aimed to compare the pre-test and post-test scores of mental health and psychiatric nursing's knowledge and self-confidence to achieve learning outcomes. Furthermore, the study aimed tocompare mental health and psychiatric nursing's knowledge and self-confidence to achieve learning outcomes after receiving TBL during an orientation session before doing the practicum in the actual clinical setting as part ofa mental health and psychiatric nursing course.

Materials and Method

The present study was quasi-experimental research with a two-group pre-test and post-test design. **Setting of the study:** the study was carried out during the orientation class at the Faculty of Nursing, Prince of Songkla University. **The target population** consisted of junior nursing students who participated in the orientation class conduced for two hours before doing the practicum at the clinic in the second semester of the academic year 2018. The study sample was composed of 64 nursing students who were assigned to the control group and the experimental group. **The purposive sampling technique** was used to recruit the sample. Validity was investigated and confirmed by a panel of three experts. Moreover, a pilot study was carried out with ten nursing students in the first semester of the 2018 academic year. The research instrument was the TBL teaching plan for the orientation class which integrated the conceptual framework of Michaelsen et al.[11] and Thai qualification framework.[1]

The data collection instruments included three questionnaires to elicit data regarding: 1) demographic characteristics of the subjects (gender and age), 2) self-confidence to achieve learning outcomes, consisting of 20 Likert scale items and closed-ended questions,

with the Chronbach's alpha coefficient of 0.91, and 3) knowledge, with 12 items with four response choices and Chronbach's alpha coefficient of 0.70.

Findings: There were 64 junior nursing students who participated in this study. Half of them were assigned to the experimental group who received TBL, while the other 32 were assigned to the control group and had only self-preparation before the nursing practicum. The findings revealed that most of the subjects were female, and the largest group of the subjects in the both groups were 20 years old. The homogeneity of the subjects in both groups was examined using Chi-square test, and no difference between the two groups of subjects was found ($p>0.05$).

Table 1: Comparison of the scores of knowledge and self-confident to achieve learning outcomes of the experimental and control subjects obtained before and after the implementation of TBL (N=64)

Variables	Self-preparation			TBL		
	Pre-test Mean (SD)	Post-test Mean (SD)	p-value	Pre-test Mean (SD)	Post-test Mean (SD)	p-value
Student' Knowledge	5.437(1.43)	5.593(1.64)	.444	3.906(.39)	11.375(.94)	.000***
TQF						
Over all	78.313(8.64)	79.125(9.52)	.177	77.125(7.94)	79.406(10.47)	.007**
LO1	21.375(2.25)	21.563(2.31)	.544	20.625(2.25)	20.938(2.82)	.282
LO2	9.875(1.73)	10.656(2.07)	.024*	9.844(1.46)	10.594(1.62)	.002**
LO3	6.906(1.08)	7.219(1.23)	.096	6.938(1.01)	7.313(1.40)	.050*
LO4	16.438(2.24)	16.438(2.16)	1.00	16.125(1.84)	16.656(2.47)	.048*
LO5	7.500(1.19)	7.625(1.36)	.525	7.813(1.12)	8.063(1.34)	.088
LO6	16.219(2.26)	16.313(2.01)	.781	15.718(1.84)	15.844(2.10)	.745

*<.05, **<.01, ***<.001

LO1= moral and ethics, LO2 = knowledge, LO3 = intellectual skills, LO4 = interpersonal skills and responsibilities, LO5 = analysis number, communication and use of information technology skills, and LO6 = professional skill

As shown in Table 1, the mean score of knowledge of the subjects in the control group who had only self-preparation obtained after the experiment (M = 5.593, SD = 1.64) was higher than that obtained before the experiment (M = 5.437, SD = 1.43) with no statistical significance at the 0.05 level ($p> 0.05$). In addition, the mean score of self-confidence to achieve overall learning outcomes obtained after the experiment (M = 79.125, SD = 9.52) was higher than that obtained before the experiment (M = 78.313, SD = 8.64) ($p>0.05$) higher than before the experiment.

As regards the experimental group, their mean score of knowledge obtained after receiving TBL (M = 11.375, SD = 0.94) was higher than that obtained before the experiment (M = 3.906, SD = 0.39) with statistical significance at the 0.05 level ($p<.05$). Furthermore, the mean score of self-confidence to achieve overall learning outcomes as expected obtained after the experiment (M = 79.406, SD = 10.47) was higher than that obtained before the experiment (M = 77.125, SD = 7.94) with statistical significance at the 0.05 ($p <.05$) level.

When considering each aspect of learning outcomes, it could be seen that, after the experiment, the mean scores of the control subjects who had only self-preparation were higher than those obtained before the experiment as follows: moral and ethics (M = 21.563, SD = 2.31 vs. M = 21.375, SD = 2.25), knowledge (M = 10.656, SD = 2.07 vs. M = 6.906, SD = 1.08), interpersonal skills and responsibilities (M = 16.438, 2.16 vs. M = 16.438, SD = 2.24), skills related to analysis, number, communication, and use of information technology (M = 7.625, SD = 1.36 vs. M = 7.500, SD = 1.19), and professional skill (M = 16.313, SD = 2.01 vs. M = 7.500, SD = 1.19). However, only the post-test mean score of the aspect of intellectual skills was higher than the pre-test mean score with statistical significance at the 0.05 level ($p<0.05$).

On the other hand, the post-test mean scores of the

aspect of intellectual skills and interpersonal skills and responsibilities (M = 20.938, SD = 2.82; M = 8.063, SD = 1.34; M = 15.844, SD = 2.10, respectively) of the experimental group were statistically significantly higher than the pre-test mean scores (M = 20.625, SD = 2.25; M = 7.813, SD = 1.12; M = 15.718, SD = 1.84, respectively) at the levels of 0.05 and 0.01 (p<.05, p<.01). In contrast, the post-test mean scores of the aspect of skills related to analysis, number, communication, and use of information technology and the aspect of professional skills (M = 10.594, SD = 1.62; M = 7.313, SD = 1.40; M = 16.656, SD = 2.47 respectively) were not statistically significantly higher than the pre-test mean scores (M = 9.844, SD = 1.46; M = 6.938, SD = 1.01; M = 16.125, SD = 1.84, respectively) at the 0.05 level (p>0.05).

The table 2 presents the mean scores of knowledge and self-confident based on the six aspects of TQF of the nursing students in the experimental and control groups after the experiment with TBL. It was found that the students who received TBL (M = 11.375, SD = .94) had higher mean score of knowledge scores than that of the self-preparation group (M = 5.593, SD = 1.64) with statistical significance at the 0.00 level (p = 0.000). In addition, with regard to self-confidence to achieve learning outcomes, the findings revealed that the mean scores of overall confidence to achieve learning outcomes of the two groups of subjects were not statistically significantly different (p>0.05). Likewise, the mean scores of self-confidence to achieve each aspect of learning outcomes were not statistically significantly different (p>0.05).

Table 2: Comparison of the mean scores of knowledge and self-confidence to achieve learning outcomes between the control group having self-preparation and the experimental group receiving TBL TBL (N = 64)

Variables	Groups		p-value
	Self-preparation Mean (SD)	TBL Mean (SD)	
Student' knowledge	5.593(1.64)	11.375(.94)	0.000***
TQF			
Over all	79.810(9.53)	79.406(10.48)	0.872
LO1	21.563(2.31)	20.938(2.82)	0.337
LO2	10.656(2.07)	10.594(1.62)	0.894
LO3	7.219(1.23)	7.313(1.40)	0.778
LO4	16.438(2.16)	16.656(2.47)	0.708
LO5	7.625(1.36)	8.063(1.34)	0.200
LO6	16.313(2.01)	15.844(2.10)	0.364

*<.05, **<.01, ***<.001

Discussion

Nursing students who were prepared for their practicum in an actual clinical setting with TBL had a statistically significantly higher level of knowledgeable than those of had only self-preparation. One plausible explanation is that TBL positively affects knowledge based on the four key principles of TBL, which are 1) to organize the right team related to skills and abilities of students, 2) to assign students to have some preparation before participating in the orientation class, 3) to encourage students to focus on both individual goals and group goals, and 4) 4) to enable students to reflect on both the individual and group processes of learning,[12] which lead to the exchange of knowledge in actual situations by students. To further explain, TBL enables nursing students to develop greater understanding of the lessons. As in the experiment, the students were assigned to prepare themselves before going to the clinics using the three steps. First, as for pre-class preparation, the students were assigned to review the lessons and the contents of mental health and psychiatric nursing via the Learning Management System (LMS2@PSU) for two weeks prior to the orientation. After that, in the class (in-class), both individual tests and group tests were administered. Finally, in the last step, the students were asked to reflect on the problems and obstacles

they faced in each group. Such activities were related to using teamwork as a basis to help the students gain an understanding of the lessons and motivate them to learn. As a result, with the nursing students who received team-based learning had statistically significantly higher post-test scores compared to the students who had only self-preparation and were taught in a regular classroom.[9,13,14,15,16] Moreover, it could be observed that TBL enabled the students to receive higher grades than those of the students who studied in a regular classroom or with self-directed learning at 0.001.[17] Therefore, it could be concluded that TBL could be implemented to effectively facilitate learning and increase learning outcomes of nursing students.

When it came to the self-confidence to achieve overall learning outcomes, as for the subjects in the experimental group and control group, it could be seen that the post-test scores of both groups increased with statistical significance. In particular, the students' mean scores of intellectual skills and interpersonal skills and responsibilities were higher than pre-test mean scores with statistical significance at the 0.01 level, hence further evidence of the effectiveness of TBL. It was found in this study that nursing students perceived that they had more confidence that they were able to create work and have more positive thinking.[5,7] Finally, TBL could promote nursing students' responsibilities, especially when learning and working in a team.[10]

Conclusion

Team-based learning is a learning method that helps junior nursing students be prepared by equipment them with knowledge and self-confidence, which, in turn, enables them to achieve desired learning outcomes while doing their practicum in an actual clinical setting. Therefore, clinical instructors should apply TBL in the orientation class to ensure that the junior nursing students who are about to begin their practicum have necessary knowledge and self-confidence, hence more likelihood that the expected learning outcomes will be achieved.

Recommendation for Future Studies: Studies should be undertaken to follow up the levels of knowledge and self-confidence to achieve learning outcomes of the junior nursing students in mental health and psychiatric nursing after completing their practicum course.

Conflict of Interest: Nil

Source of Funding: Faculty of Nursing, Prince of Songkla University (Hat Yai campus), Thailand

Ethical Clearance: Ethical issue was approved by Center for Social and Behavioral Sciences Institutional Review Board, Prince of Songkla University (Hat Yai), Thailand

References

1. Prince of Songkla University (PSU). Bachelor of Nursing Science Program (revised version). Songkhla: Faculty of Nursing PSU; 2012. Thai.
2. Becker MK, Neuwirth JM. Teaching strategy to maximize clinical experience with beginning nursing students. J Nurs Educ. 2002; 41(2): 89-91.
3. Suttipong P, Suttharangsee W, Kongsuwan V, et al. Learning outcomes and teaching learning strategies in mental health and psychiatric nursing course as perceived by the second year nursing students. Songklanagarind J Nurs. 2015; 35(2): 189-203. Thai.
4. Bundasak T, Chaowiang K, Jungasem N, et al. Affecting factors on nursing students anxiety while practicing in Intensive Care Unit. J Prapokklao Hosp Clin Med Educat Center. 2017; 34(1): 6-16. Thai.
5. Oldland E, Currey J, Considine J, et al. Nurses' perceptions of the impact of Team-Based Learning participation on learning style, team behaviours and clinical performance: An exploration of written reflections. Nurs Educ Pract. 2017; 24(May 2017): 62-9.
6. Nantsupawat A, Nantsupawat R. Satisfaction and outcomes of the teaching styles with blended learning in a nursing leadership and management course, Faculty of Nursing, Chiang Mai University. Nurs J. 2013; 40(supple.): 47-60. Thai.
7. Cheng CY, Liou SR, Hsu TH, et al. Preparing nursing students to be competent for future professional practice: Applying the Team-Based Learning-Teaching strategy. J Prof Nurs. 2014; 30: 347–56.
8. Iramaneera C. Pongprasobchai S, Praditsuwan. Kledlub krupat clinic. 1 st ed. Bangkok: Mahidol Univeristy; 2013. Thai.
9. Wattanajinda S, Padoong J, Noikamsin M.Effect of Team-Based Learning on academic achievement and satisfaction of undergraduates in Mass

Communication Technology Program. JVTE. 2017; 27-32. Thai.

10. Santanawanich C. Pumpuang W. Thavorn T. The evaluation of Team-Based Learning process in nursing students: Learning outcomes in accordance with Thai Qualification Framework, Feasibility, and Readiness Assurance of Students. J Nurs Sci. 2015; 33(supple.1): 37-47. Thai.
11. Michaelsen LK. Gettingstarted with team learning. In Michaelsen LK, Knight AB, Fink LD, editor. Team-based learning: A transformative use of small groups in college teaching. 1 st ed. Starling, VA: Stylus Pub; 2004.
12. Teambasedlearning.org. [homepage on the Internet]. Huntington: Team-Based Learning Collaborative 2020 [updated 27 Apr 2020; cited 2020 Apr 27]. Available from http://www.teambasedlearning.org/definition/
13. Stepanova J. Team-Based Learning in Business English. Paper presented at: Rural Environment, Education, Personality; Proceedings of Rural Environment, Education, Personality; 2017 May 16-17; Jelgava, German.
14. Branson S, Boss L, & Fowler DL. (2015). Team-based learning: Application in undergraduate baccalaureate nursing education. J Nurs Educ Prac. 2015; 6(4): 59-64.
15. Rezaee R, Moadeb N. & Shokrpour N. Team-based learning: A new approach toward improving education. Acta Medica Iranica. 2016; 54(10): 679-83.
16. Yaisoon S, Rattanaviboon P, & Chankao C. Effects of team-based learning on knowledge and perceived learning outcomes in Antenatal care of nursing students. Thai Red Cross Nurs J. 2016; 9(2): 73-87. Thai.

DOI Number: 10.37506/ijone.v12i4.11221

Health Related Quality of Life of Patient with Depression in Thai Health Service Delivery: A Multilevel Analysis

Jiratchayaporn K.[1], Sindhu S.[2], Seeherunwong A.[3], Panirat R.[3], Viwatwongkasem C.[4]

[1]D.N.S candidate, Faculty of nursing, Mahidol university, [2]Division of Surgical Nursing, Faculty of Nursing, Mahidol University, Bangkok, Thailand, [3]Division of Mental Health and Psychiatric Nursing, Faculty of Nursing, Mahidol University, Bangkok, Thailand, [4]Division of Biostat, Faculty of Public Health, Mahidol University, Bangkok, Thailand

Abstract

Introduction: Although health related quality of life (HRQOL) has become an important to focus specifically on the impact of illness and treatments for patients with depression, few studies have conducted to explore HRQOL of patients from different types of hospitals. Therefore, in the first phase of this study aimed at examining a change in HRQOL of patients from various types of hospitals and explored health service system factors and personal factors of patients that could reflect their HRQOL in the second phase.

Method: This was a quantitative study. The general questionnaire was used for organization-level data. Moreover, 495 participants' data from 15 settings located in Bangkok metropolis and central regions of Thailand were collected by Hamilton rating scale for Depression Thai version, the multidimensional Scale of Perceived Social Support Thai and WHOQOL-BREF Thai version for patient-level data.

Results: The patient-level factors significantly were age, living arrangement ($p<.05$), severity of depressive symptoms, social support ($p<.001$), but health service delivery of the organization-level factor was not significant ($p>.05$). However, the random part of Generalized linear mixed model (GLMM) could not be identified because intra-class correlation (ICC) was the quite low.

Conclusion: Apart from patient-level factors, these findings reflected HRQOL in patient with depression in terms of resources available in different types of hospital that could be used as baseline data for development of Thai mental health service systems.

Keyword: *Quality of life, depression, health service delivery.*

Introduction

Several major epidemiological studies have been carried out to determine the prevalence of depressive disorder in the general population as an increase in the number of patients with depressive disorders could lead to a health and financial burden in both developed and developing countries[1,2]. It has been suggested recently that although an increased number of people with depressive disorders are gaining access to treatments, these patients receive inadequate care that prevents them from making a full recovery[3]. Therefore, the improvement of quality of life to enable patients with depressive disorders to return to 'normal' levels of functioning is an important treatment goal in depression[4,5].

When considering some developing countries in Asia or Africa, limitations of resources in the existing mental health service system can be observed. Although

Corresponding Author:
Mrs. Kenika Jirachayaporn
D.N.S candidate, Faculty of Nursing, Mahidol University
e-mail: kenika.j@psu.ac.th
Phone No.: 66894712440

the number of patients who gain access to mental health services is increasing on a yearly basis, the ratio of psychiatrists and nurses in the mental health sector to the population is lower than the minimum standard set by the World Health Organization. In Thailand, despite the increasing rate of patients gaining access to mental health services, different types of hospitals have different structures and processes for service provision. In addition, some depressive patients may be referred from other health service providers, e.g., a general clinic or psychiatric clinic in a general hospital[6]. These patients sometimes lack the opportunity to receive specialized mental health services from psychiatric hospitals. It is noteworthy that the context in Thailand is dissimilar to contexts in developed countries, which generally have primary care units (PCUs) specifically for depressive patients.

Due to the limitations of resources in the existing mental health service system, few studies have been proposed in an attempt to improve service delivery systems for patients with depressive disorders. As cited above, few studies have explored the HRQOL of patients with depressive disorders who enter a mental health service system. Further more, few studies have been conducted to explore the HRQOL of patients receiving treatment or factors related to health service provision systems that affect HRQOL. The purpose of this study was to explore factors related to health service delivery and the personal factors of patients that could reflect their HRQOL. It was anticipated that the findings of this study could be used as baseline data for the subsequent development of mental health service systems for people with depressive disorders.

Materials and Method

Study design and Sample: This study had a cross-sectional design for the multilevel analysis. Anderson's Behavioral Model of health[7] was used to identify individual factors. Predisposing factors that may related to health-related quality of life included sex, age, educational level and marital status. Enabling factors were selected included occupation and living arrangement. The number of co-morbid chronic illness, depression episode. Severity of symptoms and perceived social support were selected as need factors. Organizational factors were classified those variables under resources and practices. This study presented health care system in the different type of clinic and professional workforce for patient with depression in Thailand.

Patients were recruited 15 settings from 37 centers located in the central regions of Thailand. The setting was randomly selected as the study site, and a sample proportional to the number of settings and patients in each type of hospital was selected by means of the two-stage random sampling method. A total of 30 patients from each center were selected to participate in this study. The patient dropout rate was assumed to be approximately 10%.Therefore, the sample number of 495 would be sufficient to compensate for drop-outs.

The participants were recruited based on the following inclusion criteria: a) age between 18 and 60 years old; b) diagnosis of depressive disorder according to the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-IV) or International Statistical Classification of Diseases and Related Health Problems 10th Revision (ICD 10; WHO, 1992), namely, major depressive disorder, single episode (F32), major depressive disorder, recurrent depressive disorder (F33), dysthymic disorder (F34), or other depressive disorders (F38, 39); c) they first used psychiatric services within the first week of current treatment (for patients in the first phase of the study); and d) ability to read, write, and verbally communicate in the Thai language and use the numerical scale.

Data Collection: Data were collected after approval was granted by Institutional Review Board Faculty of Nursing, Mahidol University (ID: IRB-NS2015/299.2108), as well as the ethics committees of all of selected hospitals. After the patients agreed and gave written informed consent to participate in the study,research instruments were used to collect patient data, which included a) a patient demographic data assessment developed by the researcher,CVI was 1.00; b) the Multidimensional Scale of Perceived Social Support Thai Version (MSPSS Thai Version) (2) comprising 12 items, with a Cronbach's alpha of 0.878 for the total scale; c) the Hamilton Rating Scale for Depression Thai Version, comprising 17 items (Thai HRSD17) with a total score ranging from 0 to 57 and a Cronbach's α coefficient of 0.784 for all items; d) the abbreviated Thai version of the World Health Organization Quality of Life (WHOQOL-BREF-THAI), comprising the 26 original items, including 24 items in four domains (physical, psychological, social, and environmental), one item for general quality of life, and one item for health-related quality of life. In this study, the Cronbach's alpha for the total scale was 0.912.

Statistical analysis: This study used SPSS/FW version 18.0 and STATA statistical software version 10. Descriptive statistics, univariate regression analysis, and multilevel regression analysis were used in the data analysis. Mixed model or random intercept model was performed for patient and organization variables selection.

Findings:

Demographic characteristics of the patients with depression: The study participants ranged in age from 18 to 60 years, with a mean age of 46.42 ± 10.97 years. The majority of the participants had been diagnosed with F32 (73.6%).In addition, more than half of the participants were female (77.2%), were single (59.8%), had their first episode (59.8%), and were employed in non-agricultural work (56%).

Characteristics of health service delivery: Of the fifteen hospitals included in the present study, four types of healthcare settings were found: psychiatric hospitals (N=2), regional hospitals (N=5), general hospitals (N=7) and community hospitals (N=1). The descriptions of the professional workforce and the number of professionals in each setting are shown in Table 1.

Table 1: Characteristics of clinics (N = 15)

Characteristics	Professional workforce Mean ±SD.	Mean of		
		Psychiatrist	Register nurse	Psychologist
Psychiatric hospitals (N=2)	2758.44±117.822	12	12.5	5.5
Regional hospitals (N=5)	1137.32±815.123	2.80	3.80	1.20
General hospitals (N=7)	376.34±158.723	1.14	3.43	.57
Community hospital (N=1)	101.66±0	0.00	2.00	1.00

Hypothesis testing: The null hypothesis model was the first model examined in the multilevel regression analysis. The model was used to test the fit of a random intercept when there were no variables, and intra-class correlations (ICCs) were calculated. The estimated intercept was 0.032, indicating a 3.2% variation in HRQOL scores among the 15 settings. The ICCs ranged from 0 for complete independence of observations to 1 for complete dependence. In this study, there was a minimal difference in standard errors between the conventional and multilevel models, consistent with the low ICC. However, as a typical guideline, an ICC greater than 0.01 can suggest the presence of clustering in a data set[8]. The ICC can be represented as follows:

$$ICC = \sigma_B^2 / (\sigma_w^2 + \sigma_B^2)$$

$$= 6.280 / (188.439 + 6.280) = 0.032$$

The results of the random intercept model with additive effects at the patient level showed that four of the patient-level factors could significantly predict HRQOL. The patient-level factors that could significantly predict HRQOL were age ($p < 0.05$), living arrangement ($p < 0.05$), severity of depressive symptoms ($p < 0.001$), and social support ($p < 0.001$). In the fixed-effect estimates, predictors from the patient-level factors and organization-level factors were added. When these models were analyzed, the researcher added the type of multidisciplinary approach, as shown in Table 2, to determine which variables could be included in the equation.

Table 2: Random intercept model between organization-level factors and patient-level factors (N = 492)

	Model of patient factors only			Final model		
	Coefficient	**SE**	**95% CI**	**Coefficient**	**SE**	**95% CI**
Fixed effect						
Intercept (β)	74.08***	3.15	67.89 - 80.26	52.24***	8.08	36.4 – 68.08
Patient-level						
Age						
<25 yrs. (ref)						
25 - 45 yrs.	2.86	1.97	-1.01 - 6.74	3.21	1.97	-0.65 - 7.07
> 45 yrs.	4.05*	1.90	0.32 – 7.77	4.09*	1.89	0.38 - 7.79
Living arrangement						
alone (ref)						
with family	1.87	1.62	-1.32 – 5.06	1.96	1.62	-1.20 - 5.13
friend or non-family	8.22*	3.68	1.00 -15.44	7.98*	3.66	0.81 -15.16
Severity of symptoms	-1.28***	0.91	-1.46 - -1.11	1.31***	0.09	-1.49 - 1.13
Social support	0.32***	0.30	0.26 – 0.38	0.32***	0.03	0.26 - 0.38
Organization-level						
Type of hospital						
Psychiatric hosp.(ref)						
regional hosp.				1.66	2.14	-2.53 – 5.85
general hosp.				0.89	2.79	-4.59 – 6.38
community hosp.				-2.55	3.64	-9.70 – 4.97
Professional workforce				0.00	0.001	-.001- .002
Random effect						
Residual (σ_w^2)	99.43	6.45	87.56-112.91	99.43	6.45	87.56-112.91
Variance cons. (σ_B^2)	0.90	1.48	0.36 – 22.73	0.75	1.43	0.02 - 30.94
Log likelihood	-1827.81			-1822.74		
AIC (BIC)	3673.619 (3711.387)			3673.485 (3732.235)		

*p < 0.05 ***p < 0.001

Discussion

The findings of this study show that differences between types of multidisciplinary approaches were not significantly related to the mean HRQOL score of patients with depression. Additionally, available resources were found to differ across hospitals. There were psychiatrists at specialized hospitals and high-level hospitals, while some medium-level hospitals employed no psychiatrists or psychologists. However, health service delivery factors at the organization level did not significantly predict HRQOL in patients with depression (P >0.05).This finding was consistent with the results of another study, which indicated that the involvement of a collaborative, multidisciplinary team in the delivery of comprehensive patient-centered care resulted in improved health outcomes[9].

Furthermore the mean health-related quality of life of patients with depression increased by 0.306 (p < 0.001) when their social support scores increased by 1 point. Additionally, living arrangements could significantly predict health-related quality of life: patients with depression who lived with a friend or nonfamily member had higher health-related quality of life scores than those who lived alone (p < 0.5).Previous research has noted that social support mediates the relationship between disability and depressive symptoms over time[10,11]. Similarly, the results of a previous study revealed that social support had a significantly positive association with QOL in terms of both direct and indirect effects[12]. Previous studies[13,14] have indicated that people with less access to informal social support make greater use of health and social care services. The impact of social support on patterns of service use among people with

mental health problems has rarely been studied, and published findings are ambiguous or contradictory at best.

However, it is worth noting that the findings of this study reflect differences in the resources available at different types of health service delivery settings. The data showed that primary care settings, such as community hospitals, had lower a workforce and capacity than higher-level hospitals.In fact, although the structures of depression care varied across settings, the majority of patients with depression (more than 75%) were prescribed only antidepressant drugs. The findings show that depression care management for patients with depression was rather similar across settings, and this may be an underlying reason for the lower intraclass correlation coefficient (ICC) and the absence of a significant difference in HRQOL among patients with depression who sought care at different types of hospitals.

Conclusion

These findings reflect the HRQOL of patients with depression in terms of the resources available at different types of hospitals. The results of this study could be used as baseline data for the development of Thai mental health service systems. The development and support of a system that refers patients with depression to a local primary service unit that is convenient and easily accessible are necessary for the appropriate distribution of patients with depression.

Conflict of Interest: Nil

Ethical Approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of Institutional Review Board Faculty of Nursing Mahidol University (ID: IRB-NS2015/299.2108), as well as the ethics committees of all of selected hospitals and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards

Acknowledgements: The authors are thankful to all the participants for their cooperation. The study was supported by the special program for teacher development under the Thai Khem Khaeng Project 2012.

References

1. Kessler RC and Bromet EJ. The epidemiology of depression across cultures. Annu Rev Public Health. 2013; 34: 119-38.
2. Wongpakaran T, Wongpakaran N, Pinyopornpanish M, Srisutasanavong U, Lueboonthavatchai P, Nivataphand, R, et al. Baseline characteristics of depressive disorders in Thai outpatients: findings from the Thai Study of Affective Disorders. Neuropsychiatric Disease and Treatment 2014; 10: 217-223.
3. Knoth RL, Bolge SC, Kim E and Tran QV. Effect of inadequate response to treatment in patients with depression. Am J Manage Care 2010;16, 8: 188-96.
4. Zimmerman M, McGlinchey JB, Posternak MA, Friedman M, Attiullah, N., & Boerescu D. How should remission from depression be defined? The depressed patient's perspective. Am J Psychiatry 2006; 163, 1: 148-50.
5. Vilhauer JS, Cortes J, Moali N, Chung S, Miroche J, & Ishak WW. Improving quality of life for patients with Major Depressive Disorder by increasing hope and positive expectations with Future Directed Therapy (FDT). Innov Clin Neurosci. 2013; 10, 3: 12–22. regression. British Journal of Psychiatry 2006; 189: 484-493.
6. Angst J, Gamma A, Benazzi F, Ajdacic-Gross V and Rössler W. Does psychomotor agitation in Major depressive episodes indicate bipolarity? Evidence from the Zurich Study. European Archives and Psychiatry Clinical Neuroscience 2009; 259: 55-63.
7. Anderson RM and Newman JF. Socialtal and individual determinants of medical care utilization in the United States. Milbank Memorial Fund Quarterly 1973; 51: 95-124.
8. Cohen L, Manion L and Morrison K. Research Method in Education (6th ed.). London and New York, NY Routledge Falmer,2007.
9. Aquilina FF, Agius M, Sharma K, and Grech A. The multidisciplinary approach to mood disorders. Psychiatr Danub 2014; 26, 1: 222-5.
10. Ibarra-Rovillard MS and Kuiper NA. Social support and social negativity findings in depression: Perceived responsiveness to basic psychological needs. Clin Psychol 2011; 31: 342–352.
11. Dour HJ, Wiley JF, Roy-Byrne P, Stein MB, Sullivan G, Sherbourne CD. et al. Perceived Social Support Mediates Anxiety and Depressive Symptom Changes Following Primary Care Intervention. Depress Anxiety 2014; 31, 5: 436–442.

12. Chung L, Pan A and Hsiung P. Quality of life for patients with major depression in Taiwan: A model-based study of predictive factors. Psychiatry Research 2009; 168: 153-162.
13. McCracken C, Dalgard OS, Ayuso-Mateos JL, Casey P, Wilkinson G, Lehtinen V and Dowrick C. Health service use by adults with depression: community survey in five European countries. Evidence from the ODIN study. Br J Psychiatry 2006; 189: 161-7.
14. Andrea SB, Siegel SA, and Teo AR. Social Support and Health Service Use in Depressed Adults: Findings From the National Health and Nutrition Examination Survey. Gen Hosp Psychiatry 2016;39: 73-9.

DOI Number: 10.37506/ijone.v12i4.11222

Relationship between Nurse Knowledge and Decision Making of Code Blue Activation in Rsud Bangil Pasuruan, Indonesia

Lina Munawaroh[1], Wisnu Barlianto[1], Setyoadi[1]

[1]Faculty of Medicine, Brawijaya University, Malang, Indonesia

Abstract

Background: The Code Blue system at RSUD Bangil Pasuruan was formed in the context of the safety of patients, visitors, and employees who experience heart and respiratory failure in the hospital area. The Code Blue team is a team that can carry out continued life assistance quickly, thereby reducing the incidence of death in hospitals. In its application, The Code Blue system of RSUD Bangil Pasuruanwas running less than optimal. The death process of inpatients who should have received basic life support assistance by The Code Blue team often ended in death without any effort to activate the available code blue system. The nurse knowledge factor is thought to have a connection with the constrained implementation of The Code Blue system in RSUD Bangil.

Objective: This study aims to identify the relationship between nurse knowledge and the decision making of code blue activation in RSUD Bangil Pasuruan.

Method: This quantitative study used an analytic observational design with a cross-sectional approach. Respondents of 101 nurses in general inpatients were selected based on a purposive sampling quota technique. The research instrument was a questionnaire for all variables.

Results: A bivariate analysis using Spearman rank correlation showed that there was a significant, positive (unidirectional) and very weak relationship with nurse knowledge of the decision making of code blue activation in RSUD Bangil Pasuruan

Conclusion: Nurse knowledge needs to be improved to optimize the decision of code blue activation in RSUD Bangil Pasuruan.

Keywords: *Nurse knowledge, decision, code blue activation.*

Introduction

Managing cardiac arrest patients in hospitals or Intra Hospital Cardiac Arrest (IHCA) is a matter of special concern in hospitals today. The incidence of cardiac arrest in hospitals varies greatly in the world, ranging from 0.5 to 2%.Studies conducted in Australia and New Zealand state the rate of cardiac arrest in hospitals range from 2 to 6 cases per 1,000 admissions. The incidence of cardiac arrest in hospitals in Asian populations has not been widely publicized. One study conducted in the Taiwan population reported that the incidence of cardiac arrest in hospitals was 3.25 per 1,000 patients admitted to hospital care(5).

The cause of high death due to IHCA is the ineffective implementation of resuscitation. Code Blue system is one solution to overcome the high mortality rate due to IHCA by implementing effective resuscitation in patients with pulmonary, cardiac arrest. “Code Blue” is a hospital emergency code that is used to give a message to a special hospital emergency response team during an emergency without causing panic in and around the hospital and provide resuscitation as soon as possible without disrupting the normal activities and functions of the hospital. Code Blue is an international code and was first used at Bethany Medical Center, the state of Kansas, in the early 1990(5).

The Code Blue system was then developed by various other American states in the era of 2008 and continues to be implemented by countries around the world. Indonesia is one of the countries that helped develop the code blue and made this system as one of the services for providing medical emergencies in hospitals.

The Code Blue system of RSUD Bangilwas formed in 2014 with the initial purpose of preparing for accreditation and running until now. However, it is felt to be less than optimal, and there are many obstacles in its implementation. Based on interviews with several nurses at RSUD Bangil, researchers obtained data that hospitalized patients with heart, and respiratory attacks should receive further basic life support care with the blue team code. However, patients often end in death without any effort to activate the available code blue system.

Knowledge is an important factor that can be a theory-based guide for nurses in making effective decisions[7]. Theoretical knowledge of code blue that is adequate for health staff can reduce the number of emergency patients in the hospital[2]. Knowledge, skills, and experience not only affect the outcome of the work done but also affect the decision making process. In clinical practice, the decision-making process comes from the knowledge, experience, ability of nurses to cope with a condition [1], and the nurse perception of seeing a problem [4]. The lack of maximum handling of cardiac arrest by the code blue team may be influenced by nurse knowledge of code blue services, which is still minimal.

The researcher suspects that there is a correlation between the nurse knowledge factor and the constraints on the implementation of The Code Blue system in RSUD Bangil Pasuruan. Hence, the researcher aims to identify the relationship between nurse knowledge and the decision to activate the code blue.

Method

This is a quantitative study using observational analytic design through a cross-sectional study approach. The sampling technique used in this study is probability sampling with a purposive sampling quota technique with a sample of 101 respondents. Respondents are nurses in the general ward who meet the inclusion criteria and exclusion criteria that have been determined by researchers.

Inclusion Criteria:

1. Nurses are willing to be respondents
2. Nurses on duty in the inpatient general room

Exclusion Criteria:

1. Nurses who are on vacation, leave or outside services during the study so they can not participate as respondents
2. Nurses on duty in a special room namely IGD, Operating Room, HCU, ICU, CVCU, Delivery Room, Perinatology, Polyclinic

Results

The number of participants in this study was 101 respondents. Based on table 1 it can be seen that the characteristics of respondents based on age are dominated by early adult groups (aged 26 - 35 years) of 66.3%.Characteristics of respondents by sex were dominated by female respondents, amounting to 76.2%. Characteristics of respondents based on education were dominated by D3 educated respondents totaling 79.2%. Characteristics of respondents based on length of work were dominated by respondents who had worked for 3 to 5 years totaling 43.6%. Characteristics of respondents by position were dominated by respondents who were nurses implementing as many as 86.1%.

Table 1 Frequency Distribution of Respondent Characteristics by Age, Gender, Education, Length of Work and Position

Age	Frequency	Percentage (%)
Early adulthood (26 - 35 years old)	67	66.3
Early elderly (36 - 45 years)	26	25.7
Early elderly (46 - 55 years)	8	7.9
Sex		

Age	Frequency	Percentage (%)
Male	24	23.8
Female	77	76.2
Education		
Diploma	80	79.2
Bachelor	21	20.8
Length of work		
3 - 5 years	44	43.6
6 - 10 years	27	26.7
>10 years	30	29.7
Position		
Head of the room	3	3.0
Head of the team	11	10.9
Executive nurse	87	86.1

Primary Data Sources 2020

Based on table 2, it can be seen that the majority of respondents (74.2%) often carry out cardiopulmonary resuscitation, which is as much as 6 to more than 20 times. Besides, the results of the study also showed that only 8.9% of respondents frequently activated code blue, while the majority of respondents had never activated code blue in real or non-simulated situations, namely 79.2%.

Table 2: Frequency Distribution of Respondent Characteristics Based on Frequency of Conducting Pulmonary Resuscitation and Activating Code Blue During Work

CPR	Frequency	Percentage (%)
≤ 3 times (very rare)	12	11.9
4 - 5 times (rarely)	12	11.9
6 times to more than 20 times (often)	75	74.2
No answer	2	2.0
Total	**101**	**100.0**
Activating Code Blue	**Frequency**	**Percentage (%)**
Often (3-5X)	9	8,9
Rarely (1-2X)	12	11.9
Never	80	79.2
Total	**101**	**100.0**

Based on table 3, it can be seen that the sub-component of knowledge about the policy and hospital guidelines about The Code Blue system obtained a mean value of 2.42. Knowledge of code blue management and the role of nurses in The Code Blue system obtained a mean value of 4.12. Knowledge of how to activate code blue obtained an average value of 1.76. The total score of knowledge obtained a mean value of 8.30. The conclusions of the research results of nurse knowledge of The Code Blue system are stated to be good.

The decision-making sub-component about finding alternatives or choices obtains a mean value of 5.63. Decision making about setting goals and values

obtained a mean value of 6.80. Decision making about evaluating and re-evaluating the consequences obtained a mean value of 7.91. Decision making about finding information and assimilating new information so as not to be able to obtain a mean value of 7.74. The total score of decision making obtained an average score of 28.08, so it can be concluded that the nurse decision making was quite good (Table 3).

Table 4 informs that testing the relationship of knowledge with decision making produces a probability of 0.016. Or a probability <alpha (5%), so H0 is rejected. The test results can be stated that there is a significant relationship of knowledge with decision making. The correlation coefficient of 0.238 shows that there is a positive (unidirectional) and a very weak relationship between knowledge and decision making. The test results can be said that the increase in knowledge is followed by an increase in decision making, and conversely, a decrease in knowledge is followed by a decrease in decision making.

Table 3 Sub Components of Knowledge, Self-Efficacy, and Nurse Decision Making

Knowledge Sub Component	**Min**	**Max**	**Mean**	**SD**
Hospital policies and guidelines regarding The Code Blue system	1	3	2.42	0.70
Code blue management and the role of nurses in The Code Blue system	2	5	4.12	0.83
How to activate code blue	1	2	1.76	0.43
Total knowledge score	4	10	8.30	1.96
Decision Sub-Components	**Min**	**Max**	**Mean**	**SD**
Look for alternatives or choices	2	8	5.63	1.23
Set goals and values	3	8	6.80	1.14
Conduct an evaluation and re-evaluation of the consequences	3	12	7.91	2.12
Look for information and assimilate new information to avoid bias	3	12	7.74	1.78
Total Decision-Making score	11	40	28.08	6.27

Table 4 Results of the Analysis of the Relationship between Knowledge and Decision Making

Coefficient Correlation	**Probability**
0.238	0.016

Discussion

This study shows that there is a significant, positive, and very weak relationship between nurse knowledge and the decision on activation of code blue in RSUD Bangil Pasuruan. The high knowledge of nurses is followed by high decision making to activate code blue and vice versa. This research is in line with other studies that explain that knowledge is an important factor that can be a theory-based guide for nurses in making effective decisions[7]. Critical thinking has a strong influence on decision making and problem-solving [6].

The results of this study indicate that nurse knowledge in RSUD Bangil Pasuruan about the code blue system obtained good grades, and the nurse decision making was stated to be quite good. It means that good nurse knowledge is followed by good or appropriate decision making. Still, related to the decision making of code blue activation by nurses, there is a gap in its implementation.

Based on data related to the frequency of activation of code blue by nurses in this study, it was found that the majority (79.2%) of nurses in RSUD Bangil had never activated code blue. Whereas, their role as the first responder in patients with cardiac arrest and respiratory arrest was very important. Based on data on the frequency of performing CPR during work informs that the majority of nurses (74.2%) are quite often involved in patient resuscitation but inversely proportional to the blue activation data code. It means that nurses often do resuscitation in patients with cardiac arrest and respiratory arrest without activating code blue, whereas activation of code blue is a decision that must be taken

by nurses when dealing with patients with cardiac arrest and respiratory arrest.

Inappropriate decision making to activate code blue has made treatment of resuscitation ineffective. Ineffective treatment of resuscitation causes death in cases of cardiac arrest and respiratory arrest. The study of Kaykısız, Tongün, Sönmezsoy, & Güven (2017) concluded that the theoretical knowledge of code blue that was adequate for health staff could reduce the number of emergency patients in the hospital.

This study includes knowledge of hospital policies and guidelines related to The Code Blue system, Code Blue management, and the role of nurses in the Code Blue system, as well as how to activate code blue. High or low knowledge illustrates whether or not the knowledge of nurses. The average knowledge about code blue management and the role of nurses in the Code Blue system is 4.12. It is the highest average, while the average knowledge about how to activate code blue is 1.77 and is the lowest mean. The nurse's lack of knowledge about how to activate code blue can be one of the causes of the lack of optimal implementation of The Code Blue system in RSUD Bangil Pasuruan, even though the facilities and infrastructure are fully available.

The increase in nurse knowledge about The Code Blue system and the code blue activation decision making at the RSUD Bangil Pasuruanmust continue to be pursued through various method so that the application of the code blue system can run optimally.

Efforts to increase nurse knowledge can be made together with efforts to improve decision-making skills through innovative outdoor learning method that are not boring and more enjoyable so that the learning system as well as a means of recreation. Periodic and continuous socialization, training and simulations need to be carried out as an effective method for increasing nurse knowledge in decision making for code blue activation in RSUD Bangil Pasuruan, Indonesia.

Limitations: This study explores the personal factors of nurses, namely, knowledge of the code blue activation decision making. Nurse decision making in Code Blue activation does not only originate from personal nursefactors. Other factors in the form of external factors can also contribute to nursing decision making. These external factors are organizational factors, patient characteristics, and environmental factors. Therefore the results of this study have not yet shown comprehensive and maximum results.

Conclusion

There is a significant and positive relationship between nurse knowledge and code blue activation decision making in RSUD Bangil Pasuruan. Nurses have good knowledge and decision on the activation of a code blue. However, there are several sub-components in decision making knowledge that is still considered to be lacking or low.

Ethical Clearance: This article has been approved by the Medical faculty of Brawijaya University.

Source of Funding: Self founding

Conflict of Interest: Nil

Reference

1. Johansen, M. L., & O'brien, J. L. (2015). Decision making in nursing practise: a consept analysis. Nurs Forum, 51(1), 40–48. https://doi.org/10.1111/nuf.12119
2. Kaykisiz, Eylem Kuday, et al. "Code Blue" in Theory Versus Daily Practice: Data from a Secondary Care Hospital Short title:"Code Blue" in a State Hospital. Eurasian Journal of Emergency Medicine, 2017, 16.4: 157.
3. Lauri, Sirkka, et al. An exploratory study of clinical decision-making in five countries. Journal of nursing scholarship, 2001, 33.1: 83-90.
4. Pearson, Helen. Science and intuition: do both have a place in clinical decision making?. British Journal of Nursing, 2013, 22.4: 212-215.
5. Subhan, Nurul, et al. Implementasi Early Warning Score pada Kejadian Henti Jantung di Ruang Perawatan Rumah Sakit Dr. Hasan Sadikin Bandung yang Ditangani Tim Code Blue Selama Tahun 2017. Jurnal Anestesi Perioperatif, 2019, 7.1: 33-41.
6. Tumapang, L. G. Critical Thinking and Decision Making in Nursing Administration : A Philosophical Analysis. International Journal of Nursing Sciences, 2016 8(4), 73–76.
7. WU, Min, et al. An investigation of factors influencing nurses' clinical decision-making skills. Western journal of nursing research, 2016, 38.8: 974-991.

DOI Number: 10.37506/ijone.v12i4.11223

Vitamin D Biochemistry and Clinical Co-relation: A Review

Mengutseinuo Goswami

Diabetes Educator, Endocrinology Department, AIIMS, New Delhi

Abstract

There has been tremendous increase in interest in vitamin D in both health and disease in the last two decades. The chief reason for this is the discovery of vitamin D receptor (VDR) in virtually every tissue and thousands of VDR binding sites throughout the genetic machinery controlling multiple genes. This increased interest has been reflected in the request for estimation of serum level and prescription of supplements. In this changing scenario, nurses should be aware of both the basic science and clinical correlation of vitamin D. This article is a summary of the basic science with practical clinical applications relevant for nurses.

Keywords: *Vitamin D, deficiency, health, disease.*

Introduction

Vitamin D is a fat-soluble vitamin also classified a steroid hormone due to similarity in chemical structure and mechanism of action. It is also called a prehormone or prohormone as it is required to be activated to the metabolically functional product[1].

Materials and Method

A literature search was carried out with the key word 'vitamin D deficiency', 'vitamin D and disease', 'vitamin D and health', 'vitamin D and cardiovascular disease', 'vitamin D and diabetes', 'vitamin D and cancer', 'vitamin D and immunity and 'vitamin D and children's health' in PubMed, Google scholar and Medline. The recent articles (from 2016 onward) and review articles were selected except the basic science and few landmark articles.

Metabolism: Vitamin D is sourced by the human body from diet (saltwater fish like Salmon, cod liver oil and egg-yolk) and synthetized under the sun. Biosynthesis starts with the oxidation of cholesterol to 7-dehydrocholesterol and transported to the stratum basale of skin (D3 or cholecalciferol)[2].

There are two inactive forms of vitamin D, D2 (ergocalciferol) and D3 (cholecalciferol). D3 is synthesized in the skin after exposure to UVB light and it may be obtained from animal sources, while D2 is plant derived or synthetic form and is also added during food fortification[3].

This provitamin D is transported to the liver mainly by vitamin D binding protein and partly by albumin for hydroxylation by the enzyme 25-hydroxylase (CYP2R1) to convert it 25-hydroxycholecalciferol[3]. Liver failure prevents this step and results in severe vitamin D deficiency[2] and mutation in CYP2R1 gene results in rickets[3].

The next hydroxylation occurs in the proximal renal tubule cells in response to Parathyroid hormone (PTH) and fibroblast growth factor 23 by the enzyme 1α hydroxylase (CYP27B1) which converts it to the biologically active $1,25\text{-}(OH)_2$ vitaminD or 1,25-dihydroxycholecalciferol (1,25DCC) or calcitriol[2,4].

Mutation in the CYP27B1 gene results in vitamin D dependent rickets[3]. Patients with advanced renal impairment cannot produce 1,25DCC leading to hyperphosphatemia, hypocalcemia and secondary hyperparathyroidism (renal osteodystrophy)[2].

Corresponding Author:
Mengutseinuo Goswami
Diabetes Educator, Endocrinology Department, AIIMS, New Delhi
Mobile No.: +919910584006
e-mail: ankurinspine@gmail.com

Hypocalcemia releases PTH which raises Ca^{+2} by two method:

1. PTH stimulates its receptors in osteocytes and osteoblasts which activate octeoclasts to resorb bone and release Ca^{+2} and increases Ca^{+2} reabsorption in the kidneys but at the expense of phosphate (PO_4^{3-}).
2. PTH induces 1α-hydroxylase activity in the kidney and hence 1,25DCC which increases Ca^{+2} reabsorption in the gut and both Ca^{+2} and PO_4^{3-} reabsorption in the kidney.

In vitamin D deficiency due to liver and kidney failure (lack of hydroxylation), the supplementation must be 1,25DCC as any inactive forms could not be hydroxylated to the active form[2]. Another enzyme in the kidney, 24α-hydroxylase (CYP24A1), hydroxylates both 25(OH)D and 1,25DCC to a water-soluble biliary form, calcitroic acid and 25(OH)D to an inactive product 24,25-$(OH)_2$D to terminate action. Mutations in the CYP24A1 gene have been associated with idiopathic infantile hypercalcemia[3].

Mechanism of action: Being fat soluble it crosses the phospholipid bilayer of the cell membrane and binds to VDR and the complex goes inside the nucleus to binds to the vitamin D response element of DNA and enhances the rate of gene expression and protein synthesis responsible for actions of vitamin D which varies in different tissues. For example, in duodenal epithelial cells, it increases synthesis of calcium-binding proteins to stimulate calciumabsorption[2].

Recent advances in therapeutics: On the basis of multitude of actions indifferent tissues, pharmacologic agents(vitamin D analogues) have been developed that have separate effects other than on Ca^{+2} and PO_4^{-3} metabolism. For example, calcipotriol and 22-oxa calcitriol (OCT) are approved for the treatment of psoriasis; paricalcitol, doxercalciferol, and falecalcitriol are approved for secondary hyperparathyroidism etc[3].

There are some non-genomic functions by the activation of signalling molecules, like phospholipase C and phospholipase A2, phosphatidylinositol-3 kinase and p21ras leading to second messengerpathway culminating in the activation of protein kinases. The non-genomic actions also include the opening of Ca^{2+} and Cl^- channels to effect various cellular functions.

Functions:

1. Increase intestinal absorption of Ca^{+2} and PO_4^{-3}.
2. Increase bone mineralization at low levels.
3. Increase bone resorption at higher levels[5].
4. Promotes cellular differentiation and anti proliferative actions in bone marrow (osteoclast precursor and lymphocytes), the immune system, skin, breast and prostate epithelial cells, muscle and intestine[3].

Prevalence of vitamin D deficiency in India: 25(OH)D is the major form found in the blood and due to long half-life and higher concentration, itis commonly measured to assess and monitor vitamin D status. The US endocrine Society defines vitamin D deficiency as a serum level of <20ng/ml with consequent and consistent elevation of PTH and a decrease inintestinal calcium absorption[4]. In a review on vitamin D deficiency in India Aparna et al found that it ranged from 40% to 99%, with most of the studies reporting a prevalence of 80%-90%[5].

Table 1: Vitamin D status[4]

	Serum level in ng/ml
Deficiency	<20
Insufficiency	21-29
Sufficiency	>30
Toxicity	>150

Deficiency: Normally seen in exclusively breast feed infants as it is a poor source even if the mother receives vitamin D and babies need supplementation. Otherwise it is caused by malabsorption with steatorrhea (e.g. cystic fibrosis and celiac disease), decreased sun exposure, poor diet, advanced kidney and liver disease and exacerbated by pigmented skin and premature birth[2,4].

Clinical conditions of deficiency:

1. Rickets in children (characterized by deformity such as bowlegs or genu varum), osteomalacia (bone pain andmuscle weakness) in adult.
2. Hypocalcemic tetany (Chvostek sign and Trousseau sign)[4]

The US Endocrinology Society suggests that obese children and adults on anticonvulsant medications, glucocorticoids, antifungals such as ketoconazole, and medications for acquired immune deficiency syndrome

(AIDS) should be given at least two to three times more for their age group to optimize their level[6].

Obese people have lower vitamin D and it was found that obesity and its genes are responsible for deficiency. Obesity causes wider volumetric distribution but does not necessarily have the adverse skeletal effects. They have lower bone turn-over and higher bone density than people with normal BMI. The cause of bone loss and vitamin D deficiency after Bariatric surgeryis iatrogenic malabsorption. Obese people should be prescribed higher loading doses of vitamin Dto achieve a similar raise in serum vitamin D[7].

Robien, while reviewing the drug interactions mentions that evidence regarding lipase inhibitors, antimicrobial agents, antiepileptic drugs, highly active antiretroviral agents or H2 receptor antagonists to cause change in the serum 25(OH)D concentrations is inadequate. But thiazide diuretics with concomitant calcium and vitamin D supplements may cause hypercalcemia in the elderly, or those with compromised renal function or hyperparathyroidism. The overall effect of anticonvulsants is significant in people with insufficient sources of vitamin D (diet, supplements or UV exposure). Similarly, studies suggest insignificant effect of glucocorticoids on the concentration of vitamin D[8].

Table 2: Recommended intake for persons with risk of deficiency[6]

Age (years)	Minimum daily intake (IU/day)	Daily intake for blood level of >30 ng/ml
0-1	400	1000
1-18	600	1000
19-50	600	1500-2000
50-70	600	1500-2000
>70	800	1500-2000
Pregnancy	600	1500-2000
Lactation	600	1500-2000

Table 3: Recommended therapeutic regimen of D2 or D3 in diagnosed deficiency[6]:

Age (years)	Treatment dose (IU)	Maintenance dose
0-1	2000 IU/day or 50,000 IU weekly for 6 weeks	400-1000 IU/day
1-18	2000 IU/day or 50,000 IU weekly for 6 weeks	600-1000 IU/day
Adults	6000 IU/day or 50,000 IU weekly for 8 weeks	1500-2000 IU/day

The guidelines also mention patients with malabsorption syndromes, on certain medications (as stated above)should be provided at least 6000–10,000 IU/day to treat vitamin D deficiency followed by maintenance therapy of 3000–6000 IU/day[6].

Toxicity of vitamin D[9]: The widespread use of vitamin D has resulted in substantial incidence of toxicity causing hypercalcemia and ranges from thirst and polyuria to seizure, comma and death.

Commoncauses of vitamin D toxicity are:

1. Formulation or fortification errors
2. Inappropriate prescribing or dispensing
3. Inappropriate administration of vitamin D or lifestyle related (e.g. tanning bed)

Well established relations of vitamin D:

As anti-neoplastic: The anti-neoplastic role of vitamin D is by regulating cell proliferation, differentiation and angiogenesis[10]. VDR is expressed in cancer cells and vitamin D have effect on pro differentiating, antiproliferative, antimetastatic activities and controls the cell cycle[11] Sunlight has protective effect on breast, prostate, colon, rectal and ovarian cancer[12] and serum level of 50ng/ml is 50% protective against breast cancer[13].

Effect on infertility: Vitamin D has effects on female reproduction, including IVF outcome, Polycystic Ovarian Syndrome, endometriosis and steroidogenesis and might be related to spermatogenesis, semen quality and testiculopathies as well as male hypogonadism[14]. Excess vitamin D may play a detrimental role in fertility[15].

Vitamin D and Diabetes: There is evidence that vitamin D deficiency is associated with type 1 diabetes following high prevalence in these children[16]. The immune modulatory functionis suggested to be responsible for prevention of immune destruction of beta cells[17]. Although there was some initial evidence that optimizing vitamin D status might prevent type II DM, studies do not support that in subjects of normal glucose tolerance and it remains to be evaluated in high risk population[18].

Vitamin D and Asthma and infection and tumour: Liu et al. documented that vitamin D levels might be corelated to the lung function in Asthma[19]. Pfefferand Hawrylowiczhave raised the inconsistent positive relation of vitamin D interventions in asthma in various randomised controlled trials and attributed this to the design flaws in those studies and found it beneficial after systematic review and opined for supplementation in Asthma care[20].

Vitamin D and neurological disease[21]: Vitamin D has a crucial role in proliferation, differentiation, neurotrophism, neuroprotection, neurotransmission, and neuroplasticity. While the strength of evidence varies for Schizophrenia, Autism, Parkinson's disease, Amyotrophic Lateral Sclerosis, Alzheimer's disease; it is especially strong for Multiple Sclerosis.

Vitamin D and cardiovascular health[22]: Current consensus is that excess of vitamin D over and above that is necessary for maintenance of skeletal health cannot prevent cardiovascular disease and very high dose might precipitate calcification in blood vessels leading to adverse cardiovascular effects.

Vitamin D and immunity: In 2011, Martineau et al. concluded that supplementation of vitamin D did not show significant improvement in clinical outcomes in tuberculosis[23]. Another review article on vitamin D as an adjunctive treatment to standard drugs in pulmonary tuberculosis did not find any clinical benefit[24]. VDR is a critical transcription factor regulating genes involved in inflammation and anti-bacterial defence. During haematopoiesis VDR plays a key regulator in myeloid differentiation towards cells of innate immunity like monocytes and macrophages. Vitamin D can inhibit maturation and differentiation of dendritic cells and reduces autoimmunity (multiple sclerosis and inflammatory bowel disease)[25].

Vitamin D and health of children: Martineau et al., showed that vitamin D supplementation improves severity and duration of acute respiratory tract infections in children[26] while others have found evidence deficiency to be related to higher level of sepsis (64%) and mortality[27,28]. Vitamin D is of benefit to the paediatric Chron's patients[29] and causes dental caries if deficiency occurs during pregnancy and infancy[30]. It also contributes to paediatric multiple sclerosis and its relapse[31,32]. The protective role in asthma is significant only when adequate vitamin D is present in the early pregnancy[33]. Children with higher level of vitamin D at birth are more protected against asthma between 3-9 years of age[34]. Hattangdi-Haridassummarised that supplementation of vitamin D in mild to moderate cases of a topic dermatitis leads to better clinical out-come[35].

Vitamin D with sleep and pain[36]: Sleep deprivation / disorders have been related to hyperalgesia and vitamin D deficiency which is also found to be related to fibromyalgia and rheumatic diseases. Vitamin D possibly has regulatory role in sleep and pain and supplementation helps in good sleep hygiene and prevention of chronic pain conditions.

Conflict of Interest: There is no conflict of interest.

Source of Founding: None

Ethical Clearance: Narrative literature review, ethical clearance is not needed.

References

1. Howard A. Morris. Vitamin D: A Hormone for All Seasons - How much is enough? Understanding the New Pressures. Clin Biochem Rev. 2004 Nov;25:21-32.
2. Turco S, Lane R, Harden RM. Biochemistry lecture notes: USMLE step 1. Kaplan test prep. 2018.
3. Basit S. Vitamin D in health and disease: a literature review. Br J Biomed Sci. 2013;70(4):161–72.
4. Hii CS, Ferrante A. The Non-Genomic Actions of Vitamin D. Nutrients. 2016 Mar;8(3):135.
5. Aparna P, Muthathal S, Nongkynrih B, Gupta SK. Vitamin D deficiency in India. J Family Med Prim Care. 2018 Mar-Apr;7(2):324–30.
6. Holick MF, Binkley NC, Bischoff-Ferrari HA, Gordon CM, Hanley DA, Heaney RP, et al.; Endocrine Society. Evaluation, treatment, and prevention of vitamin D deficiency: an Endocrine

Society clinical practice guideline. J Clin Endocrinol Metab. 2011 Jul;96(7):1911–30.

7. Walsh JS, Bowles S, Evans AL. Vitamin D in obesity. www.co-endocrinology.com. 2017,24 (00), 1-6. https://doi.org/10.1097/MED.0000000000000371.
8. Robien K, Oppeneer SJ, Kelly JA, Hamilton-Reeves JM. Drug-vitamin D interactions: a systematic review of the literature. Nutr Clin Pract. 2013 Apr;28(2):194–208.
9. Taylor PN, Davies JS. A review of the growing risk of vitamin D toxicity from inappropriate practice. Br J Clin Pharmacol. 2018 Jun;84(6):1121–7.
10. Pilz S, Dobnig H, Winklhofer-Roob B, et al. Low serum levels of 25-hydroxyvitamin D predict fatal cancer in patients referred to coronary angiography. Cancer Epidemiol Biomarkers Prev. 2008 May;17(5):1228–33.
11. Schwartz Z, Graham EJ, Wang L, et al. Phospholipase A2 activating protein (PLAA) is required for 1alpha,25(OH)2D3 signaling in growth plate chondrocytes. J Cell Physiol. 2005 Apr;203(1):54–70.
12. Nair-Shalliker V, Clements M, Fenech M, Armstrong BK. Personal sun exposure and serum 25-hydroxy vitamin D concentrations. Photochem Photobiol. 2013 Jan-Feb;89(1):208–14.
13. Krishnan AV, Feldman D. Mechanisms of the anti-cancer and anti-inflammatory actions of vitamin D. Annu Rev Pharmacol Toxicol. 2011;51(1):311–36.
14. Lerchbaum E, Obermayer-Pietsch B. Vitamin D and fertility: a systematic review. Eur J Endocrinol. 2012 May;166(5):765–78.
15. Laganà AS, Vitale SG, Ban Frangež H, et al. Vitamin D in human reproduction: the more, the better? An evidence-based critical appraisal. Eur Rev Med Pharmacol Sci. 2017 Sep;21(18):4243–51.
16. Mathieu C, Gysemans C, Giulietti A, Bouillon R. Vitamin D and diabetes. Diabetologia. 2005 Jul;48(7):1247–57.
17. Antonucci R, Locci C, Clemente MG, et al. Vitamin D deficiency in childhood: old lessons and current challenges. J Pediatr Endocrinol Metab 2018;31:247e60.
18. Raby BA, Lazarus R, Silverman EK, et al. Association of vitamin D receptor gene polymorphisms with childhood and adult asthma. Am J Respir Crit Care Med. 2004 Nov;170(10):1057–65.
19. Liu J, Dong YQ, Yin J, et al. Meta-analysis of vitamin D and lung function in patients with asthma. Respir Res. 2019 Oct;20(1):161.
20. Pfeffer PE, Hawrylowicz CM. Translating Basic Research into Clinical Practice: Vitamin D in Asthma–Mechanisms of Action and Considerations for Clinical Trials. Chest,2017, accepted for publication on 6th Septmeber.
21. DeLuca GC, Kimball SM, Kolasinski J, et al. Review: the role of vitamin D in nervous system health and disease. Neuropathol Appl Neurobiol. 2013 Aug; 39(5):458–84.
22. American Heart Association News. Vitamin D is good for bones, but what about heart. September 17, 2019.
23. Martineau AR, Timms PM, Bothamley GH et al. High-dose vitamin D(3) during intensive phase antimicrobial treatment of pulmonary tuberculosis: a double-blind randomised controlled trial. Lancet 2011;377:242e50.
24. Soeharto DA, Rifai DA, Marsudidjadja S, et al. Vitamin D as an Adjunctive Treatment to Standard Drugs in Pulmonary Tuberculosis Patients: An Evidence-Based Case Report. Adv Prev Med. 2019 Jun; 2019:5181847.
25. Carlberg C. Vitamin D signalling in the context of innate immunity: focus on human monocytes. Front Immunol. 2019 Sep;10:2211.
26. Martineau AR, Jolliffe DA, Greenberg L, Aloia JF, Bergman P, Dubnov-Raz G, et al. Vitamin D supplementation to prevent acute respiratory infections: individual participant data meta-analysis. Health Technol Assess. 2019 Jan;23(2):1–44.
27. Cariolou M, Cupp MA, Evangelou E, et al. Importance of vitamin D in acute and critically ill children with subgroup analyses of sepsis and respiratory tract infections: a systematic review and meta-analysis. BMJ Open. 2019 May;9(5):e027666.
28. McNally JD, Leis K, Matheson LA, et al. Vitamin D deficiency in young children with severe acute lower respiratory infection. Pediatr Pulmonol. 2009 Oct;44(10):981–8.
29. White JH. Vitamin D deficiency and the pathogenesis of Crohn's disease. J Steroid Biochem Mol Biol. 2018 Jan;175:238.

30. Hujoel PP. Vitamin D and dental caries in controlled clinical trials: systematic review and meta-analysis. Nutr Rev. 2013 Feb;71(2):88–97.

31. Waldman A, Ghezzi A, Bar-Or A, et al. Multiple sclerosis in children: an update on clinical diagnosis, therapeutic strategies, and research. Lancet Neurol. 2014 Sep;13(9):936–48.

32. Mowry EM, Krupp LB, Milazzo M, et al. Vitamin D status is associated with relapse rate in pediatric-onset multiple sclerosis. Ann Neurol. 2010 May;67(5):618–24.

33. Shen SY, Xiao WQ, Lu JH, et al. Early life vitamin D status and asthma and wheeze: a systematic review and meta-analysis. BMC Pulm Med. 2018 Jul;18(1):120.

34. Thorsteinsdottir F, Cardoso I, Keller A, et al. Neonatal Vitamin D Status and Risk of Asthma in Childhood: Results from the D-Tect Study. Nutrients. 2020 Mar;12(3):842.

35. Hattangdi-Haridas SR, Lanham-New SA, Wong WH, et al. Vitamin D Deficiency and Effects of Vitamin D Supplementation on Disease Severity in Patients with Atopic Dermatitis: A Systematic Review and Meta-Analysis in Adults an

36. de Oliveira DL, Hirotsu C, Tufik S, Andersen ML. The interfaces between vitamin D, sleep and pain. J Endocrinol. 2017 Jul; 234(1):R23–36.

DOI Number: 10.37506/ijone.v12i4.11224

Development of Fundamental Nursing Instructional Teaching Media for Nursing Student of Suratthani Rajabhat University, Thailand

Nittaya Srisuk[1], Nutchanath Wichit[1]

[1]RN, Ph.D., Faculty of Nursing, Suratthani Rajabhat University, 272, Moo 9, Khuntale, Muang, Suratthani, Thailand, 84100*

Abstract

Nursing care is the core of any nursing education curriculum. Developing teaching and learning strategies to enhance skills development and response to student learning need is challenging for educators. This was a developmental study produced instructional teaching media. There were 95 seconds year nursing student participated in the study by using purposive sampling. The two focus group was conducted in order to gather the instructional media needed. The instructional media then was develop based on the student demanded. The instructional media quality was assessed by three experts and comprehensively assessed by nursing students and made amendments as suggested. Data were collect by using two research instruments consisted of 1) nursing practice assessment form 2) satisfaction assessment form. Data were analysis using descriptive statistic, and one sample t-test. The results revealed that the instructional media of fundamental nursing practice skills according to standard criteria greater than 80/80. The students had significantly higher mean score of fundamental nursing skills suctioning, dressing, and drug administrating practice than critical standard ($t=13.63$, 13.38, and 19.89 respectively, $p<.001$). The findings suggested that the instructional media developing in conjunction with the student desired was effective in improving fundamental nursing skills and satisfaction.

Keywords: *Developmental research, Fundamental nursing, Nursing student, Teaching media.*

Introduction

Despite, many recent advance technology, nursing students is still expect to provide a high quality of nursing care. Nurse educator is one of the most important facilitator responsible for improving their knowledge, skills and attitude to be a competent nurse in the future. Combining modern media with the spirit of the profession helps to develop the profession, resulting in safety to patients.

Corresponding Author:
Dr. Nittaya Srisuk
Nurse Educator, Faculty of Nursing, Suratthani Rajabhat University
e-mail: nittaya.sri@sru.ac.th
Mob: +66 815386625

Fundamental nursing is the first course of the specific required courses for entering into nursing profession, it is the foundation for nursing students and for learning other fields in nursing. Teaching and learning management of this course consists of lecture, demonstration and reverse demonstration in the important nursing practice skills that must be done. Improper nursing practices may result in dangerous complications for patients.[1, 2]

In Thailand, nursing educators are one of those who have an important role in supervising students both in the theory in nursing schools and the practice in hospitals. The teaching and learning management in the past focused on the demonstration of nursing practice skills. There were approximately 40-50 students or more per class and the reverse demonstration by students under the supervision of educators for each group. However, this teaching and learning management has

disadvantages: many students are unable to follow or remember correctly the steps demonstrated by the educator, and the demonstration to students with large groups makes it difficult for students to practice. In addition, the demonstration by different educator for each group affects the students' skills, including insufficient equipment, insufficient time, and failure to meet the individual need in education. Moreover, nowadays Thailand is one of the countries that experience shortage of nurses. Therefore, the government has implemented the nurse production policy to meet the need of society, resulting in an increase in the number of nursing students in all nursing schools.[3] All of these are challenges for nursing educators that need to bridge the gap between technology, and science and art of nursing theory. One way to connect 21st century nursing student with nursing education is through updated teaching media.[4]

Cognitive theory of multimedia learning is one of the theories that explain the use of technology in media production to promote student learning.[5] One of the examples of technology based on the cognitive theory of multimedia learning that effectively responds to the needs of students is a teaching video. It is a teaching media that contains both image and sound which are stimuli that are perceived by eyes and ears, helping to learn and remember better, so it can attract the attention of the learners very well.[6]The video can also be used as a media for developing psychomotor skills that are the heart of nursing skill [1], with presentation of practical nursing skills that are similar to real situations,which can connect students through the learning experience presented through the teaching video. In addition, video media can respond to the learning style of students. Students can choose to view slowly, pause, repeat, or replay images as desired.

The systematic review exploring the use of video in teaching and learning clinical skills of nursing student revealed that video is a promising tool in enhancing the quality of nursing skills in the student.[7] However, evidence from review literature regarding this approach may improve nursing student clinical skills is lacking.

Objectives:

1. To develop teaching videos on fundamental nursing practice skills for 2nd year nursing students, Suratthani Rajabhat University
2. To assess the effectiveness of teaching videos on fundamental nursing practice skills for 2nd year nursing students, Suratthani Rajabhat University
   - 2.1 To assess the effectiveness of teaching media on fundamental nursing practice skills according to standard criteria equal to or greater than 80/80.
   - 2.2 To compare the average score of fundamental nursing practice skill and the passing score of basic nursing course.
   - 2.3 Assess the satisfaction of 2nd year nursing students, Suratthani Rajabhat University, with the teaching media on fundamental nursing practice skills.

Method and Materials

This was a developmental study consisting of two phases. In Phase 1, development of the teaching media. Phase 2 involves testing the feasibility of the preliminary teaching media. The population of 95 2nd year nursing students from the Faculty of Nursing, Suratthani Rajabhat University participated in this research. The purposive sampling was used. The population was divided into two groups. Group 1 was the informant who provided information on the needs for video media development. Group 2 was the students who assessed the efficiency of the media, and the field test with 95 students.

Instruments:

1. Tool used in conducting the research is the teaching video development plan on fundamental nursing practice skills.
2. Tools used for collecting data are 1) general data recording form about students: gender, age, GPA; 2) nursing skill assessment form: for suction skill with a full score of 54, IV administration skill with a full score of 30, and wound dressing skill with a full score of 100. The answer format is a rating scale with 3 levels: 2 means the nursing skill is performed correctly and completely all steps; 1 means the nursing skill is performed correctly but not completed all steps; and 0 means the nursing skill is performed incorrectly.
3. Comment and satisfaction questionnaire on video media is developed by the researcher, consisting of 10 questions. The answer format is a Likert scale with fives levels from the lowest satisfaction to the most satisfaction.
4. Questions for group discussion about the need for video media are the issues about format and topic to

be used for creating the video that can help students to practice fundamental nursing practice skills correctly and effectively.

The researcher gives three qualified educators the assessment forms of suction, intravenous drug administration, wound dressing skills, and questions for focus group discussion to consider the need according to the content of the assessment forms. It was found that IOC values were 0.73 for suction skill assessment form, 0.81 for IV administration skill assessment form, and 0.79 for wound dressing skill assessment form.

Participants were provided with verbal and written information on the purposes of the study, their right to withdraw without consequence on learning achievement, and assurance of confidentiality. Inform consent was obtained from each participant prior to the commencement of the project. The development of a teaching video on fundamental nursing practice skills are as follow;

Pre-production phase: The need for a teaching video on basic nursing practice skills was analyzed by using focus group discussion based on questions. The topics of basic nursing practice skills that students intend to be produced as video media are suction, intravenous drug administration, and wound dressing skills. After analyzing the result of focus group discussion, the researcher brought the result into the meeting of the fundamental nursing educators, and developed fundamental nursing teaching media by examining accuracy of the procedure to be consistent, and proceeded to organize the content according to the objectives, arranged the procedure and dialogue.

Production Phase: The video and audio are recorded by staff and by using devices of a news station in Surat Thani province. The nursing laboratory at the Faculty of Nursing, Suratthani Rajabhat University was used as the place for recoding the video.

Post-production phase: The researcher has asked three educators who teach the fundamental nursing for reviewing the content and the procedures, as well as for assessing the quality of media by using a media quality assessment form with questions about the objectives of course, techniques for shooting video, and techniques for producing audio description.

Next, the media edited by the qualified educators was brought to seven nursing students for watching, and brought to the subgroup of seven students for testing by studying two times each video, and then the students practice the skills to be completed according to the schedule. The researcher and assistants observed the students' practical skills and then questioned their opinions. At the end of practice, the researcher asked the students to exercise the post-test according to the order at the end of the story, and determined the efficiency of media from the results in practicing and after practicing.

Field test was conducted individually, with giving 95 students enrolled in fundamental nursing. Those students would receive the videos after studying the theory, with demonstration by educators. These students have two weeks for study and practice before assessment of each skill. The educator's meeting before the assessment of each skill was be held. The assessment of each skill was performed by using the assessment form inspected by the qualified educators. The students answer a satisfaction questionnaire for use of fundamental nursing teaching media at the end of the last skill assessment.

Data analysis: The general data of students and satisfaction were analyzed by a descriptive statistic. A comparison between the average scores of the nursing skills practice test and the passing criteria of 70% from 100% was performed. One-sample test for the mean was used.

Results

The results of testing the overall media effectiveness showed that E1/E2 for suction skill was 84.37/86.00; E1/E2 for IV administration skill was 83.67/84.52; and E1/E2 for wound dressing skill was 83.50/85.40. In the field test, a total of 95 students was mostly female (97.89%), with an average age of 21.32 years old, and 43.4% of them had GPA scores between 3.0-3.49.

Result of the teaching media on the achievement of basic nursing skills of nursing students found that the highest score of suction skills was 53, representing 3.15%, with an average score of 46.58 (4.45); the highest score of dressing wound skill was 100 scores, representing 1.05%, with an average score of 85.42 (8.15); and the highest score of IV administration skill was 30 scores, representing 6.31%, with an average score of 26.62 (1.10).

The comparison result of nursing skill scores of nursing students after studying video media and the passing criteria using t-test (One-sample test for

the mean), found significantly higher mean score of suctioning, dressing, and drug administrating practice than critical standard (t=13.63, 13.38, and 19.89 respectively, p<.001) as shown in Table 1.

The analysis result of the satisfaction on the developed media for nursing students are at a good level overall ($\bar{x}$ = 3.76, SD = 0.21). When considering each item, it was found that the item eighth: students can review lessons by themselves, had the highest average satisfaction ($\bar{x}$ = 4.78, SD = 0.55) and item sixth the image, sound of the media are clear: had the lowest average satisfaction ($\bar{x}$ = 3.14, SD = 0.49) as shown in Table 2.

Table 1: Comparison of nursing skill scores of nursing students after studying video media

Nursing skills (n=95)	Testing group		Passing Score (70%)	t-test	P-value
	Mean	SD			
Suction	46.58	4.45	38	13.63	**P<.001
Wound Dressing	85.42	8.15	70	13.38	**P<.001
IV Drug Administration	26.62	1.10	21	19.89	**P<.001

IV refers to intravenous

Table 2: Satisfaction of using a basic nursing teaching media

Questions	Mean	SD	Satisfaction Level
The media is interesting.	3.82	0.66	Good
Able to use the media for preparing the nursing practice in ward.	3.76	0.65	Good
Content presented is easy to understand.	3.52	0.54	Good
Time and content are appropriate.	3.82	0.66	Good
Image, sound and story are suitable.	3.86	0.60	Good
Image, and sound are clear.	3.14	0.49	Moderate
The content arrangement is appropriate.	3.88	0.65	Good
Students can review lessons by themselves.	4.78	0.55	Very Good
The media are suitable to be used in teaching.	3.84	0.58	Good
After watching the media, students are more confident in their practice.	3.58	0.60	Good
Total	**3.76**	**0.21**	**Good**

SD refers to standard deviation

Discussion

The result of the research shows that a video type that students need for teaching and learning in fundamental nursing is a video demonstrated by the educator and it can be brought back to review anytime as needed. Conventional teaching method in the class room and laboratory demonstrations may be inadequate to support the need of today's diverse student population.[8] This development of media focuses on the respond to the need of students corresponding to the adult learning theory and self-directed leaning – which said that adult learners focus on and study according to their own interests.[9] In addition, the need for animated media with sound would help students learn better according to the Cognitive Theory of Multimedia Learning. Watching the nursing practice video demonstrated by the educator would support students to gain more confidence and clinical nursing skills.[10]

The study results correspond with the study results in the abroad, which found that the video as one of the effective teaching media to increase the academic achievement of nursing students.[11] The video-based teaching media helped the students to watch the content slowly, quickly, forwards, or backwards as often as needed and can be viewed safely in a controlled environment.[10] Chan[12] found that videos are preferred

by students as learning tools compared to other online learning media.

Overall satisfaction for use of the developed media for the 2nd year nursing students at Suratthani Rajabhat University was at a good level. When considering each item, it was found that item 8: students can review lessons by themselves, has the highest average satisfaction. This was in line with the other studies reported that the video teaching media increased students' motivation and self-ownership.[1, 10] The students commented that the media can be repeatedly viewed and helped them to be able to practice. However, the result found that the student had a lowest score on the quality of image and sound. It is possible that in the production phase on video recording had some noise because the laboratory room is not a sound proof room.

Conclusions

The current study focused on developing the instructional teaching media underpinned by the theory and according to students learning needed. The findings demonstrated that students who watched the video teaching media had passed the standard skills assessment and contributed to their satisfactory. The findings of this study guided the nurse educators to further apply teaching media in nursing courses, to improve teaching and learning method, and promote life-long learning for nurses within Thailand and elsewhere.

Ethical Clearance: Ethical clearance was obtained from the Research Ethics Review Committee, Suratthani Rajabhat University, according to the Document SRU 2560/011.

Source of Funding: Faculty Research Staffs Suratthani Rajabhat University, Thailand.

Conflict of Interest: Nil

References

1. Holland A, Smith F, McCrossan G, Adamson E, Watt S, Penny K. Online video in clinical skills education of oral medication administration for undergraduate student nurses: A mixed method, prospective cohort study. Nurse Education Today. 2013;33(6):663-70.
2. Hibbert EJ, Lambert T, Carter JN, Learoyd DL, Twigg S, Clarke S. A randomized controlled pilot trial comparing the impact of access to clinical endocrinology video demonstrations with access to usual revision resources on medical student performance of clinical endocrinology skills. BMC medical education. 2013;13:135.
3. Abhicharttibutra K, Kunaviktikul W, Wichaikhum O-A, Srisuphan W, Turale S. Policy analysis of a Thai plan to increase the production of nurses and the quality of nursing education. Pacific Rim International Journal of Nursing Research. 2014;18(1):66-79.
4. Rao BJ. Innovative Teaching Pedagogy in Nursing Education. International Journal of Nursing Education. 2019;11(4):176-80.
5. Mayer RE, Moreno R. A cognitive theory of multimedia learning: Implications for design principles. Journal of Educational Psychology. 1998;91(2):358-68.
6. Wong A, Marcus N, Ayres P, Smith L, Cooper GA, Paas F, et al. Instructional animations can be superior to statics when learning human motor skills. Computers in Human Behavior. 2009;25(2):339-47.
7. Stone R, Cooke M, Mitchell M. Undergraduate nursing students' use of video technology in developing confidence in clinical skills for practice: A systematic integrative literature review. Nurse Education Today. 2020;84:104230.
8. Strand I, Gulbrandsen L, Slettebo A, Naden D. Digital recording as a teaching and learning method in the skills laboratory. Journal of Clinical Nursing. 2017;26(17-18):2572-82.
9. Cercone K. Characteristics of adult learners with implications for online learning design. AACE Journal. 2008;16(2):137-59.
10. Stone R, Cooke M, Mitchell M. Exploring the meaning of undergraduate nursing students' experiences and confidence in clinical skills using video. Nurse Education Today. 2020;86.
11. Kaur P, Amrita A, Nair S. Video teaching programme: tt's effectiveness on knowledge of students. International Journal of Nursing Education. 2019;11(4):75-9.
12. Chan YM. Video instructions as support for beyond classroom learning. Procedia - Social and Behavioral Sciences. 2010;9:1313-8.

DOI Number: 10.37506/ijone.v12i4.11227

Healthcare Safety Net for the Homeless: A Qualitative Description

Priya Ranjani D[1], Amy Garcia[2], Jill Peltzer[2]

[1]Lecturer, College on Nursing, Christian Medical College, Vellore, Tamil Nadu, India,
[2]Associate Professors, The University of Kansas School of Nursing, Kansas City, Kansas, USA

Abstract

Background: Homelessness is a public health issue across nations. The 2011 Indian national census estimated 1.77 million men, women and children living without shelter. The US Department of Housing and Urban Development found 567,715 homeless people representing a cross-section of America.

Purpose: The purpose of this qualitative descriptive study was to examine the structures, processes and critical success factors (CSF) of free and volunteer clinics in Kansas City.

Methodology: A qualitative research design using a holistic multiple case study method was used to examine a purposive sample of five safety net clinics in an urban Midwestern state. Data were collected through participant observation and semi-structured interviews. The data were analyzed for common themes that describe the clinics' structures, processes and critical success factors.

Results: The clinics' missions, structures, processes and outcomes varied. Mission focus with dignity and respect and staffing with proper resources and stewardship were the dominant themes. Five subthemes arrived from the narratives: Mission is critical to the viability of the clinic, preserving human dignity, volunteers are treasured,adapting to meet evolving needs, and money matters.

Conclusion: The results suggest that a mission fostering person-centered care, dignity and respect for humanity impact the success of safety-net clinics, especially for the homeless population. The results will lead in creating a model safety net clinic in Vellore district.

Keywords: *Safety net clinics, homeless, critical success factors, structures, processes.*

Introduction

Home is a place of safety and comfort in every culture and country. Yet, an estimated 150 million people, about 2% of the world population, lack a home or any kind of shelter [1]. An additional 1.6 billion, or 20% of the world population, lack adequate housing with access to clean water or air, healthy food, sanitation, protection from the elements or personal safety[2]. Rates of homelessness vary between and within developed and undeveloped countries, concentrated in the cities[1].

Homelessness is a public health issue. Lack of food, water, sanitation and safety contribute to acute and chronic physical, mental and social problems, substance abuse and exposure to accidents and violence[3]. Congregant living conditions in shelters and camps is associated with the spread of communicable diseases and parasites, including tuberculosis, typhus, hepatitis, influenza and sexually transmitted diseases and emerging diseases[4].

The healthcare "safety net" is a broad system that helps to meet health needs of those who "fall through the cracks" of a health system. At a circus, a safety net is placed to catch a performer or an acrobat in case of fall. Within healthcare and social services, a safety net is defined as a heterogeneous and overlapping network of organizations that provide healthcare services to the medically under served, without regard to insurance status or ability to pay[5].

Healthcare for the Homeless in India: India is the second most populous nation in the world, with 1.35 billion people[6]. The 2011 Indian national census estimated 1.77 million men, women and children living without shelter[7].

The Indian Constitution requires each of the 29 Indian states to provide services for improved nutrition, standard of living and public health among its people. The socialized healthcare programs are well-designed, but lack resources to meet the needs of the homeless[8]. Funding is allocated based on the census, but healthcare avoidance behaviors contribute to under-counting[9]. Christian Medical College (CMC) is a mission-driven organization providing wide range of hospital and community health services through education, service and research to the people of India[10].

Anthropologists have identified that 7% of the population of the Indian state of Tamil Nadu is nomadic but there is little evidence of the gypsy populations in the census of India[11]. Priya Ranjani D., a Community Health Nurse at CMC, studied the health needs of homeless Roma (Gypsy) populations in a hamlet in the city of Vellore[9]. She identified 74.8% with chronic and acute conditions, including a variety of communicable diseases. Ranjani noted that despite the availability of socialized medicine, 34.7% of the gypsies of Vellore were reluctant or unable to seek healthcare. She proposed a study of the structures, processes and critical success factors necessary to create a sustainable safety net with minimal resources. The 4-month study focused on existing safety net clinics and programs in Kansas City,USA. The MODALE Scholars program, a research exchange between the CMC and the University of Kansas Medical Center provided funding for this research[12].

Homelessness in the United States: Despite being one of the wealthiest countries worldwide, there are socioeconomic disparities and homelessness in the United States. Unlike, India, America does not have socialized medicine and private sector takes the lead. A January 2019 point in time count performed by the US Department of Housing and Urban Development found 567,715 homeless people representing a cross-section of America[13]. It is found that the top four causes of homelessness among individuals were lack of affordable housing, unemployment, poverty, mental illness and the lack of needed services, and substance abuse and the lack of needed services[14].

Darnell described the medical community, private charities, and business foundations come together to help people with no health insurance and the structure of the clinic is focused on patient care with heavy use of volunteers and no bills generated[15].

Purpose of the Study: The purpose of this qualitative case study was to examine the structures, processes and critical success factors (CSF) of multiple safety net clinics in Kansas City to inform the development of a clinic model that can be sustained in India with minimal financial resources.

Methodology

A multiple case study method using a sample of five safety net clinics in Kansas City, Kansas. Case study research is a qualitative approach in which the researcher explores a real-life, contemporary bounded system(a case) or multiple bound systems(cases) over time, through detailed, in-depth data collection involving multiple sources of information, and reports a case description and case themes[16].

Research Questions/Framework

The research questions were:

1. What are the structure and processes of the safety net clinic in the Kansas City area?
2. What are the critical success factors of the safety net clinic in the Kansas City area?

The Donabedian model of Structure-Process-Outcomes guided the study.

Sample Selection: Researchers verified a homeless population in Kansas City. The January 2018 HUD point in time count confirmed 1,798 homeless people in Kansas City [13].Twenty-one safety net clinics served the vulnerable populations of Kansas City during 2019. A purposive sample of 5 safety net clinics representing different structures were selected for study.

Method of Data Collection: Data collection was done through in-person semi-structured interviews(lasting for 1 to 1.5 hours) which were audio taped. The semi-structured interview guide was used to ask open-ended questions to facilitate open answers.

One clinic leader/founder was given the official information sheet as an invitation to participate in the interview. Exclusion criteria was the inability to understand and speak English, or a non-leadership role

in the clinic. The principal investigator (PR) also spent approximately 10 hours in each clinic, observing clinic flow and operations. She also volunteered (3 months) with a mobile medical clinic to observe clinical processes in care provision to the homeless.

Data Analysis: Narratives were transcribed from the interviews after listening to the recordings to ensure accuracy of the transcription. The researchers read the transcripts line-by-line and highlighted meaning units that were then coded. After coding, common phrases across the interviews that supported the initial codes were highlighted. The transcripts were read again to support and analyze the data which did not support the codes. The codes were organized into categories to develop narratives. The archival records, observations, and field notes were also analyzed and coded into the categories developed from the analysis of the interview narratives. Five themes were developed from the codes and categories that describe the cross-cutting critical success factors, structures, and processes in all five clinics. Triangulation of multiple sources,peer debriefing,and audit trail of decisions made from inception of the study through development of the report support confirmability,credibility,and dependability.

Ethics: Potential risks to the human subjects were minimal. The study was IRB approved and written informed consent was obtained from all individuals who volunteered to participate in the study. No protected health information was collected. Data are reported in aggregate and identifiers in the transcripts were replaced with pseudo names.

Results

The missions, structures, processes and outcomes varied, as shown in Table(1). The interview process provided rich insight into the choices made to provide services in the studied clinics. A sampling of those comments helped the researchers identify 5 CSF for safety net clinics during 2019.

Table 1. Structure/processes of selected clinics

Structure/ process	Clinic (A)	Clinic (B)	Clinic (C)	Clinic (D)	Clinic (E)
Target population	87% immigrant and uninsured	Homeless	Homeless	Homeless men	65% Hispanic, immigrants and homeless
Individual patients served/yr	2000	>1000	6720	66000	Not sure
Clinic site	Multi-specialty clinic building on church premises	Mobile clinic in a converted bus at 3 scheduled stops	Mobile clinic in a van at multiple stops	Permanent shelter for housing, clinic, meals and training	Multi-specialty clinic located in a public school
Supporting organization	Faith based	Non-faith based	Faith based	Faith based	Non-faith based
Mission statement (MS)	Has/follows MS	Has MS, but does not remember	No MS for clinic	Has/follows MS	No MS
Budget/year	$1.5M USD budgeted	No planed budget	$14k expenses No planned budget	$113.5M USD budgeted	$1M USD budgeted
Charge patients	Free or as able to pay	Free	Free	Free	Free
Staffing	23 paid staff; 40 volunteers	45 volunteers	60 volunteers	135 paid staff; 300 volunteers	5.5 paid staff;students, volunteers
Governance	Church board, not specific to clinic	7 active volunteer board members	No board	12 active board members supported by staff	University board, not specific to clinic
Scope of services	Primary care; care coord; medications, supplies	Primary care; medications, supplies	Spiritual support; hygiene supplies; food; clothing	Spiritual support; Primary care; care coord; medications, supplies; life skill classes	Primary care; supplies

The interviews provided rich detail related to the structures, processes and critical success factors for the safety net clinics.

Mission is critical to the viability of the clinic. The mission was important for clinic success long-term. The mission guided grant opportunities and programming. *"If the clinic is focused on its vision and mission the viability of the clinic is assured. The staff and volunteers need to be constantly reminded about why they are doing what they are doing."*

Preserving human dignity was key issue for clinic success. Clinic directors discussed the importance of preserving human dignity and providing culturally sensitive care. *"It's really up to them (patients), to participate in the way that they can".*Each clinic mentioned the importance of building trust within the community. Trust was vital to engagement between the clinic and the community for ongoing provision of care.

Volunteers are treasured:*"My volunteers are compassionate people and our patients know that they care about them and they embrace them".* "*I believe in the community…. the religious people are responsible for it (the outreach). They are empowered and everybody takes a little part in it".*

Adapting to meet evolving needs was identified in every interview."*We are very intentional about how we set up the clinic and how we can meet the current needs of people in the current neighborhood. We change as the needs of the neighborhood change throughout time.*"

The clinic directors reported diverse needs that they often struggled to meet. Specialists and bi-lingual providers are particularly rare. Woman's health was a recurring issue.*"We do so much women's health. We have 2 volunteer gynecologists…we built their capacity to do colposcopy as the care is so hard to get."*Dental care and ongoing psychiatric support are particularly difficult to find. *"Yesterday was a perfect example of somebody a brand-new patient that had the needs of psychiatric care and he can't access…I can't access it for him and he really needs it but not sick enough. He had no option but to come to us and I have no other option but to put not so well trained psychiatric add on to the best I can."*

Money Matters: Each of the clinics relies on donations from individuals, organizations and foundations. Clinic directors expressed frustration that their services save health systems and insurers a great deal of money, but consistent financial support has been difficult to find. *"Part of the problem was timing and the federal Government here in the United States we were saving the hospital tremendous amount of dollars by keeping people well and out of the hospital and out of the ER and we did do a small study to show that we were saving 1000s and 1000s of dollars."*Local hospitals and health systems have been willing to provide diagnostic procedures, pharmaceuticals and treatments to the larger clinics, but do require documentation that the clinic patients are residents of the county, or a letter of attestation that they are homeless. This procedure preserves hospital sources of funding targeted to specific populations.

Critical Success Factors: During the interviews, the clinic directors were asked to identify, define and discuss the operational implications of the list of critical success factors identified by Marion in 2006[18]. Participants ranked the top 5 critical success factors essential for the success of their clinic on a Likert type scale of 1 to 5. The CSF responses were analyzed using content analysis by matching the verbatim responses to appropriate content categories

Ranking of Critical success factors for Kansas City clinics

Rank 1: Mission Focused: Viability assured if focusing on mission and will be assured if staff and volunteers constantly reminded about why they are doing what they are doing.

Rank 2: Community Engagement: Awareness and engaging the community for care, support and volunteering

Rank 3: Collaboration Reach out, building collaborations and partnerships on common grounds for caring the vulnerable.

Rank 4: Ongoing Evaluation/Research: Evaluation changes mundane work and research open doors for more scope

Rank 5: Fund Raising/Stewardship: Grant writing, community activities, searching for available donors and foundations will generate clinic revenues. Proper account keeping and accounting will ensure stewardship.

Discussion

Every one of these clinics was unique in the organizational structure, history, mission, vision, objectives budget and management of finances, staffing, volunteers, hours of operation, services provided, and public/client relations. Within this study, the faith-based clinics were more driven towards providing medical care, basic necessities and comfort to the clients with dignity and respect and according to their mission and vision and their objectives. The non-faith based clinics were more driven towards giving quality medical care, healing ailments, and providing healthcareto the underserved and uninsured. This is consistent with Dr. Maryon's Critical Success Factors in free clinics in Michigan[17].

One clinicfocused exclusively on the spiritual and basic physical needs of the people. The clinic's main service is going to the people, showing love and care by giving a hug, listening and talking to them, hold hands with them and pray with them, share food, clothing and hygiene supplies to them.Persons needing medical or psychiatric care were referred to other clinics or theemergency room. This clinic demonstrated that health starts with love and care, good nutrition and getting the basic necessities to live.

Conclusion

This study helps to fill a gap of qualitative studies on free and safety net clinics. The interviews and critical success factor rankings provide rich insight to nurses or organizations wanting to create or sustain a safety net clinic. A multi-step process will be used to create a safety net clinic for gypsies and other homeless in Vellore, India. The first step, underway now, is development of a community advisory board will be formed which will include a doctor, nurse, philanthropists, veterans,lawyer/ police, pastors/nuns, social worker and most importantly, a representative/leader of the community. The board will use results of this study to devise a sustainable safety net for unserved populations. The scope of services will evolve over time, consistent with the funding available.

Conflict of Interest: Nil

Source of Funding: Modale Fellowship

References

1. Chamie J. As cities grow, so do the numbers of homeless. [Internet] 2017. Yale Global Online. [Cited 5 Jun 2020]. Available from https://yaleglobal.yale.edu/content/cities-grow-so-do-numbers-homeless
2. United Nations. 58th session of the commission for social development–CSocD58. 2020 Jan. [Cited 5 Jun 2020]. Available from https://www.un.org/development/desa/dspd/united-nations-commission-for-social-development-csocd-social-policy-and-development-division/csocd58.html
3. Lebrun-Harris LA, Travis BP, Jenkins DM, Sripipatana A, Sharma R, Hayashi, A. et.al. Health status and healthcare experiences among homeless patients in federally supported health centers. Health Serv Res. 2013;48(3): 992-1017.
4. Leung CS, Ho MM, Kiss A., Gundlapalli AV, Hwang SW. Homelessness and the response to emerging infectious disease outbreaks: lessons from SARS. J Urban Health.2008;85:402-10.
5. Sardeell A, Bernardo C. Community health centers: Successful advocacy for expanding healthcare access. In D. Mason, D. Gardner, F. Hopkins Outlaw,&E. O'Grady, Policy & Politics in Nursing and Healthcare 7th ed, Elsevier;2016. 286.
6. Kumar GV, Narasimhan L, Easwaran K, Bunders J, Parasuraman S, Persistent, Complex and Unresolved Issues: Indian Discourse on Mental Ill Health and Homelessness: Econimic and Political Weekly. 3 March 2015, Mumbai ISSN:00129976
7. Goel G, Ghosh P, Kumar MO, Shukla, A. Homeless shelters in India: Miseries untold, promises unmet. Science Direct. 2017;88-9.
8. Britnell M. In search of the perfect health system. London: Palgrave. 60 p.ISBN 978-1-137-49661-4.
9. Ranjani P. Morbidity pattern and health seeking behaviour of gypsy community. Int J Nurs Educ, 2018:10(3),77-82.
10. Christian Medical College Foundation [Internet] 2020. Available from https://www.cmch-vellore.edu/
11. World Bank Projects. Tamil Nadu community development plan. Retrieved 6 Jun 2020. Available from https://projects.worldbank.org/en/projects-operations/project-detail/P079708?lang=en&tab=overview
12. MODALE Fellowship Program [Internet] 2020. Available from http://www.kumc.edu/office-of-international-programs/inbound-programs/modale-fellowship-program.html

13. US HUD. Point in time count. [Internet] 2020. Available from https://www.hudexchange.info/programs/hdx/pit-hic/
14. National Law Center on Homelessness and Poverty. Homelessness in America: Overview of data and causes. [Internet] 2020. Available from https://nlchp.org/wp-content/uploads/2018/10/Homeless_Stats_Fact_Sheet.pdf
15. Darnell J. Free clinics: A personal journey,Arch Inter MedVol. 2010:170(11).
16. Creswell J. Qualitative inquiry & research design: Choosing among five approaches. 2014: SAGE Publishing.
17. Maryon T. Improving the viability of free clinics through the identification of critical success factors [Master Thesis]. 2006. Proquest.

DOI Number: 10.37506/ijone.v12i4.11228

A Study to Assess the Knowledge of Mother Regarding Common Domestic Childhood Accident and its Prevention in Pediatric Ward in a Tertiary Care Hospital, Bhubaneswar

S. Bhaktiswarupa[1], Priya Kumari[2], Sarbani Roy[2], Sathi Bhakta[2], Sriparna Chatterjee[2]

[1]Faculty of Nursing, Kalinga Institute of Nursing Sciences, Bhubaneswar, Odisha,
[2]B.Sc. Nursing Student, Kalinga Institute of Nursing Sciences, Bhubaneswar, Odisha

Abstract

Home Accidents have been identified as the largest single cause of death after the age of one year and are among the most severe health problems facing the world today. Keeping the toddler safe is a major priority for parents. Kid source online categories about toddler's accidents were home safety from poisoning, electrical appliances, environmental safety from fall and drowning and safety play from injurious toys. Injury prevention at home is an important concern of parents of toddlers. situations that can result in injury In both the industrialized world and developing countries, accidents remain one of the major five leading causes of death. The objective of the study was to assess the level of knowledge regarding prevention of domestic accidents A quantitative approach with descriptive research design was selected for the study. 50 number of mothers were selected by convenience sampling techniques from paediatric OPD. After obtaining the permission from institutional authority the consent from the mothers were taken the knowledge was assessed by using a self administered structured questionnaire. The result showed that greater than 54% of mother are having average knowledge, 30% of mother having poor knowledge and 16% of mother are having good knowledge regarding the prevention of domestic accident.

Keywords: *Quantitative approach, Knowledge, Mothers, Domestic Accident.*

Introduction

Today's children are tomorrow's citizens; child hood is very special and vulnerable period of life. A bright future for an individual for a family, for a society, for a country lies in providing a safe environment for children to grow and mature. Every parent think that they are good parents and take great care in protecting children from any harm or dangers yet there is one place where the child is more a risk than anywhere else, and that is their own home. No matter how careful parents are, there will be time when child is unsupervised. It only takes a split second for a child to swallow something and choke.[2]

Conceptualization of pediatric accidents: an accident is perceived as an experience of human that shows the state of deficiency of the human nature. It is the unintended, unpredicted, unsuspected or involuntary act or event in a sequence of events or acts which result into destruction of property, injury, death or combination of all.[1]

A study was conducted by royal society in USA has shown that the predominant location of injury for USA children aged under 5 years. Similarly, recent studies in Israel have indicated that home accidents account for 52% of all accident-related injuries among hospitalized individuals aged under 3 years. Additionally, 34% of all unintentional hospitalized trauma cases are due to home injuries and average hospital stay is 6.2 days per patient.[3]

Corresponding Author:
Ms. S. Bhaktiswarupa
Faculty of Nursing, Kalinga Institute of Nursing Sciences, Bhubaneswar, Odisha
Contact No.: 9438785713
e-mail: sbswarupa@gmail.com

Method

The objective of this study was to assess the level of knowledge regarding prevention of domestic accidents in Pediatric OPD was conducted among mothers of toddlers by using convenience sampling technique. 50 mothers were selected from Pediatric OPD PBMH, Bhubaneswar. The data was collected by using a self structured questionnaire focusing on assessing the knowledge of mother regarding knowledge about the prevention of domestic accident The first part of questionnaire consist of such as demographic data . such as age of mother, age of child, gender, order, education level of mother, occupation, income per month, housing type number of family members the second part asks questions about knowledge of mother regarding the prevention of domestic accident. The data thus collected by questioning and was analyzed using descriptive and inferential statistics.

Result and Discussion

The socio demographic characteristics of study participants (n=50) in this study were recruited from the PBMH, KIMS, Bhubaneswar. From the total study participants, 50% of mothers age were 26- 30 yrs reveals that maximum mothers age, 28% of mother were 31-35 yrs, 18% of mother were 20-25 yrs, 4% mother were age 36-40 yrs. Most of the toddlers age of the total were 36% were between 2.6-3.0years, 22% of toddler were 2.1-2.5 years and 1.6-2.0yrs years and 20% of toddler were 1.0-1.5 years .52% of toddler were the 1st child of their parents and 30% of child were 2nd child of their parents. 18% of the toddler were the 3rd child of their parents. Out of total mothers 36% have attained the primary level education,30% of mother had taken higher secondary education, 28% of mother were literate and 6% of mother were graduate and above And it is reported that 60% of mother were the homemaker and 40% of mother are working women .

60% of family income was less than Rs. 30000 and 40% of family income was between 30000–60 000. Researcher found that 70% of mother living in compound houses and 30% of mother living in apartments of total 50 mothers 44% of toddler family member were more than 30% of mother having more than 4 members in their family, 16% of mother having 3 member in their family and 10% of mother having 2 member in their family.

Section-A:

Table 1: Frequency distribution of knowledge of mother regarding the prevalence and prevention of accident)

Knowledge assessment	Criteria	Frequency	Percentage (%)
Adequate/good	>75%	15	30
Average	51-75%	27	54
Poor/Inadequate	<50%	08	16

The study findings interpreted that 54% of mother have average knowledge regarding the prevention of home accident which is the highest frequency (f=27), 30% of mother have good knowledge (f=15), and 16% of mother have poor knowledge (f=8).

Conclusion

The study findings showed that the percentage wise distribution of the level of knowledge among mothers who were attending pediatric OPD, PBMH, KIMS. It shows that good criteria is >70%(15), average criteria is 50-70%(27), poor criteria <50%(8) about the knowledge regarding common domestic childhood injuries and home safety measures.

Implication: Exploring of knowledge and encourage. The findings of the study are an implication for the education of mother for the prevention and safety measures adopted by them in their homes.

Recommendation: This can be seen as a pilot study rounding further research including under five mothers with a much larger sample of respondents in community areas. It also be of interest to investigate knowledge, practice and attitudes regarding common domestic childhood accidents and home safety measures among mothers. A study may be conducted to evaluate the effectiveness of booklet regarding knowledge of common domestic childhood injuries and home safety measures among mothers.

Conflict of Interest: None.

Source of Funding: Self financed.

Ethical Clearance: Ethical permission was taken from medical superintendent of PBMH, Bhubaneswar. The study was conducted keeping all the ethical issues

in mind. Consent was taken from all the samples of the study. The information provided by the sample was kept strictly confidential and were used for the purpose of research only.

References

1. Wongs“ nursing care of infants and children “ 9th edition, Elsevier publication; 553-559.
2. Gro Harlem Brundtland. World Health Day Theme: 2003. The Nursing Journal of India 2003 April; 94 (4): 74.
3. Parthasarathy.A. IAP Textbook of Pediatrics. 3rd ed. New Delhi: Jaypee Brothers medical publishers; 2005.
4. Polit Densie F, Hungler Bernadette P. Nursing Research. 6th editon. Philadelphia: Lippincott; 1999.
5. S, Wishnew J, Rahimi M, Zhang Y, Hester C, Griswold J. J Burn Care Res(2010); 31(1): 176-83.
6. Gholap PR: A Study to Assess Mothers Knowledge and Their Practices in Prevention of Home Accidents among Toddler. Int. J. Life. Sci. Scienti. Res., 2017; 3(3): 992-994. DOI:10.21276/ijlssr.2017.3.3.5.
7. Riyadh K. Lofta, Sahar A. AL Shatari, Seba Abass: “Mothers knowledge of domestic accident prevention involving children in Bagdad city” Qutar medical journal DEC- 2013, 50-56.

DOI Number: 10.37506/ijone.v12i4.11229

Knowledge and Practice of Female Students Regarding Vitamin D Deficiency

Sahbanathul Missiriya[1], Kawthar Salah Almohammed[2], Zahra Hassan Buwaleed[2]

[1]Assistant Professor, College of Applied Medical Sciences, King Faisal University, KSA. Kingdom of Saudi Arabia,
[2]Interns, College of Applied Medical Sciences, King Faisal University, KSA

Abstract

Background: Many studies evidenced that Vitamin D is an essential for good health especially it is associated with bone development. The deficiency usually may cause osteoporosis, muscle cramps and back pain.

Objectives: The study aimed to determine the knowledge and the practices regarding vitamin D deficiency among the female students and associate the knowledge and selected demographic variables and correlate knowledge with the practice.

Method: In descriptive research design, a cross sectional survey approach was used. Totally 190 students were selected randomly from King Faisal University who met inclusion criteria. The data was collected by using structured questionnaire for assessing knowledge and checklist for practice.

Results: Among 190 female students, many 62(32.6%) were in the age group of 20 and above. Majority of them 77(40.5%) were at final year, and 87(45.8%) were married. Regarding the overall level of knowledge 97(51.1%) were having poor knowledge. About the practice, 80% of the students never had exposure to sunlight, 93.7% never engaged in outdoor physical activities. There was no significant association between knowledge and the selected demographic variables at the level of $P<0.05$. There was significant correlation between knowledge and their practices regarding the expose to sun light daily, engage in outdoor physical activities and wear abaya with niqab at $p <0.001$.

Conclusion: Most of the female students were unaware of vitamin D sources and preventive measures of its deficiency. Hence, the study recommends that, there should be more emphasis on awareness to improve knowledge and practices regarding vitamin D deficiency.

Keywords: *Vitamin D, Deficiency, Knowledge, Practice, Prevalence.*

Introduction

It is very important to maintain our health as a human. It is also essential to have a healthy diet to maintain and protect each one's health.[1] A healthy diet provides various nutrients to our body which includes a variety of plant-based and animal-based foods. Such nutrients make different functions and that yield energy and keep the body running. Nutrients are usually helping in body-building and strengthen the bones, muscles, tendons, and regulate the body processes.[2]

Macronutrients are consumed usually in large quantities, which provide energy, and they are proteins, carbohydrates, fats, and fatty acids.[3] Micronutrients are consumed usually in small quantities. It includes vitamins and minerals, but they are essential to the body processes.[4] Vitamins and minerals are acting in concert, they perform hundreds of roles in the body such as converting food into energy, repair cellular damage,

Corresponding Author:
Sahbanathul Missiriya
College of Applied Medical Sciences, King Faisal University, Alahsa, Kingdom of Saudi Arabia
e-mail: sjalal@kfu.edu.sa

helping in heal of wounds, shore up bones and bolster the immune system. Hence, vitamins and minerals are known as essential nutrient[5] on the other hand, vitamins cannot be synthesized in amounts adequate to meet the needs of our body.[6] There are totally 13 essential vitamins. Among these, **Vitamin D** is necessary for calcium absorption, and help in building and maintaining strong bones and teeth. Some of the important vitamin D are calciferol, calcitriol, cholecalciferol and ergocalciferol.[7,8]

Vitamin D is essential for good health especially it is associated with bone development.[9,10] The main sources of **Vitamin D are** fortified milk, fortified soy, fortified rice beverages, butter, egg yolks, fatty fish, fish-liver oil, and importantly from sunlight, the body when exposed to the sun.[7] When the people are homebound, live in northern latitudes, wear long robes or head coverings for religious reasons, or have an occupation that prevents sun exposure are at high risk of v**itamin D** deficiency.[11] For dark-skinned people, the pigment melanin reduces the skin's ability to make vitamin D in response to sunlight exposure. In addition to that risk factors for vitamin D deficiency were identified included obesity, lack of awareness, and lack of daily milk consumption.[9]

Statistical reports proved that around 47% of African American infants and 56% of Caucasian infants had vitamin D deficiency, while over 90% of infants in Iran, Turkey, and India had vitamin D deficiency.[12] Some studies proved that, 35% of adults in the United States were vitamin D deficient whereas over 80% of adults in Pakistan, India, and Bangladesh were Vitamin D deficient. In the United States, 61% of the elderly population were vitamin D deficient whereas 90% in Turkey, 96% in India, 72% in Pakistan, and 6 7% in Iran were vitamin D deficient.[13,14]

Studies in both Turkey and Jordan showed a strong relationship between the clothing and the low serum levels. The study results found that overall 59.9% of participants had a serum 25(OH)D level <30nmol/l. Serum 25(OH)D was highest in women wearing western clothing and levels decreased to be lowest in traditional women wearing hijab and completely veiled women wearing niqab. Only 4% of this study group had serum levels >50nmol/l, these were seen exclusively in men and the women wearing western clothing.[15]

In Saudi Arabia, studies in Vitamin D conducted as early as 1983–1984, the results indicated that the deficiency was around 30% in the general population. But, in the recent past, there has been a burgeoning of reports on Vitamin D in the world, and Saudi Arabia was not immune to it. Published data revealed that in the Saudi Arabian population, Vitamin D deficiency is as high as 100%.[16,17] Hence the study was aimed to determine the knowledge and the practices regarding vitamin D deficiency among the female students and correlate the knowledge and practice.

Method and Materials

In a descriptive research design, cross-sectional survey approach was used to assess the knowledge and the practices related to Vitamin D deficiency among the female students. The research was carried out in Alahsa. Totally 190 students were selected randomly from King Faisal University who met the inclusion criteria.

The data was collected by using a structured questionnaire. The tool consists of demographic variables, structured questionnaire on knowledge assessment, and the checklist for assessing the practice. Knowledge was assessed by using 20 items based on multiple-choice questions which were developed from various available literature related to Vitamin D deficiency.

The practice was evaluated by using a checklist showing 'yes' or 'no' responses. The validity and reliability of the tool was tested. According to the data plan, the data was collected from the students after obtaining informed consent. The scores were categorized as follows; they were below 50% indicates poor knowledge, 50 – 75% shows average knowledge and above 75% is considered as good knowledge. The collected data were analyzed by using descriptive and inferential statistics by using Statistical Package for Social Sciences (SPSS) package version 22, which includes number frequency, mean, standard deviation, chi-square, and correlation test for statistical analysis.

Findings

The study results were discussed under the following headings. They are demographic variables, level of knowledge, and practice score.

The frequency and percentage distribution of demographic variables of female students. Among 190 female students, many 62 (32.6%) were in the age group of 20 and above and only 37 (19.5%) were in the age of 18 years. Most of them 77 (40.5%) were at the final year, and 87(45.8%) were married. Most of the students

124 (65.3%) were living in the joint family system, but only 24 (12.6%) were in the extended family system. Regarding the source of health information, 32(16.8%) were received from relatives, 67 (35.3%) from mass media, and 43 (22.6%) from health care professionals.

Figure 1 expresses the overall score of knowledge which was graded as poor, average, and good knowledge. Regarding the overall level of knowledge, 97(51.1%) were in poor knowledge, 67(35.3%) average, and 26(13.6%) were in good knowledge.

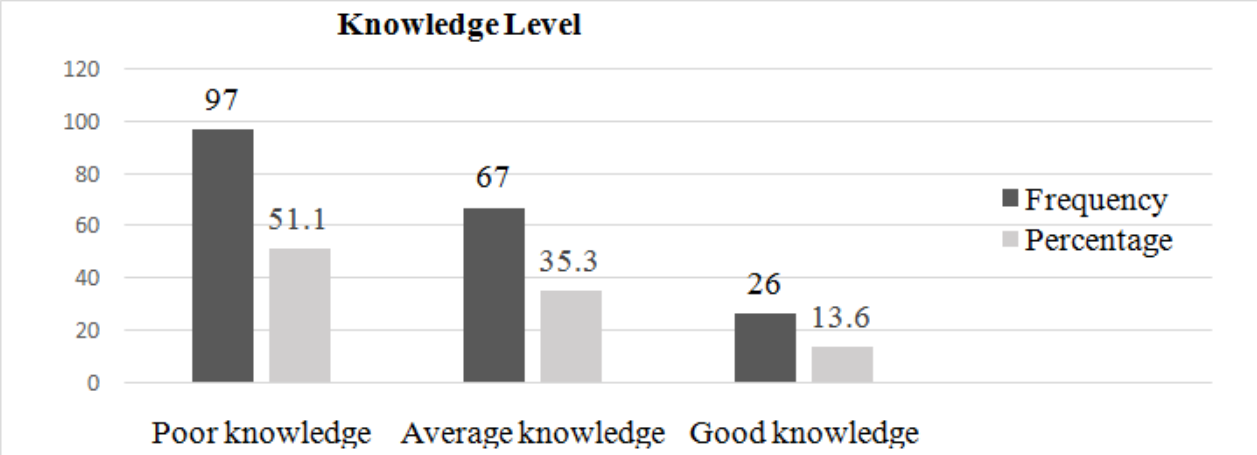


Figure 1. Frequency and percentage distribution of knowledge of students (n=190)

Table. 1 Descriptive statistical report of knowledge of female students (n=190)

Mean (Average)	9.75
Median	9
Range	17
Mode	12
Geometric Mean	8.96
Largest	19
Smallest	2
Sum	1853
Count	190
Standard Deviation	3.8
Variance	14.46

Table 1 shows that the average mean score of knowledge level was 9.75 with a standard deviation of 3.8. About the general information of Vitamin D deficiency 87.2 of students aware. But regarding the sources of vitamin D, 32.7% were knowing the correct information. The majority were saying, the sun is the only source. Around 74.6% were knowing about the health benefits of Vitamin D and few were telling about that vitamin D is essential for bone health exactly. Only 23.7% knew about the signs and symptoms and 18.9% were known to the consequences of vitamin D deficiency.

Table 2. Practice Checklist for Vitamin D deficiency (n=190)

S.No.	Practice activities	Yes		No	
		F	%	F	%
1.	Do you expose 5 to 10 minutes to sun light daily?	38	20	152	80
2.	Do you engage in outdoor physical activities?	12	6.3	178	93.7
3.	Do you wear complete covered abaya with Niqab?	158	83.2	32	16.8
4.	Do you consume fortified milk?	26	13.7	164	86.3

S.No.	Practice activities	Yes		No	
		F	%	F	%
5.	Do you apply sunscreen lotion during day time daily?	137	72.1	53	27.9
6.	Do you have complaining of vitamin D deficiency symptoms like muscle pain or fatigue?	69	36.3	121	63.7
7.	Do you have weight gain?	62	32.6	128	67.4
8.	Do you have more hair loss?	71	37.4	119	62.6
9.	Do you undergo test for checking Vitamin D in blood level regularly?	43	22.6	147	77.4
10.	Do you take treatment for muscle pain and fatigue?	32	16.8	158	83.2
11.	If you are deficient of vitamin D, do you want to take vitamin D supplementation?	134	70.5	56	29.5

F = Frequency; % = Percentage

Table 2 shows the result of the practice of students. Among them, 80% never had exposure to sunlight at least 5 to 10 minutes daily and 93.7% never engaged in outdoor physical activities. Around 13.7% of students consumed fortified milk and 72.1% used sunscreen lotion during day time daily. Regarding the vitamin D deficiency symptoms, 36.3% of students had symptoms, and remaining 63.7% had no symptoms. About 32.6% had weight gain problems and 37.4 had hair loss problems. Among them 77.4% never undergo tests for checking vitamin D level in blood and 83.2% never had taken treatment for muscle pain and fatigue. But if they will be deficient in vitamin D, 70.5% wanted to take vitamin D supplementation.

Association between knowledge level and the selected demographic variables: The chi-square test revealed that there was no significant association between knowledge level and the selected demographic variables at the level of $P<0.05$.

Correlation between knowledge and their practices regarding vitamin D deficiency: There was a significant positive correlation between knowledge and their practices regarding the expose 5 to 10 minutes to sunlight daily at r value=0.36 ($p <0.001$). There was a significant positive correlation between knowledge and them engage in outdoor physical activities at r value=0.15 ($p <0.001$). There was a significant positive correlation between knowledge and them wear complete covered abaya with Niqab at r value=0.236 ($p <0.001$). There was a significant positive correlation between knowledge and them consume fortified milk at r value=0.34 ($p <0.001$).

Discussion

In a recent study, conducted in Jeddah, Saudi Arabia on awareness of vitamin D deficiency, out of 1022 participants, 472 (46.1%) were aged between 18–28 years.[18] In the current study,62 (32.6%) participants were in the age of 20 and above. The study found the main sources of vitamin D information were health care providers (44%), followed by friends (29.8%), and then media (26.2%). The other study findings[19] evidenced that, the most health sources received from physicians(37.4%), followed by Television programs (34.8%), and media (32.0%). This was contradicted with previous studies. A similar study was done in the United Arab Emirates,evidenced that more than half of participants trusted that the media is the source of their health information.[20] In the current study regarding the source of health information 32(16.8%) were received from relatives, 67(35.3%) from mass media and, 43 (22.6%) from health care professionals.

The study conducted in Saudi reported that, limited sun exposure due to intense heat, cultural reasons for covering the body, and an infrastructure that makes sun exposure difficult.[21] Our study results showed that 97(51.1%) having poor knowledge. The study conducted in Jeddah proved that, mean score knowledge was 5.9 ± 1.2 (39.3%).[18] In the current study the average mean score was 9.75.

A qualitative study[22] mentioned that 76% of subjects answered that vitamin D is good for the bones. In the present study, 87.2% of students aware of vitamin D deficiency. Among them, 32.7% were believed that, sunlight is the only source. Around 74.6% were knowing about the health benefits of Vitamin D. Only 23.7% knew about the signs and symptoms of vitamin D deficiency and 18.9% were known to the consequences of vitamin D deficiency disease.

A cross-sectional study showed that 89.3% of people willing to undergo tests for vitamin D and 96.4% of them were responded that, they wanted to be taken vitamin D supplementation if they were deficient.[23] In this study 77.4% never undergo tests for checking Vitamin D in blood level and 83.2% never had taken treatment for muscle pain and fatigue. But, 70.5% people wanted to take vitamin D supplementation if they will be deficient.

The study reported that taking vitamin D supplements is associated with less pain or weakness, feeling tired and having a deficiency.[24] Another significant correlation resulted between outdoor activities and feeling pain or weakness (p=0.042).There was a significant positive correlation between knowledge and their practices regarding the expose 5 to 10 minutes to sunlight daily at r value=0.36 (p <0.001). There was a significant positive correlation between knowledge and engage in outdoor physical activities at r value=0.15 (p <0.001).

Conclusion

The results of the study evident that,most of them were unaware of vitamin D sources and preventive measures of its deficiency. There is a need to emphasize the importance of establishing awareness programs to the public about vitamin D and its necessity. Health education and promotion programs should always focus on the sources of vitamin D. There is also important to increase awareness about the long-term effect of vitamin D deficiency and its correlation with chronic diseases. The study recommends that there should be more emphasis on awareness to improve knowledge and practices regarding vitamin D deficiency.

Conflict of Interest: There are no conflicts of interest between the authors.

Source of Funding: Sahbanathul Missiriya acknowledge the Deanship of Scientific Research at King Faisal University for the financial support under Nasher Tack (Grant No. 186212).

Ethical Considerations: The investigator obtained clearance from the Institutional ethics committee before collecting data and has taken informed written consent from each participant. The information sheet was given with explanation and assured confidentiality of data.

References

1. e-Library of Evidence for Nutrition Actions (eLENA) [Internet]. World Health Organization. World Health Organization; 2019. Available from: https://www.who.int/elena/en/
2. Ikeda J. Eat for Life: The Food and Nutrition Boards Guide to Reducing Your Risk of Chronic Disease. The American Journal of Clinical Nutrition. 1993Jan;57(2):233–4.
3. Ramesh S, Missiriya S. IEC strategy in knowledge on protein energy malnutrition among mothers of under-five children in a south Indian village. International Journal of education. 2011;3(1):49–50.
4. Jeff Ellison. The Three Macronutrients and Energy Density [Internet]. Heuser Health. 2017. Available from: http://heuserhealth.com/three-macronutrients-energy-density
5. Bakar HA, Rauf A, Sarwar MH, Sarwar M. Essential Vitamin and Mineral Nutrients Body Needs and Their Best Food Sources. American Journal of Economics, Finance and Management [Internet]. 2017;3(4):36–41. Available from: http://www.aiscience.org/journal/ajefm
6. Combs GF, McClung JP. The vitamins: fundamental aspects in nutrition and health. Amsterdam: Elsevier/Academic Press; 2017.
7. Ross AC. DRI, dietary reference intakes: calcium, vitamin D. Washington, DC: National Academies Press; 2011.
8. Al-Badr W, Martin KJ. Vitamin D and Kidney Disease. Clinical Journal of the American Society of Nephrology. 2008 Jan;3(5):1555–60.
9. Tripkovic L, Lambert H, Hart K, Smith CP, Bucca G, Penson S, et al. Comparison of vitamin D2 and vitamin D3 supplementation in raising serum 25-hydroxyvitamin D status: a systematic review and meta-analysis. The American Journal of Clinical Nutrition. 2012 Feb;95(6):1357–64.
10. Ardawi M-SM, Qari MH, Rouzi AA, Maimani AA, Raddadi RM. Vitamin D status in relation to obesity, bone mineral density, bone turnover markers and vitamin D receptor genotypes in healthy Saudi pre- and postmenopausal women. Osteoporosis International. 2010;22(2):463–75.
11. Mishal AA. Effects of Different Dress Styles on Vitamin D Levels in Healthy Young Jordanian Women. Osteoporosis International. 2001Jan;12(11):931–5.
12. Erol M, Yiğit Ö, Küçük SH, Gayret ÖB. Vitamin D Deficiency in Children and Adolescents in

Bağcılar, İstanbul. Journal of Clinical Research in Pediatric Endocrinology. 2015May;7(2):134–9.

13. Holick MF. The Vitamin D Epidemic and its Health Consequences. The Journal of Nutrition. 2005Jan;135(11):2739–48.
14. Calvo MS, Whiting SJ, Barton CN. Vitamin D fortification in the United States and Canada: current status and data needs. The American Journal of Clinical Nutrition. 2004Jan;80(6):1710–6.
15. Alagöl F, Shihadeh Y, Boztepe H, Tanakol R, Yarman S, Azizlerli H, et al. Sunlight exposure and vitamin D deficiency in Turkish women. Journal of Endocrinological Investigation. 2000;23(3):173–7.
16. Bakarman KA, Bajubair MA. A Meta-Analysis Study: Vitamin D Deficiency in Saudi Arabia between 2009 and 2013. Saudi Journal of Internal Medicine. 2016;6(2):11–9.
17. Sammak ME, Wossaibi AA, Howeish AA, Saeed JA. High prevalence of vitamin D deficiency in the sunny Eastern region of Saudi Arabia: a hospital-based study. Eastern Mediterranean Health Journal. 2011Jan;17(04):317–22.
18. Alamoudi LH, Almuteeri RZ, Al-Otaibi ME, Alshaer DA, Fatani SK, Alghamdi MM, et al. Awareness of Vitamin D Deficiency among the General Population in Jeddah, Saudi Arabia. Journal of Nutrition and Metabolism. 2019 Mar; 2019:1–7.
19. Aljefree N, Lee P, Ahmed F. Exploring Knowledge and Attitudes about Vitamin D among Adults in Saudi Arabia: A Qualitative Study. Healthcare. 2017;5(4):76.
20. Bloukh SH, Edis Z, Qassim S, Al-Hariri Y. Vitamin D Deficiency Practice Among Female Medical Students In Ajman, UAE. International Research Journal of Pharmacy. 2018;9(7):53–8.
21. Mokdad A, Tuffaha M, Bcheraoui CE, Daoud F, Hussaini HA, Alamri F, et al. Deficiencies under plenty of sun: Vitamin D status among adults in the kingdom of Saudi Arabia, 2013. North American Journal of Medical Sciences. 2015;7(10):467.
22. Christie FTE, Mason L. Knowledge, attitude and practice regarding vitamin D deficiency among female students in Saudi Arabia: a qualitative exploration. International Journal of Rheumatic Diseases. 2011May;14(3).
23. Babelghaith SD, Wajid S, Al-Zaaqi MA, Al-Malki AS, Al-Amri FD, Alfadly S, et al. Knowledge and practice of vitamin D deficiency among people lives in Riyadh, Saudi Arabia-A cross-sectional study. Biomedical Research. 2017;28(7):3114-8.
24. Kennel KA, Drake MT, Hurley DL. Vitamin D Deficiency in Adults: When to Test and How to Treat. Mayo Clinic Proceedings. 2010;85(8):752–8.

DOI Number: 10.37506/ijone.v12i4.11234

Community Based Study to Assess the Knowledge and Attitude of General Population towards Organ Donation

Seema Rani[1], Alka Mishra[2], Neha Dagar[3]

[1]Associate Professor, Rufaida College of Nursing, Jamia Hamdard, New Delhi, [2]Public Health Nurse, Department of Community Medicine, VMMC & Safdarjung Hospital, New Delhi, [3]Nursing Tutor, College of Nursing, Holy Family Hospital, New Delhi

Abstract

Introduction: Organ donation is the process of surgically removing an organ or tissue from one person (the organ donor) and placing it into another person (the recipient). The study was conducted in urban and rural communities of Delhi to assess the knowledge and attitude of general population towards organ donation.

Methodology: Quantitative approach and cross -sectional study design was used for conducting the study. Purposive non-probability sampling technique was adopted to select the communities and the sample and the sample size was 1089. Structured knowledge and attitude interview schedules were used to assess the knowledge and attitude respectively regarding organ donation. Data was collected in home settings from people above 18 years of age. Data was collected regarding background variables of study subjects and their knowledge and attitude regarding organ donation.

Result: Sample characteristics revealed that 59.5% of respondents were females, 64%) were in the age group of 18 to 35 years, 84.7% followed Hindu religion and 63.6% were educated up to secondary level or above. Majority of subjects (78.6%) were aware that organ can be donated to save life of another person, while 38.8% subjects knew that organs can be donated both during life and after death. Majority of subjects were aware that only eyes (76.7%) and kidney (63.5%) can be donated. Overall about 10.8% had good knowledge and 55.5% had average knowledge about organ donation. Age, gender and education had statically significant association with knowledge regarding organ donation with p-value less than 0.05. Majority (83.2%) had in appropriate attitude towards organ donation. Statistically there was no significant association between level of attitude with background variables namely age, gender, religion and education.

Conclusion: The findings of study revealed that general population had average knowledge about the organ donation, but inappropriate attitude towards organ donation.

Keywords: *Organ donation, Knowledge, Attitude, Perception.*

Introduction

Each year, in India four lakh people die while waiting in queue for an organ transplant. There is a clear and huge gap between the demand and supply of organs donated and hence the number of people waiting for a transplant is becoming larger. Transplants serve as a ray of hope to improve span and quality of life given the successful outcomes. Due to increase in ageing population and increase in number of organ failure cases, people needing a transplant is expected to rise steeply.[1,2] Against two lakh livers, kidneys each and fifty thousand hearts required; 708 livers, 10,000 kidneys and 339 hearts are donated in our country.[2] In

Corresponding Author:
Seema Rani
Associate Professor, Rufaida College of Nursing, Jamia Hamdard, New Delhi
e-mail: seema9rani@yahoo.co.in
Contact Number: 9811136923

India, every year nearly 500,000 people die because of non-availability of organs. About 200,000 people die of liver diseases and 50,000 people die from heart disease and 150,000 people await a kidney transplant but only 5,000 get. Around 100,000 people suffer from corneal blindness and await transplant.[1]

In India, with a population of 1.3 billion people, the organ donor rate per million populations (PMP) is around 0.8 persons. This is relatively a very small and insignificant number compared to the figures around the world.[3] India has among the lowest rates of organ donation in the world at 0.8 donors per million population, which is far less compared to over 32 and 47 donors per million populations in USA and Spain respectively. on an average, five lakh Indians die every year unable to get an organ transplant in time due to the shortage of organs. Also, it may be noted that a regular drive in the area of organ donation may yield in good results. In 2013, 313 donations took place and this figure almost tripled to 905 organ donations in 2017. Rather than looking at the national average, it may be better to look at the state wise figures and many states have crossed 1 or 2 donations per million population. Tamilnadu has worked exemplary in the area of organ donation with 1.3 donors per million population and topped the list of organ donations followed by Maharashtra among various states in India.[2,4]

There are misconceptions around organ donation in our country that people are unwilling to donate their organs during or after life and not many patients are diagnosed with brain death. Fact is that in India, every day almost 60 families donate the eyes of their loved ones. Also, periodically many whole body donations are taking place to the Anatomy department for research. According to the estimate of MOHAN Foundation and National Organ and Tissue Transplant Organisation (NOTTO), close to 100,000 are diagnosed with brain death every year and at any given time, every major city has 8 to 10 brain deaths in various ICUs of the city. Another fact is that when a trained counsellor talks to the relatives of a brain dead patient and explains the situation; almost 65% of them agree to donate. [5]

No correlation is revealed in the studies conducted in corporate and government hospitals between people giving consent and their economic and literacy levels. Also, it is revealed that if families are counselled about the irreversible nature of brain death and having option to save lives by donating the organs of their loved one and given time to decide; many agree to organ donation. The problem is that there are no uniform mechanisms in hospitals in India to identify and certify brain death. [6]

India is running a well- developed corneal donation programme; however, donation after brain death has been relatively slow. Most of the transplants done in India are living related or unrelated transplants. To curb organ commerce and promote donation after brain death in 1994 the government of India enacted a law called “The Transplantation of Human Organs Act” that brought about a remarkable change in the organ donation and transplantation scene in India. Despite the law there have been stray instances of organ trade in India. This resulted in the amendment of the law further in 2011. Deceased donation after brain death slowly started happening in India and 2012 was the best year for the programme. [7]

Organ donation is the process of surgically removing an organ or tissue from one person (the organ donor) and placing it into another person (the recipient). Transplantation becomes necessary because the recipient’s organ has either stopped functioning or has been damaged by disease or injury. To save lives of many young and old, organ transplantation is one of the greatest advances in modern medicine.[8] In organ donation, a person pledges during her/his lifetime, that after death, certain (or all) organs from the body can be used for transplantation to help terminally ill patients get a new lease of life. With recent advances in transplantation, people of all ages and medical histories can donate organs. However, the decision on the organs and tissue that can be donated is taken only after certifying donor’s medical condition. Donation may beliving donation and deceased cadaver donation. Living donation may further be classified as living related donation and living unrelated donation. Organs that can be donated include kidneys, liver, pancreas, lungs and heart, while tissue constitutes eyes, skin, bone, bone marrow, nerves, brain, heart valves, eardrum, ear bones and blood. [1]

Reasons of shortage of organ donations and transplantation are many; namely; cultural and social factors, lack of correct information and motivation, lack of transplant facilities and persuasion by the health care facilities, etc. The present study was taken up to assess the knowledge and attitude of the general population towards organ donation in selected rural and urban areas of Delhi. Study also aimed to seek association of

knowledge and attitude regarding organ donation with selected demographic variables.

Methodology

Quantitative approach was considered as a good fit for the present study. The cross-sectional study design was optimal for the study as it analysed the data obtained from the survey of knowledge and attitude of general population regarding organ donation. The setting for the present study was home in selected urban and rural communities of Delhi. The population comprised of people above 18 years of age. Purposive non-probability sampling technique was adopted to select the communities and the sample and the sample size was 1089. Structured knowledge and attitude interview schedules were used to assess the knowledge and attitude respectively regarding organ donation. Verbal consent was taken from subjects before interviewing them.

Section I of the tool consisted of background variables of the subjects namely; gender, education, age and religion. Section II i.e. structured knowledge questionnaire comprised of 8 questions pertaining to knowledge about organ donation. All the items in the knowledge questionnaire were scored and one point was assigned to each item for a correct response. A score 0 was allotted for each wrong response. Section III i.e. structured attitude questionnaire consisted of 13 items depicting attitude of study subjects related to organ donation. Data were collected through interview technique.

To ensure the validity of the content, the tools were submitted to the five experts from the field of nursing, community medicine, psychology, and community health nursing. Their suggestions were incorporated and tools were modified accordingly. The reliability of structured knowledge interview schedule was established by using K.R -20 formula and was found to be highly reliable i.e. 0.81. The reliability the attitude scale was established by using Cronbach Alpha test and was found to be highly reliable i.e. 0.86. Average time taken to respond to both the tools was 8 to 10 minutes. The overall knowledge score was used to judge participants' knowledge level as poor (0-3), average (4-6), and good (7-8). The overall attitude score was used to judge participants' attitude level as inappropriate (0-10) and appropriate (11-13). Analysis was done using SPSS version 21.

Results

Section-1: Background characteristics

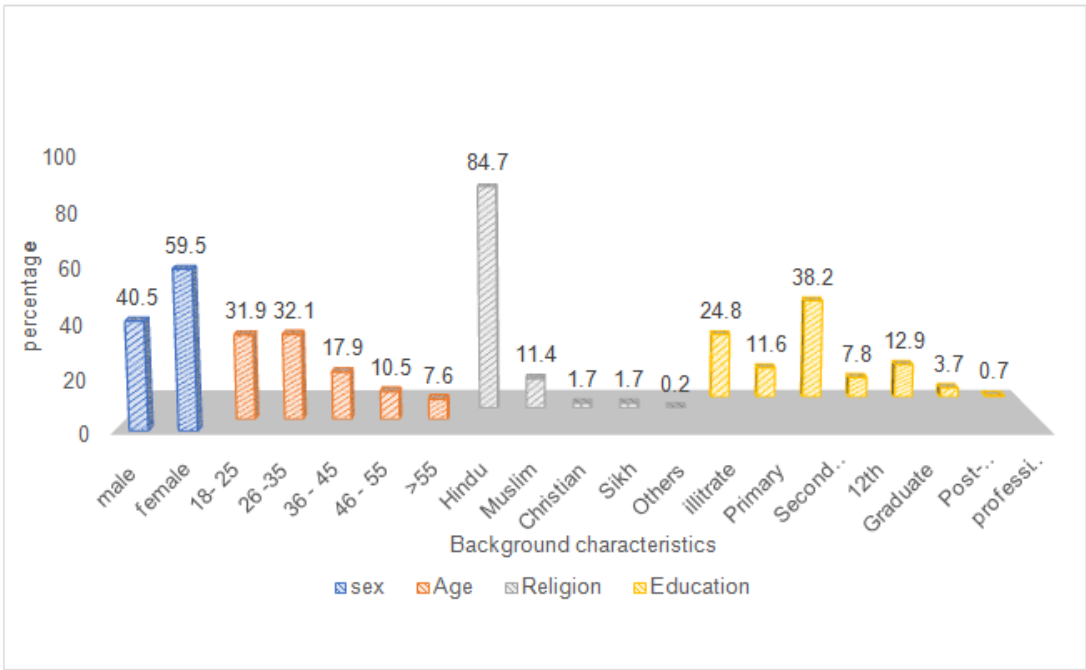


Fig 1: Bar diagram showing percentage distribution of study subjects according to background characteristics

A total of 1089 subjects were interviewed. Out of the total sample, 59.5% were females, 64% were in the age group 18-35 years, 84.7% followed Hindu religion, 38.2% studied up to secondary level and 24.8 were illiterate.

Section-2: Knowledge of Respondents about organ donation

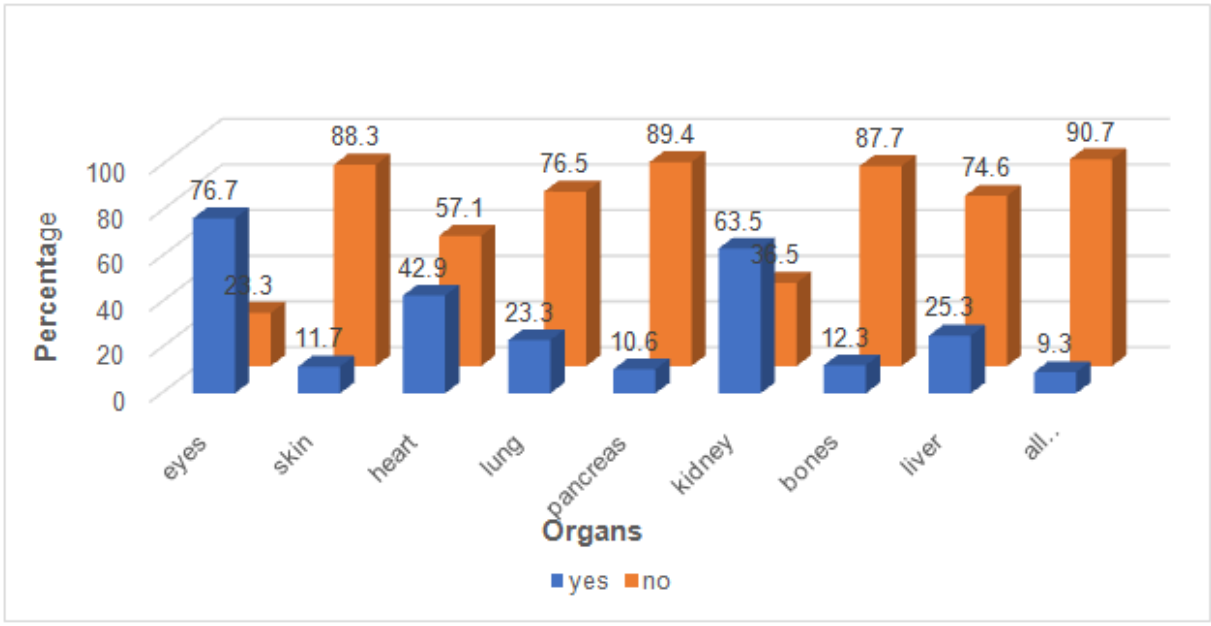


Fig. 2: Bar diagram showing percentage distribution of study subjects according to knowledge about the organs that can be donated

Among the subjects, 76.7% and 63.5% respectively were aware about eyes and kidney donation. Heart was among the other organs which could be donated and known to 42.9% of the subjects. Very few subjects were aware about donation of other organs and tissues.

78.6% subjects were aware that organ can be donated to save life of another person whereas 21.4% didn't know this fact. 12.6% of the subjects didn't know when organs can be donated as against 38.8% subjects, who knew that organs can be donated both during life and after death. 14.3% thought that organ donation was possible only during lifetime and 38.8% believed that it can be done only after one's death.

Table 1: Percentage distribution of study subjects according to knowledge category n=1089

Level of Knowledge (Range of score: 0 to 8)	Frequency	Percent
Poor knowledge (0-3)	367	33.7
Average knowledge (4-6)	604	55.5
Good knowledge (7-8)	118	10.8

Very little proportion of subjects i.e. 10.8% had good knowledge about organ donation, whereas 89.2% had either poor or average knowledge about the issue.

Table 2: Association between knowledge levels of community with demographic variables n = 1089

Variables	Knowledge score categories			Test	df	p value
	Poor	Average	Good			
Age (in years)						
18 - 25	93	216	38			
26 - 35	122	197	31			
36 - 45	69	99	27	χ^2	8	0.008*
46 - 55	48	51	15			
56 and above	35	41	07			
Education						
Illiterate	149	91	30			
Primary	47	68	11			
Secondary	103	166	29			
Senior secondary	29	79	10	χ^2	16	0.000*
12^{th}	25	48	12			
Graduate	11	133	16			
Post graduate	01	29	10			
Professional	02	06	00			
Religion						
Hindu	324	508	90			
Muslim	33	73	18			
Christian	05	09	04	χ^2	10	0.075
Sikh	02	12	05			
Others	01	01	00			
Gender						
Male	122	262	57	χ^2	02	0.000*
Female	245	342	61			

* Significant at 0.05 level of significance

Chi square test was computed to find the association of demographic variables with knowledge levels of the subjects. Age, education level and gender had statistically significant association with knowledge about organ donation with p-value less than 0.05.

Section-3: Attitude of study subjects regarding organ donation

Table 3: Percentage distribution of study subjects according to attitude category n=1089

Level of Attitude (Range of score: 0 to 13)	Frequency	Percent
Inappropriate attitude (0-10)	906	83.2
Appropriate attitude (11-13)	183	16.8

Majority of the subjects i.e. 83.2% had inappropriate attitude towards organ donation whereas 16.8% of them had appropriate attitude.

Table 4: Association between attitude levels of community with demographic variables n=1089

Demographic variable	Attitude		Test	Df	p-value
	Inappropriate	Appropriate			
Age (in years)					
18 - 25	301	46			
26 - 35	296	54			
36 - 45	163	32	χ^2	05	0.433
46 - 55	99	15			
56 and above	72	11			
Education					
Illiterate	210	60			
Primary	105	22			
Secondary	249	49			
Senior secondary	102	16	χ^2	08	0.022
12^{th}	70	15			
Graduate	117	23			
Post graduate	30	10			
Professional	06	05			
Religion					
Hindu	688	157			
Muslim	189	33	χ^2	05	0.164
Christian	11	03			
Sikh	11	06			
Others	01	00			
Gender					
Male	356	85	χ^2	01	0.063
Female	548	100			

Level of significance 0.05

Statistically there was no significant association between level of attitude with background variables namely age, gender, religion and education.

Discussion

During the interpretation of study results it was found that general population both in rural as well as urban areas lacks knowledge as well as attitude about the organ donation. The finding of present study are consistent with an explorative study conducted by G. Josephine R Little Flower and Balamurugan E.[9], with a sample of 400 eligible subjects from the general public of Puducherry, India which found that only 10.6% people had adequate knowledge regarding organ donation while 38.6% and 50.6% had inadequate and moderate respectively.

Findings of this study also in line with the cross-sectional study done by Annadurai K., Mani K, Ramasamy J.[10], to assess the knowledge, attitude and practice about organ donation among 440 college students aged 18 years in Chennai. Study concluded that students lacked knowledge and 75% of the students were not in favour of organ donation and have negative attitude about organ donation. The study also revealed that there was significant association between knowledge about organ donation and educational status like the current study results. Both studies revealed that awareness regarding the organs that can be donated in the descending order is eyes, kidneys followed by heart.

Results of the present study are in agreement with the result of study done by Alghanim SA[11] in Saudi Arabia to assess knowledge and attitude of rural and urban population towards organ donation which concluded that there was deficit in knowledge and attitudes of respondents about organ donation although better in urban population.

During informal talks with the subjects after data collection, they expressed that they were never informed about organ donation by any health care providers during their visits to the health care facility. Although the limited information they got was through media. Following data collection, a formal educational

Conclusion

The current study revealed the marked deficit in knowledge and negative attitude about organ donation in study population. The introduction of the subject in early age, clarification of doubts by organising public health education programs at various for a like schools, health centres and hospitals may help in building knowledge base and positive attitude towards donation of organs which will in turn meet the needs of organs and hence save many lives. Health care workers especially nurse and medical social workers may prove to be precious assets to spread the word about organ donation in hospitals as well as community health centres.

Conflict of Interest: None

Source of Funding: Self

References

1. Available at:https://www.thebetterindia.com/75687/organ-donation-india/
2. https://sites.ndtv.com/moretogive/india-needs-people-step-cause-organ-donation-2695/[Accessed on 26 May. 2020].
3. Available at: http://timesofindia.indiatimes.com/aboutorgandonation.cms [Accessed on 26 May. 2020].
4. https://www.tribuneindia.com/news/haryanatribune/state-lags-way-behind-in-organ-donation-34419 [Accessed on 26 May. 2020].
5. Navin S, Shroff S and Niranjan S.Deceased Organ Donation in India. MOHAN Foundation. Available at: https://www.mohanfoundation.org/organ-donation-transplant-resources/organ-donation-in-india.asp [Accessed on 26 May 2020].
6. Vaishaly K. Bharambe, Rathod H., Paranjape V. M., Kanaskar N., Shevade S., Survase K., Arole V., Singh Sakshi, Brahmbhatt Gaurav & Alam Feroz. Awareness regarding body and organ donation amongst the population of an urban city in India. Nitte University Journal of Health Science. 2015; 5 (4): 51-57.
7. Sulania A, Sachdeva S, Jha D, Kaur G, Sachdeva R. Organ Donation and Transplantation: An Updated Review. MAMC Journal of Medical Science. 2016; 2 (1): 18-27.
8. Organ Donation and Transplantation (Internet) [Accessed on 2020 May 27]. Available at: https://my.clevelandclinic.org/health/articles/11750-organ-donation-and-transplantation
9. G. Josephine R Little Flower and Balamurugan E. A study on public intention to donate organ: Perceived barriers and facilitators. British Journal of Medical Practioners. December, 2013; 6(4): 636.
10. Annadurai K., Mani K, Ramasamy J. A study on knowledge, attitude and practices about organ donation among college students in Chennai, Tamil Nadu. Prog Health Science. 2013; 3(2): 59-65.
11. Alghanim SA. Knowledge and attitudes toward organ donation: a community-based study comparing rural and urban populations. Saudi Journal of Kidney Diseases Transplant. 2010 Jan; 21(1):23-30.

DOI Number: 10.37506/ijone.v12i4.11235

Integrating a Gallery Walk in a Nursing Classroom: A Nurse Educator's Perspectives and Student's Reflections

Sheeba Elizabeth J.[1], Diana Prasad[2], Frincy Francis[1], Harshita Prabhakaran[1]

[1]Lecturer, College of Nursing, SQU, Oman, [2]Nursing Tutor, Symbiosis College of Nursing, Maharashtra, India

Abstract

Teaching and learning are two important components that travel synchronously in the journey of education. It is also like two sides of a coin that is used in our day-to-day life. Current students need newer and interactive method of learning. Gallery walk is an active learning approach performed in the classroom, which facilitates students to gain knowledge on a specific subject matter through interaction. The main aim of this active learning experience is to share experience of the Gallery walk as classroom interactive learning method: Nurse Educators' Reflection. The scope is to stimulate critical thinking amongst students that enrich the teaching learning environment in an optimistic fashion. A trial implementation of gallery walk was done in the nursing classroom of Symbiosis CON during a child health nursing lecture by the second author. The instructor gave the basic guidelines about the gallery walk. Every student passed through the six tables, which had a discussion period of 15 minutes each. After all groups finish with all study tables, the instructor or facilitator gathered the class and summarized the topic. The collective reflections from students will be used for the betterment of this method for future lectures. This paper focuses on the nurse educator's perspectives beginning from planning, implementing and evaluating the Gallery walk as a classroom based active learning approach in a nursing college. To conclude, synchronized learning environment is essential for all the undergraduate nursing students in all levels of learning.

Keywords: *Gallery Walk, Active Learning, Cooperative Learning, Innovative teaching, Peer group learning.*

Introduction

Education has been considered as a process of transmission of values, social norms and desired qualities from one generation to another. Wherein an individual comprehends, own potential and utilizes for personal growth and for the betterment of the society.[1] Due to the rapid changes in the modern world, the higher education system is facing variety of challenges. Therefore it's essential to figure out the effective teaching and learning method.[2] To enable the progression of transmission of knowledge, teachers need to implement suitable teaching method that are relevant to the objectives and exit outcomes.[3] Appropriate knowledge provided to the students by variety of pedagogies determines the kind of learning outcomes. At this point, the role of the teacher is selecting appropriate materials and resources. The outcome of effective teaching is independent learning, reasoning and collaboratively working.[4]

Teaching the undergraduate students in an active way will facilitate interest and promote competent learning. It is also important that current undergraduate students need newer, interactive and analytical method of learning.[5] Likewise, Gallery walk is a technique involves discussion in which student are allowed to leave their chairs and get involved in discussion, writing and synthesizing substantial science concepts. It also fosters listening, speaking and team spirit. [6]

Gallery walk is considered an exciting technique to stimulate classroom discussion. Literature available supports that discussion is much better than lecture as it advocates high order thinking, competency, comprising

Corresponding Author:
Sheeba Elizabeth J.
Lecturer, College of Nursing, SQU, Muscat, Oman
e-mail: shebujoel@gmail.com

analysis, evaluation and synthesis.[7,8,9] It provides liberty to the students to address thought provoking, open ended questions utilizing the terminology and language relevant to the course. It is very flexible to be used as an icebreaker for fifteen minutes. Gallery walk can be utilized with different class sizes, but considered easier to implement in the class less than 40 students. It offers students to actively involve as a participant and move in the classroom, break the boredom of being seated at same place for long time.[10]

Objectives:

1. To present findings from research literatures on effectiveness of gallery walk.
2. To provide a structured instructional guideline for implementing the Gallery Walk method in a nursing classroom.
3. To share experience of the Gallery walk as classroom interactive learning method: Nurse Educators' reflection and reflection analysis of students.

Methodology

Using keywords like "***Active learning***", "***Innovative Teaching***", "***Gallery Walk***", "***Peer group learning***" a thorough literature search was done to identify evidence based articles related to effectiveness of gallery walk and how to implement it in a classroom. Using single search option available with the university's e-library and entering the keywords relevant journal articles published in the past five years were generated. A bibliographic mining of the retrieved five articles were done to find more literatures. The results of emerged literature are narratively described and based on these papers analyzed the steps of implementing Gallery walk has been made in order to replicate the same in nursing classroom.

Supporting Research Literatures on Effectiveness of Gallery Walk: Gallery walk is a classroom based active learning approach, which facilitates students to gain knowledge on a specific topic through interaction. This methodology encourages connectivity among learners, induces student-led learning, fosters leadership qualities infusing a sense of responsibility and team spirit in several interactive ways stimulating student's critical thinking.[11] Teaching the undergraduate students in an active way will facilitate interest and promote competent learning.[12] The adage of passive learning is pushed to the lowest rung of the Bloom's Taxonomy. Cooperative learning method give positive reinforcement and a collaborative experience for nursing students, which is later implemented into their professional practice by collaborating with health teams.

A quasi-experimental study was conducted in a medical surgical nursing classroom to test the effectiveness of a paired shared gallery walk activity with thirty students in the interventional group and thirty students in the control group. CAS questionnaire developed by Oxford University was used to assess. The control group used a standard journal presenting method. The findings reported that the group using paired shared gallery walk method had a significantly higher post test scores proving the method effectiveness.[13]

A gallery walk method was introduced in a biology class for the topic of Cardiovascular System. The students were surveyed for the effectiveness of the method. 66.7% of students agreed gallery walk as an interesting method to be used for learning but only 28 percent agreed that it is more superior than the normal lecture from by a teacher. Overall findings of the study reported that it is an interesting way of learning. [14]

Gallery walk–Guidelines to implement in a nursing classroom: The authors after thorough literature search prepared a set of instructions on how to implement a gallery walk method. Information like how to organize the classroom setting for the learning activity, maximum number of students who would participate, extent of content preparation needed, time management and facilitation of the activity. The structured method of how to organize a Gallery Walk based on various published research studies in different fields are outlined below.

Topic Selection: Nursing is a blend of theory and practical sessions either in the form of lab demonstrations or clinical postings. Students are bound to attend lectures to understand the theoretical and scientific aspects. Certain topics are sometimes monotonous with facts, trends and figures and hence the instructor faces many challenges in retaining the attention of the students. A study surveyed identified monotonous lectures as the reasons why students often missed classes [15]

Pre-learning Activity: The nursing instructors have a role in developing the reading skills of nursing students. With emerging of the internet era and easy Google search the habit of referring to reliable and prescribed textbooks are vanishing. Hence, before any classroom based activity it is good to read the related content to effectively participate in the activity. [16]

Grouping the students: It is essential to group the students into small numbers if the class strength is big. A study reported in its results that students if grouped in a structured way seems to work more willingly in an organized matter in a task assigned rather than students in a non-structured group. The students should be grouped into a team of minimum 3 and maximum 6 for an effective small group learning environment.[17]

Classroom Set Up: Classroom arrangement and Designing matters while planning an activity. It creates interest among participants and is feasible to conduct it.[18]

Display Preparation and Exhibition: Gallery walk is a creative method of learning. Each station displays educational materials as either Posters, Bulletin Boards, Flash Cards or Pamphlets based on the objective of the topic. Students can help in preparation of the materials, which can be reviewed by the instructor before the actual display. Students to be given required stationeries.

Student Role Assignment: Each group has to assign or volunteer among themselves for roles like leader, monitor, reporter and recorder. Each team member should alternate these roles as they move to next stations. For a better group cooperative structure,a role of an "emissary" can also be played. An emissary acts as a communicator of problems or any questions to the instructor.[19]

Facilitation of the Gallery Walk: The instructor as a facilitator is involved in the planning, implementing, facilitating and evaluating the active learning process. This helps in contributing to achieve "Synthesis" in the Bloom's Taxonomy. In this role adorned the instructor guides students to identify the situation and encourage them to understand and synthesize solutions thus creating a personal knowledge from the learning objectives.[20]

Debriefing of the Gallery Walk: Debriefing has become an essential part of activities like simulation and classroom based student led learning approaches. Using debriefing to review the learned concepts provides a platform for students to recollect and organize what they have learnt in the different stations and reflect on it like a summarization of events. It should be done meaningfully moderated by the instructor by either using Socratic questioning method or guided reflections.[21, 22]

Self-Reflections: Reflection has been considered as an established antecedent to learning meaningfully. Dewey says, "*Self-reflection is the only type of thinking that leads to learning"*. Use simple questions like "How did you find the learning experience? What was good? What needs improvement? Did you benefit?[23,24,25]

Teach & Talk through Gallery Walk: An Active–Collaborative Classroom Learning Experience: A Model

Most direct classroom nursing lectures are post lunch sessions when a student is usually tired after their pre-lunch clinical posting. Ensuring a class strength of 50 students to be actively listening to the instructor is a challenge. Gallery walk focused the third year BSN students at Symbiosis CON. It was facilitated during a planned lecture on"***Trends and Global Patterns in Pediatric Nursing***" the topic which previously were verbalized as monotonous. The session was timed for two hours. The authors agreed on one core objective for the topic and split contents into six sub themes for an easier understanding. The sub themes were family centered care, high technology care, evidence based practice, atraumatic care, cost containment, prevention and health promotion. An overview of the active learning method was given to the students two weeks before the scheduled session with the pre reading topics and references. The class was divided into six small groups consisting of maximum 8 students each. This was done in order to have ample time to develop the contents and displays. Each group of students volunteered to creatively prepare for the exhibits based on a chosen sub theme, which were reviewed by the instructor before being displayed for the learning purpose on the main day.

The classroom makeover was done by identifying six spots in order to arrange the prepared educational exhibits with seating arrangements made around a table. The instructor facilitated by giving the participatory guidelines and explaining what is expected from the students to do in each learning spot. Each group moved through all six topics, which had a discussion period of 15 minutes, one student who acted as the team leader took the lead in discussing thus ensuring they covered the content in each spot and answered the quiz as a group for every topic**.** Five multiple-choice questions were in each quiz adding up to thirty questions at the end of the walk. The gallery walk worked on the principle of Adult Learning Theory where the students were responsible for their own learning with minimal assistance from the instructor on completion of the walk, the instructor gathered the class, debriefed the topic with additional

information and clarified the student's doubts related to the topic. Quiz papers were submitted to the instructor for evaluation and the highest scoring group was rewarded. By this way, the instructor was able to understand if students understood the topic and the effectiveness of organizing a gallery walk. The below figure shows the model of the classroom arrangement.

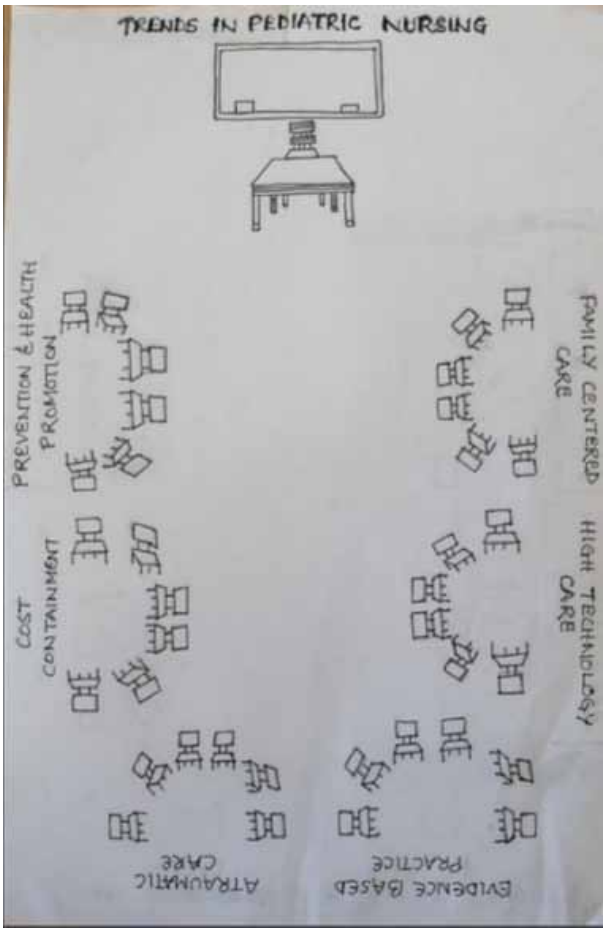


Figure I: Classroom Arrangement

Student Reflections about the Gallery walk: The instructor asked the students to share their reflections about the gallery walk, its impact on their learning, how they felt it from their routine lecture class in an "**open your heart out**" meet the following day. Students penned down their reflections. The collected reflection was considered by the authors and classified them into strengths of the activity and areas of improvement. The best reflections analyzed were recorded as a classroom teaching learning activity report. Some of them are as follows verbatim "*It made us use our reasoning capacity and initiated team work*", "*I was able to understand a lot through charts and pictorial exhibits*", "*A new experience of learning, please include in other topics too*", "*Creative and Fun Way of Learning", "More than any normal lecture", "Made us think out of box", "I was moving around the class and active"*

Nurse Educators Perspective: As a nurse, educator who implemented the gallery walk had the following perspectives to share, "It was an active and fun learning session though the preparation time and planning took some time. Students showed great interest in preparing materials for display, which led them to read in depth of each topic assigned to them making discussion more fruitful. It is a very beneficial method for classes during post lunch sessions".

Limitation: The gallery walk activity was done as part of an interactive teaching learning activity in the nursing classroom supported with research literatures from other fields. Smaller class strengths are usually effective.

Implications for Research in Nursing Education: A research can be proposed to find the effectiveness of the activity as an evidence based practice in teaching and learning in the nursing discipline.

Discussion

Cooperative learning theory plays a significant role in education arena, especially in science field the experts realized that it enables the students to learn through decision making, problem solving and working cooperatively. The teacher adopts the role of facilitator and guide in cooperative classroom; teacher is no more remains a controller of the class instead assumes a manager role. Students are responsible of their learning. It reflects that cooperative learning is more effective than learning alone these results in the success of the whole classroom or group. Learning becomes more effective when the learner is interested and active.[26]

The findings of available literature strongly suggest that cooperative learning is an effective teaching method, which encourages the university instructors to change teacher-centered method into student-centered method, also builds students' self-esteem and reduces their anxiety while participating in the classroom activities. It boosts the students to be proactive in learning process.[27]

Conclusion: A synchronized learning environment is essential for all the undergraduate nursing students in all levels of learning. A change from the usual routine makes the class feels more participatory and helps in retaining the learned concepts.

Conflict of Interest: No Conflict of Interest with any individual or organization.

Source of Funding: Self-funding.

Acknowledgement: The authors acknowledge the efforts of the team taken towards the contribution to the paper.

Ethical Clearance: Taken from the Symbiosis CON to conduct Gallery walk in the classroom.

References

1. Nwanna-Nzewunwa OP. Sociology of education for certificate and diploma students. Port Harcourt: Springfield publishers Limited. 2009.
2. Bidabadi NS, ISFAHANI AN, Rouhollahi A, Khalili R. Effective teaching methods in higher education: requirements and barriers. Journal of advances in medical education & professionalism. 2016 Oct;4(4):170.
3. Bakkenes, I., Vermunt, J. D., &Wubbels, T. (2010). Teacher learning in the context of educational innovation: Learning activities and learning outcomes of experienced teachers. Learning and instruction, 20(6), 533-548.
4. Raba AA. The influence of think-pair-share (TPS) on improving students' oral communication skills in EFL classrooms. Creative Education. 2017 Jan 6;8(1):12-23.
5. Levett-Jones TL. Self-directed learning: implications and limitations for undergraduate nursing education. Nurse Education Today. 2005 Jul 1;25(5):363-8.
6. Ridwan, M. (2019). GALLERY WALK; An Alternative Learning Strategy in Increasing Students' Active Learning. Nady Al-Adab, 16(1), 49-63.
7. Peteroy-Kelly MA. A discussion group program enhances the conceptual reasoning skills of students enrolled in a large lecture-format introductory biology course. Journal of Microbiology & Biology Education: JMBE. 2007;8(1):13.
8. Wilen WW. Refuting misconceptions about classroom discussion. The Social Studies. 2004 Jan 1;95(1):33-9.
9. Asgari F, Khoshnazar T, Sedighi A. Comparison of efficiency management training using lecturing and small group teaching on learning rate of Nursing and Midwifery student's. Journal of Holistic Nursing And Midwifery. 2015 Apr 10;25(1):26-34.
10. Mark F. Promoting Discussion In The Sciences Classroom Using Gallery Walk. A Journal of College Sciences Teaching. Online. 2006;36(1).
11. Ismail I, Anitah W S, Sunardi S, Rochsantiningsih D. The Effectiveness of Gallery Walk and Simulation (GALSIM) to Improve Students' Achievement in Fiqh Learning. Walisongo: Jurnal Penelitian Sosial Keagamaan. 2017;25(1):231.
12. Bristol, T., Hagler, D., McMillian-Bohler, J., Wermers, R., Hatch, D., & Oermann, M. H. (2019). Nurse educators' use of lecture and active learning. Teaching and Learning in Nursing, 14(2), 94-96.
13. Setyawati A, Safar M, Majid A, Rachmawaty R. The Effectiveness of Paired-Share Gallery Walk (PSGW) on Students' Critical Appraisal Skill (CAS) Improvement During the Medical Surgical Nursing Clinical Placement. Indonesian Nursing Journal of Education And Clinic (INJEC). 2018;2(2):184.
14. Chin CK, Khor KH, Teh TK. Is Gallery Walk an Effective Teaching and Learning Strategy for Biology?.InBiology Education and Research in a Changing Planet 2015 (pp. 55-59). Springer, Singapore.
15. Bati AH, Mandiracioglu A, Orgun F, Govsa F. Why do students miss lectures? A study of lecture attendance amongst students of health science. Nurse Education Today. 2013 Jun 1;33(6):596-601.
16. White HL. Nursing instructors must also teach reading and study skills. Reading improvement. 2004 Mar 22;41(1):38-51.
17. Gillies RM. The effects of cooperative learning on junior high school students during small group learning. Learning and instruction. 2004 Apr 1;14(2):197-213.
18. Rands ML, Gansemer-Topf AM. The room itself is active: How classroom design impacts student engagement. Journal of Learning Spaces. 2017;6(1):26.
19. [Internet]. 2020 [cited 7 May 2020]. Available from: 19. https://serc.carleton.edu/introgeo/gallerywalk/step.html
20. Kudryashova A, Gorbatova T, Rybushkina S, Ivanova E. Teacher's roles to facilitate active learning. Mediterranean Journal of Social Sciences. 2016 Jan 2;7(1):460.

21. Dreifuerst KT. Getting started with debriefing for meaningful learning. Clinical Simulation in Nursing. 2015 May 1;11(5):268-75.
22. Gallery Walk [Internet]. Facing History and Ourselves. 2020 [cited 7 May 2020]. Available from: https://www.facinghistory.org/resource-library/teaching-strategies/gallery-walk
23. Mezirow J. Learning to think like an adult. Learning as transformation: Critical perspectives on a theory in progress. 2000 Oct 5:3-3.
24. Dewey J. How we think. Courier Corporation; 1997.
25. "Daily reflections for students" Keyword Found Websites Listing | Keyword Suggestions [Internet]. Keyword-suggest-tool.com. 2020 [cited 7 May 2020]. Available from: https://www.keyword-suggest-tool.com/search/daily+reflections+for+students/
26. Mehta S, Kulshrestha AK. Implementation of cooperative learning in science: A Developmental-cum-experimental study. Education Research International. 2014;2014.
27. Marzban A, Alinejad F. The effect of cooperative learning on reading comprehension of Iranian EFL learners. Procedia-Social and Behavioral Sciences. 2014 Feb 21; 116:3744-8.
28. Ridwan, M. (2019). Gallery Walk; An Alternative Learning Strategy in Increasing Students' Active Learning. Nady Al-Adab, 16(1), 49-63.

DOI Number: 10.37506/ijone.v12i4.11237

A Comparative Study to Assess the Knowledge on Myths and Misconceptions about Mental Illness among Adults (18-35 yrs) in Selected Rural and Urban Community of Gurugram with a View to Develop Information Booklet

Sonia[1], Arti Attri[2]

[1]Assistant Professor, [2]Lecturer, Shree Gurugobind Singh Tricentenary University (SGT University), Gurugram

Abstract

Background: Mental Health is vital for the growth and productivity of every society and for a healthy and happy life. Mental disorders account for nearly 12% of the global burden of disease. By 2020 they will account for nearly 15% of disability-adjusted life-years lost to illness. The burden of mental disorders is maximal in young adults; the most productive section of the population. However, they can affect anyone regardless of age, race, religion or income. About one in four adults experiences a diagnosable mental disorder in a given year. Mental illness is believed to be associated with myths and misconceptions.

Objectives: 1. To assess the level of knowledge on myths and misconceptions about mental illness among adults in selected rural and urban community of Gurugram. 2. To compare the level of knowledge on myths and misconceptions about mental illness among adults in selected rural and urban community of Gurugram. 3. To find out the association between the level of knowledge on myths and misconceptions about mental illness among adults with selected demographic variables. 4. To develop and validate an information booklet on myths and misconceptions about mental illness based on the identified needs.

Material and Method- A research approach for the study was quantitative approach; and comparative descriptive research design was selected for the study. The study was conducted at Budhera village and Farukhnagar of Gurugram, Haryana. The population of the study consisted of adults 18-35 years. Non probability convenient sampling technique was used to collect the data. The data was collected from 100 samples using structured knowledge questionnaire and the collected data was analyzed by using descriptive and inferential statistics.

Results: The study findings revealed that the majority of the adults of urban community i.e. 96% had good knowledge followed by 4% average and no one had poor knowledge on myths and misconception regarding mental illness. It also shows that the majority of the adults of rural community i.e. 74% had average knowledge followed by only 26% had good knowledge and no one had a poor knowledge on myths and misconception regarding mental illness.

Conclusion: It was concluded that adults of urban community had good knowledge and the adults of rural community had average knowledge on myths and misconception about mental illness.

Keywords: *Mental Illness, Myths and misconception, Knowledge, Adult, Urban and Rural community, Information booklet.*

Corresponding Author:
Sonia
Assistant Professor, Shree Gurugobind Singh Tricentenary University (SGT University), Gurugram
e-mail: soniav2387@gmail.com
Contact Number: 9811217424

Introduction

According to the World Health Organization (WHO), mental health is "a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community"

Mental illnesses are common and universal. Worldwide, mental and behavioural disorders represented 11% of the total disease burden in 1990, expressed in terms of disability-adjusted life years (DALYs) (WHO 2001b). This is predicted to increase to 15% by 2020. Mental health problems also result in a variety of other costs to the society (WHO 2003)[1].

Mental health refers to cognitive, behavioral, and emotional well-being. It is all about how people think, feel, and behave. People sometimes use the term "mental health" to mean the absence of a mental disorder. Looking after mental health can preserve a person's ability to enjoy life..Conditions such as stress, depression, and anxiety can all affect mental health and disrupt a person's routine.[2]

Mental illnesses are health conditions involving changes in emotion, thinking or behavior (or a combination of these). Mental illnesses are associated with distress and/or problem`s functioning in social, work or family activities. People with mental health problems say that the social stigma attached to mental ill health and the discrimination they experience can make their difficulties worse and make it harder to recover[3]

Behavioural health disorders impact the lives of millions of people every single day. Unfortunately, there is a societal stigma about mental health that contributes to the spreading of misconceptions. These harmful ideas can make it difficult for people to seek treatment. It is vital for everyone to realize that mental health conditions are nothing to be ashamed of and that those suffering deserve treatment. That's why it's so important to dispel these myths and misconception.[4]

Mental illness is illness just like any other, such as heart disease, diabetes, and asthma. Mental illness may recur throughout their lives and require ongoing treatment. This is the same as many physical illnesses, such as diabetes and heart disease. Like these other long-term health conditions, mental illness can be managed so that individuals live life to the fullest.[5]

Mental health problems are a cause of great concern in India as per the WHO statistics (2017) and the recent survey (2015 - 2016) conducted by the Bengaluru-based National Institute of Mental Health and Neuro Sciences (NIMHANS) in 12 states, covering 34,802 people. The NIMHANS study reveals 10 per cent of the population has common mental disorders and 1.9 per cent of the population suffers from severe mental disorders [6,7]

Around 70–80% of the population in India currently live in rural settings without access to good quality healthcare facilities. The establishment of primary health centres (PHCs) has helped improve affordability and accessibility of healthcare to some extent, for some conditions, but it has been largely ineffective in addressing the needs of people suffering from or at risk of non-communicable disorders including mental disorders.[8]

Studies have shown that low rates of seeking psychiatric help are mainly due to poor knowledge of mental health disorders (MHD)[8] that includes information about mental disorders, symptoms, and psychiatric treatments[9].

"Stories Against Stigma*:* walking tour of NIMHANS aimed to address the stigma around mental health. The program intended to tell people not only about the history of NIMHANS and the services available but also break the myths and misconceptions that the general public hold towards mental illness, mental health institutes, and mental health professionals. The walking tour is one of its kind initiated by the Department of Mental Health Education, NIMHANS.[10]

The burden of mental, behavioral and substance use disorders are enormous but the resources to tide over the situation are nominal. Inadequate number and/or uneven distribution of human resources is a major hurdle in the successful implementation of National Mental Health Programme (NMHP) by Central or State Government. Treatment facilities for the persons with mental illness in our country are very few. Limited availability of psychiatric beds, poor accessibility to good treatment facilities, lack of awareness and stigma attached to mental illness create a huge treatment gap.[11,12]

A report by the World Health Organisation (WHO) revealed that 7.5 per cent of the Indian population suffers from some form of mental disorder. Mental illnesses constitute one-sixth of all health-related disorders and India accounted for nearly 15% of the global mental, neurological and substance abuse disorder burden. The treatment gap, which is defined as the prevalence of mental illnesses and the proportion of patients that get treatment, is over 70 per cent. WHO also predicts that by 2020, roughly 20 percent of India will suffer from mental illness and to cater to this demographic, we have less than 4,000 mental health professionals.[13,14,15]

In our country, the discovery of a mental illness is

often followed by denial and hesitation to seek help. Not only do we need to actively foster awareness about mental health, we also need to create awareness about the absurdity of the stigmas attached to mental health, in order to eradicate them. Knowledge can have a tremendous impact on how individuals, societies and the public health community deal with mental disorders.

Keeping in view the trends and problems experienced by patients, It was decided to focus on the myths and misconceptions regarding the mental illness present in rural and urban community.

Material and Method

For the present study quantitative approach and Comparative research design was used. The study was conducted at Budhera and Farukhnagar village of district Gurugram. Administrative permission was taken to conduct the study. The target population of the present study was the Adults (18-35) years of age. Non probability convenient sampling technique was used to select 100 adults as samples. The data were collected using structured questionnaire which was divided into two parts: Section I consisted of items related to demographic data including age, gender, religion, family pattern, educational status, occupation, income, marital status, source of information and any history of mental illness in family. Section II consists of 30 structured knowledge questionnaire to assess myths and misconceptions about mental illness. Content validity of the tool was established from experts of various fields of specialization. The collected data was analyzed by using Descriptive and Inferential Statistics.

Results

The data presented in the table 1 indicates that majority of adults in urban and rural community belong to the age group 26-30 years were 40 % & 38% respectively. Acc to Gender, majority were males i.e. 52% in urban community whereas 54% in rural community respectively. Acc to religion, majority were Hindu i.e. 94% in both Urban and Rural community. Acc. to family pattern, majority of the adults in urban belong to Nuclear family i.e. 64% whereas 62%.in rural community. Acc to education, majority of adults in Urban were Graduates i.e. 54% while in rural 28% were Matric pass. Acc to occupation, majority of adults in Urban 32% belong to private job and in rural 26% were labourers. Acc to family income, In Urban community 32% had income of 10000-250000 whereas in rural 52% had income of>10000. Acc to marital status, majority of adults in urban 56% were married and in Rural 52% were married. Acc to source of information, in urban 56%had information through print media and in rural 70% had information through AV aids. Acc to history of mental illness, majority of adults in urban community do not have any history of mental illness i.e. 88% & 86% rural community.

Table 1: Frequency and Percentage distribution of subjects by their sample characteristics n=100

S.No.	Variables	Categories	Urban n=50		Rural n=50	
			f	%	f	%
1.	Age (in years)	18-25 26-30 31-35	16 20 14	32 40 28	17 19 14	34 38 28
2.	Gender	Male Female	26 24	52 48	27 23	54 46
3.	Religion	Hindu Muslim Sikh Christian	47 0 2 1	94 0 4 2	47 2 1 0	94 4 2 0
4.	Family pattern	Nuclear Joint	32 18	64 36	19 31	48 62
5.	Education	Illiterate Matric level Sr. Secondary Post graduate	0 4 10 27 9	0 8 20 54 18	9 19 10 9 3	18 28 20 18 6

S.No.	Variables	Categories	Urban n=50		Rural n=50	
			f	%	f	%
6.	Occupation	Unemployed	12	24	11	22
		Government	14	28	7	14
		Private	16	32	9	18
		Business	8	16	10	20
		Labor	0	0	13	26
7.	Family income (in Rs/-)	<10000	12	24	26	52
		10000-25000	16	32	17	32
		26000-40000	15	30	7	14
		>40000	7	14	0	0
8.	Marital status	Married	28	56	27	52
		Unmarried	20	40	20	40
		Divorced	2	4	2	4
		Widowed	0	0	1	2
9.	Source of information	Print media	28	56	12	24
		AV aids	22	44	35	70
		Health Professional	0	0	3	6
10.	History of mental illness	Yes	6	12	7	14
		No	44	88	43	86

Table 2 depicts that majority of adults i.e. 48 (96%) in Urban community had good level of knowledge followed by 2 (4%)had average level of knowledge whereas majority of adults i.e. 37 (74%)in rural community had average level of knowledge followed by 13(26%) had good level of knowledge. No subject was found to have poor knowledge in Urban and Rural community.

Table II: Distribution of knowledge score among adults of urban and rural community about mental illness n=100

S.No.	Level of knowledge	Urban (n=50) F (%)	Rural (n=50) F (%)	Total (n=100)
1.	Good (21-30)	48(96%)	13(26%)	61
2.	Average (11-20)	2(4%)	37(74%)	39
3.	Poor (0-10)	0	0	0

Table III depicts the comparison of knowledge on myths and misconceptions about mental illness in Urban and Rural community. The mean of urban community was 23.60 and SD was 1.96 and in rural community mean was 19.50 and SD was 2.42. Hence it was concluded that there is significant association between urban and rural community on knowledge score on myths and misconceptions about mental illness.

Table III: Mean knowledge score and standard deviation among adults residing in urban and rural community and the test of significance using independent t test

S.No.	Groups	Mean± SD	t-value	p-value	S/NS
1.	Urban	23.60± 1.96	9.32	0.00001	S*
2.	Rural	19.50± 2.42			

The chi square values obtained to seek the association between knowledge among adults of urban community and selected demographic factors showed that there is significant relationship between knowledge score and selected factors like education and occupation. There is no significant relation between knowledge and selected factors like age, gender, religion, family pattern, family income, marital status, source of information and history of mental illness.

The chi square values obtained to seek the association between knowledge among adults of rural community and selected demographic factors showed that there is significant relationship between knowledge score and selected factor like education. There is no significant relation between knowledge and selected factors like age, gender, religion, occupation, family pattern, family income, marital status, source of information and history of mental illness.

Discussion

In the present study, findings show that majority of adults i.e. 96% in Urban community had good level of knowledge followed by 4% had average level of knowledge whereas majority of adults i.e. 74% in rural community had average level of knowledge followed by 26% had good level of knowledge. There is a significant difference between level of knowledge regarding myths and misconceptions among adults of rural and urban community towards mental illness.

The mean of urban community was 23.60 and SD was 1.96 and in rural community mean was 19.50 and SD was 2.42. There is a significant difference between level of knowledge regarding myths and misconceptions among adults of urban and rural community towards mental illness.

These findings were consistent with the study conducted by S. Babita, S. Rakesh, S.K. Kushal(2013) found that the knowledge of the adults residing in the urban community regarding mental illness was higher than that of the adults residing in the rural community. The findings suggest that the information booklet and various mass media should be developed to enhance their knowledge.[15]

Conclusion

The study concludes that the knowledge of the adults residing in the urban community regarding mental illness was higher than that of the adults residing in the rural community. Adults must be providing knowledge regarding myths and misconceptions regarding mental illness. It will be beneficial to enhance the mental illness treatment especially in the community. This will also help in promotion of mental health and help them to be more socially productive individuals. Further there is a need of intensive research in the area of educating the adults on myths and misconception about mental illness and managing mentally ill people at home to promote recovery from illness and also to prevent relapse.

Ethical Clearance: Taken from the University Ethical Committee as well as the permission to conduct study from the councilor and sarpanch of the respective communities.

Source of Funding: Self

Conflict of Interest: Nil

References

1. World Health Organization. Promoting mental health: concepts, emerging evidence, practice (Summary Report) Geneva: 2004 Available on https://www.who.int/mental_health/evidence/en/promoting_mhh.pdf
2. Newman. T, Timothy J. Legg, 2020 April Available on https://www.medicalnewstoday.com/articles/154543
3. Mental Health Foundation. Good Mental Health For all; Nov 2015 Available on https://www.mentalhealth.org.uk/a-to-z/s/stigma-and-discrimination
4. Pyramid family behavioural health care:common misconceptions of mental health disorders;2019 March Available on https://pyramidfbh.com/some-common-misconceptions-of-mental-health-disorders/
5. The department of health, myths, misunderstanding and facts about mental illness;May 2007 https://www1.health.gov.au/internet/publications/publishing.nsf/Content/mental-pubs-w-whatmen-toc~mental-pubs-w-whatmen-myth
6. National Mental Health Survey of India. Prevalence, pattern and outcomes: Ministry of Health and Family Welfare Government of India. National Institute of Mental Health and Neuro Sciences, Bangaluru, 2016 Available on http://indianmhs.nimhans.ac.in/Docs/Report2.pdf

7. Shankardass MK. Mental Health Issues in India: concerns and Response. Indian J Psy Nsg 2018;15:58-60

8. Srivastava RK, Bachani D. Burden of NCDs, Policies and programme for prevention and control of NCDs in India. Indian J Community Med 2011; 36(suppl 1): S7–12. [PMC free article] [PubMed] [Google Scholar]

9. Drake RE, Bond GR, Essock SM. Implementing evidence-based practices for people with schizophrenia. Schizophrenia Bulletin. 2009;35(4):704–13. 10.1093/schbul/sbp041 [PMC free article] [PubMed] [CrossRef] [Google Scholar] Available on https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6746362/

10. NIMHANS titled: 'Stories Against Stigma: A walking Tour of NIMHANS; Jan 2020 Available on http://nimhans.ac.in/department-of-mental-health-education-will-be-conducting-a-walking-tour-of-nimhans-titled-stories-against-stigma-a-walking-tour-of-nimhans-date-18-01-2020/]

11. National Mental Health Survey of India, Assam State Report, Ministry of Health and Family Welfare Government of India. National Institute of Mental Health and Neuro Sciences, Bangaluru,2017 Available on http://indianmhs.nimhans.ac.in/Docs/statereports/Assam-NMHS-Report.pdf

12. Gururaj G, Girish N, Isaac MK. Mental, neurological and substance abuse disorders: Strategies towards a systems approach. Burden of Disease in India [Internet]. 2005 [cited 2016 Sep 30];226.

13. Birla.N. The economic times: Mental Health in India; 2019 Oct Available on https://economictimes.indiatimes.com/magazines/panache/mental-health-in-india-7-5-of-country-affected-less-than-4000-experts-available/articleshow/71500130.cms

14. Kessler RC, Aguilar-Gaxiola S, Alonso J, Chatterji S, Lee S, Ormel J, et al. The global burden of mental disorders: an update from the WHO World Mental Health (WMH) surveys. Epidemiol Psichiatr Soc. 2009 Jan-Mar;18(1):23-33.

15. Singh B,Singh R, Singh KK. Knowledge and attitude towards mental health and mental illness:an issue among rural and urban community of Jhapa District of Nepal. Int J Health Sci Res.2013;3(9):29-34

DOI Number: 10.37506/ijone.v12i4.11238

A Comparative Study to Assess the Knowledge Regarding Dengue Fever and its Prevention among All Women at the Selected Urban and Rural Areas of Ratia (Fatehabad)

Sudesh Devi[1], Anju[2]

[1]Senior Nursing Tutor (Birender Singh College of Nursing,Uchana, Jind),
[2]Assistant Professor (Ved Nursing College, Baroli, Panipat)

Abstract

Dengue infection is a mosquito-borne arboviral infection. An important criterion to consider in the diagnosis of dengue infection is history of travel or residence in a dengue-endemic area within 2 weeks of the onset of fever. The spectrum of dengue virus infection ranges from an asymptomatic or undifferentiated febrile illness to severe infection. Criteria for diagnosis of probable dengue include history of travel or residence in a dengue-endemic area, plus high grade fever of acute onset and two of the following signs and symptoms: nausea/vomiting, rash, severe aches and pains (also called 'break bone fever'), positive tourniquet test, leukopenia, and any warning sign. Presence of any of the following warning signs–abdominal pain or tenderness, persistent vomiting, clinical fluid accumulation, mucosal bleeding, lethargy, restlessness, liver enlargement greater than 2 cm, and an increase in hematocrit concurrent with rapid decrease in platelet count–will require strict observation and medical intervention.

Keywords: *Comparison, knowledge, women, health guide, dengue fever, prevention.*

Introduction

Background of the Study: Dengue fever is an arthropod borne virus of the genus flavivirus, and within the family Flaviviradae. Other flavivirus include Japanese's encephalitis and yellow fever. There are four distinct serotypes of dengue virus (DEN1, DEN2, DEN3, and DEN 4) all of which have the potential to cause either classical dengue fever (DF) or the more serious form of the disease, dengue hemorrhagic fever (DHF). Dengue is transmitted by the bite of an infective Aedes Aegypti mosquito.[1]

Dengue is acutely infectious mosquito-borne disease characterized by episodes of "Saddle back" fever muscles and joint pain, accompanied by an initial erythema and terminal rash of varying morphology. It aedes mosquito an indoor vector of man. The disease is also called as break bone fever or dandy fever. Dengue is caused by group B arboviruses and the virus has four distinct antigenic serotype, i.e. "man to mosquito to man."Entry of virus cause viraemia and the onset of fever and persists four about 3 days. It produces endothelial swelling, perivascular edema infiltration with the mononuclear cells in the small blood vessels leading to varying sign and symptoms.[2]

Dengue fever is more commonly seen in older children and adults. It is characterized by abrupt onset of high fever lasting 3-7 days severe frontal headache, pain behind the eyes and muscle and joint pain. Other symptoms may include loss of appetite, nausea, vomiting and diarrhea, blanching rash and sometimes minor bleeding (e.g. from nose and gums). The acute symptoms of dengue fever last up to 10 days. Some people may experience repeated episodes of fever. Full recovery may be slow and associated with weakness and depression. It is rarely fatal.[3]

Corresponding Author:
Sudesh Devi
Senior Nursing Tutor, Birender Singh College of Nursing,Uchana, Jind
Mobile No. 9416665490
e-mail: sudeshkundu95@gmail.com

There is no specific treatment or vaccine. Supportive treatment includes plenty oral fluids and peracetamol for relief of fever and body aches and pains. Aspirin and non-steroids anti-inflammatory drugs should not be used as they can affect blood clotting. Anyone with dengue hemorrhagic fever should hospitalize for fluid replacement and observation.[4]

Dengue fever is the most common among arthropod borne diseases. It is a disease of tropical and sub-tropical regions affecting urban and peri-urban areas. According to World Health Report, the increase of dengue and dengue hemorrhagic fever occurs due to increased population, urbanization, inappropriate water management, travel and trade.[5]

The World Health Organization (WHO) estimates that more than 2.5 billion people are at risk of dengue infection. Most will have asymptomatic infections. The disease manifestations range from an influenza-like disease known as dengue fever (DF) to a severe, sometimes fatal disease characterized by hemorrhage and shock, known as dengue hemorrhagic fever/dengue shock syndrome (DHF/DSS), which is on the increase. Dengue fever and dengue hemorrhagic fever/dengue shock syndrome are caused by the four viral serotypes transmitted from viraemia to susceptible humans mainly by bites of *Aedes aegypti* and *Aedes albopictus* mosquito species.[6]

Prevention depends on control of and protection from the bites of the mosquito that transmits it. The World Health Organization recommends an Integrated Vector Control program consisting of five elements:

- Stay in air-conditioned or well-screened housing. The mosquitoes that carry the dengue viruses are most active from dawn to dusk, but they can also bite at night.
- Wear protective clothing. When you go into mosquito-infested areas, wear a long-sleeved shirt, long pants, socks and shoes.
- Use mosquito repellent. Permethrin can be applied to your clothing, shoes, camping gear and bed netting. You can also buy clothing made with Permethrin already in it. For your skin, use a repellent containing at least a 10 percent concentration of DEET.
- Reduce mosquito habitat. The mosquitoes that carry the dengue virus typically live in and around houses, breeding in standing water that can collect in such things as used automobile tires. Reduce the breeding habitat to lower mosquito population.[7]

During the community health nursing experience and by studies shows increased incidences of dengue in India. When the researcher's observation regarding mosquito breeding at Hassan in the most rainfall area and the lack of knowledge regarding dengue fever among people living in rural and urban area, so this incidence made the investigator to take study conducted on rural and urban area people at Hassan district, Karnataka. Dengue fever is a mosquito-borne tropical disease caused by the dengue virus. Symptoms typically begin three to fourteen days after infection. This may include a high fever, headache, vomiting, muscle and joint pains, and a characteristic skin rash. Recovery generally takes two to seven days.[8]

Dengue has a wide spectrum of clinical presentations, often with unpredictable clinical evolution and outcome. While most patients recover following a self-limiting non-severe clinical course, a small proportion progress to severe disease, mostly characterized by plasma leakage with or without hemorrhage. Intravenous rehydration is the therapy of choice; this intervention can reduce the case fatality rate to less than 1% of severe cases.[9]

This is even more the case during the frequent dengue outbreaks worldwide, where health services need to be adapted to cope with the sudden surge in demand. Changes in the epidemiology of dengue, as described in the previous sections, lead to problems with the use of the existing WHO classification. Symptomatic dengue virus infections were grouped into three categories: undifferentiated fever, dengue fever (DF) and dengue hemorrhagic fever (DHF). **WHO** supported prospective clinical multicenter study across dengue-endemic regions was set up to collect evidence about criteria for classifying dengue into levels of severity. Currently classification into DF/DHF/DSS continues to be widely used. The study finding confirmed that, by using a set of clinical and/or laboratory parameters, one sees a clear-cut difference between patients with severe dengue and those with non-severe dengue.[10]

Dengue fever is a dangerous and depilating disease, and it's a growing threat to global health. Dengue fever is the second most widespread in the world. The world health organizations have estimated that between 50 and 100 million people suffer from dengue fever each year. The biggest issue is that dengue fever is spreading fast, but currently has no treatment for it. This disease can

affect you because someday it might travel to the place you live.

However, for practical reasons it was desirable to split the large group of patients with non-severe dengue into two subgroups -- patients with warning signs and those without them. It must be kept in mind that even dengue patients without warning signs may develop severe dengue.[11]

Statement of Problem: "A comparative study to assess the knowledge regarding Dengue Fever and its prevention among women at selected urban and rural areas of Ratia, Fatehabad."

Objective of Study:

- To assess the level of knowledge among women at urban and rural areas.
- To compare the knowledge between women at urban and rural areas.
- To find out the association between the level of knowledge among women regarding dengue fever and its prevention with demographic variables

Hypothesis:

- **H1** There was significant increasing knowledge of women regarding dengue fever in urban and rural areas.
- **H2** There was significant association between knowledge of urban and rural women regarding dengue fever and its prevention with their selected demographic variables.

Research Methodology

Research Approach: Descriptive research approach

Research design: Comparative research design

Setting of the study: In the selected Naharka Mohalla of urban and Alipur Barota of rural area of Ratia.

Sample Technique and Sample Size

Sample Technique: Convenient sampling technique

Sample Size: 100 women of urban and rural area. (50 urban and 50 rural)

Tools for Data Collection: Researcher used self structured knowledge questionnaire to measure knowledge regarding dengue fever and its prevention.

Procedure for data collection: A written permission was obtained. The reasecher informed the participants about the purpose of the study and has taken an informed consent the same. The data were collected from the samples. All the samples answered the questionnaire.

Data Analysis and Interpretation:

Assess the knowledge level of women of urban and rural area regarding dengue feveer

Table: 1. Criteria measure of women' s according to level of knoeledge regarding dengue fever. N=100

Criteria Measure of Knowledge Score			
Category	**Score**	**Urban Women knowledge (%)**	**Rural Women knowledge (%)**
Low	(0-14)<50%	6	19
Average	(15-22) 50%-74%	40	29
Good	(20-30) ≤75%	4	2

Table 2: Comparison of the knowledge between women of urban and rural area regarding dengue fever.

Unpaird T Test	**Knowledge Score**	
	Urban	**Rural**
Mean Score	19.77	15.32
Standard Deviation	3.102	2.986
Mean %	57.00	51.01

Unpaird T Test	Knowledge Score	
	Urban	Rural
Unpaired Test	2.986	
P Value	<0.001	
Table Value at 0.05	1.98	
Result	Significant	

Note: Significant at 5% level (i.e. P<0.005)

Association and correlation between knowledge of women regarding dengue fever in urban and rural areas

Table 3: Association with Urban Knowledge

Demographic Data		Levels (N=50)			Association with Urban Knowledge				
Variables	Opts	Low	Average	Good	Chi-Test	P Value	D.F	Table Value	Result
Age	21-25 Age	6	9	3	17.760	0.007	6	12.592	Significant
	26-30 Age	0	15	0					
	31-35 Age	0	9	0					
	36-45 Age	0	7	1					
Religion	Hindu	4	12	2	4.461	0.0615	6	12.592	Not Significant
	Muslim	1	8	1					
	Sikh	2	7	0					
	Christian	3	17	3					
Type of Family	Nuclear Family	2	14	1	5.524	0.238	4	9.488	Not Significant
	Joint Family	2	17	0					
	Extended Family	2	9	3					
Educational Status	Primary Education	6	11	3	15.152	0.019	6	12.592	Not Significant
	Secondary Education	0	10	0					
	Under Graduate	0	13	0					
	Post Graduate	0	6	1					
Occupation	Housewife	0	12	0	8.988	0.174	6	12.592	Not Significant
	Govt. Job	3	9	3					
	Private Job	2	8	1					
	Business	1	11	0					
Family Income	1000-5000	4	14	3	4.802	0.569	6	12.592	Not Significant
	5001-10000	0	4	0					
	10000-20000	1	8	0					
	Above 2000	1	14	1					
Size of Family	1-2 Member	2	18	1	6.700	0.349	6	12.592	Not Significant
	3-4 Member	2	9	3					
	5-6 Member	2	8	0					
	7-8 Member	0	5	0					

Demographic Data		Levels (N=50)			Association with Urban Knowledge				
Variables	**Opts**	**Low**	**Average**	**Good**	**Chi-Test**	**P Value**	**D.F**	**Table Value**	**Result**
Source of Information	Family Members	3	19	2	2.574	0.860	6	12.592	Not Significant
	TV/Radio/Internet	1	7	0					
	Newspaper, Magazines & Books	1	3	0					
	Health Personnel	1	11	2					

Association and correlation between knowledge of women regarding dengue fever in urban and rural areas:

Table 4: Association with Rural Area

		Levels (N=50)			Association with Rural Knowledge				
Variables	**Opts**	**Low**	**Average**	**Good**	**Chi-Test**	**P Value**	**D.F**	**Table Value**	**Result**
Age	21-25 Age	8	8	0	6.772	0.342	6	12.592	Significant
	26-30 Age	2	11	1					
	31-35 Age	5	5	0					
	36-45 Age	4	5	1					
Religion	Hindu	2	4	0	1.567	0.955	6	12.592	Not Significant
	Muslim	4	6	1					
	Sikh	4	5	0					
	Christian	9	14	1					
Residence	Urban	10	24	26	6.345	0.865	6	13.654	Not Significant
	Rural	14	11	15					
Type of Family	Nuclear Family	5	13	0	4.061	0.398	4	9.488	Not Significant
	Joint Family	6	10	1					
	Extended Family	8	6	1					
Educational Status	Primary Education	11	6	1	10.079	0.121	6	12.592	Not Significant
	Secondary Education	3	5	1					
	Under Graduate	3	13	0					
	Post Graduate	2	5	0					
Occupation	Housewife	2	10	0	6.278	0.393	6	12.592	Not Significant
	Govt. Job	7	10	1					
	Private Job	5	3	0					
	Business	5	6	1					
Family Income	1000-5000	9	13	1	4.730	0.579	6	12.592	Not Significant
	5001-10000	0	4	0					
	10000-20000	4	6	1					
	Above 2000	6	6	0					
Size of Family	1-2 Member	6	14	1	4.734	0.578	6	12.592	Not Significant
	3-4 Member	8	5	1					
	5-6 Member	4	7	0					
	7-8 Member	1	3	0					

		Levels (N=50)			Association with Rural Knowledge				
Variables	**Opts**	**Low**	**Average**	**Good**	**Chi-Test**	**P Value**	**D.F**	**Table Value**	**Result**
Source of Information	Family Members	12	16	2	3.581	0.733	6	12.592	Not Significant
	TV/Radio/Internet	3	2	0					
	Newspaper, Magazines & Books	1	2	0					
	Health Personnel	3	9	0					

Discussion

This part deals with discussion according to the results obtained from statistical analysis based on the data of the study, the reviewed literature, hypothesis which was selected for the study. The present study reveals that 40% of urban women's have average knowledge regarding dengue fever and its prevention, 29% of rural women have average knowledge regarding dengue fever, 6% of rural women have low knowledge, 19.0% of urban women have low knowledge, and 2% of rural women have good knowledge regarding dengue fever and 4% of urban women have good knowledge regarding dengue fever.

Majority of rural respondents (70%) and urban respondents (75.62%) had medium awareness about dengue fever education was positively and significantly associated with awareness of rural respondent whereas occupation and monthly income were positively and significantly associated with urban respondents.

The study reveals that statistical outcomes of association between socio demographic characters of urban and rural women's with their knowledge regarding dengue fever. In order to examine the association between the variables the chi-square test was worked out. Some character were found to be statistically significant i.e., P0.05. It evidenced that the knowledge is not influenced by age, religion, type of family, occupation, family income, number of children, source of information. There is significant relationship in between knowledge of urban and rural area.

Conclusion

The major conclusions were drawn on the basis of the findings of the study are: The study was aimed at assessing the knowledge level of women about dengue fever. The relevant data was collected and analyzed statistically based on the objective of the study.

Among 100 women of urban and rural area, no one is having adequate knowledge regarding dengue fever. The researcher reveals that there was significant difference in knowledge of women of urban and rural area about dengue fever. The study also reveals that there was an association between demographic variable knowledge of women about dengue fever and its prevention.

Conflict of Interest: No

Source of Funding: Self

Ethical Approval: The ethical approval was obtained from ethical committee, Shaheed Udham Singh Post Graduate college of Nursing, Barota (Ratia).

References

1. Kimura R, Hotta S. Studies on dengue fever (IV) on inoculation of dengue virus into mice. Nippon Igaku 1944; 3379: 629-33.
2. Sabin AB, Schlesinger MC. Production of immunity to dengue with virus modified by propagation in mice. Science 1945; 101: 640-2.
3. Sarkar JK, Chatterjee SN, Chakravarty SK. Haemorrhagic fever in Calcutta: some epidemiological observations. Indian J Med Res 1964;52: 651-9.
4. Chatterjee SN, Chakravarti SK, Mitra AC, Sarkar JK. Virological investigation of cases with neurological complications during the outbreak of haemorrhagic fever in Calcutta. J Indian Med Assoc 1965; 45 : 314-6.
5. Carey DE, Myers RM, Reuben R, Rodrigues FM. Studies on dengue in Vellore, South India. Am J Trop Med Hyg 1966; 15: 580-7.
6. Sarkar JK, Pavri KM, Chatterjee SN, Chakravarty SK, Aanderson CR. Virological and serological studies of cases of haemorrhagic fever in Calcutta. Indian J Med Res 1964; 52 : 684-91.

7. Kamlam S (2005) Essentials of community health nursing practices 2nd, Edition, Jaypee New Delhi.
8. Chaturvedi UC, Mathur A, Mehrotra RM. Experimentally produced cardiac injury following dengue virus infection. Indian J Pathol Bacteriol 1974;17 : 218-20.
9. Myers RM, Carey DE, De Ranitz CM, Reuben R, Bennet B. Virological investigations of the 1966 outbreak of Dengue type 3 in Vellore, Southern India. Indian J Med Res 1969; 57 : 1392-401.
10. Myers RM, Varkey MJ, Reuben R, Jesudass ES. Dengue outbreak in Vellore, southern India, in 1968, with isolation of four dengue types from man and mosquitoes. Indian J Med Res 1970;58 : 24-30.
11. Gupta M.C. Mahajan B.K. textbook of preventive and social medicine, 3rd Edition, Jaypee New Delhi.

DOI Number: 10.37506/ijone.v12i4.11239

The Nurses' Role in Handling Increased Intracranial Pressure for Hemodinamic Stats in Head Injury Patients

Sutiyo Dani Saputro[1], Siswanto[2], Yulian Wiji Utami[2]

[1]Students of Nursing Master Study Program, Faculty of Medicine, Universitas Brawijaya,
[2]Lecturer of Nursing Study Program, Faculty of Medicine, Universitas Brawijaya

Abstract

Background: Head injury is a major matter of death and disability at a young or productive age. The prevalence of head injuries has occurred and increased. The incidence of head injuries in the world was reported 29,770 cases. A head injury produces intracranial haemorrhage, following the increased intracranial pressure. The increased intracranial pressure changes the hemodynamic status in the body. The treatment of increased intracranial pressure needs to be conducted immediately to avoid a bigger impact.

Purpose: This review is to determine the handling management of intracranial pressure elevation for hemodynamic status in head injury patients.

Method: The article adopted a systematic review. The identification of literature was performed by searching journal articles that have been published in 2009-2019 within databases such as Proquest, EBSCO, Science Direct, and Pubmed. The search was using keywords : nurse handling, intracranial pressure, hemodynamic status and, head injury. The selected articles that were decided by a combination of PRISMA flow diagrams with the Joana Brigg Institution (JBI) checklist obtained 16 corresponding articles.

Result and Discussion: The management of intracranial pressure such as positioning, hypothermia management, and ventilation control as well as medical actions such as adequate oxygenation, drainage action, diuretic and hyperosmolar therapy, blood sugar control, and decompressive craniectomy.

Conclusion: Management of increased intracranial pressure for hemodinamyc status in head injury patients consists of positioning, oxygenation, hyperventilation, drainage, diuretic therapy, hypothermia management, blood sugar control, decompressive craniectomy.

Keywords: *Nursing treatment, Intracranial Pressure, Hemodynamic status, Head Injury.*

Introduction

Head injury is the global health problem that causes death, disability an mentality deficits. The head injury become the first death reson and disability in the young age or productive age[1]. Head injury is able to make edema cerebri or the intracranial bleeding by increasing the intracranial pressure[2].

Head injury prevalence is often happen and increase day by day, The number of head injury shows 29.770 cases, the majority victims because of the traffic accidents and it dominate in 51 years old [3]. Head injury in Indonesia also increase from 2,7 percent in 2007 become 8,2 percent in 2013, The head injury caused of bump (40,9%) The head injury because of Motorcycle incident is(40,6%). The head injury in the East Java shows the improvement from 9,3 percent in 2013 to 11,1 percent in 2018[4].

The head injury cause the intracranial bleeding so it will disturb the regulator function in the body and influent the hemodynamic to the head injury patient[5]. The Intracranial is influent the increasing of blood pressure, The improvement as the impact of blood pressure because of the pressure in the vein to the brain[6].

The improvement of blood pressure is able to improve the pulse frequency in the body. The brain bleeding also influent the lung function and other part

of body so the breath sytem and the temperature of body become regular [1]. Intracranial bleeding cause the intracranial pressure. The improvement is cause the awareness stage by using Glasgow Coma Scale [7].

Head injury patient with the decrease of awareness level will suffer the hemodynamic disruption status as the increasing level of blood pressure, decreasing frequency of breathing and pulse [8].. The increasing of intracranial pressure will disturb the flowing of blood to the brain so the brain will ischemic. The monitoring of hemodynamic status becomes the indicator of about prognosis patient. The head injury with intracranial monitoring is able to prevent perfusion flowing the blood to the brain. Hemodynamic status and intracranial status is really influence to the oxygen transfer to the brain [6]. This systematic review is to knowing the role of nurse in the treatment of handling the intracranial pressure for improved hemodinamyc status in head injury patient.

Method

1. **The Identification and Article selection:** The method that is done is the systematic review that is three stages there are determining the question by the PICO method, earning the data to the literature review that is include: identification, screening, appropriateness selection and the criteria of inclusion and literature synthesize to get the systematic review.

In this systematic review use several questions with the Emergency nurse IGD (population/patient), the intervention about the nurse role in the emergency room in increasing the intracranial pressure (outcome).

The earning data step to the literature review include the identification of the journal in the systematic review is by finding some journal that has been published in 2009-2019 in the international journal that is provide in several data base such as, ebsco, science direct dan pubmed. The finding is doing by typing the keyword: “role”, “nurse”, “handling”, “hemodynamic status”, “intracranial pressure” and “head injury”. Then the fifth words ins merged so it will appear keyword: In this article findings, it is found 23 articles in proquest, articles in Ebsco, 24 articles in Science Direct and 4 article in Pubmed. The screening that is done in the title and abstract it gained 32 articles that is suitable to the head injury treatment. The selection is continue by choosing the relevant journal with the management of increasing intracranial pressure (eligible) and has the similarity with the design study. In the last stage it only gained 16 relevant article with the improvement of intracranial pressure.

2. **Celection Criteria:**

The choose references to the synthesis must full fill the inclusion, there are:

a. Type of study: randomised controlled trials, quasy experiment, systematic review and case series.

b. The participants type: The head injury patient and the medical staff that give the increase of intracranial treatment

c. Intervention type: head injury management is begin from monitoring, intervention making, implementation and the evaluation from the treatment of both intracranial pressure and the head injury

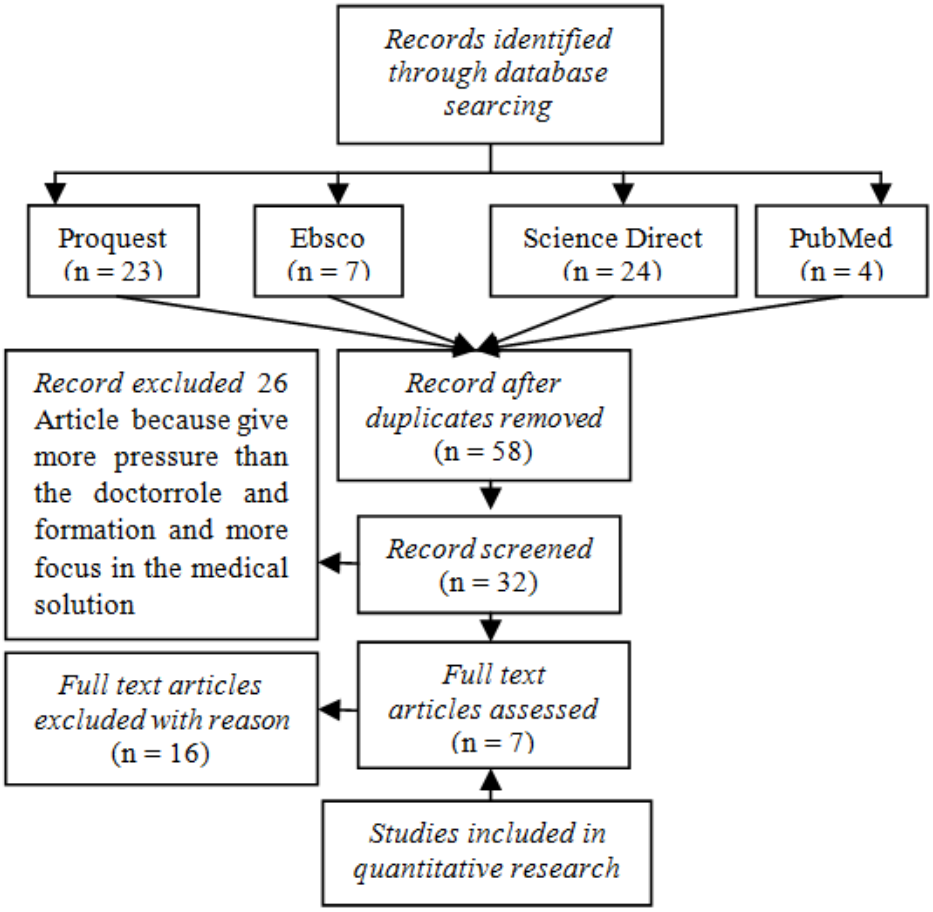
d. Type of the result: The result is seen from the intracranial and the hemorrhagic status of the patient that include the blood pressure, breathing frequency, pulse, temperature, oxygen saturation and the awareness level.

Exclusion frequency in the article can be gotten include:

a. Editorial study type and the comment result

b. Treatment setting in the pre hospital

The selection and the choosing of document use PRISMA stage that can be seen in picture 1.



Picture 1. The PRISMA stage diagram to identify the literature

Result and Discussion

The result from 16 articles that has been synthesize is gained the nurse role in the handling of the increasing of intracranial pressure include: the adequate oxygen giving, control, hyperventilation, drainage treatment, diuretic treatment and hyperosmolar, hipotermia manegement, The control of blood sugardecompressive craniectomy, positioning.

The objective of patient treatment with the intracranial pressure increasing there are decrease of TIK in the range of 10-15 mmHg, optimize CPP is higher than 60 mmHg, keeping the adequate oxygen, and prevent the brain herniation. Most of the management technique in oriented to the volume control cerebral blood volume and the CSS circulation.[18]

The giving of Adequate Oxygen: Giving the adequate oxygen can be started by keeping the breathing ways. The breathing ways can not be balance and inadequate ventilation can cause the hypoxemia and hypercarbia that cause the blood serebral and worsen TIK[18]. The hypoxia condition cause the vasodilatation of the brain nerve so it will worsen the intracranial bleeding condition. The giving of adequate oxygen can decrease the intracranial so it prevent the increase intracranial[11].

Hyperventilation Control: Amri (2017) stated that intracranial management pressure can be done in head elevation and hyperventilation. Hyperventilation can decrease the PaCO2 that has been caused the vasokontrikasi of the cerebral artery and the cerebral blood flew. Hyperventilation is used to decrease TIK to the short term time when the worsen the acute neurology as herniasi and other method to decrease TIK[20].

Drainage Treathment: The improvement of intracranial pressure tp the head injury patient that is drainage and diuretic and hyperosmolar[17]. Drainage treatment is done if the hyperventilation is unsuccessful. The short term time is drainage ventricular, while the

long term time is covered by ventricular peritoneal shunt, such as hydrocephalus[18]. Nurse must to make sure the drainage hose is savety in the position[15].

Deuretik dan hyperosmolarTherapy: Zeng et al[14] stated that the electrolyte control is using hypertonic saline 10% better than mannitol 20% in the preventing of ischemic in the brain cell. Enming et al [16] stated that the giving of thrombosis lateen is able to decrease the brain edema and decrease the intracranial pressure. The side effect from osmotic diuretic including hypotension and electrolyte disruption. If the used of mannitol the patient must to having the volume of adequate intravascular to prevent the hypertension and the secondary head injury[21].

Hipotermia management: Dash & Chavali[11] stated that the intracranial pressure management can be held such asliquid management, osmotherapy, temperature managemet and glychemic control. Head injury will be affected in the blood circulation to the brain that is caused hypoxemia. Nurse must to make sure that the hypotermia management is safety to the patient. It also needs to control of the temperature and TIK improvement to the patient[22].

Blood Sugar and Nutrition Control: Dash & Chavali [11] stated that intracranial pressure management can be held by using the glycemic control. Head Injury is caused the brain trauma that is cause to the increasing of catecholamine. The increasing of catecholamine is signed by the cortical release and glucose intolerant that cause hyperglycemia. Nurse also needs to keep the slang regularly to monitor the residual, the clean slang, and the giving of medicine. It needs to be attention that the aspiration and reflux from the patient [23]

Decompressive craniectomy: Gopalakrishan et al [12] stated that the decompressive craniectomyprevent the brain herniation and the decrease the intracranial. Craniectomy is to decrease the intracranial by giving the adding space in the brain and prevent the brain stem herniation because of the brain swollen. Fung et al [13] stated that the postdecompressive craniectomyin the 21st day is able to increase the per hematoma edema from 42,9 ml – 125,5 ml.

Positioning: Larson, Delnat & Moore [9] stated that the using of cervical cooler is able to minimize the head injury to prevent the brain stem edema because the increasing of head injury and cervical. List et al [10] also stated that the head injury management can be handle the worsen of fracture cervical 5-6 % so the control of hyperventilation need to keep stabilization of neck and head position. If the neck flections, extension or rotation will limit the vena drainage from head to jugulars vena and vetebralise so it will increase the whole of intracranial content [24].

Conclusion

The result of this systematic review from 30 articles that has been synthesize by the writes is gained the nurse role in the handling of the increasing intracranial pressure to improved hemodinamyc status in head injury patient that is: the adequate oxygenation, hyperventilation control, drainage handling, diuretic therapy and hyperosmolar, hypothermia management, blood sugar control, Decompressive craniectomy, Positioning.

Ethical Clearance: This article has been approved by the Medical Faculty of Brawijaya University

Source of Funding: Self founding

Conflict of Interest: Nil

References

1. Rahmanti A, Putri DK. Mobilisasi progresif terhadap perubahan tekanan darah pasien di Intensive Care Unit (ICU). Jurnal Ilmiah Kesehatan Keperawatan. 2016;12(1).
2. Lumandung FT, Siwu JF, Mallo JF. Gambaran korban meninggal dengan cedera kepala pada kecelakaan lalu lintas di Bagian Forensik BLU RSUP Prof. Dr. RD Kandou Manado Periode Tahun 2011-2012. eCliniC. 2014;2(1).
3. Disability weights based on patient-reported data from a multinational injury cohort Bulletin of the World Health Organization; 2016. Updated Last Updated Date.
4. Riskesdas. Riset Kesehatan Dasar. Badan Penelitian dan Pengembangan Kesehatan Kementerian Kesehatan RI. 2018.
5. Indriani N, Santoso B, Arwani, Mardiyono. Comparison of effectivitiveness of a progressive mobilization and mozart music therapy on noninvasive hemodynamic status changes in patients with head injury in the intensive care unit. Belitung Nursing Journal. 2018;4(2):135-144.
6. Leksana E. Pengelolaan Hemodinamik. Jurnal CDK 188. 2011; 38(7):537-540.

7. Rapsang AG, Shyam DC. Scoring Systems of Severity in Patients with Multiple Trauma. Cirugía Española (English Edition). 2015;93(4):213-221. doi: http://dx.doi.org/210.1016/j.cireng.2013.1012.1031.
8. Kayana IBA, Maliawan S, Kawiyana IKS. Intracranial pressure monitoring technique E-Jurnal Medika Udayana. 2013;2(3):480-501.
9. Larson S, Delnat AU, Moore J, Haute T. The use of clinical cervical spine clearance in trauma patients : a literature review Journal of emergency nursing. 2018;44(4.):https://doi.org/10.1016/j.jen.2017.1010.1013.
10. List M, Vukonich M, Nord W, Huntington M. Sports Concussion Management : A Review of the Evidence. Primers in Medicine. 2014;1(1).
11. Dash HH, Chavali S. Management of traumatic brain injury patients. Korean Journal of Anesthesiology. 2018;71(1):12-21. doi.org/10.4097/kjae.2018.4071.4091.4012.
12. Gopalakrishnan MS, Shanbhag NC, Shukla DP, Konar SK, Bhat DI, Devi BI. Complications of Decompressive Craniectomy. Journal Frontiers in Neurology. 2018;9(997): doi: 10.3389/fneur.2018.00977.
13. Fung C, Murek M, Klinger-Gratz PP, Fiechter M, Z'Graggen WJ, Gautschi OP. Effect of Decompressive Craniectomy on Perihematomal Edema in Patients with Intracerebral Hemorrhage. Plos One. 2016;1(1): DOI:10.1371/journal.pone.0149169
14. ZhangD,ChenJ,HanK,YuM,HouL.Managementof Penetrating Skull Base Injury: A Single Institutional Experience and Review of the Literature. BioMed Research International. 2017;1(1):1-12. https://doi.org/10.1155/2017/2838167.
15. Haddad SH, Arabi YM. Critical care management of severe traumatic brain injury in adults. Candinavian Journal of Trauma, Resuscitation and Emergency Medicine. 2012;20(12).
16. Enming JS, Fredriksson L, Kanzawa M, et al. Imatinib treatment reduces brain injury in a murine model of traumatic brain injury. Front. Cell. Neurosci 5. 2015;9(385): doi: 10.3389/fncel.2015.0038.
17. Sankhyan N, Raju KNV, Sharma S, Gulati S. Management of Raised Intracranial Pressure. Indian J Pediatr. 2010;77:1409–1416. DOI 1410.1007/s12098-12010-10190-12092.
18. Carney N, Totten AM, O'Reilly C, Ullman JS, Hawryluk GWJ, Bell MJ. Guidelines for the Management of Severe Traumatic Brain Injury 4th Edition. Brain Trauma Foundation. 2016;1(1).
19. Muthuraju S, Pati S, Rafiqul M, Abdullah JM, Jaafar H. Effect of normabaric hyperoxia treatment on neuronal damage following fluid percussion injury in the striatum of mice : A morphological approach. J. Biosci. 2013;38(1):93–103 DOI 110.1007/s12038-12012-19290-12037.
20. Arifin H. Airway Management. Dalam : Hakim, A.A., et al. Modul Keterampilan klinik. Medan: Fakultas Kedokteran Universitas Sumatera Utara; 2012.
21. Kawoos U, McCarron RM, Auker CR, Chavko M. Advances in Intracranial Pressure Monitoring and Its Significance in Managing Traumatic Brain Injury. Int. J. Mol. Sci. 2015;16:28979–28997. doi:28910.23390/ijms161226146.
22. Chemonges S, Dunster KR, Gregory SD, Hayes R, Toon M, Shekar K. Optimal Management of the Critically Ill: Anaesthesia, Monitoring, Data Capture, and Point-of-Care Technological Practices in Ovine Models of Critical Care. BioMed Research International. 2014;1(1).
23. Kayana IBA, Maliawan S, Kawiyana IKS. Intracranial pressure monitoring technique. E-Jurnal Medika Udayana 2013 2(3):480-501.
24. Amri I. Pengelolaan peningkatan tekanan intrakranial. Jurnal Ilmiah Kedokteran. 2017;4(3).

DOI Number: 10.37506/ijone.v12i4.11240

Faculty Perceived Benefits and Barriers of Online Teaching among Nursing Faculty in Tamil Nadu

Ani Grace Kalaimathi[1], Latha Venkatesan[2], Vijayalakshmi K.[3]

[1]Registrar, Tamil Nadu Nurses and Midwives Council,
[2]Principal, [3]Professor, Apollo College of Nursing, Chennai, India

Abstract

The Covid- 19 pandemic has forced the central and state governments to strictly adhere to complete lockdown in the country. In order to continue teaching and learning of Nursing students, Online learning was organized by Tamil Nadu Nurses and Midwives Council (TNNMC), in collaboration with nursing educational Institutions of Tamil Nadu. This study was undertaken to assess the Perceived Benefits and Barriers and of online learning, among Nursing faculty in Tamil Nadu.

Method: A cross sectional, descriptive correlational study was conducted among 2375 faculty, who were selected through consecutive sampling technique, in nursing colleges of Tamil Nadu. Google survey forms were used to collect the data (Rating Scales on Perceived Benefits and Barriers of online learning).

Results: Study findings revealed that, Mean scores of benefits of online learning is 80/100, (SD - 9.1)and barriers scores was 62/100 (SD-9.24).

Conclusion: Overall study findings revealed that overall faculty had positive perception on benefits of online learning even though they were also concerned about some barriers which can be managed by meticulous planning and implementation of the system. Therefore it can be effectively incorporated in future also along with traditional teaching method to facilitate effective teaching and learning process**.**

Keywords: *Benefits, Barriers, Online Learning, Nursing Students, Faculty.*

Introduction

The Covid- 19 pandemic has sparked a global realization that our current way of life does not work. Coronavirus pandemic has significantly disrupted various sectors in India including education. It is a well known fact that due to corona virus pandemic, the state governments across the country temporarily started shutting down schools and colleges including nursing Colleges. As per the present situation, there is an uncertainty when schools and colleges will reopen. There are more than 200 nursing educational institutes, which are facing challenges like any other educational institutions.

In the face of a crippling pandemic, technology has emerged as a major lifesaver. Communication is a major key to our interconnected existence and technology is the driving force that maintains our connections.[1]

In this crucial stage, technology plays an important role in the lockdown period like study from home and work from home. In current scenario, that is the only way as well as demand in the educational system to continue teaching and learning process. In view of this context, Registrar of Tamil Nadu Nurses and Midwives Council (TNNMC), Dr Ani Grace Kalaimathi, has taken initiation to develop the system of Online teaching and learning in collaboration with nursing educational Institutions to continue learning. In Tamil Nadu, there are 192 Nursing institutions which offers B.Sc. Nursing

Corresponding Author:
Dr. Latha Venkatesan
Principal, Apollo College of Nursing, Chennai-600 095
e-mail: latha6901@yahoo.com

programme, with 42,000 students studying B.Sc. Nursing, maintaining students teachers ratio as 10: 1. Number of students studying in each college varied from 50 to 100 students. Among 192 Colleges, 56 Colleges offer PB B. Sc. (N) program (1284 students studying PB B.Sc. Nursing) and 61 Colleges offer M.Sc. (N) program (804 students studying M.Sc. Nursing).

In these entire Institutions uniform syllabus prescribed by Indian Nursing Council and approved by the TN Dr MGR Medical University, is followed and 60-80% of the syllabus of the current academic year had been completed before lock down period.

In this context, to continue teaching and learning, among 192 Colleges, 56 Nodal centres were formed by TNNMC, under which 4-5 colleges offering B. Sc. (N) program were clubbed depending upon the number of students studying in each College (200- 250 students for each nodal cente).Similarly three nodal centres for PB. B.ScNursing (clubbing 16 - 23 Colleges and 360 – 434 students) and six nodal centres for M.Sc Nursing (clubbing13 - 29 Colleges and 100- 200 students) were formed.

Subject experts in each subject and Coordinators were identified and invited to develop content in the form of PPTs along with Videos and other AV Aids (wherever required), assignments and posttest using different tests. Content coverage and quality of the content were validated by the coordinators and subject experts in each subject. Time Table was prepared in advance and content were uploaded in the Google Class Room (GCR) by respective Nodel Centres on previous days of Scheduled dates. Students' requests and comments were taken into consideration and their doubts were clarified in Google Class Room platform. Online Quiz was also conducted using Kahoot App and winners were awarded. Students were encouraged and appreciated for their positive attitude and active participation by demonstrating enthusiastic learning. In addition to these activities, various online Courses and Skill based Courses were also provided by the TNNMC on free of cost to improve their clinical competency. All these activities were carried out immediately (after two days) once the Lock down is announced by the Government.

We live in an era where technology is enabling us to gain knowledge at a speed formerly inaccessible.[2-4] With the, digital skills of teachers and students, internet connectivity it is necessary to explore online learning, to achieve our goal without interruptions. Online teaching typically refers to courses that are delivered completely online, without physical or on-campus class sessions, which are not possible in current scenario. It is also often referred as eLearning.

The most obvious benefit of online learning is the ability to learn from anywhere which provide the convenience of time and space since students and teachers do not have to physically be in space.[5-7] Online education can be flexible, accessible and convenient for students; they have more freedom to work at their own pace and on their own schedule.

At the same time we cannot ignore the fact that that, the effectiveness of online learning does not depend on technology itself, but on the instructors' preparation and their attitude, mind set including perceived benefits, barriers and needs. In addition, despite the obvious advantages to online learning, there are some problems or barriers that need to be considered and strategies to be employed to improve the system to bring the best desirable results.

Perceived benefits refer to the *perception* of the positive consequences that are caused by an online learning for students and teachers. These are also strong motives of performing an online teaching effectively and efficiently by faculty to achieve the goal. Perceived barriers refer to a faculty's perception of the obstacles of effective online learning. Assessment of Perceived Benefits and Barriers are essential to plan for the strategies to strengthen the program and minimize the obstacles. Therefore this study was undertaken by the researchers to assess the perceived benefits and barriers of online learning, among nursing faculty in Tamil Nadu.

Statement of the problem: A study to assess the Faculty Perceived Benefits and Barriers of online learning, among Nursing faculty in Tamil Nadu.

Research Methodology

A cross sectional, descriptive correlational study was conducted at nursing colleges in Tamil Nadu. All the faculty who are working in 192 nursing Colleges of Tamil Nadu, and also continuing online learning Process organized by Tamil Nadu Nursing Council (in the wake of entire lockdown in the Country due to Corona Virus Pandemic), were invited to participate in the study. Among them 2375 faculty have responded (Self-

administration). Informed consent was obtained and participation in the study was purely voluntary. Google survey forms were used to collect the data.

The following predetermined and validated tools were used for data collection.

A. **Proforma to collect Baseline Variables of the Faculty:** It was used to collect informations on background characteristics such as gender, age, Experience etc and characteristics related to computer skills and online teaching & learning.

B. **Rating Scale on** Perceived Benefits, of teaching nursing students through online learning, among nursing faculty.

   It is a 20-items, 5-point Likert scale (5-Strongly agree, 4-Agree, 3- Not sure, 2-Disagree, 1-Strongly Disagree), under three sub components such as Benefits for Students, Teachers and Both. The obtainable score was 20-100. Higher scores indicated positive perception and vice versa.

C. **Rating Scale on** Perceived Barriers, of teaching nursing students through online learning, among Nursing.

   It is also a 20-items, 5-point Likert scale (1- Not a barrier, 2- Somewhat a barrier, 3-Not sure, 4-Barrier, 5- Significant Barrier)under three sub components such as Interpersonal barriers, Training and technology barriers and Institutional policy/System barriers. The obtainable score was 20-100. Higher scores indicated more barriers and vice versa.

Results

Collected data was analyzed using appropriate descriptive and inferential statistics in SPSS-20.

Table 1: Frequency and Percentage distribution of Baseline Variables of the Faculty (N=2375)

Baseline Variables	f	%
Gender		
Female	2245	94.5
Male	130	5.5
Age in years		
Below 30	914	38.5
31-40	969	40.8
40-50	400	16.8
Above 50	92	3.9
Qualification		
B.Sc. (N)	853	35.9
M.Sc. (N)	1364	57.4
Ph.D.	158	6.7
Current Designation		
Asst Lecturer/Tutor	966	40.7
Lecturer	213	9.0
Asst Professor	423	17.8
Associate Professor/Reader	358	15.1
Professor	277	11.7
Professor cum principal/Dean	138	5.8
Total years of experience in teaching		
Below 5	1052	44.3
5-10	605	25.5
11-20	606	25.5
Above 20	112	4.7
Perceived confidence in working with computers		
Good	1612	67.9
Average	715	30.1
Not confident	48	2.0

Table 1 reveals that majority of the faculty were females (94.5%), with M.Sc. (N) Qualification (57.4). With regard to other variables, 40.8% of them were aged between 31-40 years,40.7%of them worked as Asst Lecturers with less than 5 years of 44.3%. Majority of them had good confidence in working with computer (67.9%) and did not have additional qualification (83.7%).Fig 2 depicts that 49.5% of the faculty used Google class room software/Apps for teaching and learning (Fig 1).

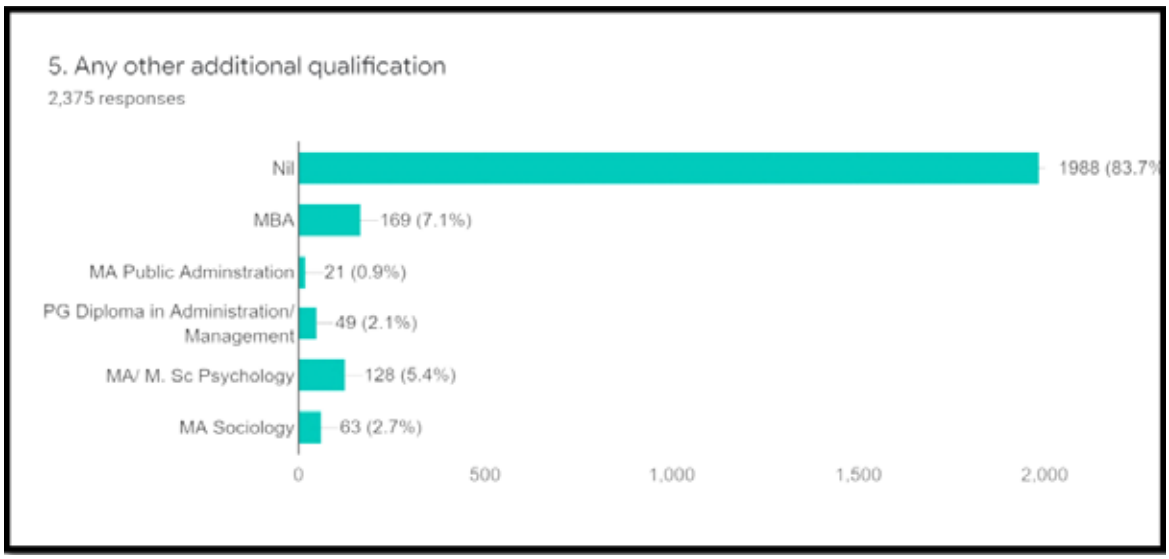


Fig 1: Frequency and % of Faculty with other Additional qualification

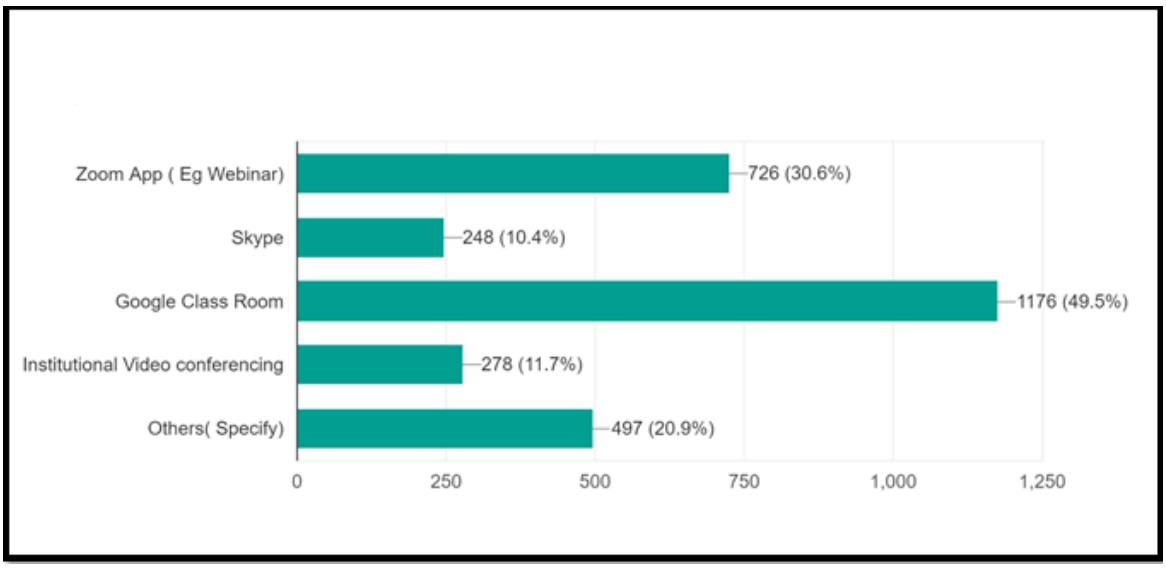


Fig 2: Frequency and % of Software used by faculty for online Teaching and Learning and Learning

Table 2: Mean and SD of Perceived Benefits and Barriers of Online Teaching among the Faculty (N=2375)

	Obtainable Score	Mean (%)	SD
Benefits			
Benefits for Students	4-20	16.06(80.3)	2.22
Benefits for Teachers	2-10	7.95(79.5)	1.29
Benefits for both (Students and Teachers)	14-70	55.99(79.98)	6.41
Global Benefits Score	20-100	80 (80)	9.1

	Obtainable Score	Mean (%)	SD
Barriers			
Interpersonal barriers	8-40	24.47(61.18)	4.07
Training and technology barriers	5-25	16.26(65)	3.56
Institutional policy/System barriers	7-35	21.18(60.5)	3.35
Global Barriers Score	20-100	61.92(61.92)	9.24

Table 2 indicates that, global perceived Benefits scores (Mean %) and its subcomponents was 80% with varied SD. Global perceived barrier score was 61.91(SD 9.24).Regarding barriers, Interpersonal barriers score was 24, 47(61.8%, SD 4.07), Training and technology related barriers scores was 16.26 (65%, SD 3.56), Barriers related to Institutional policy or System was 21.18 (60.5%, SD 3.35).

Study findings (Table 3) reveals that, there is a positive correlation (r=.034) between age and barriers, experience and benefits (r=.093), experience and barriers (.052). There is a weak negative correlation between age and benefits (r=-0.017) which was not significant (p>0.05).

Table 3 : Correlation between Age vs Benefits & Barriers and Experience vs Benefits & Barriers of Online Learning, among Nursing Faculty (N=2375)

Variables	r value	P value
Age vs Benefits	-0.017	0.421 (NS)
Age vs Barriers	.034	0.034 (S)
Experience Vs Benefits	.093	0.000 (S)
Experience Vs Barriers	.052	0.012 (S)

NS- Not significant S- Significant

Table 4 : Association between Selected Variables and Perceived Benefits & Barriers of Online Teaching among Nursing Faculty (N=2375)

Variables	n	Benefits			Barriers		
		Mean	SD	Test Value (t/ ANOVA-F) & p value	Mean	SD	Test Value (t/ ANOVA-F) & p value
Gender							
Female	2245	77.51	10.77	3.21 (t value) 0.001	61.86	9.20	3.21 (t value) 0.001
Male	130	80.14	8.97		62.80	9.81	
Qualification							
B.Sc. (N)	853	79.05	8.39	11.26 (F value) 0.000	61.30	8.61	6.6 (F value) 0.001
M.Sc. (N)	1364	80.29	9.40		62.04	9.36	
Ph. D	158	82.46	9.43		64.13	11.01	
Current Designation							
AsstLecturer/Tutor	966	79.27	8.47	5.98 (Fvalue) 0.000	61.22	8.60	3.15 (F value) 0.008
Lecturer	213	79.18	9.35		61.78	9.7	
Asst Professor	423	80.89	9.40		62.13	9.07184	
Associate Professor/Reader	358	79.47	9.23		62.14	9.36	
Professor	277	81.10	9.75		63.62	10.52	
Professor cum principal/Dean	138	82.71	9.44		62.36	9.87	
Perceived confidence in working with computer							
Good	1602	80.04	9.10	0.58 (F value) 0.944	61.79	9.08	2.51 (F value) 0.081
Average	723	79.89	9.21		62.37	9.58	
Not Confident	50	80.06	7.13		59.66	9.10	

Tab 4 reveals that there is significant Association between Selected Variables such as gender, Qualification, Designation, and Perceived Barriers of Online Teaching among Nursing Faculty ($p<0.001$).

Results also revealed that (Tab 4), there is significant association between Selected Variables such as gender, Qualification, Designation, and Perceived barriers of Online Teaching among Nursing Faculty ($p<0.01$).

Discussion

This study was conducted to assess the perceived benefits and barriers of online learning of students, among nursing faculty in Tamil Nadu. Online Teaching and Learning for nursing students was organized by TNNMC, in the wake of Corona Virus Pandemic and lockdown in the Country, because of which traditional class room teaching was not possible to conduct. Study findings on perceived benefits of Online Teaching revealed that, majority of the faculties reported positive perception on Benefits of Online learning (Mean Score was 80/100, SD 9.1) (Global as well as sub Components such as benefits for students, Teachers and both). These findings are consistent with study conducted by Yanti et All[8]. The findings of their study indicated that the teachers perceived that e-learning is a useful and also easy to use technology. It was also found that the teachers are satisfied with advantages of the use of this new technology.

Study findings on perceived barriers of Online Teaching revealed that, Mean barriers score was 61.92/100 (SD 9.24), for sub components Mean % score was,Interpersonal barriers - 61.18, Training and technology barriers -65, Institutional policy/System barriers - 60.5. Similar findings are also reported in study conducted by Srichanyachon, who reported that the barriers of online learners in general were moderate[3].

In the current study, moderate scores in perceived barriers may be due to the fact that, Online Teaching in Tamil Nadu especially on large scale was first of its kind in the state in Nursing Institutions. Therefore the teachers may be more anxious even though it was realized that, it was the only option which is available and feasible to continue learning to achieve the best outcome among the students. It is interesting to note that perceived benefits was correlated with experience($r= .034$. $p=0.034$). Years of experience was also significantly correlated with the perceived benefits ($r= .093$, $p= 0.000$) and barriers ($r= 0.052$, $p= 0.012$). It indicates that as the age and experience which are interrelated factors, increased their perceived benefits as well as barriers also was increased which may be due to critical analysis of the current situation by the senior faculty.

Study findings also revealed that, there is significant association between selected variables such as gender, Qualification, Designation and Perceived Barriers of Online Teaching among Nursing Faculty ($p<0.001$). i.e Female Faculties with higher level qualification and designation, had better positive perception on benefits of online learning than their counterparts.

Similarly study findings also indicated that, there is significant association between Selected Variables such as gender, Qualification, Designation, and Perceived barriers of Online Teaching among Nursing Faculty ($p<0.01$). Faculty who were males, with only B.Sc. (N) qualification and lower level of designation reported high level of barriers than their counterparts. Overall study findings are encouraging and faculty were given opportunity to express their views on online learning which is need of the hour. Online learning allow for the combination of hands-on training as well as self-directed, knowledge-based learning.

Conclusion

Overall study findings revealed that faculty has responded positively on online learning and its benefits even though they were also concerned about some barriers, which can be managed by meticulous planning and implementation of the system. Therefore, it can be incorporated in future also along with traditional teaching method to facilitate effective teaching and learning process. However, we must be cautious that, the successful delivery of educational outcomes using this mediumrelies on its successful integration with pedagogy and knowledge of content.

Conflict of Interest: Nil

Funding: Self-Funding

Ethical Clearance: The ethical approval was obtained from IEC of Apollo College of nursing, Chennai.

References

1. Impact of Corona virus on Education in India. Available in https://www.jagranjosh.com/general-knowledge/impact-of-coronavirus-on-education-

in-india-1587642880-1. Accessed on 25th April 2020

2. Al Shorbaji N, Atun R, Car J, Majeed A, Wheeler EL, Beck D, Belisario JM, Cotič Ž, George PP, Hirvonen H, Hoon HB. eLearning for undergraduate health professional education: a systematic review informing a radical transformation of health workforce development. World Health Organization; 2015 Jan. Available in https://www.who.int/hrh/documents/elearning_hwf/en/. Accessed on 20th April 2020.
3. Srichanyachon N. The barriers and needs of online learners. Turkish Online Journal of Distance Education. 2014 Jul 1;15(3):50-9. Accessed on 18th April 2020
4. Norman S. 5 Advantages of Online Learning: Education Without Leaving Home. 2016 https://elearningindustry.com/traditional-learning-vs-online-learning. Accessed on 20th April 2020.
5. Truong NN, Hieu VM, Quoc TH. An Analysis of Perceived Student Benefits in E-Learning Service Case Study on FPT University. Journal of Education and Social Sciences, Vol. 8, (1). ISSN 2289-1552. 2017.
6. Lee D, Paulus TM, Loboda I, Phipps G, Wyatt TH, Myers CR, Mixer SJ. A faculty development program for nurse educators learning to teach online. TechTrends. 2010 Nov 1;54(6):20-8.
7. Nguyen DN, Zierler B, Nguyen HQ. A survey of nursing faculty needs for training in use of new technologies for education and practice. Journal of Nursing Education. 2011 Apr 1;50 (4):181-9.
8. H Yanti, A Setiawan, Nurhabibah and Yannuar. Teacher's Perception about the Use of E-Learning/ Edmodo in Educational Activities. IOP Conf. Series: Materials Science and Engineering 306 (2018) 012055 doi:10.1088/1757-899X/306/1/012055. Accessed on 25th April 2020.

DOI Number: 10.37506/ijone.v12i4.11241

Effectivity of Awareness Programme Regarding Pubertal Changes among Adolescent Boys in Selected Urban and Rural Schools

Bibin Kurian[1], Archana Maurya[2]

[1]Asst. Professor & HOD, Dept. of Child Health Nursing, SRMM College of Nursing, Sawangi (M), Wardha, Maharashtra, India 442001, [2]Professor, Dept. of Child Health Nursing, SRMM College of Nursing, Sawangi(M), Wardha, Maharashtra, India

Abstract

Because of the physical changes at the time of puberty, children in the age group of 10 to 19 show more interest to know about sex and sexuality. With the thinking of what father and brother will think of me if I ask doubts about the changes, they bury their doubts inside themselves. They do not get correct answer about the changes in the anatomy and sexuality. In such situations, they talk with other children in the same age group who are also facing the same situation. When they are unable to collect more knowledge, they become leaner to know about the opposite sex. Most of them do experiments and land up with worsened situation. They can take care of themselves in a healthy and adaptive way if we provide correct and enough knowledge about the changes that happens in their body at different ages and sexuality. If we hesitate to provide correct and must knowledge to the children, they will be in a confused state and is ashamed of not having proper knowledge about their own body. So the condition can be more vulnerable.

Because of the lack of correct knowledge about puberty, the adolescent boys may feel more anxiety, more tension, sometimes fear, nervousness, becomes restlessness and extremely stressed. The lack of correct knowledge can lead to a situation that they won't be able to manage the situation. In that case, they try drugs, drinks and smoking. Ultimately this will leads to bullying, lying, drunk driving, rebellious behavior, body issues and mental health issues. Other than these, they may feel physical symptoms like nausea, vomiting, headache, stomach ache etc. They also have the right to enjoy their life in a healthy manner.

Keywords: *Puberty, Sexuality, Experiments, Nervousness, Stressed, Nausea, Vomiting, Headache and Stomach ache.*

Introduction

The term adolescence comes from the Latin Word ***"Adolescere"*** meaning to grow to maturity. "Adolescence" is the age between 10 and 19 years. Between the age of 10 and 19, the boys have many aspects to follow. On an average, girls attain puberty at the age of 10 and boys by 12. Adolescents contribute one fifth of the world's population. In India, out of 100, adolescents contribute 23%, that means around 230 million children are in the age group of 10 to 19 years.[1]

The meaning of adolescent is 'to become apparent or prominent' or 'achieve identity.' Adolescence is defined as a phase of life characterized by rapid physical growth and development, physical, social and psychological changes and maturity, sexual maturity, experimentation, development of adult mental processes and a move from the earlier childhood socio-economic dependence towards relative independence. In other words we can say it is a transformation from child life to adult life where the child lives in a family and the adult lives in the society. They have their own and different needs that cannot be avoided by the parents. The changes or development that takes place in the adolescents are not same for all or the sequence may be different. Most probably, the physical maturity can be achieved earlier than psychological or social maturity.[2]

In India, for the private schools, it is not compulsory to include sexuality education in the curriculum. Even nobody knows how many private schools are following a comprehensive syllabus. It is compulsory for the private schools that are following Central Board of Secondary Education (CBSE) syllabus to add a portion of sex education in their syllabus but they are very few in number. Many of the private and public schools that are affiliated to State boards of secondary education have not included a single portion of the sexuality education in their curriculum.[3]

In the year 2011, there was a Census. According to that adolescents contribute one fifth of the population of the State. In Maharashtra itself, adolescents contribute 19 percent of the total population.[4]

Population Council in India says that India has 315 million children in the age group of 10-24 and they represent 30% of the country's population. These people are much healthier, most of them lives in urban area and well educated than the previous generation. At the same time, we cannot turn the face from the fact that they are at risk for not having much knowledge regarding sex and sexuality. As a result, they do not have many choices for their sexual and reproductive health. The attitudes and expectations of the current younger generation changes day by day. There was a poll conducted by India Today magazine which shows that one among the four women living in big cities of India between the age group of 18 and 30 had indulged in sex before marriage. In the year 2006-2007, a youth survey was conducted by International Institute of Population Sciences (IIPS) and Population Council in Maharashtra. The samples were unmarried men and women who were in the age group of 15-24 years and married women and men in the age group of 15-29 years. They found that most of the women in both groups do not have any knowledge regarding sexuality. There also 18% of men and 3% of women have had indulged in sex before marriage. Compared to women, men have more access to information, but it was not the right source. The true fact is, in this era also, women do not feel free to talk about the sexuality. The results also shown the fact that 33% of unmarried women were aware of the fact that they could get pregnant from their first sexual encounter as compared to 46% of men.[5]

Today's young generation are at high risk to conditions that affect their health because of their personal choices, the way in which the environment influence and changes in the lifestyle including diseases. The other conditions include disorders from substance use,injuries results from road traffic accidents, attempted and successful suicides, infections that are transmitted sexually, teenage pregnancies and unplanned pregnancies, homelessness, violence and several others.[6]

Even though we live in a fast forwarding and fast growing country, today also there are restrictions or hesitations for the elders in our society to have a casual or free discussion of the reproductive health issues with teenagers or even with their own sons.[7]

Elders in the society believe that if they talk about sexuality with adolescents, they may get into sexual crimes. Because of this kind of thinking of the elders, teenagers or adolescents get very little or no knowledge about the sexuality either from their parents or from the school.[8]

As a result of the hesitation of the parents to discuss the sexual health and sexuality and lack of incorporation of topics related to sexual health, adolescents never get any help from their parents as well as the education system in this regard. The most interesting thing is, many of the health centers are also of no use for this matter.[9]

When adolescents do not get enough knowledge from their parents, school and health centers, with no choice left, they turn towards their friends, local books and media. We can say that not only in India, almost in all countries, this is the situation and the teenagers or adolescents pass through this crucial phase of their life without the help from where they are supposed to. So, they are at high risk of getting road traffic injuries, sexually transmitted infections and if the situation is not handled properly at time, this can lead to much bigger health problem for them in their later life.[10]

There are certain changes in the body of an adolescent or teenage boy which are unexpected and upsetting experience for many. One of the most suitable examples for this is ejaculation. It is believed to be the most upsetting experience for an adolescent who do not have much knowledge regarding the changes that happens at the time of puberty or adolescent period. Shipman conducted a research study on psychodynamics of sex education. It is revealed that only 15% of the samples had some knowledge about ejaculation and understood the concept of ejaculation prior to its occurrence. Thus, lack of preparation can lead to negative experiences in their life and sometimes it can be fatal also.[11]

Sometimes the information passed to the adolescents or the information they got from the other sources may not be adequate or accurate with their own experiences and that will affect their emotional balance.[12] It is just as such factors influence adolescent girls' perceptions of the menarcheal experience.[13] Most of the time; adolescents hesitate to ask questions or doubts regarding their reproductive or sexual health problems to elders keeping in mind that what elders will think of them. Ultimately, this leads to self treatment of their problems or approach persons who are not legally permitted to practice medicine.[14]

Adolescents discover themselves when their intellect growth transfers from concrete form to abstract thinking. They try to define what they are and their relationship with the world. At that time, they ask themselves these four questions:

- **Who am I?** (Related to their sexuality and social roles)
- **Am I normal?** (Do I fit in with a certain crowd?)
- **Am I competent?** (Am I good at something that is valued by peers and parents?)
- **Am I lovable and loving?** (Can someone besides Mom and Dad love me?)

At many times parents and relatives of the adolescents work together. They should understand that the answers of these questions are very important to them. Also they have to give them a chance to explore them and to find themselves the answers of this questions.[15]

A research study was conducted at Nand Nagari, Delhi. The setting of the study was slums and the samples were adolescent boys and girls. The findings of the study show that the adolescents were totally unaware about sexuality or sexuality related matters. Half of the study populations knew the fact that secondary sexual characters for boys are growing of moustache and beard. Only 16.8 per cent of the samples were aware of ejaculation at night and 12.9 per cent were aware of pubic hair. The study also included the knowledge about the changes that happens in the body during puberty. Girls had more knowledge regarding the pubertal changes than the boys. Only 58 per cent of adolescents knew the fact that moustache and beard are the signal that indicates the initiation of puberty. There are 12 per cent of adolescents who knew that ejaculation at night and genital growth are also a part of pubertal changes. The remaining 88 per cent were not even aware that these changes had already happened in their body. There were adolescents who don't even know what pubic hair is. All these indicates that there is a need of mass education about the puberty and the changes that happens in the body at the time of puberty for the adolescents especially for boys.[16]

Awareness regarding puberty changes in secondary school children was the name of the cross sectional study which was conducted at Bagalkot, Karnataka. There were three objectives; to evaluate the awareness regarding puberty changes in both boys and girls, to find out the necessity of the subject of sex education in the curriculum and the final one was to find out the source of information of the respondents. The students from 8th, 9th and 10th standards were selected for the study. There were a total of 502 students selected for the study. Out of that, 394 (78.49%) were boys and 108 (21.51%) were girls. Regarding secondary sex characters, 19.80% of the boys and 9.25% of the girls had correct knowledge. When 55.56% of the girls discussed sex matters with their parents but instead of discussing sex matters with parents, 45.18% of boys discussed it with their friends. 41.23% of the students were in favor of including sex education from higher secondary school. Regarding the source of information, 51.52% of the boys received it through television, whereas 40.74% of girls got the information through television.[17]

A study was conducted at Glasgow area to assess the changes in body composition in adolescent boys. A total of 47 healthy students were selected and the body composition was studied at 10 and 13 years. 22 of the students had reached a total puberty rating (TPR) greater than 4 and the remaining students were below 4 when it was checked at the age of 13. It is also observed that between the age 10 and 13, there is very fast and dynamic changes in the body composition happens.[18]

Conclusion

The important life event that happens in the adolescent period is the changes that happen in the body at the time of puberty. That includes physical, emotional and psychological changes. These changes are very important for their future development. Educating about the growth and development in the body is very important for the adolescents that will help to reduce the tension and anxiety at certain times of development if they do not possess adequate knowledge regarding these

changes. Also it will enable them to take right decision about the sexuality for the current situation and even for their future life.

But unfortunately, neither the parents nor the education system in India doesn't take any interest or initiative for educating the adolescents. As a result, they seek the answer for their own and some get more or less correct answer and most are in middle. So unable to get cope up with the situation, they approach measures like drinking, smoking and drugs. Adolescents need guidance to channel the drive toward risk-taking behavior into less dangerous and more constructive pursuits. So there is a need to educate the adolescents about the normal physiological changes occurring during the adolescence phase in order to help them to cope up with the various changes occurring and help to identify themselves as an individual.

Ethical Clearance: Taken from Institutional Ethics Committee, Regd. No. ECR/440/Inst/MH/2013/RR-2016, DattaMeghe Institute of Medical Sciences (Deemed to be University.

Source of Funding: Self.

Conflict of Interest: Nil.

References

1. Stroufe, L.A., & Cooper, R.G., "Child Development: Its Nature and Course", New York: Alfred A. Knopf 1988.
2. Hamburg, D.A., "Toward a strategy for healthy adolescent development" American Journal of Psychiatry, 1997, 154, 7-12.
3. Report to the United Nations Human Rights Council forthe Universal Periodic Review of the Republic Of Indiaon the Lack of Comprehensive Sexuality Education in India. https://lib.ohchr.org/HRBodies/UPR/Documents/Session1/IN/YCSRR_IND_UPR_S1_2008_YouthCoalitionforSexualandReproductiveRights_uprsubmission.pdf
4. Economic Survey of Maharashtra, Directorate of Economics and Statistics, 54th issue for the year 2014-15, http://admin.indiaenvironmentportal.org.in/files/file/Economic%20Survey%20of%20Maharashtra%202014-15.pdf
5. Project Youth in India: Situation and Needs Study, https://www.popcouncil.org/uploads/pdfs/2010PGY_YouthInIndiaExecSumm.pdf
6. World Youth Report 2003: The Global Situation of Young 14. People. New York: Department of Economic and Social Affairs, United Nations; 2004. P.429. Available from: http://www.un.org/esa/socdev/unyin/documents/worldyouthreport.pdf, accessed on January 9, 2013.
7. Fox LS. Adolescent male reproductive responsibility. Soc Work Educ. 1983 fall; 6(1):32-43. PubMed PMID: 12339621.
8. Hoang, D.H. What do pupils and students know about contraceptive methods? SUC KHOE SINH SAN. 2001; 2:23, 25.
9. Khan MA, Rahman M, Khanam PA, Barkat-e-Khuda, Kane TT, Ashraf A. Awareness of sexually transmitted disease among women and service providers in rural Bangladesh. Int J STD AIDS. 1997 Nov; 8(11):688-96. Pub Med PMID: 9363543.
10. Mustafa MA, Mumford SD. Male attitudes towards family planning in Khartoum, Sudan. J Biosoc Sci. 1984 Oct; 16(4):437-49. Pub Med PMID: 6490682.
11. Shipman, G. The psychodynamics of sex education. In Muuss, R. E. (ed.), Adolescent Behavior and Society: A Book of Readings. Random House, New York, 1971. p. 326-39.
12. Ruble DN, Brooks-Gunn J. The experience of menarche. Child Dev. 1982 Dec; 53(6):1557-66. PubMed PMID: 7172781.
13. Whisnant L, Zegans L. A study of attitudes toward menarche in white middle-class American adolescent girls. Am J Psychiatry. 1975 Aug; 132 (8):809-14. PubMed PMID: 1147064)
14. Piaget J, Inhelder B. The Psychology of the Child. New York, NY: Basic Books Inc; 1969. P.1557-9.
15. Perkins, D.F., "Adolescence: The Four Questions", University of Florida Extension, 2001.
16. Dalvir Singh, Health and Population - Perspectives and Issues 23 (4): 198-204, 2000.
17. Dorle AS, Hiremath LD, Mannapur BS, Ghattargi CH. Awareness regarding puberty changes in secondary school children of Bagalkot Karnataka-A cross sectional study. J of Clin and Dig Re Study. 2010Oct: 4:3016-3019.
18. Riumallo J, Durnin JV., "Changes in body composition in adolescent boys", Eur J ClinNutr. 1988 Feb; 42(2):107-12.

DOI Number: 10.37506/ijone.v12i4.11243

The Influences of Nurses' Communication toward Code Blue Team Activation Decision Making at Hospitals

Ekwantoro[1], Kuswantoro Rusca Putra[2], Setyoadi[2]

[1]Nursing Master Students of Brawijaya University, [2]Lecturers of Brawijaya University

Abstract

Communication with peers and making decisions are the main successful components in code blue team activation. Communication provides information concerning patients. Thus, *code blue* team activation becomes the appropriate thing. This research aims to find out the nurses' communication toward the code blue team activation decision in the hospital. This research applied a *cross-sectional* study design. The applied sampling technique was purposive *sampling.* The sample consisted of 93 hospitalized patients. The data collection was done by distributing the questionnaire. The questionnaire had undergone validity and reliability tests. The data analysis process applied *spearman rank* statistics test and multiple linear regression. The results show that the average score of nurses' communications is 34.7 (SD + 2.23). The decision making of the nurses was based on their intuition, 72%. The linear regression shows the communication component in the form of common interest. It became the dominant factor in decision making. It could be concluded there was communication influence in deciding the code blue team activation.

Keywords: *Communication, decision making, code blue.*

Introduction

A code blue is a code applied at hospitals around the world to tell any emergencies dealing with cardiac arrest or respiratory problems [(1)]. This code was first introduced around the 1990s in Bethany Medical Center, Kansas. The purpose of a code blue is to intervene in cardiac-arrested or critically ill patients administered by the code blue team at hospitals[(2)]. A code blue team consists of a doctor, a nurse, and other staff that have skills in emergencies [(3)].

This code blue activation implementation influences the service quality and improves the life quality of the patients at the hospital[(4)]. The applied intervention promoted by the code blue team for any critical patients could increase their survivability until 26%. It also could increase the survivability rate of cardiac arrest patients with a percentage of 11.13%[(5)]. Other studies mention that a code blue activation could decrease 18-19% mortality cases due to cardiac arrest in inpatient services[(6,7)].

Communication with peers and making decisions are the main successful components in code blue team activation[(8)]. Communication provides sufficient information exchange so a reason to promote *code blue* team activation would be deemed accurate. Lack of communication creates a situation in which any mistake while providing care could occur. Such mistakes have potencies to cause severe injuries or even unexpected mortality for the patients[(9)]. Poor communication and feeling afraid to be criticized due to the mistakes in activating the code blue team is frequently occurred[(10)].

This research aims to find out the nurses' communication influences in making the blue code activation at hospitals.

Research Method

This is analytic correlation research with a cross-sectional design. This research was carried out from March until April 2020 in a hospital, located in, East Java Province, Indonesia. The population of this research consisted of the nurses in the inpatient hall. The eligible and condescend respondents consisted of 93 nurses. They were selected by random sampling. The data collection was done by distributing the questionnaire. The questionnaire had undergone validity and reliability tests.

The descriptive analysis uses average, the standard of deviation, minimum and maximum scores, and percentage for the variables with categories. The applied bivariate test was used to connect those two variables. Meanwhile, to find out the most dominant factor, it was done by using multiple linear regression test. In this research, the data was analyzed by IBM Statistical Package for the Social Sciences (SPSS) version 26.0 with a significant score of 0.05.

This research had been deemed ethically feasible from the research-ethics commission of Medicine Faculty of Brawijaya University Malang,Number 58/ EC/KEPK-S2/03/2020. This research was also deemed ethically feasible by the research site with number 005/ Etik/III/2020.

Results and Analysis

Respondents' Characteristics: The findings showed from 93 nurses, most of them were averagely aged 34.07 years old (SD + 6.97). The numbers of female nurses were 57 (61.3%). The male nurses were 36 (38.7%). The latest educations of the respondents when they filled up the questionnaire were Diploma III (70 people or 75.3%) and 23 people (24.7%) were a bachelor of nursing program. The years of service were 11 years (7.37) with a minimum year of service was one year and the maximum year of service was 24 years (Table 1).

The statistics test of the respondents' characteristics factors with the decision-making show that age (p = 0.043), education (p = 0.000), and experience (0.022) have a significant correlation in the nurses' making decisions to activate the code blue team.

Table 1. The Respondent distribution (N-93)

Characteristics	**Mean ± SD**	**Min-max**	***p* Score**
Age, (years)	34 ± 6.97	24-48	0.043
Experience, (years)	11 ± 7.37	1-24	0.022
Characteristics	Frequency (N)	Percentage	*p* Score
Sex			
Male	36	38.7%	0.919
Female	57	61.3%	
Education			
Diploma	70	75.3%	
Bachelor	23	24.7%	0.000

SD: Standard of deviation

The Nurses' Communication in Making Decision: The communication factor has an average score of 34.7 (SD + 2.23). Its sub-variables consist of control power 7.5 (SD + 0.6), Scope of Practice with 9.8 (SD + 1.4), mutual interest with 11.4 (SD + 0.6), and common goal with 6.1 (SD + 0.8). In the code blue team activation decision, it showed most of the nurses chose the intuitive pattern in making decisions. There were 67 respondents (72%). The parameter or process in making decision showed the average score 20.22 (SD + 1.99), problem identification with score 20.6 (SD + 2.11), planning activity 21.09 (SD + 2.77), and implementation or evaluation with 20.79 (SD + 2.65). The statistics test results between communication and decision making showed *p-value = 0.000 < 0.05* and *r score* = 0.373. It meant the nurses' communication influenced the nurses' decision making in activating the *code blue* team. It meant better communication of nurses would lead to better decision making in activating the code blue team (Table 2).

Table 3 The distributive factors of cognition and communication (N=93)

The variable data	Mean ± SD	Min-max	*p* Score
Communication	34.7 (SD ± 2.23).	30-39	0.000 r = 0.373
Parameters			
Control-power	7.5 (SD + 0.6)	6-8	0.005
The environment of the practice	9.8 (SD + 1.4)	6-12	0.007
Common interest	11.4 (SD + 0.6)	10-12	0.002
Common objective	6.1 (SD + 0.8)	5-8	0.008

The Decision-Making Pattern	n	Percentage
Intuition	67	72%
Quasi-rational	21	22.6%
Analysis	5	5.4%
The process of making a decision	**Mean ± SD**	**Min-max**
The data collection	20.2 (1.99)	16-18
Problem identification	20.6 (2.11)	14-26
The activity plans	21.0 (2.77)	14-28
The implementation and evaluation	20.7 (2.65)	14-29

The results of multiple linear regression analysis tests show that the influential communication elements of the nurses' blue code activation decision are power control (0.007), common interest (0.000), and common objective (0.002). Table 4 shows that the most influential component in making decisions was a common interest with a standardized coefficient beta score of 0.333.

Table 3. The variable coefficients based on multiple linear regression

Model		Unstandardized B	Standardized Coefficients Beta	t	Sig.
1	Constanta	5,127		0.352	
	Control-power	2,852	0.251	2.740	0.007
	Common interest	3.722	0.333	3.622	0.000
	Common objective	2.278	0.297	3.230	0.002

Discussion

The nurse experience will provide valuable information about the decision-making process. The nurse's experience could improve intuitive decision making although the intuitive decision making might not better or could be worse than the analytic or other decisions[17]. The cumulative experience of the nurses would be information and knowledge to take sufficient decisions dealing with the patients' conditions[18].

The findings showed there was a correlation between age and decision-making factors. It could be concluded that the decision making was well-prepared and excellent as the age got older[19]. When an individual gets older, then his experience would cumulatively increase[20]. This matureness in an individual's decision making as determined by psychological matureness. It was directly correlated to the ages of the nurses. The more mature and the more obtained experiences, the wiser an individual would be to make a decision[21].

The education in this research was the result of the obtained learning from the college or formal educations. This research results showed the educational factor influenced the nurses' decision making in activating the code blue team. This research is in line with[22]. It found that education positively influenced the decision-making process. Education could also influence awareness of how to care for the patients and to make the best decision for them[23]. The nurse decision-making combined both theories the nurses obtained during their education and the real conditions of the patients they handled [24].

The communication in its correlation to the code blue team call is defined as how a nurse could collaborate properly to decrease the patients' clinical conditions[11]. Decision making and communication are important dynamic processes in caring for the patients[12]. It is in line with the research that there was a significant correlation between communication and decision making of the nurses to activate the code blue team as communication was the part of a frequently and sustainable applied process while making a decision[9].

Communication facilitated accurate, consistent, and easy nursing process so the nurses were capable to make proper decisions and improve their satisfaction[13]. Communication is fostered from various components so it could be empowerment inside of a patient care system. The component is power-control that has authority provision concerning with patients' that suffered clinical worsening conditions[14]. The second was the practice environment. This condition was strongly correlated to how a hospital environment supported the decision making of the nurses concerning the patients' conditions. The third was a common objective. It is also correlated that focus on a code blue team activation dealt with objective-oriented interest to save emergency state patients[15]. The fourth dealt with a common objective. It was a final process of a blue code team decision making.

The decision making in this research is the nurse's decision in activating the code blue team based on the hospitalized patients' clinical condition decrease. Our findings showed that most of the nurse decision-making had an intuitive pattern. Intuitive decision making is an immediate and accurate decision based on an individual's cognition and experience[16]. This condition could be proved in this research that there was a significant correlation between the experience and cognition factors to the nurse decision-making in activating the code blue team.

The hindrances and the success of the nurses' decision making are based on the characteristics of the nurses such as cognition, communication skill, and collaboration skill. The success in activating the code blue team becomes the key for the patients' safety at hospitals.

Conclusion

There was an influence between the nurses' communication and decision making of the code blue team activation. It showed good communication between nurse to nurse and doctors were expected to empower the decision making to save the patients.

Suggestions: Communication in decision making was important. Thus, before activating a *code blue* team, it should be better to be communicated whether the data of the patients had surely supported to activate the *code blue* team hospital.

Ethical Clearance: This article has been approved by the Medical faculty of Brawijaya University

Source of Funding: Self founding

Conflict of Interest: Nil

Reference

1. PATTNAIK, S. K., et al. Code blue protocol: observation and analysis of results over last 3 years in a new tertiary care hospital. Intensive care medicine experimental, 2015, 3.1: 1-1.
2. AL-ABOUD, Daifullah M.; AL-ABOUD, Khalid M. Hospital emergency codes. An appraisal. Saudi medical journal, 2010, 31.12.
3. DEVITA, Michael A., et al. Findings of the first consensus conference on medical emergency teams. Critical care medicine, 2006, 34.9: 2463-2478.Sep;34(9):2463–78.
4. JONES, Daryl, et al. The rapid response system and end-of-life care. Current opinion in critical care, 2013, 19.6: 616-623.
5. MONANGI, Srinivas, et al. Analysis of functioning and efficiency of a code blue system in a tertiary care hospital. Saudi journal of anaesthesia, 2018, 12.2: 245.
6. SHAREK, Paul J., et al. Effect of a rapid response team on hospital-wide mortality and code rates outside the ICU in a Children's Hospital. Jama, 2007, 298.19: 2267-2274.

7. SABAHI, Majid, et al. Efficacy of a rapid response team on reducing the incidence and mortality of unexpected cardiac arrests. Trauma monthly, 2012, 17.2: 270.
8. JONES, Daryl; RUBULOTTA, Francesca; WELCH, John. Rapid response teams improve outcomes: yes. 2016.
9. Astroth KS, Woith WM, Jenkins SH, Hesson-McInnis MS. A measure of facilitators and barriers to rapid response team activation. Appl Nurs Res. 2017 Feb;33:175–9.
10. JONES, Daryl; RUBULOTTA, Francesca; WELCH, John. Rapid response teams improve outcomes: yes. 2016.
11. Treacy M, Caroline Stayt L. To identify the factors that influence the recognizing and responding to adult patient deterioration in acute hospitals. J Adv Nurs. 2019;0–1.
12. GREENWALD, Howard P. Organizations: Management without control. Sage Publications, 2007.
13. PANAGOPOULOU, E.; BENOS, A. Communication in medical education. A matter of need or an unnecessary luxury. Archives of Hellenic Medicine, 2004, 21.4: 385-390.
14. SAN MARTÍN-RODRÍGUEZ, Leticia, et al. The determinants of successful collaboration: a review of theoretical and empirical studies. Journal of interprofessional care, 2005, 19.sup1: 132-147.
15. VAZIRANI, Sondra, et al. Effect of a multidisciplinary intervention on communication and collaboration among physicians and nurses. American Journal of Critical Care, 2005, 14.1: 71-77.
16. ABUBAKAR, Abubakar Mohammed, et al. Knowledge management, decision-making style and organizational performance. Journal of Innovation & Knowledge, 2019, 4.2: 104-114.
17. PRETZ, Jean E.; FOLSE, Victoria N. Nursing experience and preference for intuition in decision making. Journal of clinical nursing, 2011, 20.19-20: 2878-2889.
18. HODGETTS, Helen M., et al. See no evil: Cognitive challenges of security surveillance and monitoring. Journal of applied research in memory and cognition, 2017, 6.3: 230-243.
19. SANDERS, Susan T.; SCHULTZE, David. Next Gen NCLEX and Virtual Simulation.
20. NOTOATMODJO, Soekidjo. Promosi Kesehatan, Teori dan Aplikasi. Jakarta: Rienka Cipta. Rumah Sakit Roemani Semarang, 2012.
21. Zulkifli, Sureskiarti E. Hubungan antara Masa Kerja dengan Kepatuhan Perawat dalam Pelaksanaan Tindakan Pencegahan Pasien Jatuh di Rumah Sakit Umum Daerah Pemerintah Samarinda. Borneo Student Res. 2019;4:189–97.
22. BAKALIS, N.; BOWMAN, G. S.; POROCK, D. Decision making in Greek and English registered nurses in coronary care units. International journal of nursing studies, 2003, 40.7: 749-760.
23. STUBBINGS, Liz; CHABOYER, Wendy; MCMURRAY, Anne. Nurses' use of situation awareness in decision-making: an integrative review. Journal of advanced nursing, 2012, 68.7: 1443-1453.
24. Purwanto Y. Dinamika perilaku pengambilan keputusan perawat dan tenaga paramedis dalam kondisi gawat darurat the decision-making behavior of nurses and paramedics in emergency situation. J Penelit Hum. 2005;6(1):40–58.
25. Joshi. A framework to study knowledge management behaviours during decision making. J Univ Libr Assoc Sri Lanka. 2011;12:68–79.
26. Simmons B. Clinical reasoning: Concept analysis. J Adv Nurs. 2010 Mar 1;66:1151–8.
27. Ebright PR, Urden L, Patterson E, Chalko B. Themes surrounding novice nurse near-miss and adverse-event situations. J Nurs Adm. 2004 Nov; 34(11):531–8.

DOI Number: 10.37506/ijone.v12i4.11244

The Correlations among Leadership, Staff Organization and Meaningful Recognition of Nurses' Self-Efficacies toward the Management of Neonatal Resuscitation

Ika Rizki Anggraini[1], Kuswantoro Rusca Putra.[2], Setyoadi[2]

[1]Nursing Master Program, Medicine Faculty, University of Brawijaya, Malang,
[2]Nursing Departments, Medicine Faculty, University of Brawijaya, Malang

Abstract

Background: Self-efficacy is defined as an individual's belief to act. Neonatal resuscitation is a treatment of a newborn infant that requires team collaboration and movement precision. The leadership, staff organization and meaningful recognition are required to have good teamwork. It could increase the success rate of neonatal resuscitation. This research aims to determine the correlations among leadership, staff and meaningful recognition to self-efficacy among nurses in the neonatal resuscitation management.

Method: This quantitative study method applied a cross-sectional approach. The participants were selected using a random sampling technique. The respondents were 75 nurses that met the inclusion criteria. The data was collected by a questionnaire for the nurses in the NICU room and the hospital's perinatology. The data was analyzed by the Pearson product-moment correlation.

Results: The findings showed correlations among leadership, staff organization and meaningful recognition of the self-efficacy among the nurses in promoting neonatal resuscitation. The leadership obtains a p score = 0.000 (<0.05). Staff organization obtains a p score = 0.000 (<0.05). Meaningful recognition obtains a p score = 0.000 (<0.05).

Conclusion: Thus, self-efficacy could be improved by involving the roles of the hospital's management within the work-environment setting. It includes leadership, staff and meaningful recognition

Keywords: *Leadership, Staff Organization, Meaningful Recognition, Self-Efficacy.*

Abstract

The global neonatal mortality rate is about 44% of the under 5 year-old-child mortality rate in Indonesia(7). About 4 million mortalities occur on neonatal with 99% of them are found in low and middle-income countries. The frequent mortality cases are neonatal asphyxia. It causes a fourth of all neonatal mortalities weekly. The first life, with one million infant mortalities, occurs within the first 24 hours after the delivery. One million of 2.7 million neonatal mortality rates in 2013 occurred after the delivery. The most critical period to survive was caused by intrapartum-related complications(3,17). Dealing with intrapartum hypoxia, infection and prematurity, low weight baby birth globally contributes to 85% of newly born infant mortality rates(17). The gestational age while giving birth determines the neonatal outcome (4). It identifies that newly born infants require neonatal resuscitation and it is important to plan and provide the most accurate and effective treatment.

About 6% up to 42% of neonatal mortalities in low-income countries could be solved by neonatal resuscitation. It is a treatment for asphyxia cases that

Corresponding Author:
Ika Rizki Anggraini
Nursing Master Program, Medicine Faculty, University of Brawijaya, Malang
e-mail: ika02anggraini@gmail.com

could prevent 5-10% mortalities dealing with premature birth complications[21]. Birth asphyxia is an adequate oxygen deficiency of an infant. It causes brain damage. The diagnosis of birth asphyxia could be carried out when the baby has an APGAR score < 7. An infant is diagnosed with birth asphyxia may weakly breath or even not breath at all, bluish or pale, low heart rate, poor muscle tone, or suffering strain for several hours after the delivery[23]. This data emphasizes the importance of providing initial-qualified health services for newly born infants with poor conditions. The neonatal resuscitation requires tools and skills that are proven reliable and effective within a very limited resource set[14]. Administering qualified nursing care and neonatal resuscitation are important to ensure an excellent beginning of a newly born infant[7].

Leadership is a set of skills and abilities that are realized by an individual. A leader should utilize his skills. The correlation between leadership and care is about the staff and successful action developments for the patients[16].

Neonatal resuscitation has the purpose to save newborn lives that are encountered by a team. It requires accuracy and effective teamwork to handle this such situation[12]. Self-efficacy is a belief that an individual will act in a particular achievement[6]. A has a high self-efficacy individual tends to be able to encounter challenging situations in the workplace[24]. Competence and leadership skills are required by a nurse leader in organizing staff and creating high quality and patient-centered working environments, such as leadership, staffing, meaningful recognition (Dyk, Siedlecki, & Fitzpatrick, 2016). Leaders must foster a working environment that supports proper behaviors[9]. Effective leadership encourages innovation for health care workers to foster innovative performance behaviors in the organizational arrangement[1]. Therefore, the researchers had the intention to examine the correlations among leadership, staff organization and recognition of the nurses' self-efficacies with neonatal management resuscitation.

Material And Method

This research used a cross-sectional approach. The research was carried out at 3 hospitals in Malang City. 75 respondents in the NICU room and perinatology were involved in this research. The sample was determined by using a simple random sampling. This study was begun from the proposal drafting in September 2019 to April 2020. The inclusion criteria of the research consisted of having a minimum of 1 year of service, experience at least five times to engage with resuscitation for junior nurses and having experience at least 10 times to engage with resuscitation for senior nurses. The investigated variables were leadership, staff organization, meaningful recognition and self-efficacy. The data were collected by using 2 questionnaires from the 5-point (For & To, 2005) scale. They are 1 = "Extremely disagree, 2 = "Disagree", 3 = "Agree", 4 = fairly agree, 5 = "Extremely agree". The self-efficacy questionnaire was adopted from a 5-point Resuscitation Self-Efficacy Scale (RSES) (Issenberg, Chung, Kim, & Sun, 2012) scale. They are: 1 = "Extremely unconfident", 2 = "Unconfident", 3 = "Fairly confident", 4 = "confident", 5 = "Extremely confident". The validity and reliability tests of the instrument use the Pearson Product Moment (R), indicating R count ≥ r table (sig. 0.05). The data analysis process was carried out by the assistance of SPSS software version 20. The univariate analysis of age and the years of service are presented in the form of mean and standard deviation. Meanwhile, the data about sex, the intensity of resuscitation and training are presented in the form of frequency distributions. The bivariate analysis used Pearson product-moment test since the data is normally distributed. The respondents filled in the informed consent before the researchers collected the data. This research had gained ethical clearance at the University of Brawijaya Malang's ethics committee.

Findings/Results

This research dealt with characteristics of respondents and the findings were referred to the proposed research problems. The questions deal with the correlations among perceived self-efficacy and leadership, staff organization and meaningful recognition.

Table 1 Characteristics of respondents (n = 75)

Characteristics	Results
Age, year (mean ± SD)	31.40±6.80
Years of service, year (Mean ± SD)	8.57±5.95

Table shows the average age of nurses in promoting neonatal resuscitation is 31 years, SD (standard deviation) 31.40 with a 95% CI (Confidence Interval) of 29.83 - 32.97. Dealing with the former nurses that worked in the NICU/perinatology room, the mean value is 8.57 years, a standard deviation of 5.95 with a 95% CI of 7.20-9.94.

Table 2 Characteristics of respondents (n = 75)

Characteristics	Frequency (N)	Percentages (%)
Gender		
Male	1	(1.3%)
Female	74	(98.7%)
Resuscitation intensity		
Frequent	18	(24%)
Infrequent	57	(76%)
Training		
Once/Ever	34	(45.3%
Never	41	(54.7%)

Table 2 shows that the sex of the respondents from the study was mostly dominated by females. There were 74 people of them (98.7%) and male respondents consisted of only 1 person (1.3%). The respondent data related to the frequency shows the most frequent consists of 24% while the infrequent category consists of 57 participants (76%). The respondent data related to shows that nurse respondents who attended the training consist of 34 participants (45.3%) and nurse respondents who did not attend the training consist of 41 participants (54.7%).

Table 3 shows that leadership obtains the P-value equals to 0.000 ($\alpha < 0.05$) and (R = 0.645), indicating a significant correlation. Furthermore, staff organization obtains a P-value equals to 0.000 ($\alpha < 0.05$), indicating a significant and positive correlation between the staff organization with self-efficacy of nurses in promoting a strong neonatal resuscitation (R = 0.619). It means better the staff organization leads to better self-efficacy of nurses in promoting neonatal resuscitation. The P-value equals to 0.000 ($\alpha < 0.05$). It means that there is a significant and positive correlation between meaningful recognition and the self-efficacy of nurses in conducting neonatal resuscitation treatments(R = 0.633). Therefore, higher the acceptance leads to better self-efficacy of nurses in conducting neonatal resuscitation.

Table 3. The correlation results among Leadership, Staff Organization, Meaningful Recognition toward Self-Efficacy

	Variable	P	R
Self-efficacy	Leadership	0,000*	0,666
	Staff Organization	0.000*	0.612
	Meaningful recognition	0.000*	0.656

*sig. on the p-value < 0.05

Discussion

The Relationship between leadership and self-efficacy: Leadership is the ability of nurse leaders to create teams, understand the team's necessities and support the scope and responsibility for decision making (For & To, 2005). The result shows a positive direction and a significant relationship between leadership and nurses' self-efficacies. It means that better leadership improves the nurses' self-efficacies. The demographic data of the research shows that women have good leadership. It is consistent with Gibson's opinion that most women have an opinion for the sake of staff welfare.

Leadership is must be owned in creating a nursing culture and understanding the needs of the team in decision-making. The results showed that female nurses had similar abilities and styles of leadership with men. The female nurses mostly had excellent thought for the welfare of the staff. Its average score is 10.9 of 6-15. Therefore, leadership has quite good value. A person in the leadership process is influenced by the leadership style to support the staff in a conducive environment.

The finding is supported by several studies. It is in line with[5]. They found the correlations between leadership with self-efficacy and behavior were conveyed. Other studies concerning this study are conducted by Qiu (2020). It was found that the quality of service was directly proportional to efficacy. Leadership has a positive relationship with security. It impacts self-efficacy. Then, self-efficacy fosters an individual's motivation, well-being and personality in behavior[1]. The independence of staff in a raising complexity would escalate along with the improvement in friendly

leadership. It supports excellent performance and the intention to renew staff that improves staff efficiency.

The Correlation between Staff Organization and Self Efficacy: Organizing Staff is an act of staffing based on the right composition. It is done by looking at the compatibility between the needs of patients and the nurse competence. The staff organizing and self-efficacy were found to have a strong correlation and positive patterns. An excellent staff organization improved nurses' self-efficacy in performing neonatal resuscitation. The finding is supported by Amanda et al (2020). They found that hospital staff and resource arrangements were closely correlated to the quality of the work environment. Similarly, it is also stated by Carlisle (2020). He found that the ratio of nurses impacted care quality. In this study, the average years of the nurses' services are 8 years. A longer year of service is identical to seniority in an organization and is related to the attachment of a job. The staff has major roles in the organizational structure with an attachment to their respective jobs and duties. Engaging in a job could positively impact on a team [(5)].

Staff organization is how the placement of staff based on the right composition. It is done by looking at compatibility between patients' needs and nurses' competences. It is in line with Carlisle (2020). He said the ratio of nurses would influence on quality in conducting a treatment. The results of this study showed the nurses' years of service average are 8 years. It was considered suitable for the designated job[(5)]. The average score is 11.1 of a 7-15. It means self-efficacy is a significant factor affecting the performance of staff. It influences behavior that can boost confidence[(19)]. The appropriate number of staff organization and an excellent working environment improves the success of the treatment[(18)]. The low numbers of nursing staff could be detrimental for the patients and increase mortality rates[(11)].

The Relationship between meaningful recognition and self-efficacy: Meaningful recognition is the nurse's acknowledgment of the value given to the organization. Meaning the recognition variable had a significant and positive patterned relationship. It means higher recognition is related to neonatal resuscitation and leads to higher nurse's self-efficacy to do neonatal resuscitation. It is line with the study of Attiq (2013). She states the existence of an institution's recognition system with self-efficacy[(22)].

Recognition means being an essential component in a performance. Getting a significant relationship and a positive pattern from the research results means the more the considerable attention in conducting neonatal resuscitation, the higher the self-efficacy of nurses in neonatal resuscitate. There is a correlation between the institution's recognition system and self-efficacy[(2)], The average score is 11.1 of 6-15. Therefore, leadership has quite a good value. Nurses that promote resuscitation in this study with high intensity need to be offset by their recognition. The sense of attention received by the staff occurs when a person is rewarded in performing his or her jobs. Moreover when they are implemented with an award, it contributes to satisfaction and improves ability both in the form of praise and reinforcement against special competencies.

Conclusion

The results of this study can be used as consideration for hospital management in organizing staff by looking at the patient's condition, workload, clinical risk and safety level of nurses in conducting neonatal resuscitation treatments. A compliment is an effort to provide positive reinforcement for nurses who have specialized competencies that can improve the performance and self-efficacy of nursing staff.

Acknowledgment: The author would like to thank Universitas Brawijaya and University of Muhammadiyah Malang for supporting this research and all nurse who participated in this study.

Ethical Clearance: Ethical approval was received from the research ethics committee of the Faculty of Medicine, Brawijaya University (nomor 41/EC/KEPK-S2/02/2020). All participants provided written informed consent. Privacy and confidentiality were guaranteed.

Source of Funding: There was no funding in this study

Conflict of Interest: Nil

References

1. AFSAR, Bilal; MASOOD, Mariam. Transformational leadership, creative self-efficacy, trust in supervisor, uncertainty avoidance and innovative work behavior of nurses. The Journal of Applied Behavioral Science, 2018, 54.1: 36-61.
2. ATTIQ, Saman; RASOOL, Hassan; IQBAL,

Shahid. The impact of supportive work environment, trust and self-efficacy on organizational learning and its effectiveness: A stimulus-organism response approach. Business & Economic Review, 2017, 9.2: 73-100.

3. BALL, Jane E., et al. Post-operative mortality, missed care and nurse staffing in nine countries: a cross-sectional study. International journal of nursing studies, 2018, 78: 10-15.Bay, G., Miller, T., & Faijer, D. J. (2014).Level & Trens in Child Mortality.
4. BLENCOWE, Hannah, et al. Estimates of neonatal morbidities and disabilities at regional and global levels for 2010: introduction, method overview and relevant findings from the Global Burden of Disease study. Pediatric research, 2013, 74.S1: 4-16.
5. CARLISLE, Byron, et al. Efficacy of using available data to examine nurse staffing ratios and quality of care metrics. Journal of Neuroscience Nursing, 2020, 52.2: 78-83.
6. CZIRAKI, Karen, et al. Nurses' leadership self-efficacy, motivation and career aspirations. Leadership in Health Services, 2018.
7. ENWERONU-LARYEA, Christabel, et al. Basic newborn care and neonatal resuscitation: a multi-country analysis of health system bottlenecks and potential solutions. BMC pregnancy and childbirth, 2015, 15.S2: S4.
8. ENWERONU-LARYEA, Christabel, et al. Basic newborn care and neonatal resuscitation: a multi-country analysis of health system bottlenecks and potential solutions. BMC pregnancy and childbirth, 2015, 15.S2: S4.
9. FALLATAH, Fatmah; LASCHINGER, Heather KS; READ, Emily A. The effects of authentic leadership, organizational identification and occupational coping self-efficacy on new graduate nurses' job turnover intentions in Canada. Nursing outlook, 2017, 65.2: 172-183.
10. AMERICAN ASSOCIATION OF CRITICAL-CARE NURSES, et al. AACN standards for establishing and sustaining healthy work environments: a journey to excellence. American Journal of Critical Care, 2005, 14.3: 187-197.
11. GRIFFITHS, Peter, et al. The association between nurse staffing and omissions in nursing care: a systematic review. Journal of advanced nursing, 2018, 74.7: 1474-1487.
12. GRUBAUGH, Martha L.; FLYNN, Linda. Relationships among nurse manager leadership skills, conflict management and unit teamwork. JONA: The Journal of Nursing Administration, 2018, 48.7/8: 383-388.
13. ROH, Young Sook, et al. Development and psychometric evaluation of the Resuscitation Self-efficacy Scale for nurses. Journal of Korean Academy of Nursing, 2012, 42.7: 1079-1086.
14. JANET, Sophie, et al. Early neonatal mortality and neurological outcomes of neonatal resuscitation in a resource-limited setting on the Thailand-Myanmar border: A descriptive study. PLoS One, 2018, 13.1: e0190419.
15. JUKKALA, Angela M.; HENLY, Susan J. Readiness for neonatal resuscitation: Measuring knowledge, experience and comfort level. Applied Nursing Research, 2007, 20.2: 78-85.
16. LAMB, Alyson, et al. Describing the leadership capabilities of advanced practice nurses using a qualitative descriptive study. Nursing open, 2018, 5.3: 400-413.
17. LAWN, J. E., et al. Every newborn. An executive summary for The Lancet's Series. Lancet, 2014, 384.9938: 1-8.
18. MCHUGH, Matthew D., et al. Better nurse staffing and nurse work environments associated with increased survival of in-hospital cardiac arrest patients. Medical care, 2016, 54.1: 74.
19. SALANOVA, Marisa, et al. Linking transformational leadership to nurses' extra-role performance: the mediating role of self-efficacy and work engagement. Journal of advanced nursing, 2011, 67.10: 2256-2266.
20. SALANOVA, Marisa, et al. Linking transformational leadership to nurses' extra-role performance: the mediating role of self-efficacy and work engagement. Journal of advanced nursing, 2011, 67.10: 2256-2266.
21. SHIKUKU, Duncan N., et al. Practice and outcomes of neonatal resuscitation for newborns with birth asphyxia at Kakamega County General Hospital, Kenya: A direct observation study. BMC pediatrics, 2018, 18.1: 167.
22. SHIREY, Maria R. Leadership practices for healthy work environments. Nursing Management, 2017, 48.5: 42-50.

23. TASEW, Hagos, et al. Risk factors of birth asphyxia among newborns in public hospitals of Central Zone, Tigray, Ethiopia 2018. BMC research notes, 2018, 11.1: 496.

24. WANG, Lin, et al. Influence of social support and self-Efficacy on resilience of early career registered nurses. Western journal of nursing research, 2018, 40.5: 648-664.

DOI Number: 10.37506/ijone.v12i4.11245

The Correlation of Transport Time and Boarding Time to Unexpected Events During Transport of Emergency Patients to Critical Care Unit

Isti Wulandari[1], Kuswantoro Rusca Putra[2], Tony Suharsono[2]

[1]Student of Post Graduate Program, Nursing School, Faculty of Medicine, University of Brawijaya, Malang, Indonesia, [2]Lecture of Post Graduate Program, Nursing School, Faculty of Medicine, University of Brawijaya, Malang, Indonesia

Abstract

Background: Transport of emergency patients requires special attention because it has unexpected event risks. The vulnerable emergency department situation with complex cases, limited resources and multi-discipline makes the transfer risky. The emergency department patients that are worth to be transferred to inpatient rooms sometimes must wait until the referred rooms and their equipment are ready. Critical patients are vulnerable to any worsening condition due to acceleration or deceleration of movements. This research aims to find out the correlations among the nurses' experiences, hemodynamics monitoring and equipment preparation with unexpected things during transport of Emergency Patients to the Critical Care Unit.

Method: This quantitative study uses perspective-observational design. The sample consisted of 151 emergency patient transfer processes (the Emergency Department patients) that were transported to the Critical Care Unit. The ages of the sample are older than 16-year-old. The exclusion criteria are patients passing away in the Emergency Department or referred to other hospitals. The numerical data were analyzed by the Eta test while the categorical data were analyzed by Cramer's V test.

Results: From 151 observed patients, 119 patients experienced unexpected events. The bivariate analysis shows correlation between transport time and unexpected event ($F = 10.8$, F table $= 2.67$, $r = 0.425$). However, there is no correlation between boarding time in the Emergency Department to unexpected events ($p = 0.087$, $r = 0.208$).

Conclusion: Longer transport time leads to a higher risk of unexpected event occurrence. The companion officers should be able to prepare the patients properly, to ensure the routes of transport to be free, to promote strict monitoring during the transport process.

Keywords: *Unexpected events, transport, time, emergency, patients*

Introduction

The critical patient transports from Emergency Department require special attention[(1)]. The transport in an emergency and unstable condition has risks of complication occurrence and unexpected events of the patients' health[(2)(3)]. High patient volume entailed by complex severity level, a fast-working environmental characteristic that races against time and lots of interruption from various health worker types are causes of unexpected events in the Emergency Department[(4)].

The unexpected events during transports cover physiology and non-physiology[(5)]. *Moderate* unexpected events affect the treatment time[(6)].

Corresponding Author:
Isti Wulandari
Gondang Kalang 003/-, Banyurip, Sragen, Central Java, Indonesia
Phone Number: +6282223900967
e-mail: istiwulandrsdm@yahoo.com

Studies mention the unexpected events prevalence of 254 observed-critical patients during the transports to diagnostic units are such as 134 unexpected events in 64 patients. They are oxygen disconnection with 38 cases (27.33%), ECG displacement with 27 cases (19.42%), 15 O_2 saturation decrease cases for more than 5% of the beginning (10.79%), 22 various blood pressure cases for more than 20% from the baseline (15.82%), 5 mental status change cases (3.59%) and 6 arrhythmia cases (4.31%)[7]. Other studies mention from 143 observed-critical patients, 86 adverse events occurred. 44.1% of the cases dealt with physiological function worsening. 23.5% of the cases dealt with equipment failures. 19.7% of the cases dealt with team failures. 12.7% of the cases dealt with lateness[6].

The literature studies show that boarding time in the Emergency Department causes patient-condition worsening, adverse event and mortality[8]. This research aims to find out the correlations among transport time and boarding time with unexpected events during transport of emergency patients to Critical Care Unit.

Material and Method

This quantitative study uses an analytic observational prospective design. There were 151 critical-patient transfer processes at levels 2 and 3 at a Central Java hospital. This study was conducted from January 5 until January 31, 2020. The applied sampling technique was consecutive sampling. The inclusion criteria included emergency patients aged older than 16-year-old and eligibility to be transferred to the Critical Care Unit levels 2 and 3. The exclusion criteria are passing-away patients and referred to other hospitals before being transferred.

The transport time was counted in minutes, stared from when the patients were transported from the Emergency Department until arriving at the Critical Care Unit. The boarding time in the Emergency Department was counted when the patients were determined by the Emergency Department physician to be eligible to transport until the patients were transported from the Emergency Department (in minutes). This research instrument is an observation sheet. It was undergone an expert judgment.

The data were processed by the assistance of SPSS version 16. The descriptive data are presented in frequency and percentage. The numerical data were analyzed by the Eta test while the categorical data were analyzed by Cramer's V test. The parameters of AEs during the transports were based on the model developed by Jones *et al* (2016). Table 1 was validated by 3 clinicians or experts in the field of emergency.

Table 1. Unexpected events during transfer of critically ill in hospital

Classification	Notes
Physiological	Early-systolic-blood decrease or increase > 20%, systolic <90 mmHg, O_2 saturation <90%, bleeding, RR < 8 or > 30, x/ min, HR <40 or> 130 x/min, new onset arrhythmias, agitation, seizures, decreased awareness (GCS), nausea/vomiting, increased pain score (CPOT), falling, Cardiopulmonary arrest (PEA, asystole), patients died.
Non-physiological	Oxygen supply depleted, ventilator unprepared, equipment falling, the low battery used, alarm, loose vein access device, non-current, change in ETT location, change in drain position, change in NGT/OGT position, dislocation of urine catheter, delay in destination > 5 minutes, the patient required travel restrain, discontinuation of therapy, medication errors, incomplete document.

Adapted with modification from (9)

Findings/Results

Table 2. The Frequency Distribution of the Respondents based on the Unexpected Events

Variable	F	%
Unexpected events during transfer		
Null	32	21.2
Occurrence unexpected events	119	78.8
Types of unexpected events		
Non-physiological	54	45.5
Physiological	33	27.7
Combined	32	26.8

The table shows from 151 respondents, 119 of them (78.8%) experienced unexpected events. Most occurring unexpected events were non-physiological unexpected events.

Table 3. Transport Time

Variable	Mean	Median	F	F table	R
Transport Time	14.99	14(4-50)	10.8*	2.67	0.425

It is significant if F> F table

Table 3, based on the Eta test, it is obtained an F score (10.8) > F table (2.67). Thus, there is a significant correlation between transport time to the unexpected events during transport of emergency patients to the Critical Care Unit.

Table 4. Boarding Time in the Emergency Department

Boarding time	F (%)	Unexpected events during transfer				r & p
		1	2	3	4	
> 120 minutes	66(43.7)	19(28.8)	15(22.7)	23(47.3)	9(13.6)	p=0.087
≤ 120 minutes	85(56.3)	13(15.3)	17(20.0)	32(37.6)	23(27.1)	r=0.208

1: Combined, 2: Physiology, 3:Non-Physiology, 4: Null

Table 4 shows most respondents had boarding time lower than 120 minutes. There is no correlation between boarding time in the Emergency Department to unexpected events during transport of emergency patients to the Critical Care Unit with a p score (0,087) > α (0,05).

Discussion

Correlation between transport time and unexpected events during transport of emergency patients to the Critical Care Unit: The length of the transport time was counted since the patients left the Emergency Department until they arrived in the Critical Care Unit. The observation results show significant correlations between equipment preparation and the incidents during emergency patients to the Critical Care Unit with a positive correlation direction. Longer transport time leads to a higher unexpected events occurrence. There are correlations between the transport time to unexpected events during critical patient transport from the Critical Care Unit heading to diagnostic and therapeutic units with transfer time median 45 minutes (10-255 minutes)[9].

This research has a median score of 14 minutes with a minimum score of 4 minutes and a maximum score of 50 minutes. The minimum and maximum thresholds of the transport duration in this research are categorized as lengthy. It was due to the respondents were not grouped based on their transport routes. The level-3 transport patients had radiology checkups in the room. Meanwhile, the level-2 transport patients stayed in the Radiology Unit to have X-ray or CT-Scan checkups. It made the transport time of the level-2 patients longer than level-3 patients.

Most respondents in this research had transport time less than 36.5 minutes. Transport time is the required time to transport a patient from one place to another place. During the transport, nurses require various transport time in the hospital with an average time of 42 minutes[10][11]. The unexpected events, especially physiology and non-physiological events, would occur in patients who had transport duration longer than 36.5 minutes under the external setting of Intensive Care Unit[12]. Other studies mention the duration of critical-patient transport inside of hospitals for less than 60 minutes would have cardiac-arrest risk[3]. The observation results show there is one of 151 respondents (0.006%) suffering *cardiac arrest* with 32 minutes-transport length time.

Other strong influential factors during the transport are the team's ability in organizing the patients during the transport and the standard operational procedure (the hospital protocol) that has been tested[12]. The route and the time when the patients must be communicated among the transport companion teams, the referred rooms and the security officers when it is deemed necessary[13][14]. A safe-transport system application that is combined by prospective-nursing intervention would be effective to improve transport time efficiency and to avoid unexpected events during critical patient transport in hospitals[15]. Longer transport time led to higher vital-sign instabilities, especially systemic blood pressure. However, if it was correlated to the whole unexpected events, there was no correlation between transport time variables to unexpected events of critical patients during transport[16]. This research is not in line with the previous studies telling that there is a significant correlation between the length of transport time to unexpected events during critical-patient transport in hospitals[17][9][18][19]. The research shows there is no

correlation between transport duration to unexpected events during critical patient transport[20]. The transport duration factor is extremely influenced by location and transfer system owned by each hospital. The estimation of the required total transport time should have been prepared properly by the transport companion staff.

Correlation between boarding time with unexpected events during transport of emergency patients to the Critical Care Unit: Boarding time in this research was calculated since the patients were deemed to be transferred until the patients left the Emergency Department to be transported to the Critical Care Unit. The boarding time is grouped into 2. They are ≤ 120 minutes and > 120 minutes. The findings showed the boarding time in Emergency Department was not correlated significantly to unexpected events during transport of emergency patient to the Critical Care Unit. It is in line with the previous studies by classifying the lateness in the transport process to be > 20 minutes and > 60 minutes in which physiological unexpected events were not correlated to the lateness of the transport time[17]. Other studies mention that longer boarding time, > 20 minutes in Emergency Department, is a dangerous factor to critical patient worsening conditions[21].

The boarding times of the respondents were mostly ≤ 120 minutes, experienced by 85 persons (56.3%). The standard of a boarding time in this research is 3 hours after being deemed eligible to be transported. Then, the maximum observation in the Emergency Department is 6 hours when the referred room is full. The policy is not appropriate with the consensus of *the Agency for Health Care Research and Quality.* In the performance assessment, it is mentioned that boarding time is an interval from the patients deemed to be inpatient until the patients are transported within ≤ 120 minutes[22].

Insignificant correlation between boarding time and unexpected events during transport of emergency patients to Critical Care Unit was caused by the boarding time that was still relevant, ≤ 120 and the ED officers' skills in monitoring the critical patients while waiting to be transported. The observation results show thathemodynamics monitoring administered by the transport-companion officers is respectable. Thus, although almost 66 (43,7%) respondent of emergency patients experienced lengthy boarding time to be transported, as long as the doctor and the nurse were still monitoring their conditions properly, unexpected events would not occur.

Related studies showed that patients with boarding times longer than 2 hours experienced unexpected events with a percentage of 2.5%. Meanwhile, patients with longer than 12 hours experienced unexpected events with a percentage of 4.5%[22]. Based on the research, it could be concluded that unexpected events occurred in boarding times for more than 120 minutes. Longer boarding time would lead to higher unexpected events. The average of the respondents' boarding times to be transported from the Emergency Department in this research is 107 minutes.

In this research, 66 patients (43.7%) experienced boarding times for more than 120 minutes. The speed of the patients' transports after being decided to be transported or to be inpatient depended on several factors. They were the numbers of the treated patients, the clinical conditions of the patients, the family decision for the follow-up treatment[23]. The number of inpatient patients would influence the length of service because each patient had a different treatment necessity. The roles of the families in deciding further treatment were important. Critical patients that wait for their family decision to be treated Critically sometimes occur because of the treatment costs and the absence of the family that has the highest authority upon the patients. In this research, the causal factors of long boarding time were dominated by the unavailability of beds in Critical care units. Therefore, patients should wait until the bed in the referred room was available and ready to use. Lengthy boarding time causes patients/employees unable to proceed to the next activities in the next stage[24].

Conclusion

Transport time is significantly correlated to an unexpected event. Longer transport time of Emergency Department patients to the Critical Care Unit leads to a higher unexpected event occurrence. The transport companion officers must ensure the transport route is free from obstacles, to monitor the patients that stay in the radiology unit before being transported to the room and to predict any unexpected events during the transport.

Acknowledgment: Thanks to Mr. Ahsan, Mrs. Yulian Wiji Utami and Mrs. Septi for their contribution to this study.

Conflict of Interest: The authors declare there is no conflict of interest.

Source of Funding: The research is personally funded.

Ethical Clearance: This study has received ethical clearance from the Health Research Ethics Omission at one of Regional Public Hospital in Central Java, Number. 1.418/XII/HREC/2019. The researchers reviewed the respondents' components. When the patients were fully conscious, then informed consent was done directly by the respondents. However, when the patients suffered a loss of consciousness, then the consent was done by the patients' families. Each respondent was informed about the research, starting from the purpose, objective and procedure of the research. Every respondent was anonimity. All data were kept in secrecy for the sake of the research.

References

1. Farnoosh L, Hossein-Nejad H, Beigmohammadi M, Seyed-Hosseini-Davarani S-H. Preparation and Implementation of Intrahospital Transfer Protocol for Emergency Department Patients to Decrease Unexpected Events. Adv J Emerg Med [Internet]. 2018;2(3):e29. Available from: http://ajem.tums.ac.ir/index.php/ajem/article/view/50
2. Decrucq, E. P. E, Poissy J, Favory R, Nseir S, Onimus T, Guerry MJ, et al. Adverse events during intrahospital transport of critically ill patients: Incidence and risk factors. Ann Critical Care. 2013;3(1):1–10.
3. Harish MM, Janarthanan S, Siddiqui SS, Chaudhary HK, Prabu NR, Divatia J V., et al. Complications and benefits of intrahospital transport of adult Critical Care Unit patients. Indian J Crit Care Med. 2016;20(8):448–52.
4. Stang AS, Wingert AS, Hartling L, Plint AC. Adverse Events Related to Emergency Department Care: A Systematic Review. PLoS One. 2013;8(9).
5. Jia L, Wang H, Gao Y, Liu H, Yu K. High incidence of adverse events during intra-hospital transport of critically ill patients and new related risk factors: A prospective, multicenter study in China. Crit Care. 2016;20(1):1–14.
6. Gimenez FMP, Camargo WHB De, Gomes ACB, Nihei TS, Andrade MWM, Valverde MLDAFS, et al. Analysis of Adverse Events during Intrahospital Transportation of Critically Ill Patients. Crit Care Res Pract. 2017;2017(7):1–7.
7. Venkategowda PM, Rao SM, Mutkule DP, Taggu AN. Unexpected events occurring during the intra-hospital transport of critically ill ICU patients. Indian J Crit Care Med. 2014;18(6):354–7.
8. George F, Evridiki K. The effect of emergency department crowding on patient outcomes. Heal Sci J. 2015;9(1):1–6.
9. Jones HM, Zychowicz ME, Champagne M, Thornlow DK. Intrahospital transport of the critically ill adult: A standardized evaluation plan. Dimens Crit Care Nurs. 2016;35(3):133–46.
10. Blay, N., Duffield, C.M., Gallagher, R., Roche. M. A systematic review of time studies to assess the impact of patient transfers on nurse workload. Int J Nurs Pract. 2014;20:662–73.
11. Blay N, Roche MA, Duffield C, Gallagher R. Intrahospital transfers and the impact on nursing workload. J Clin Nurs. 2017;26(23–24):4822–9.
12. Veiga VC, Postalli NF, Alvarisa TK, Travassos PP, da Silva Vale RT, de Oliveira CZ, et al. Adverse events during intrahospital transport of critically ill patients in a large hospital. Rev Bras Ter Intensiva. 2019;31(1):15–20.
13. Tolentino JC, Schadt J, Bird B, Yanagawa FS, Zanders TB, Stawicki SP. Adverse Events during Intrahospital Transfers: Focus on Patient Safety. Vignettes Patient Saf. 2018;3:107–24.
14. Warren J, Fromm RE, Orr RA, Rotello LC, Mathilda Horst H. Guidelines for the inter- and intrahospital transport of critically ill patients. Crit Care Med. 2004;32(1):256–62.
15. Jiang XX, Wang J, Zhang W, Wang XJ, Meng XH. Safe transport combined with prospective nursing intervention in intra-hospital transport of emergency critically ill patients. Int J Clin Exp Med. 2016;9(7):13166–71.
16. Silva, D.R., Amante, L.N., Salum, C.N., Martins, T., Werner J. Adverse Events During Intra - Hospital Transportation in the Critical Care Unit. J Nurs. 2016;10(12):4459–65.
17. Gillman L, Leslie G, Williams T, Fawcett K, Bell R, McGibbon V. Adverse events experienced while transferring the critically ill patient from the emergency department to the Critical care unit. Emerg Med J. 2006;23(11):858–61.
18. Kwack WG, Yun M, Lee DS, Min H, Choi YY, Lim SY, et al. Effectiveness of intrahospital transportation of mechanically ventilated patients in the medical Critical care unit by the rapid

response team A cohort study. Med (United States). 2018;97(48).

19. Lahner D, Nikolic A, Marhofer P, Koinig H, Germann P, Weinstabl C, et al. Incidence of complications in intrahospital transport of critically ill patients-Experience in an Austrian university hospital. Wien Klin Wochenschr. 2007;119(13–14):412–6.
20. Gimenez FMP, Camargo WHB De, Gomes ACB, Nihei TS, Andrade MWM, Valverde MLDAFS, et al. Analysis of Adverse Events during Intrahospital Transportation of Critically Ill Patients. Crit Care Res Pract. 2017;2017.
21. Mathews KS, Durst MS, Vargas-Torres C, Olson AD, Mazumdar M, Richardson LD. Effect of emergency department and ICU occupancy on admission decisions and outcomes for critically Ill Patients. Crit Care Med. 2018;46(5):720–7.
22. Hodgins MJ, Moore N, Legere L. Who Is Sleeping in Our Beds? Factors Predicting the ED Boarding of Admitted Patients for More Than 2 Hours. J Emerg Nurs. 2011;37(3):225–30.
23. Ahsan., Deviatony, F. S. Analysis of the associated factors of boarding time in yellow zone patients in Emergency Departement. J Ners. 2017;12(2): 261-6.
24. Robinson S, Radnor ZJ, Burgess N, Worthington C. Sim Lean: Utilising simulation in the implementation of lean in healthcare. Eur J Oper Res. 2012;219(1):188–97.

DOI Number: 10.37506/ijone.v12i4.11247

Assess the Knowledge Regarding Swachha Bharat Abhiyan among Rural People from Selected Rural Areas of Wardha District

Jaya Khandar[1], Pooja Kasturkar[2], Ashwini Nandaga[3], Kalyani Narnaware[3], Atithi Patil[3], Priya Raut[3], Shweta Rodge[3]

[1]Assistant Professor, Community Health Nursing Department, SRMMCON Sawangi (M) Wardha, Maharashtra, [2]Assistant Professor, Mental Health Nursing Department SRMMCON Sawangi (M) Wardha, [3]PBBSC final Year Nursing Students, SRMMCON Sawangi (M) Wardha, Maharashtra, India

Abstract

Introduction: Swachha Bharat Mission is a massive mass movement that seeks to create a Clean India by 2019. The father of our nation Mr. Mahatma Gandhi always puts the emphasis on swachhta as swachhta leads to healthy and prosperous life. Keeping this in mind, the Indian government has decided to launch the swachh bharat mission on October 2, 2014. The mission will cover all rural and urban areas.

Objectives:

1. To assess the knowledge regarding Swachha Baharat Abhiyan among Rural people.
2. To associate knowledge score of rural people regarding Swachha Baharat Abhiyan with their selected demographic variables.

Material and Method: This study was based on descriptive research design. In this study, 100 sample included. This study is conducted at rural area pipari (m) of wardha district. The sampling technique used in this study was non probability convenience method of sampling. Data was collected by using questionnaire.

Result: The level of knowledge ws seen in four categories: poor, verge, good, excellent. 12% of the rural people were in the age group of 21-30 years, 46% in the age group of 31-40 years, 24% in the age group of 41-50 years and 18% were in the age group of more than 50 years.

Conclusion: It is concluded that the rural people have adequate knowledge regarding Swachha Bharat Mission and demographic variables were associated with the knowledge of Swachha Bharat Mission.

Keyword: *Knowledge, Swchha Bahart Abhiyn, Rural people.*

Introduction

"One Steps Towards Cleanliness''

–Mahatma Gandhi

Swachha Bharat Mission is a massive mass movement that seeks to create a Clean India by 2019. The father of our nation Mr. Mahatma Gandhi always puts the emphasis on swachha as swachha leads to healthy and prosperous life. Keeping this in mind, the Indian government has decided to launch the swachh bharat mission on October 2, 2014. The mission will cover all rural and urban areas. The urban component of the mission will be implemented by the Ministry of Urban Development and the rural component by the Ministry of Drinking Water and Sanitation. The mission aims to cover 1.04 crore households, provide 2.5 lakh community toilets, 2.6 lakh public toilets and a solid waste management facility in each town.[2] Under the programme, community toilets will be built in residential areas where it is difficult to construct individual household toilets.[3] Public toilets will also be constructed in designated locations such as tourist places, markets,

bus stations, railway stations, etc.[4] The programme will be implemented over a five-year period in 4,401 towns. Of the Rs 62,009 crore likely to be spent on the programme, the Centre will pitch in Rs 14,623 crore. Of the Centre's share of Rs 14,623 crore, Rs 7,366 crore will be spent on solid waste management, Rs 4,165 crore on individual household toilets, Rs 1,828 crore on public awareness and Rs 655 crore on community toilets.[5] The programme includes elimination of open defecation, conversion of unsanitary toilets to pour flush toilets, eradication of manual scavenging, municipal solid waste management and bringing about a behavioural change in people regarding healthy sanitation practices. The Nirmal Bharat Abhiyan has been restructured into the Swachh Bharat Mission (Gramin). The mission aims to make India an open defecation free country in Five Years. Under the mission, One IJRFM Volume 5, Issue 11 (November, 2015) (ISSN 2231-5985) International Journal of Research in Finance and Marketing (IMPACT FACTOR – 5.230) International Journal of Research in Finance & Marketing e-mail id: editorijrim@gmail. com http://www.euroasiapub.org 142 lakh thirty four thousand crore rupees will be spent for construction of about 11 crore 11 lakh toilets in the country. Technology will be used on a large scale to convert waste into wealth in rural India in the forms of bio-fertilizer and different forms of energy. The mission is to be executed on war footing with the involvement of every gram panchayat, panchayat samiti and Zila Parishad in the country, besides roping in large sections of rural population and school teachers and students in this endeavor.[6] As part of the mission, for rural households, the provision for unit cost of individual household latrine has been increased from Rs 10,000 to Rs 12,000 so as to provide for water availability, including for storing, hand-washing and cleaning of toilets. Central share for such latrines will be Rs 9,000 while state share will be Rs 3,000. For North Eastern states, Jammu & Kashmir and special category states, the Central share will be 10,800 and the state share Rs 1,200. Additional contributions from other sources will be permitted.[6]

Objectives:

- To assess the knowledge regarding Swachha Baharat Abhiyan among Rural people.
- To associate knowledge score of rural people regarding Swachha Baharat Abhiyan with their selected demographic variables.

Assumption:

- Rural people may have some knowledge regarding Swachha Bharat Abhiyan.
- Rural people will be interested in learning about Swachha Bharat Abhiyan.
- Rural people will be apply their knowledge regarding Swachha Bharat Abhiyan in their day to day life.

Material and Method

This study was based on descriptive research design. In this study, 100 rural people are included in the study.

Inclusion Criteria:

1. Rural people who are willing to participate in the study.
2. Rural people who are available at the time of data collection.
3. Rural people who can understand and write Marathi language.

Exclusion Criteria: Rural people who have already attended similar type of study.

Development of tools: A structured questionnaire was used. Questionnaire method used to assess the knowledge regarding swachha bharat abhiyan. It consists of two sections. Section I consists demographic variables of rural people (age, gender, education, occupation, monthly income) Section II Consists of 22 questions on knowledge regarding swachha bharat abhiyan. The tool was established in consultation with guide and nine experts from the field of community health nursing. Suggestions of the experts were considered and changes were made accordingly. The reliability co-efficient was calculated. The Questionnaires is said to be reliable if the co-efficient is more than 0.8. The reliability co-efficient 'r' of the questionnaire was 84.45, which was more than 0.8. Hence the questionnaire was found to be reliable.

The data gathering process began from 07/01/2019 to 12/01/2019 **.** The data were collected for period of approximately 7 days. Samples were selected by non-probability convenient sampling, which were available during the study. Prior to collection of the data, permission was obtained from the authority persons. And the informed consent from the entire participants was taken before starting the study. Data was collected by using questionnaires. The investigator introduced herself and obtained consent from women who were

willing to participate. Purpose and important of research study was explained before collection of data.

Results

The data obtained to describe the sample characteristics including age, gender, religion, educational status, occupational, monthly income respectively.

The above table 1 depicts frequency and percentage wise distribution of rural people according to their according to their age, gender, educational status, occupation, religion and monthly family income (Rs) etc.

Table 2: Distribution of rural people with regards to level of knowledge regarding Swachha Bharat Abhiyan n=100

Level of knowledge score	Percentage score	Level of Knowledge Score	
		No of rural people	Percentage
Poor	0-25%	6	6
Average	26-50%	35	35
Good	51-75%	58	58
Excellent	76-100%	1	1
Mean±SD		11.58 ± 3.26	
Mean %		52.63 ± 14.83	
Range		4 to 17	

The above table no 2 shows the frequency and percentage wise distribution of rural people according to level of knowledge regarding Swachha Bharat Abhiyan. The levels of knowledge were seen into 4 categories, poor, average, good and excellent.

6% of the rural people had poor level of knowledge score, 35% had average, 58% had good and only 1% had excellent level of knowledge score.

Mean knowledge score of the rural people was 11.58 ± 3.28 and mean percentage score was 52.63±14.83.

Table 3: Association of knowledge score regarding Swachha BharatAbhiyan inrelation to age in years n=100

Age in years	No. of rural people	Mean knowledge score	F-value	p-value
21-30 yrs	12	12.16±3.40	7.57	0.0001 S, p < 0.05
31-40 yrs	46	12.89±2.29		
41-50 yrs	24	9.54±3.62		
≥ 51yrs	18	10.55±3.31		

This table shows the association of knowledge scores with age in years of rural people. The tabulated 'F' values was 2.68(df=3,96) which is much less than the calculated 'F' i.e. 7.57 at 5% level of significance. Also the calculated 'p'=0.0001 which was much less than the acceptable level of significance i.e. 'p'=0.05. Hence it is interpreted that age in years of rural people is statistically associated with their knowledge score.

Table 4: Association of knowledge score regarding Swachha Bharat Abhiyan in relation to gender n=100

Gender	No. of rural people	Mean knowledge score	t-value	p-value
Male	53	11.50±3.20	0.22	0.82 NS,p>0.05
Female	47	11.65±3.36		

This table shows the association of knowledge scores with gender of rural people. The tabulated 't' values was 1.98(df=98) which is much higher than the calculated 't' i.e. 0.22 at 5% level of significance. Also the calculated 'p'=0.82 which was much higher than the acceptable level of significance i.e. 'p'=0.05. Hence it is interpreted that gender of rural people is statistically not associated with their knowledge score.

Table 5: Association of knowledge score regarding Swachha Bharat Abhiyan in relation to religion n=100

Religion	No. of rural people	Mean knowledge score	F-value	p-value
Hindu	63	11.11±3.41	1.47	0.22 NS,p>0.05
Muslim	2	12±0		
Buddhist	4	11±1.82		
Others	31	12.58±3.01		

This table shows the association of knowledge scores with religion of rural people. The tabulated 'F' values was 2.68(df=3,96) which is much higher than the calculated 'F' i.e. 1.47 at 5% level of significance. Also the calculated 'p'=0.22 which was much higher than the acceptable level of significance i.e. 'p'=0.05. Hence it is interpreted that religion of rural people is statistically not associated with their knowledge score.

Table 6: Association of knowledge score regarding Swachha Bharat Abhiyan in relation to educational level n=100

Educational level	No. of rural people	Mean knowledge score	F-value	p-value
Primary	21	11.95±2.83	4.89	0.003 S,p<0.05
Secondary	27	9.66±3.68		
Higher Secondary	30	12.30±2.90		
Graduation and above	22	12.59±2.71		

This table shows the association of knowledge scores with educational level of rural people. The tabulated 'F' values was 2.68(df=3,96) which is much less than the calculated 'F' i.e. 4.89 at 5% level of significance. Also the calculated 'p'=0.003 which was much less than the acceptable level of significance i.e. 'p'=0.05. Hence it is interpreted that educational level of rural people is statistically associated with their knowledge score.

Table 7: Association of knowledge score regarding Swachha Bharat Abhiyan in relation to occupation n=100

Occupation	No. of rural people	Mean knowledge score	F-value	p-value
Govt. Sector	37	11.08±3.55	3.46	0.019 S,p<0.05
Private Sector	16	9.87±3.18		
Farmer	19	12.26±3.58		
Daily Wages	28	12.75±2.04		

This table shows the association of knowledge scores with occupation of rural people. The tabulated 'F' values was 2.68(df=3,96) which is much less than the calculated 'F' i.e. 3.46 at 5% level of significance. Also the calculated 'p'=0.019 which was much less than the acceptable level of significance i.e. 'p'=0.05. Hence it is interpreted that occupation of rural people is statistically associated with their knowledge score.

Table 8: Association of knowledge score regarding Swachha Bharat Abhiyan in relation to monthly income (Rs) n=100

Monthly income (Rs)	No. of rural people	Mean knowledge score	F-value	p-value
5000-10000 Rs	44	10.52±3.47	3.15	0.028 S,p<0.05
10001-15000 Rs	33	12.12±3.40		
15001-20000 Rs	19	12.84±1.95		
>20000 Rs	4	12.75±0.50		

This table shows the association of knowledge scores with monthly family income (Rs) of rural people. The tabulated 'F' values was 2.68(df=3,96) which is much less than the calculated 'F' i.e. 3.15 at 5% level of significance. Also the calculated 'p'=0.028 which was much less than the acceptable level of significance i.e. 'p'=0.05. Hence it is interpreted that monthly family income(Rs) of rural people is statistically associated with their knowledge score.

Discussion

The study was conducted on assess knowledge in rural people of PipariMeghe, Wardha and had a good knowledge regarding Swachha Bharat Abhiyan. In our study there is association between knowledge about Swachha Bharat Abhiyan and show that the Knowledge score of rural people regarding Swachha Bharat Abhiyan ranged from 4-17. The study shows that 6% of the rural people had poor level of knowledge score, 35% had average, 58% had good and only 1% had excellent level of knowledge score .Majority of the rural people had good knowledge regarding Swachha Bharat Abhiyan .So it is calculated that rural people have good knowledge regarding Swachha Bharat Abhiyan.

This study supported by New Delhi: As 2017 draws to a close India hit some major milestones in terms of improving country's sanitation coverage. Three years since the launch of swachha bharat abhiyan, 2017 saw record number of toilets being built under the Abhiyan and national sanitation coverage hitting a record high of 74% up from 38.70% in 2014. This year more than 250 districts became open defecation (ODF) up from 100 and 75 in the previous two years of the campaign. Here's a look at the progress of Swachha Bharat Abhiyan in 2017 and the important milestones achieved in the year gone by.

This study supported by Over 6 Core Toilets Built Under Swathe Bharat Abhiyan So Far: The number of toilets built under Swachha Bharat Abhiyan rose to over 6 core, marking significant improvement in India's sanitation coverage in 2017. Under Swachha Bharat Garmin, the rural wing of the mission, over 5.6 crore individual household toilets (IHHLs) have been built by December 2017. In 2017 alone, 1.79 crore toilets have been built which is the second highest in a fiscal ever since Swachha Bharat Abhiyan was launched in 2014. Swachha Bharat Urban on the other hand, managed to construct little over 16 lakh IHHLs in 2017 which is more than 8 and 10 in 2015 and 2016 respectively.

Recommendations: On the basis of the findings of the study, it is recommended that the following studies can be conducted.

1. A study can be repeated by taking large population.
2. A similar study can be done to assess knowledge regarding the management and prevention of health problems of open defecation among rural people.
3. A similar study can be conducted to compare the level of knowledge and attitude between rural people and urban people regarding Swachha Bharat Abhiyan.

4. A study can be conducted to assess the effectiveness of self instructional module regarding Swachha Bharat Abhiyan among rural people.
5. A similar study can be conducted to assess the effectiveness of structured teaching program regarding Swachha Bharat Abhiyan among rural people.

Conclusion

After the detailed analysis, this study leads to the following conclusion that the majority of the rural people had good knowledge regarding Swachha Bharat Abhiyan.

Conflict of Interest: Nil

Source of Funding: Self

Ethical Clearance: Approved from Ethical Institutional Committee (IEC) of Datta Meghe Institute of Medical Sciences (Deemed to be University) Sawangi (Meghe), Wardha.

References

1. Alka. Swachh Bharat Mission- Need, Objective and Impact. Int J Res Manag Pharm. 2017;6(5):24-8. Sridhar Rao
2. Vishwakarma D. Swachh bharatabhiyan clean India abhiyan. International research journal of management, IT and social sciences. 2016 Mar 31;3(3):48-52.
3. Tayal, D. K., & Yadav, S. K. (2017). Sentiment analysis on social campaign "Swachh Bharat Abhiyan" using unigram method. AI & SOCIETY, 32(4), 633-645.
4. Greed C. Inclusive urban design. Routledge; 2003.
5. Mili M. Swachh bharat Abhiyan and it's impact, A Socio-Political Study in India. Our Heritage. 2020 Jan 8;68(1):475-9.
6. Singh SK, Pandey R, Kaushik S. Status of Health and Sanitation in Rural Communities: Situation Analysis for India.
7. Ravi S, Tomer A, Bhatia A, Kane J. Building Smart Cities in India: Allahabad, Ajmer and Visakhapatnam.

DOI Number: 10.37506/ijone.v12i4.11248

Exploring Conceptual context for Resilience Assessment Scale for children with Renal Diseases

Manmeet Kaur[1], Manmeet Kaur[1]

[1]*Research Scholar, Chitkara School of Health Sciences, Chitkara University, Punjab, India*

Abstract

The period of adolescence is considered as a developmental period that not only inculcates subjectivity to the life but also improves the critical thinking labelling environmental processes. Disease and sufferings are considered to be part of almost all age groups thus deteriorating physical and psychological well-being as a whole. Moreover, the course of hospitalization during the phase of disease can lead to stress, delayed coping mechanisms. The major factors that lead to the former are change in health shifts of the hospital staff, painful procedures, lack of social and peer engagements, separation from parents and most importantly loss of self-esteem. The process of hospitalization can lead to disturbed body image in the paediatric client, low self-esteem and confidence, delayed milestones and poor mental abilities in a long run. In order to combat the overwhelming physical and psychological conditions there is a need to develop a Resilience Scale that would help to identify the coping levels in the child and hence can help the health care professional ton provide efficient quality care. Towards systematic developmental process there is a need to formulate a conceptual model with the inter-related concepts or abstractions that would be assembled in a rational and explanatory scheme. The Conceptual framework is needed to be utilized through an extensive literature review supporting linkage of selected, interrelated concepts on the basis of Rosswurum and Larrabee Model that recognized the translation of research into practice. Resilience scale can further be developed through implementation of the conceptual; model that can help the health care professionals to provide psychological distractions and effective coping strategies before providing the physical treatments thus helping with an easy resilience.

Keywords: *Resilience, Resilience Assessment Scale, physical and psychological impairment, conceptual framework.*

Introduction

After the birth of the child, nutrition and adequate physiological processes leads to progressive development of various motor and cognitive skills. As the age progress with time development in a child takes place along with growth in physical, psychological, social and spiritual domains as a whole.[1] Development of a child leads to intellectual development along with physical development.(Chang & Kao, 2013).

Children during the period of growth and development go through various stages that inculcate their behaviour and response.[2] Around the age of 10-18 years, the theorists explained the overall development of the individual right from the childhood in aspects of cognitive development, psychosexual development, psychosocial development, moral development and development of faith respectively.(Yong & wong, 2009).

Children of age group 10-18 years engage themselves in school and learning. Their curiosity about the future goals and plans help them to attain a landmark of working within their capabilities (Lemos & Rodrigues, 2015). Majority of the children are strongly influenced by their friends, sharing the secrets and playing in smartest ways of inclusion of techno-advancements as well. [3,4]

Major reports and evidence for chronic diseases depict that most common chronic conditions among adolescents aged 10-18 years are asthma, diabetes, inflammatory bowel disease, renal diseases, sickle cell anaemia, hyperparathyroidism and obesity (Prasad N, 2015). Among all renal diseases are the most neglected

terms for the children of this age as symptoms for renal diseases again aggravate after once being supressed.[6]

Illness in the paediatric population can deteriorate the psychological ability, emotional well-being, spiritual stand and working capacity of the children as per the ages and hence slow down the developmental process.[7,8] Prolonged and frequent hospitalizations among the children with renal diseases offer them a stage that can affect the resilience and hence, the ability to nurture and outstand as per their age (Chen & Wang, 2016).[10,11]

Chronic kidney disease (CKD) is emerging to be an important chronic disease globally. Children from age groups 6-12 years of age usually suffers from various diseases among which, kidney failure is most common along with nephrotic syndrome presenting with ANASARCA, hyperlipidaemia and hypoalbuminemia.[12]

Various research evidence from the field of medical urology indicated that the repeated and prolonged hospitalizations among the children lead to disturbed physical and psychological abilities as well as the capability of the child to handle the obstacles also deteriorates(Wagnild & Young, 1993)[13]. The chronic renal diseases (acute glomerulonephritis, end stage renal disease, nephrotic syndrome) among the children aged 10-18 years leads to repeated hospitalizations and further relapse deteriorates the physical, psychological, social and spiritual domains. This leads to low resilience and hence low coping strategies among the children (Windle G, 2011)[14]

Lawrence. Erika et. al (2004) revealed that children with chronic renal diseases also feel difficult to Resile back because they personally feel guilty about the demands his or her illness makes on the family members.[15] Moreover, the presence of the chronic diseases among children leads to disturbed physical and psychological functioning due to change in patterns of daily living and series of hospital visits or admissions. Furthermore, the children with chronic diseases usually go through disturbed emotional and behavioural patterns thus affecting the coping strategies to illness. Also, situations of re-adaptations to current situation also lead to a negative impact on coping mechanisms. Quality of life gets disturbed not only among children but also among their families while dealing with chronic diseases.(Lin & Huang 2004).[16]

Children suffering from chronic diseases have higher levels of stress and low self-esteem due to prolonged hospitalizations and dependence on family for treatment and care.[17,18] The term "Resilience" came into the field of research way back to understand the concept of being competent despite of various adversities and prevailing psychological harm. Moreover, understanding Resilience among children becomes rather an essential part in an order to help the paediatric population to thrive from the situation of stress.(Lin & Huang 2004)

Resilience is taken as a major consideration for the current studies and thus adapting to find the useful measurement tools. Resilience in one domain does not confer resilience in other domains and related factors. Development of the Resilience Assessment Tool for the health care professionals following a conceptual framework and other methodological processes would help in assessing the psychological well-being along with disease management process.

Conceptual Framework Model for Resilience Tool: A Framework model is the connectivity of various concepts leading to development of a process thus explaining the relationship between all of them.[19,20] Conceptual framework helps a researcher to bring related observations and understand the dependence and independence with other related factors. The present study will aim to link various factors and concepts required to develop a Resilience assessment Scale according to "Rosswurum and Larrabee Model" thus translating the research evidences into actual practice. (Ozmay 2007).

Phases of Rosswurum and Larrabee Model:

Assess need for making Resilience Assessment Scale: Before undergoing of the developing task of the actual tool required for the children admitted with renal disease, extensive literature was reviewed regarding the available resilience scales for adults, adolescents and other related population. Review of literature had shown the variability and unavailability of the desired scales for the adolescents and child population in order to measure the concept of resilience during the course of the chronic illness. Moreover, very less number of resilience assessment scales has been developed for the adaptation and use in Indian settings particularly for the renal diseases. So, need of the development of resilience scale was assessed and further steps were inculcated in order to implement the plan of action.

1. **Link problem interventions & outcomes:** Thereafter, various standardized resilience tools

namely Wagnild and Young resilience scale, Brief resilience scale and Child and youth resiliency measure scale were reviewed and factors that build up resilience were reviewed and interlinked with the diseased condition. The previous literature for the available scales denoted various factors for Eg, Personal attributes, physical domain, psychological domain, social and intrapersonal domain that can help the adolescents gain resilience and this can further improve the outcome of the disease and course of hospitalization among the adolescent population.

2. **Synthesize best risk factors:** Various risk factors affecting the resilience process were identified by literature review and were listed which will help the investigator to further design and develop the factors for the study that can help the child to gain resilience during the journey of the illness. Various risk factors that can affect resilience are family functioning for promoting care and well-being, role of siblings in promoting the resilience, treatment course of hospitalization and nursing care that can lead to positive outcome and hence help the patient to achieve resilience and best possible outcome of health and well-being. Also, various developmental stages as per Piaget were considered that explained the areas of concern and developmental process as per concrete and formal operational stages for children aged 10-18 years.

3. **Design Resilience Assessment Scale:** The investigator identified various factors (**personal attributes, social domain and coping strategies adapted by the children with renal disease**) that affect resilience and render the ability to bounce back to state of adaptability and well-being. The factors together were incorporated in the form of single statements and preliminary draft was prepared. The first draft and subsequent drafts were rotated repeatedly among nine experts as a process of modified Delphi-technique.4 rounds of modified Delphi technique were carried out and modifications were made as per advised. The final draft of the resilience assessment scale was developed with total 31 items and maximum score was 155 and minimum was 31 with a cut-off score at 102.

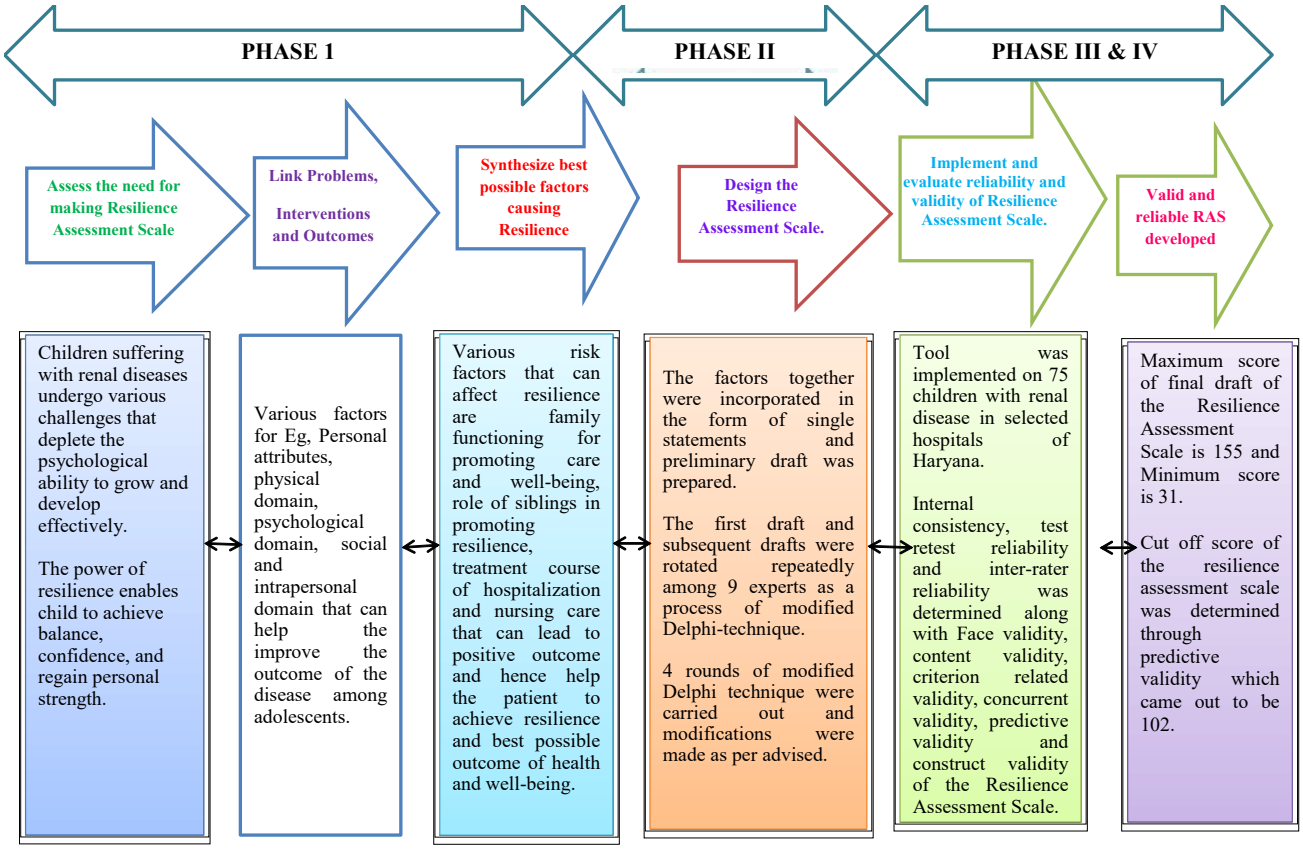


Figure 1: Rosswurm and Larrabee Model

4. **Implement & Evaluate the reliability and validity of Resilience Assessment Scale:** Tool was implemented on 75 children with renal disease in selected hospitals of Haryana. Internal consistency, test retest reliability and inter-rater reliability was determined along with not only Face validity, content validity, criterion related validity, but also concurrent validity, predictive validity and construct validity of the Resilience Assessment Scale.

5. **Valid and reliable Resilience Assessment Scale developed:** Modifications were made with total 56 items in the first draft to 31 items in final draft. The items were modified on basis of comprehension, adequacy in terms of understanding for the children and also to cover up their concentration capability up to set time period. Maximum score of final draft of the Resilience Assessment Scale is 155 and Minimum score is 31. Cut off score of the resilience assessment scale was determined through predictive validity which came out to be 0.7.

Implications:

Nursing Education:

- Resilience Assessment Scale can be included in teaching content of Renal Diseases for better understanding of the psychological impact of the diseased condition and its role in promoting resilience.
- Nurses can be educated to use the Resilience Assessment Scale while therapeutically treating the chronic disease as psychological consideration of the child is more important to understand while treating.
- Student nurses can be educated regarding understanding of the related domains/factors that affect the Resilience among children suffering from renal disease.
- Based on the future needs, the psychological trauma needs to be understood clearly before undergoing the diagnostic and therapeutic treatment regimen as a whole.

Nursing Practice:

- The tool can be used in different settings and outpatient departments to assess the level of Resilience among the children.
- Assessing the Resilience in chronic diseases will help the children to recover earlier in relation to psychological aspect and hence the child can be assessed for the capabilities to promote health in the journey of the disease condition.
- Nurses and Nursing students can use Resilience assessment scale for prediction of the renal patients for the level of the resilience achieved during the course of hospitalization and illness.

Nursing Administration:

- Resilience assessment scale can be made a mandatory tool for the pediatric patients to be filled during assessment during admission.
- The nursing administrators can make efforts to incorporate the use of the resilience assessment scale in assessing the level of resilience at time of readmission and subsequent discharge.
- The Nurse Administrators can make efforts to inculcate Resilience Assessment Scale in Pediatric wards and Intensive care units to assess for the resilience among the hospitalized children..

Further Recommendations:

- Studies can be conducted to establish factor analysis by undertaking large sample and other settings.
- Resilience scale can further be developed that can assess the resilience among children with all chronic diseases and also for their families in order to inculcate their point of views and issues that head them in caring for chronically ill child.
- Based on the present study, more factors which may influence resilience can be identified for further research.
- As per the present study, the resilience scale can be developed for the parents and primary care-givers to assess the resilience while caring up for their children with renal diseases or other diseases.
- Levels of the Resilience score can be interpreted as Low, Moderate and high by taking larger sample.
- Other age related phenomena's laid down by various theorists excluding Piaget's theory of growth and development can be undertaken and all developmental aspects can be undertaken as a future aspect.

Conclusion

Renal diseases among the children are the most common conditions that lead to prolonged and frequent

hospitalizations and thus, deteriorate the physical, psychological and social domain among the children (Simeone, 2009) .This in turn affects the learning and continuous interaction with the environment. The investigator in this instance developed the Resilience Assessment scale keeping in mind the need of understanding the psychological aspect of the child while other therapeutic treatment modalities. The Resilience Assessment scale mainly constituted various domains/ factors that affect the resilience among the children with renal diseases during the course of the illness. The Resilience Assessment scale consists 31 items including personal attributes, social domain, psychological domain and coping strategies opted by the child during the journey of chronic illness(Kimmel 2010).

Conflict of Interest: No

Source of Funding: Self

Ethical Clearance: Ethical clearance was obtained from University ethical committee, Maharishi Markandeshwar University, Mullana, Ambala.

References

1. Kao TW, Chang YY, Chen PC, et al. Lifetime costs for peritoneal dialysis and hemodialysis in patients in Taiwan. Perit Dial Int. 2013;33(6):671–678.
2. Yong DS, Kwok AO, Wong DM, Suen MH, Chen WT, Tse DM. Symptom burden and quality of life in end-stage renal disease: a study of 179 patients on dialysis and palliative care. Palliat Med. 2009;23(2):111–119.
3. Kao TW, Lai MS, Tsai TJ, Jan CF, Chie WC, Chen WY. Economic, social and psychological factors associated with health-related quality of life of chronic hemodialysis patients in northern Taiwan: a multicenter study. Artif Organs. 2009;33(1):61–68.
4. Lemos CF, Rodrigues MP, Veiga JR. Family income is associated with quality of life in patients with chronic kidney disease in the pre-dialysis phase: a cross sectional study. Health Qual Life Outcomes. 2015;13:202.
5. Santoro D, Ingegnieri MT, Vita G, et al. Socio-economic factors, food habits and phosphorus levels in patients on hemodialysis. Nephrourol Mon. 2015;7(4):e27114.
6. Prasad N, Jha V. Hemodialysis in Asia. Kidney Dis (Basel). 2015;1(3):165–177.
7. Chen SF, Wang IJ, Lang HC. Risk of major depression in patients with chronic renal failure on different treatment modalities: a matched-cohort and population-based study in Taiwan. Hemodial Int. 2016;20(1):98–105.
8. Wagnild G, Young H. Development and psychometric evaluation of the resilience scale. J Nurs Meas. 1993;1(2):165–178.
9. Windle G. What is resilience? A review and concept analysis. Rev ClinGerontol. 2011;21(2):152–169.
10. Lin CC, Liang CC, Huang FL, Lai LH. Relationships between hope and social support of hemodialysis patients. J Taiwan NephrolNur Association. 2004;3(1):17–31.
11. Ozbay F, Johnson DC, Dimoulas E, Morgan CA, Charney D, Southwick S. Social support and resilience to stress: from neurobiology to clinical practice. Psychiatry (Edgmont). 2007;4(5):35–40.
12. Lin N, Simeone RS, Ensel WM, Kuo W. Social support, stressful life events and illness: a model and an empirical test. J Health Social Behav. 2009;20(2):108–119.
13. Kimmel PL, Emont SL, Newmann JM, Danko H, Moss AH. ESRD patient quality of life: symptoms, spiritual beliefs, psychosocial factors and ethnicity. Am J Kidney Dis. 2003;42(4):713–721
14. Penninx BW, van Tilburg T, Boeke AJ, Deeg DJ, Kriegsman DM, van Eijk JT. Effects of social support and personal coping resources on depressive symptoms: different for various chronic diseases? Health Psychol. 1998;17(6):551–558.
15. Plaisier I, de Bruijn JG, de Graaf R, ten Have M, Beekman AT, Penninx BW. The contribution of working conditions and social support to the onset of depressive and anxiety disorders among male and female employees. Social Sci Med. 2007;64(2):401–410.
16. Chao CT, Huang JW, Chiang CK; COGENT (COhort of GEriatric Nephrology in NTUH) study group. Functional assessment of chronic illness therapy-the fatigue scale exhibits stronger associations with clinical parameters in chronic dialysis patients compared to other fatigue-assessing instruments. PeerJ. 2016;4:e1818.
17. Wang SY, Zang XY, Fu SH, et al. Factors related to fatigue in Chinese patients with end-stage renal disease receiving maintenance hemodialysis: a multi-center cross-sectional study. Ren Fail.

2016;38(3):442–450.

18. Bugalho P, Lampreia T, Miguel R, Mendonca MD, Caetano A, Barbosa R. Non-motor symptoms in Portuguese Parkinson's disease patients: correlation and impact on quality of life and activities of daily living. Sci Rep. 2016;6:32267.
19. van de Port IG, Kwakkel G, Schepers VP, Heinemans CT, Lindeman E. Is fatigue an independent factor associated with activities of daily living, instrumental activities of daily living and health-related quality of life in chronic stroke? Cerebrovasc Dis. 2007;23(1):40–45.
20. Gilles M, Scharnholz B, Marzina A, et al. Increased left ventricular mass in hypercortisolemic depressed patients: a hypothesis based on a case series. Med Hypotheses. 2014;83(6):730–732.
21. Sampaio LA, Fraguas R, Lotufo PA, Bensenor IM, Brunoni AR. A systematic review of non-invasive brain stimulation therapies and cardiovascular risk: implications for the treatment of major depressive disorder. Front Psychiatry. 2012;3:87.
22. Waugh CE, Koster EH. A resilience framework for promoting stable remission from depression. ClinPsychol Rev. 2015;41:49–60.

DOI Number: 10.37506/ijone.v12i4.11249

Effectiveness of Video Assisted Teaching Program on Knowledge Regarding Post Traumatic Stress Disorder among the Primary Teachers

Nilima Rakshale[1], Seem Singh[2], Vrushali Dighekar[3], Priyanka Fale[3], Kshitija Gajabe[3], Harshal Gawande[3], Rupesh Fatigue[3]

[1]Professor, Department of the Mental Health Nursing, SRMMCON, Sawangi (M), Wardha, [2]Professor, Department of the Medical Surgical Nursing, SRMMCON, Sawangi (M), Wardha, [3]Basic B.Sc. Nursing 4th Year, Smt. Radhikabai Meghe Memorial College of Nursing

Abstract

Background: Post-traumatic stress disorder, or PTSD, is the psychiatric disorder that can result from the experience or witnessing of traumatic or life-threatening events such as terrorist attack, violent crime and abuse, military combat, natural disasters, serious accidents or violent personal assaults.

Aims and Objectives: Aim of the study is,to assess the effectiveness of video assisted teaching program regarding PTSD among primary teachers in selected primary school.

1. To assess the pre test knowledge regarding post traumatic stress disorder among the primary teachers.
2. To evaluate the effectiveness of video assisted teaching program regarding post traumatic stress disorder among primary teachers.
3. To find out the association of post test knowledge score with their selected demographic variables.

Material and Method: The study design was pre experimental research design, one group pretest post test approach. primary teacher of Rashtrasant tukdoji primary school Wardha, lokvidhalay primary school Wardha, savitribai primary school Wardha, zilla parishad primary school neri, zilla parishad primary school dighi, zilla parishad primary school selsura, madhav dnyanpeeth hinganghat sample size were 30.

Result: After the detailed analysis of the conducted study leads to the following conclusion that Mean knowledge score of the primary teacher in pre test was 7.33 ± 2.225 and in post test it was 24.43±1.499.

Conclusion: The findings shows significant difference between pre test and post test that is After the completion of this study it is revealed that video assisted teaching program on knowledge regarding post traumatic stress disorder among the primary teachers improving knowledge in that majority of primary teacher had (26.66%) good and (20%) excellent level of knowledge score in post test. Statistically interpreted that video assisted teaching programme is effective on knowledge regarding, post traumatic stress disorder (PTSD) among primary teachers. Thus H1 is accepted.

Keywords: *Effectiveness, Video Assisted Teaching, Knowledge, Post Traumatic Stress Disorder Primary Teachers.*

Introduction

Traumatic events are profoundly stressful. The stress that results from traumatic events precipitates a spectrum of psycho-emotional and physiopathological outcomes. In its gravest form, this response is diagnosed as a psychiatric disorder consequential to the experience of traumatic events.[1] Subjects with PTSD often relive the experience through nightmares and flashbacks. They report difficulty in sleeping. Their behavior becomes increasingly detached or estranged and is frequently

aggravated by related disorders such as depression, substance abuse and problems of memory and cognition. The disorder soon leads to impairment of the ability to function in social or family life, which more often than not results in occupational instability, marital problems and divorces, family discord and difficulties in parenting. The disorder can be severe enough and last long enough to impair the person's daily life and, in the extreme, lead the patient to suicidal tendencies. PTSD is marked by clear biological changes, in addition to the psychological symptoms noted above and is consequently complicated by a variety of other problems of physical and mental health.[2]

Background of the Study: Previously published literature has provided a concise overview of studies that explore PTSD in the Indian context. In their 1993 study, Fitzpatrick KM, concluded that those students who have had multiple traumatic events and those who experience interpersonal trauma such as an assault, can also be at increased risk for developing PTSD.[5,6,7,8,9,10,11]

Following exposure to a traumatic event, some students may be more likely to develop PTSD than others. Risk factors for PTSD include characteristics of the trauma exposure (greater trauma severity, proximity to the event), individual factors (female gender, history of psychopathology) and parent characteristics (parental psychopathology including PTSD and other trauma-related symptoms, lack of parental support following the trauma).Therefore, the aim of this research is to improve the knowledge of primary teachers about PTSD through video assisted teaching so that they can identify the students undergone or post exposure to any trauma or life threatening situation, also they can help such students to overcome from that or they refer them to proper health agencies to reduce their problems and settled them so that they live quality life with mental well being.

Hypothesis:

H_1: There may be significant difference between pre test and post test knowledge score regarding post traumatic stress disorder among primary teachers at 0.05 level of significance.

Review of Literature:: Sheryl Kataoka concluded in his study, responding to Students with PTSD in Schools (2012) that intervening with traumatized youth on school campuses is a much needed role for the school mental health consultant. As this chapter illustrates, there are important roles in terms of working with the school staff and addressing the needs of children and families following a traumatic event. Whether a trauma occurs on the school campus, in the surrounding community, or to individual students and families, teachers and administrators may be uncertain how to best support the affected students. A key role that a mental health professional can play is giving school staff the tools in which to support and refer students who may be suffering with PTSD and other trauma-related mental health conditions. School-based clinicians can and should be aligned with the educational mission of schools. By providing early intervention services to students who have PTSD symptoms, clinicians can not only help in improving the social-emotional well-being of students, but also their academic performance in the classroom.[3]

Andrew Roderick Gilmoor, 1, * Adithy Adithy, 2 and Barbara Regeer Published online 2019 Jul 4 the Cross-Cultural Validity of Post-Traumatic Stress Disorder and Post-Traumatic Stress Symptoms in the Indian Context: A Systematic Search and Review concluded that this review puts into focus the complexity in understanding PTSD and PTSS from an Indian perspective. The diversity in classification, measures and treatment options for PTSD in the Indian context alone reflects the ongoing dilemma in measuring and identifying PTSD and PTSS worldwide. As much as this review has illustrated the diversity in studying PTSD in India, it also reveals the limited scope in terms of types of traumas and types of populations that are studied. There is an obvious need to cater PTSD research to the specific needs of this population and traumatic events considered as such that are outside the traditional western-derived classifications of the DSM. The results of this review only further emphasize the need for gaining local understandings and developing culturally sensitive measures for identifying and addressing PTSD in various populations—an action urgently needed for reducing the so-called global mental health treatment gap.[4]

Material and Method

One group pre test post test designwas used in the study. The study was conducted in Rashtrasant tukdoji primary school Wardha, lokvidhalay primary school Wardha, savitribai primary school Wardha, zilla parishad primary school neri, zilla parishad primary school dighi, zilla parishad primary school selsura, madhav dnyanpeeth hinganghat. The population of the study was primary school teachers. The sampling technique used was simple random sampling. The

sample was consisting a total number of 30 subjects. In inclusion criteria of the study are teachers from primary schools both male and female who are interesting in this study. Teachera vailable at the time of data collection. In exclusion criteria of the study are teachers those who had already attended program on same topic.

Tools for Data Collection: A structured questionnaire consisting of 2 items including demographic data and knowledge regarding effective study among the primary teacher was used to collect the data. Structured questionnaire was prepared by referring books, video of the PTSD.

Section I: The first section of the tool consisted of 4 items of selected demographic variables like age, gender, course, education qualification.

Section II: It consists of 15 structured knowledge questionnaires regarding effective study of PTSD.

Findings:

Organization of Findings: Analysis and interpretation was done based on the objectives of the study. The data was analyzed and is presented in the following section.

Section A: Distribution of primary teacher according to their demographic variables.

Section B: Assessment of pretest and post test knowledge regarding post traumatic stress disorder (PTSD) among primary teacher.

Section C: Effectiveness of video assisted teaching on knowledge regarding post traumatic stress disorder (PTSD) among primary teacher.

Section A: Distributions of Primary Teacher According to Their Demographic Variables.

This section deals with percentage wise distribution of engineering students in relation to knowledge regarding effective knowledge of post traumatic stress disorder (PTSD). A convenient sample of 30 subjects was drawn from the study population, who were in selected primary school. The data obtained to describe the sample characteristics including age, gender, course and education qualification.

Table 1: Percentage wise distribution of primary teacher according to their demographic variable according to age: n = 30

Demographic Variables	No. of Primary Teacher	Percentage %
21-30 yrs	3	10 %
31-40 yrs	10	33.33 %
41-50 yrs	16	53.33 %
51-60 yrs	1	3.33 %

According to Gender:

Male	9	30 %
Female	21	70 %

According to Course:

Teacher	30	100 %
Lecturer	0	0 %

According to Education Qualification:

B.ed	5	16.66 %
D. ed	21	70 %
MA. Bed	2	6.66 %
MA.Ded	2	6.66 %

The above table 1 depicts frequency and percentage wise distribution of primary teacher according to their demographic variables.

- Distribution of primary teacher according to their age in years reveals that 10 % of them were belonging to the age group of 31-40 years, 33.33% in 41-50 years and 53.33% in the age group of 51-60 years is 3.33 %.
- Distribution of primary teacher according to their gender reveals that 30% of them were males and 70 % were females.
- Distribution of primary teacher according to their course that in teacher is 96.66 % and lecturer is 3.33%
- Distribution of primary teacher according to their education qualification for the B.ed is 16.66 %,D.ed is 70 %, MA.Bed is 6.66 % and for the MA.Ded is 6.66 %.

Section B: Assessment of pretest and posttest knowledge regarding post traumatic stress disorder (PTSD) among the primary teachers regards to demographic variables.

- This part deals with the assessment of existing knowledge regarding the post traumatic stress disorder among the primary teachers regards to demographic variables.
- The level of knowledge is divided under following heading of poor, average, good, very good, excellent.

Table No. 2: Assessment of pretest knowledge regarding the post traumatic stress disorder (PTSD) among the Primary teachers regards to demographic variables. n=30

Level of knowledge score	Score range	Percentage score	Pre Test	
			Frequency	Percentage
Poor	0-3	0-20%	1	3.33%
Average	4-6	21-40%	8	26.66 %
Good	7-9	41-60%	11	36.66 %
Very good	10-12	61-80 %	10	33.33 %
excellent	13-15	81-100%	0	0%
Minimum score	3			
Maximum score	12			
Mean score	7.33±2.225			
Mean %	24.43%			

- The above table No. 2 shows that none of them had poor level of knowledge score is 1(3.33%), average level of knowledge score 8(26.66 %),good level of knowledge score is 11(36.66%), very good level of knowledge score is 10 (33.33%) and the maximum score was 12, the mean score was 7.33± 2.225 with a mean percentage score of 24.43%.

Assessment of pretest knowledge regarding the post traumatic stress disorder (PTSD) among the primary teachers regards to demographic variables. n=30

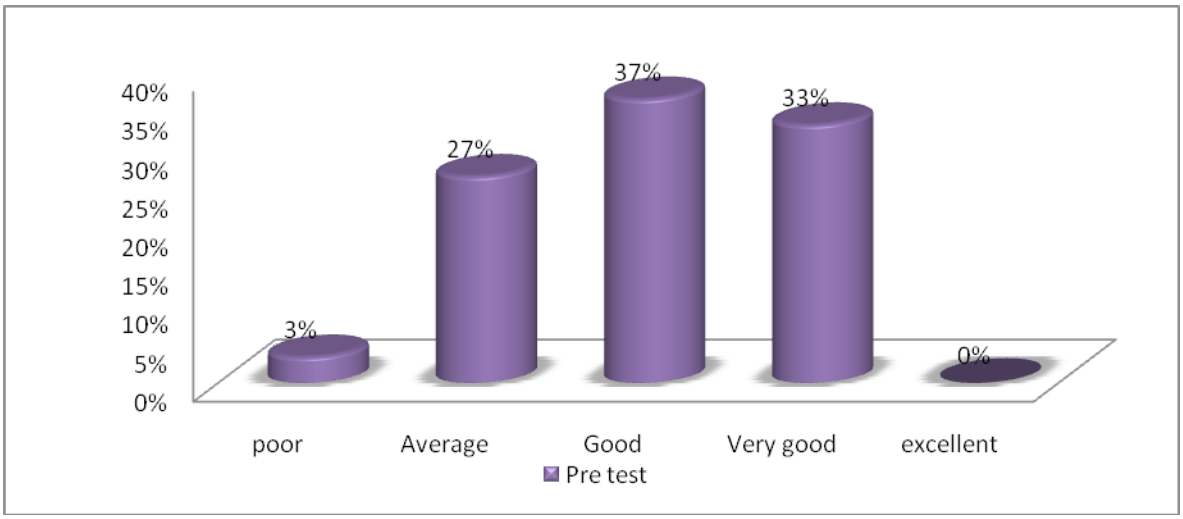


Figure No. 1: Pre test Knowledge score regarding the post traumatic stress disorder among the primary teachers regards to demographic variables.

The above figure No. 1 shows that none of them had poor level of knowledge score is 1(3.33%), average level of knowledge score 8(26.66 %),good level of knowledge score is 11(36.66%), very good level of knowledge score is 10 (33.33%) and the maximum score was 12, the mean score was 7.33± 2.225 with a mean percentage score of 24.43% .

Assessment of post test knowledge regarding post traumatic stress among primary teachers n=30

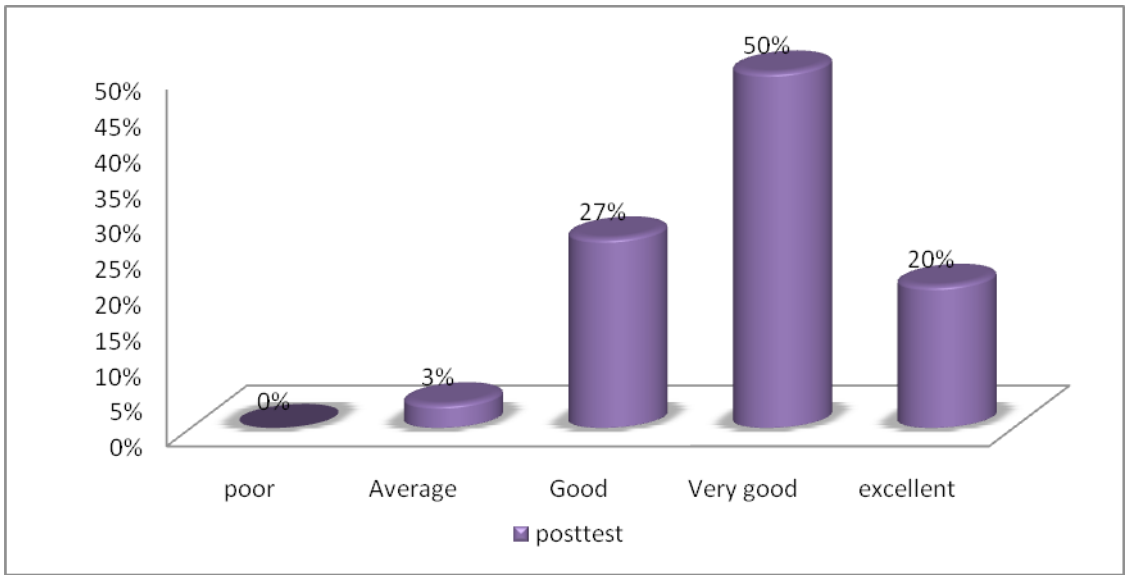


Figure No. 2: Post test Knowledge score regarding post traumatic stress disorder among the primary teachers.

The above figure shows that of sample were had poor level of knowledge score, none of them had poor level of knowledge score, 1(3.33%) had average level of knowledge, 8(26.66 %) of them had good level of knowledge score, 15(50%) have very good level of knowledge and 4(20%) had excellent level of knowledge. The minimum score was 4 and the maximum score was 15, the mean score was 18.88 ± 1.499 with a mean percentage score of 62.93 %.

Section C: Effectiveness of video assisted teaching on the knowledge regarding the post traumatic stress disorder among the primary teachers.

Table No. 3: Percentage wise distribution of effectiveness of video assisted teaching on the knowledge regarding the post traumatic stress disorder among the primary teachers. n=30

Tests	Mean score	SD	't'-value	Degree of Freedom	p-value	Significant
Pre Test	7.33	±2.225	29.911	99	0.001	S, p<0.05
Post Test	24.43	±1.499				

The table No. 3 shows that there is a significant difference between pretest and post test knowledge scores interpreting effectiveness of video assisted teaching on the knowledge regarding post traumatic stress disorder among the primary teachers. Mean value of pre test is 7.33 and post test is 24.43 and standard deviation values of pre test is 2.225 and post test is 1.499. The calculated t-value is 29.911 and p-value is 0.001. Hence it is statistically interpreted that effectiveness of video assisted teaching on the knowledge regarding the post traumatic stress disorder among the primary teachers was effective. Thus the H_1 is accepted.

Conclusion

In this study video assisted teaching on post traumatic stress disorder is given to improve the knowledge among primary teachers. This study shows that, the assessment and analysis of the conducted study leads to the following conclusion,majority of primary teacher had (26.66%) good and (20%) excellent level of knowledge score in post test. Hence the analysis is statistically interpreted that the video assisted teaching on the post traumatic stress disorder is effective about 63% for improving the knowledge of primary teachers.

Conflict of Interest: NIL

Source of Funding: Self

Ethical Clearance: Institutional Ethics Committee approval was obtained from IEC, Dutta Meghe Institute of Medical Sciences (DU)/IEC/2017-18/7041).

References

1. Vojdani A, Thrasher JD. Cellular and humoral immune abnormalities in Gulf War veterans. Environ Health Perspect. 2004;112:840–6. [PMC free article] [PubMed] [Google Scholar]
2. McKeown-Eyssen G, Baines C, Cole DE, Riley N, Tyndale RF, et al. Case-control study of genotypes in multiple chemical sensitivity: CYP2D6, NAT1, NAT2, PON1, PON2 and MTHFR. Int J Epidemiol. 2004;33:971–8. [PubMed] [Google Scholar]
3. Sheryl Kataoka, MD, MSHS,a,b Audra Langley, PhD,c Marleen Wong, PhD,d Shilpa Baweja, MA,e and Bradley Stein, MD, PhDf,g, Responding to Students with PTSD in Schools. Published in Child AdolescPsychiatr Clin N Am. 2012 Jan; 21(1): 119–x.
4. Andrew Roderick Gilmoor, 1, * AdithyAdithy, 2 and Barbara Regeer Published online 2019 Jul 4The Cross-Cultural Validity of Post-Traumatic Stress Disorder and Post-Traumatic Stress Symptoms in the Indian Context: A Systematic Search and Review
5. Fitzpatrick KM, Boldizar JP. The prevalence and consequences of exposure to violence among African-American youth. J Am Acad Child Adolesc Psychiatry. 1993;32:424. [PubMed] [Google Scholar]
6. Jaycox LH, Stein BD, Kataoka SH, et al. Violence exposure, posttraumatic stress disorder and depressive symptoms among recent immigrant schoolchildren. J Am Acad Child Adolesc Psychiatry. 2002;41:1104. [PubMed] [Google Scholar]
7. Martinez P, Richters JE. The NIMH Community Violence Project: II. Children's distress symptoms associated with violence exposure. Special Issue: Children and violence. Psychiatry. 1993;56:22. [PubMed] [Google Scholar]
8. Saigh PA, Bremner JD. The history of postraumatic stress disorder. Needham Neights, MA: Allyn & Bacon; 1999. [Google Scholar]
9. Singer MI, Anglin TM, Song L, et al. Adolescents' exposure to violence and associated symptoms

of psychological trauma. JAMA. 1995;273:477. [PubMed] [Google Scholar]

10. Stein BD, Jaycox LH, Kataoka SH, et al. Prevalence of child and adolescent exposure to community violence. Clin Child Fam Psychol Rev. 2003;6:247. [PubMed] [Google Scholar]
11. Stein BD, Zima BT, Elliott MN, et al. Violence exposure among school-age children in foster care: relationship to distress symptoms. J Am Acad Child Adolesc Psychiatry. 2001;40:588. [PubMed] [Google Scholar]

DOI Number: 10.37506/ijone.v12i4.11250

Reasons Pasung in People with Mental Disorders

Nining Wuri Lestari[1], Setyawati Soeharto[2], Heni Dwi Windarwati[3]

[1]Students of Nursing Masters Program in Faculty of Medicine, Universitas Brawijaya, [2]Faculty of Medicine, Brawijaya University, [3]Nursing Master Study Program, Faculty of Medicine, Universitas Brawijaya, Malang, Indonesia

Abstract

Background: Still high rates of retention in people with mental disorders. Objective: To find out the reasons for retention in people with mental disorders. Method: Starting by identifying literature on scientific articles that have been published both nationally and internationally from two databases, namely DOAJ and Pubmed in 2015 to 2019. From the initial search, 187 article titles were obtained from DOAJ and 73 article titles from Pubmed. The list of articles relevant to the research question was identified as many as 14 articles. In the final stage, out of the 14 articles that were read in total or full text, there were 6 articles that fit the inclusion and exclusion criteria. Results: The reasons for internal retention are that aggressive behavior from people with mental disorders and externally are negative family attitudes due to physical and mental fatigue, lack of access to treatment due to the distance from home to health facilities and lack of follow-up after people with mental illness come home from care Hospital Conclusion: Pasung is a very complex problem and solutions must be sought immediately. The role of health workers is needed, namely by conducting mental health education in the community. Pasung is a very complex problem and solutions must be sought immediately. The role of health workers is needed, namely by conducting mental health education in the community. Pasung is a very complex problem and solutions must be sought immediately. The role of health workers is needed, namely by conducting mental health education in the community.

Keywords: *"Seclusion, restraint, mental disorder, coercion".*

Introduction

People with mental disorders according to Law number 18 of 2014 concerning mental health are people who experience disturbances in thoughts, behaviors and feelings manifested in the form of a set of symptoms and/or meaningful behavioral changes and can cause suffering and obstacles in carrying out people's functions as human (1). Constructions are all forms of restriction of motion that result in loss of freedom of movement and the right to health services for people with mental disorders(11).

Basic health research(5) conducted by the Indonesian Ministry of Health in 2013 and 2018 identified the estimated number of ODGJ and pasung. Estimated number of pasung in Indonesia is 60,000(5) and pasung history of 51,800 people(5). From the number of 51,800 people pasung history, it is estimated that as many as 8,200 people are being locked up in the last three months.

Method

The preparation of this review goes through several stages, namely determining the research questions with the PICOS method. Furthermore, collecting data for literature review includes: identification, screening, eligibility selection and determination of inclusion criteria. In the final stage, the review is carried out by synthesizing the literature to obtain a systematic review.

Research Questions: The research question is "what is the reason for the family to save people with mental disorders?"

Journal identification: Journal identification is done by searching for articles that have been published in 2015 to 2019 in two databases, namely DOAJ and Pubmed, searching is done using keywords: "seclusion, restraint, mental disorder, coercion". The search is done by using a single word or a combination of these words.

The article is then selected according to theinclusion and exclusion criteria that have been determined by the researcher. The article will be included if the article specifically discusses saving and why. While the article will be excluded if the article uses languages other than English and Indonesian, not original research and there is no full text.

Screening and Eligibility: From the initial search found 187 article titles from DOAJ and 73 article titles from Pubmed. The list of articles relevant to the research question was successfully identified. After screening through abstracts, 14 relevant articles were obtained, the selection was continued by selecting articles that were relevant, eligible and had similar study design. In the final stage, out of the 14 articles that were read in total or full text, there were 6 articles that fit the inclusion and exclusion criteria.

Assessment: This stage is the assessment stage of 6 existing articles. At this stage the author summarizes the entire article and is synthesized into a literature review.

Results

Based on the questions made by researchers, namely: "What is the reason for the family to save people with mental disorders?" Obtained six articles that discuss the reasons for saving.

Discussion

The family is two or more people who are united by togetherness and emotional closeness that identifies itself as part of the family[5]. The family consists of individuals who are united through marriage and parenthood, blood relations and adoption[1,2]. The family has emotional closeness, so if there are members who experience family pain have obligations and responsibilities in caring. Families try their best care and treatment, but the process of caring for people with mental disorders takes a long time. Patience is needed in caring, this makes the family experience boredom. Aggressive behavior makes the family feel ashamed and helpless so that they are locked up Attaching is done to prevent injury to themselves and those around them[9].

Depression in people with mental disorders occurs in almost all continents. In Ethiopia, saving is done because of lack of access between housing and health services. Most families live in the mountains or remote places. The far access to health services and the low economic conditions cause families not to use health services. Lack of supervision of health workers for post-hospitalized mental patients is also a reason for families to be deprived. The family feels that after being treated, the patient has recovered so there is no need to control. Lack of information from health workers about the importance of continuing treatment even if they are allowed to go home [7].

Post pasung patients will be re-treated by the family, if there is no monitoring from health workers will appear recurrence and re-pasung[12]. Some of the reasons families do the saving because the family still has concern for family members but because they are forced to do the saving.

Families experience physical and emotional exhaustion due to having family members with mental disorders. The family cannot manage their emotions so that the idea of embezzlement arises despite human rights violations[12]. Confinement causes social isolation due to isolation or confinement. The mounting location is far from the housing so that patients do not get access to meet other people. Savings also cause changes in meeting basic needs, self-care activities can not be done. Nutrition needs are also not met so that the physical condition is very alarming [11].

The actions that need to be taken by health workers are to improve social functions and optimize the support system, namely the family and community[11]. After treatment, patients still need supervision from health workers so there is a need for follow-up to avoid recurrence[7]. Form of support to the family by providing correct information and teaching how to manage emotions in the face of mal adaptive behavior[1]. Support family and community by providing mental health education on how to deal with mental patients with aggressive behavior [12], health education about schizophrenia and appropriate treatment method, especially in rural areas[9,10]. The government also needs to strive to build infrastructure by building health services near the dean of residential settlements to facilitate families and communities when problems arise [7].

Post pasung patients need rehabilitation to prepare to be independent. Rehabilitation involves patients, families, communities and health workers. Rehabilitation aims to create employment opportunities for patients without discrimination. It is expected that patients can be independent in meeting economic needs and social support systems to prevent recurrence and pasung[9,10].

Conclusion

Pasung in people with mental disorders is a very complex problem and solutions must be sought immediately. Nearly all over the world the practice of mounting occurs for the same reason and impact. The family and community have a very important role so that the pasung problem can be overcome. Physical fatigue and lack of control over emotions are the main triggers of depletion. The role of health workers is needed so that this can be overcome by conducting mental health education in the community which is the main key in overcoming pasung problems.

Ethical Clearance: This article has been approved by the Medical faculty of Brawijaya University

Source of Funding: Self founding

Conflict of Interest: Nil

Reference

1. YUSUF, A.; TRISTIANA, R. D.; PURWO, I. Fenomena Pasung dan Dukungan Keluarga terhadap Pasien Gangguan Jiwa Pasca Pasung Grasped Phenomena and Family Support on Post Grasped Psychiatric Patients. 2019.
2. ALDAM, Satria Fajrullah Said; WARDANI, Ice Yulia. Efektifitas penerapan standar asuhan keperawatan jiwa generalis pada pasien skizofrenia dalam menurunkan gejala halusinasi. Jurnal Keperawatan Jiwa, 2019, 7.2: 165-172.
3. MINAS, Harry; DIATRI, Hervita. Pasung: Physical restraint and confinement of the mentally ill in the community. International Journal of Mental Health Systems, 2008, 2.1: 8.
4. SITABUANA, Tundjung Herning; REDI, Ahmad; FELICIA, Shella. The Norm Dispute Resolution Through Mediation. In: Tarumanagara International Conference on the Applications of Social Sciences and Humanities (TICASH 2019). Atlantis Press, 2020. p. 553-557.
5. SIRAIT, Anna Maria. Faktor risiko tumor/kanker rongga mulut dan tenggorokan di Indonesia (Analisis Riskesdas 2007). Media Penelitian dan Pengembangan Kesehatan, 2013, 23.3: 20813.
6. PRONYK, Paul, et al. Vaccine hesitancy in Indonesia. The Lancet Planetary Health, 2019, 3.3: e114-e115
7. ASHER, Laura, et al. “I cry every day and night, I have my son tied in chains”: physical restraint of people with schizophrenia in community settings in Ethiopia. Globalization and health, 2017, 13.1: 47.
8. Marylin, Friedman., V, R, Bowden., Elaine, G, Jones. (2014) Family Nursing Textbooks for Research, Theory & Practice. 5th edn. Edited by AY. Hamid Jakarta.
9. LAILA, Nenden Hikmah, et al. Perceptions about pasung (physical restraint and confinement) of schizophrenia patients: a qualitative study among family members and other key stakeholders in Bogor Regency, West Java Province, Indonesia 2017. International journal of mental health systems, 2018, 12.1: 35.
10. LAILA, Nenden Hikmah, et al. Factors associated with pasung (physical restraint and confinement) of schizophrenia patients in Bogor regency, West Java Province, Indonesia 2017. BMC psychiatry, 2019, 19.1: 162.
11. HELENA, Rasmawati Novy; DAULIMA, Catharina; WARDANI, Ice Yulia. The experience of people with mental disorders in social function adaptation after suffering from pasung. Enfermeria clinica, 2018, 28: 275-279.
12. Wahyu, Reknoningsih., Novy Helena Chatarina Daulima, Yossie Susanti Eka Putri W. (2015) ‘Family Experience in Caring for Post-Pasung Patients. Preliminary Results Method’, 18 (3), pp. 171-180.

DOI Number: 10.37506/ijone.v12i4.11251

Knowledge Assessment Regarding Transmission of HIV/AIDS among Adolescent in Selected Schools

Pradeep kumar

Associate Professor, Mahavir College of Nursing, Vatrak C/O SFG Genaral Hospital, Vatrak Managed by KK Shah Arogya Mandal

Abstract

Acquired Immune Deficiency Syndrome. AIDS is medical condition . A person is diagnosed with AIDS when their immune system is too weak to fight off infection. AIDS is caused by HIV.

The first case of HIV in India was reported in 1986 from Madras. Since then there has been an increase in the number of HIV infections over the years. As per the National AIDS Control Organization (NACO), it is estimated that about 3.8 million people were living with HIV and AIDS in India in the year 2000.

Exposure to human immunodeficiency virus (HIV) can be a consequence of many of the risk-taking behaviors that occur among adolescents. Efforts to improve adolescent health through access to diagnosis, treatment and prevention education must take into account the developmental level of the patient, as well as social and psychological variables.

Descriptive study to assess the knowledge of hypertensive patients regarding Transmission of AIDS among adolescence was conducted by researcher.

Objectives of the study:

- To assess the knowledge of adolescence regarding the transmission of HIV/AIDS.
- To find out the knowledge score towards mode of transmission and prevention of HIV/AIDS and selected socio demographic variables.

The major findings of the study are -In knowledge section, majority of adolescence 9 (30%) were having good knowledge (09-12, marks with mean value 10.44), 8(26.7%) of them were having average knowledge (05-08, marks with mean value 6.87), 7(23.3%) of them were having poor knowledge (00-04 marks with mean value 3.57), 6(20%) of them having excellent knowledge (13-15 marks with mean value 13.3).

It can be concluded that majority of adolescence have average knowledge and it can be improved by doing effective adolescence health teaching in various health centers and community areas.

Keywords: *Assess,Knowledge, Transmission, HIV/AIDS.*

Introduction

Since AIDS was first identified in the early 1980s, an unprecedented number of people have been affected by the global AIDS epidemic.Today, there are an estimated 33.4 million people living with HIV/AIDS and each year around two million people die from AIDS-related illnesses.

Life style and other factors are alcohol, nutrition, recreational drugs, re-infection through unprotected intercourse, smoking and stress. Poverty and homelessness are associated with worse survival, probably reflecting co-factor such as nutrition and access to medical care. The possible effect of life style factors such as anxiety and depression are being studied but no firm conclusion have yet been reached.

Knowledge regarding HIV/AIDS is an important measures used for decreasing the prevalence of HIV/ AIDS and it's transmission. The increase level of knowledge on HIV/AIDS and transmission will help to have desired intervention goal in people who are most motivated.

Problem Statement: "A study to assess knowledge regarding Transmission of HIV/AIDS among Adolescent in selected schools of district Arvalli (GJ).''

Objective of the Study:

1. To assess the knowledge of Adolescence regarding the Transmission of HIV/AIDS.
2. To find out the knowledge score towards mode of transmission and prevention of HIV/AIDS and selected socio demographic variables.

Research Methodology

Research Approach: The researcher has adopted the Quantitative research approach.

Research Design: The researcher has adopted a **Non-experimental Descriptive survey research design** to assess the Knowledge regarding HIV/AIDS and it's transmission among teenager in school of district arvalli (Gj).

Sample and sample size: The sample selected for the present study comprised the School Student of district arvalli (GJ) **.** The sample size selected for this study was 30.

Sampling Technique: The Non-Probability Purposive Sampling Method was used to select 30 Student, who met the designated set of criteria during the period of data collection.

Description of the Tool: The researcher prepared a Demographic Data and a Structured Questionnaire is the tool for study. The tool included two sections:-

Section A: Demographic Data sheet.

Section B: Questionnaires on knowledge regarding prevention of HIV/AIDS.

It contain questionnaire, which helps to assess the knowledge level of student questionnaire consists of 15 question and 4 options. The question include HIV/AIDS and Transmission . Total marks 15; each right answer carries 1 mark and wrong answer 0. Categories include in this section is excellent knowledge (13-16 marks), good knowledge (09-12 marks), average knowledge (05-08 marks) and poor knowledge (00-04 marks).

Key Scores:

Sr.No.	Level of knowledge	Marks
1	Poor knowledge	00-04 Marks
2	Average	05-08 Marks
3	Good knowledge	09-12 Marks
4	Excellent knowledge	13-15 Marks

Data Analysis: The purpose of data analysis is to organize, provide structure to and elicit meaning from research data descriptive statistic mean, standard deviation were used for data analysis. The collected data for each variable was analyzed, categorized, Interpreted and presented in the form of table & figures.

Table 1: Frequency and percentage distribution of student according to their demographic variables .

Sr.No.	Demographic variables	Frequency	Percentage(%)
1.	**Age**		
	13 to 14 year	5	16.6%
	15 to 16 year	7	23.33%
	17 to 18 year	18	60%
	18 to 19 year	0	0%
2.	**Sex**		
	Male	17	56.67%
	Female	13	43.33%

Sr.No.	Demographic variables	Frequency	Percentage(%)
3.	**Education qualification**		
	Primary education	12	40%
	Secondary education	18	60%
	Illiterate	0	0%
4.	**Area of residency**		
	Urban	8	26.67%
	Rural	4	13.33%
	Semi rural	18	60%
5.	**Type of family**		
	Joint	12	40%
	Nuclear	18	60%

Table 2: Frequency & percentage distribution according to the level of knowledge.

Sr.No.	Level of knowledge	Frequency	Percentage (%)
1	Poor knowledge	7	23.3%
2	Average	8	26.7%
3	Good	9	30%
4	Excellent knowledge	6	20%

Table 3: Assessment of knowledge of Adolescence

Sr.No.	Level of knowledge	Statistical value	
		Mean	Median
1	Poor knowledge	3.57	0.52
2	Average	6.87	0.79
3	Good	10.44	1.00
4	Excellent knowledge	13.3	0.51

Discussion

The present study was designed to assess the knowledge regarding the HIV/AIDS and Transmission among adolescence in selected schools of district Arvalli (GJ).

The study design used was Non-experimental in nature conducted over a period of 18 March to 20 March 2019. Data were collected from 30 adolescence who are attending the school.

The findings of study are discussed with reference to the objectives and findings of the similar studies. Discussion of findings is presented as for demographic variables of adolescence and knowledge of HIV/AIDS and Transmission.

In knowledge section, majority of adolescence 9 (30%)were having good knowledge (09-12 marks with mean value 10.44), 8(26.7%) of them were having average knowledge (05-08 marks with mean value 6.87), 7(23.3%) of them were having poor knowledge (00-04 marks with mean value 3.57), 6(20%) of them having excellent knowledge (13-15 marks with mean value 13.3).

Conclusion

In adolescence,it is necessary to be awareness of such measures for HIV/AIDS and its transmission. Adolescence also need more knowledge on the topic so as to as question measures that are being used to prevention of HIV/AIDS.

From the present study it can be concluded that adolescence who were participated in the study have good knowledge on HIV/AIDS and Transmission.

Recommendation of the Study:

- An experimental study can be conducted to educate the adolescence regarding HIV/AIDS and Transmission.
- The study can be conducted on a large sample size.
- The study can be conducted to compare knowledge of HIV/AIDS between two groups.
- The study can be done to co-relate knowledge and attitude of HIV/AIDS and Transmission

Acknowledgements: Author is extremely grateful to the students who participated in the study.

Conflict of Interest: Nil

Source of Funding: Nil

Ethical Clearance: Institutional ethical committee clearance was sought before conducting the study.

References

1. Brunner and suddharth's. Text book of medical surgical nursing .13th edition. Janice l. Hinkle & kerry h. Cheever, published by Wolterskluwer (India) Pvt Ltd, New Delhi. 998-1007.
2. Park's textbook of preventive and social medicine, k.park. 23rd edition m/s banardiasbhanot publisher 1167,prem nagar,jabalpur,408 001(mp) india (2015).343-351.
3. Brunner and sudhharth's. Text book of medical surgical nursing, 11th edition. Walter's kluwer (India) Pvt. Ltd, New Delhi, (2008). 1-18
4. B.t. basvanthappa. Nursing research, 2nd edition. jaypeep. vijjaypee brothers medical publisher. 233-238
5. B.t. basvanthappa. Medical surgical nursing, 2nd edition. jaypeep. vijjaypee brothers medical publisher. 1138-1143
6. Joyce n black .medical surgical nursing,8th edition. Volume-2, elsevier a division of reed elsevier Indian private limited, (2010). 2103-2149.
7. Nancy burns and susan k grove . Understanding nursing research 4th edition. Elsevier a division of reed elsevierindian private limited (2008).283.
8. Nursing research and stastics, 3rd edition, Suresh K. Sharma, elsevierrelxindia private limited (2014).

DOI Number: 10.37506/ijone.v12i4.11252

Pictorial Flashcard Regarding Self-Care of Peripheral Intravenous Cannula (PIVC): Is it Effective in Terms of Indwelling Time and Related Complications?

Rahul Ranjan[1], Tarika Sharma[2], Sarita Nadiya[2], Karthik Ponnappan[3]

[1]M.Sc. Nursing Student, College of Nursing, Institute of Liver and Biliary Sciences (Deemed to be University) New Delhi, India, [2]Lecturer, College of Nursing, Institute of Liver and Biliary Sciences (Deemed to be University) New Delhi, India, [3]Consultant Anesthesia, Organ Transplant and Critical Care Institute of Liver and Biliary Sciences (Deemed to be University) New Delhi, India

Abstract

Background: Peripheral Intravenous Catheters (PIVC) are a vital tool in the delivery of patient which are associated with number of complications including insertion difficulty, phlebitis, infiltration, occlusion, dislodgment, bloodstream infection and known to increase morbidity and mortality risk and decreased in indwelling time of PIVC. The present study was undertaken with aim to evaluate the effectiveness of a pictorial flashcard regarding self-care of PIVC on its indwelling time and related complications among inpatients.

Method: A quasi experimental study using post-test only comparison group research design. Data were collected at selected general wards of Institute of Liver and Biliary Sciences, New Delhi by non-probability sampling technique i.e. convenience sampling technique to select 80 subjects i.e. 40 in each experimental and comparison group using tools such as subject's data sheet, V.I.P. Score, Infiltration Scale, Universal Pain Assessment Scale and self-developed PIVC documentation tool. Parametric and non-parametric test were applied to analyze the collected data using SPSS version 22.

Results: Mean indwelling time of PIVC in experimental group was significantly higher (66.7 hours) as compared to comparison group (59.4 hours) at p value of 0.038 ($p<0.05$). In experimental group, PIVC were removed on the routine basis among 77.5% of the subjects and in 22.5% of subjects PIVC was removed due to complications. In comparison group PIVC was removed on routine basis in 57.5% of subjects whereas for 42.5% of the subjects, the reasons for removal of PIVC was due to complications which was found to be significant ($p=0.047$) at $p<0.05$. PIVC complications such as Phlebitis (7.5%), Infiltration (10%) and Pain (15%) were present among more number of subjects in experimental group. Patients who paid hospital expenses out of pocket expenses had significantly higher indwelling time as compare to patients who paid through some insurances.

Conclusion: Study concluded that Pictorial flashcard on self-care of PIVC was effective in increasing the indwelling time of PIVC and reducing the occurrence PIVC related complications.

Keywords: *Peripheral Intravenous Cannula, Indwelling time of PIVC, Complications related to PIVC, Pictorial flashcard, Self-care of PIVC.*

Introduction

Peripheral Intravenous Catheters (PIVC) are vital tool in the delivery of patient care within the hospital or care facility. PIVCs quickly and effectively provide medication, nutrition and fluids to patients through the

Corresponding Author:
Mr. Rahul Ranjan
M.Sc. Nursing Student, College of Nursing, Institute of Liver and Biliary Sciences, New Delhi, India

bloodstream. PIVCs are also associated with number of complications including insertion difficulty, phlebitis, infiltration, occlusion, dislodgments and bloodstream infection leading to reduced indwelling time of PIVC which can affect the patient's health and increase healthcare costs[4]. Approximately 90 percent of the hospitalized patients, required peripheral cannula for their treatment during their admission due to changes in prescribing patterns and the acute nature of the cases[17].

PIVC failure before the end of intravenous therapy is unacceptably high. PIVC failure disrupts treatment and reinsertion may be distressing for the patient, therefore prevention of PIVC failure is an important patient outcome[13]. Nurses are involved in the insertion of PIVC, administration of medication or fluids using PIVC, assessment of PIVC and if required in the early recognition of complications and removal of PIVCs. The Nursing role includes, to explain the patient and the family about the device, its care, management of complications and the ability to advocate the patient when necessary[4, 7].

Comprehensive routine assessment is important for the early detection and management of PIVC related complications and prompt removal of redundant PIVCs. Patient education and engagement in PIVC assessment is another area that needs attention[16]. Involving patients in self-care of PIVC using information in the form of pictorial flashcard may reduce PIVC failure, the infections, increase indwelling time and decrease PIVC related complications as well as discomfort. Current study was undertaken with an aim to evaluate the effectiveness of a pictorial flashcard regarding self-care of PIVC on its indwelling time and related complications among inpatients.

Material and Method

Research Approach and Design: Quantitative research approach with Quasi experimental research design was used in the study. Two groups were taken i.e. experimental and comparison group. In experimental group, manipulation was done using pictorial flash-card on self-care of PIVC among inpatients along with standard care as per hospital protocol.

Population and settings: Study was conducted in the general wards of Institute of Liver and Biliary Sciences (ILBS), New Delhi. Population of the study comprised of inpatients with PIVC admitted in the general wards of ILBS for at least 72 hours.

Sample and Sampling Technique: With Power 80% and Alfa 5% total 80 participants were enrolled and included in the study according to selection criteria. Non probability sampling technique i.e. convenience sampling technique was used to select study participants.

Inclusion criteria included the subjects who: i) were conscious & oriented, ii) could understand Hindi or English, iii) were between the age group of 18 to 60 years, iv) were admitted in general wards and scheduled for PIVC insertion and v) expected to receive IV infusion and/or medication for at least 3 days (72 hours). And the exclusion criteria was the subjects who i) were on physical restraints, ii) were on sedative drugs, iii) got PIVC removed for the sole purpose of discharge before 72 hours and iv) had short admission period.

Tool for data collection: Total five tools were used for data collection. Tool 1: Subject Data Sheet which includes demographic variables and clinical variables. Tool 2: Visual Infusion Phlebitis (V.I.P.) Score to assess phlebitis, Tool 3: Infiltration Scale to assess degree of infiltration, Tool 4: Universal Pain Assessment Tool (UPAT) is used to assess the level of pain among subjects. Tool 5: PIVC Documentation Tool which is self-developed used to assess the documentation of indwelling time and complications of PIVC. Validity and Reliability of the all five tools were calculated and found to be valid and reliable for the study. Pictorial flashcard is prepared with size of 29.7cm x 42.0 cm with relevant pictures and written instructions regarding self-care of PIVC in English and Hindi language.

Data collection Process: Pilot study was conducted on 10 subjects and was found feasible with few modification in the study tool, after that final study was conducted from October to December 2018. According to sampling criteria 80 (i.e. 40 in each group) subjects with PIVC were selected for the study. Subject data sheet were filled using interview and medical record and time of PIVC insertion was recorded. In the experimental group, researcher explained self-care of PIVC using pictorial flashcard on one to one basis during or within one hour of insertion of PIVC. After that a copy of pictorial flashcard was given to the subjects for further read in Experimental group. Participants was followed every 24 hourly, till 72 hours or in between if need to be removed. Collected data was analyzed using SPSS version 22. Descriptive statistics including frequency, percentage, Mean and SD and inferential statistics, Fisher's exact, Chi-square, Independent t-test and one

way ANOVA were applied to calculate the indwelling time of PIVC and related complications in both the groups where it applicable.

Results

Demographic characteristics of the subjects which is showing in the Table 1. And for clinical variables the vein used for PIVC, cephalic vein was used among less than half (40% in experimental and 42.5% in comparison group) of subjects. As per side of PIVC insertion, non-dominant hand was used among half (52.5%) of the subjects in experimental group and one third (32.5%) of subjects in comparison group. Majority of the subjects in both groups 20G size of PIVC was used. Majority of the subjects in both groups (87.5% in experimental and 92.5% in comparison group) dressing of PIVC was done with Tegaderm. For the vein condition during PIVC insertion, vein was visible and palpable among (47.5%) subjects in experimental group and (47.5%) in comparison group. For the vein quality at the time of PIVC insertion in majority of the subjects the vein quality was good i.e. (70%) in experimental and (75%) in comparison group. Aseptic techniques were used in all subjects before cannulization in both the groups.

The mean indwelling time of PIVC in experimental group was significantly higher (66.7 hours) as compared to comparison group (66.7 hours) at p value of 0.038 ($p<0.05$). Pictorial Flashcard regarding self-care of PIVC was effective in increasing the indwelling time of PIVC (Table 2).

Reasons for removal and complications related to PIVC, on the routine basis among 77.5 percent of the subjects and in 22.5 percent of subjects PIVC was removed due to complications in experimental group. But in comparison group PIVC was removed on routine basis in 57.5 percent of subjects whereas for 42.5 percent of the subjects, the reasons for removal of PIVC was due to complications which was found to be significant ($p=0.047$) at $p<0.05$ (Table 3).

Table 1: Comparison of experimental and comparison group according to demographic variables. ($n_{1v}+ n_2 = 40 + 40$)

Demographic Variables	Experimental group f (%)	Comparison group f (%)	χ2/Fisher exact test	df	p-value
Age (in years) 18-32 33-46 47-60	 11 (27.5) 09 (22.5) 20 (50)	 4 (10) 14 (35) 22 (55)	4.45	2	0.12
Gender Male Female	 30 (75) 10 (25)	 31 (77.5) 09 (22.5)	0.68	1	0.50
Marital Status Married Unmarried	 31 (77.5) 9 (22.5)	 37 (92.5) 03 (7.5)	3.48	1	0.06
Educational Status No formal education Higher secondary Senior secondary Graduate or above	 04 (10) 07 (17.5) 16 (40) 13 (32.5)	 02 (5) 12 (30) 09 (22.5) 17 (42.5)	4.40	3	0.63
Place of living Rural Urban	 14 (35) 26 (65)	 11 (27.5) 29 (72.5)	0.51	1	0.47
Occupation Non Healthcare professional	 40 (100)	 40 (100)	-	-	-
Mode of Payment of Healthcare costs Out of pocket expense CGHS/DGHS/TPA EWS	 25 (62.5) 09 (22.5) 06 (15)	 22 (55) 16 (40) 2 (05)	4.15	2	0.86

Non-Significant; $p \geq 0.05$

Abbreviations: χ^2, Chi square test, CGHS, Central Government Health Scheme; DGHS, Directorate General of Health Services; TPA, Third Party Administrator; EWS, Economically Weaker Section.

n_1 = Sample size of Experimental group and n_2 = Sample size of Comparison group

Table 2: Comparison of indwelling time (in hours) of PIVC in Experimental and Comparison group. (n_1+n_2=40+40)

Group	Mean±SD	MD	df	t-value	p-value
Experimental	66.7±12.3	7.3	78	2.11	0.038*
Comparison	59.4±17.9				

*Significant; p<0.05

Table 3: Comparison of reasons for removal of PIVC in experimental and comparison group. (n_1+n_2=40+40)

Reasons for removal of PIVC	Experimental group f (%)	Comparison group f (%)	χ^2	df	p-value
Routine removal	31 (77.5)	23 (57.5)	3.6	1	0.047*
Due to Complications	9 (22.5)	17 (42.5)			

*Significant; p<0.05

Complications; Visual infusion Phlebitis, Infiltration, Pain, Blockage and Dislodgement.

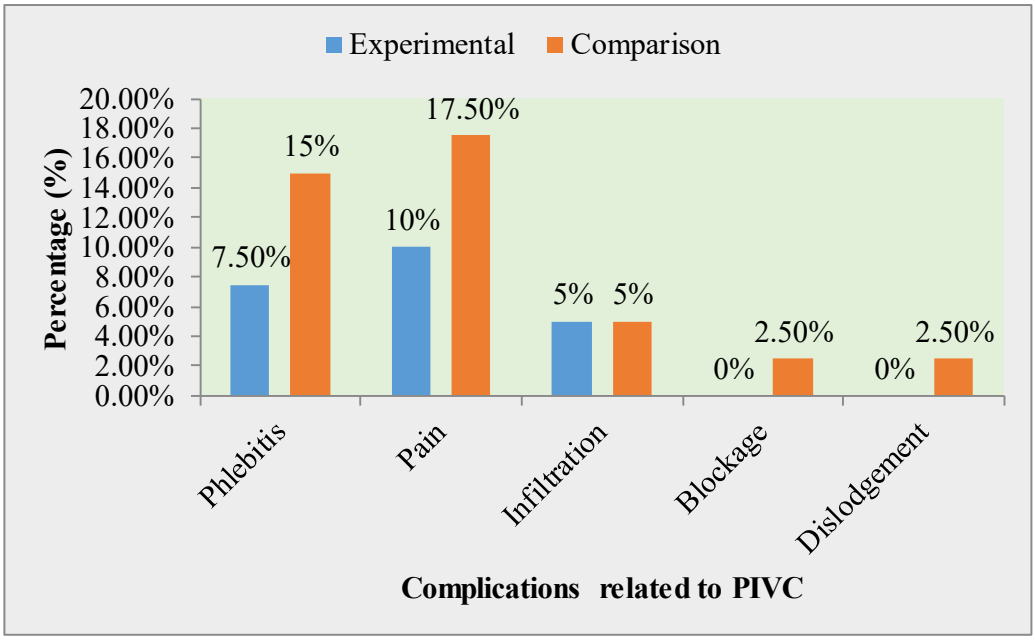


Figure 1: Stacked column diagram illustrating comparison of occurrence of PIVC related complications in Experimental and comparison group.

Discussion

The present study shows that indwelling time of PIVC in experimental group (66.7 hours) was significantly higher as compared to comparison group (59.4 hours). This finding was similar with the study conducted by Abdelaziz et al. (2017)[1] to find out the predisposing factors of peripheral venous catheter complications in children, results of which showed that the mean lifespan of PIVC was 68.8 hours and in another study conducted by Chhugani et al. (2015)[3] to find effectiveness of Vialon cannula versus Polytetrafluoroethylene cannula in terms of indwelling time and complications in inpatients, findings showed that mean indwelling time of PIVC was 52.9 hours with Vialon cannula. In this study Vialon cannula (PIVC) were used in patients.

In the current study, PIVC removal was done due to complications 42.5 percent of subjects in experimental group. With the intervention PIVC removal due to complication was decreased in experimental group. These findings were consistent with a descriptive study

conducted by Makafi (2017)[6] on the incidence rate of occurrence of PIVC related complications, where it was found that 43.5percent of the subjects developed PIVC related complication. This study findings was also similar to the study done by Miliani et al. (2017)[7] which shows that 52.5percent of subjects developed PIVC related complications.

In present study, phlebitis was present among 7.5 percent of subjects, pain was present among 10 percent of subjects and infiltration was present in 5 percent of subjects in experimental group. In comparison group 15 percent of subjects had phlebitis, 17.5 percent had pain, 5 percent had infiltration, 2.5 percent had blockage and 2.5 percent had dislodgement. Findings related to comparison group are almost similar to the study done by Abolfotouh et al. (2014)[2] to find out the incidence of PIVC related phlebitis and other complications among patients, the results shows that phlebitis was present among 17.6 percent of patients, followed by pain 7.6 percent, dislodgement 2.4 percent, extravasations 0.5 percent.

There was no association of indwelling time of PIVC with age, gender, marital status, place of living, educational status, body mass index, size of the PIVC, PIVC insertion side, type of IV fluid given, clinical experience of staff who did cannulization, vein condition at time of PIVC insertion and vein quality at time of PIVC insertion. Dissimilar results were found in another study conducted by Pasalioglu et al. (2014)[8] findings of which showed that catheter indwell time, antibiotic usage, sex and catheterization sites were significantly associated with development of phlebitis.

There was a significant association of indwelling time of PIVC with mode of payment of healthcare costs. Subjects paying expense of healthcare cost from out of the pocket had significantly higher indwelling time (70 hours) as compared to subjects in whom mode of payment was through CGHS/DGHS/TPA (57.9 hours). From these findings of present study it was clear that the subjects who paid healthcare expenses out of pocket were more sensitized about self-care of PIVC, while this behavior was not seen much among subjects in whom mode of payment for healthcare expense was through CGHS/DGHS/TPA and EWS.

There was no significant association of phlebitis was found with age, gender, educational status, PIVC insertion site, size of PIVC and type IV fluid administered. Dissimilar results were found in another study conducted by Pasalioglu et al. (2014)[8] findings of which showed that antibiotic usage, sex and catheterization sites were significantly associated with development of phlebitis. Findings were also incongruent with another prospective cohort study conducted by Abolfotouh et al. (2014)[2] results of which showed that a significant association of complications was present with gender and catheter size.

For infiltration, there was no significant association found between infiltration and educational status, history of previous cannulization in current admission, vein quality at the time of PIVC insertion, type of IV fluid administered, PIVC insertion side. A significant association was seen between infiltration and mode of payment, Infiltration was present significantly more in the subjects who paid healthcare expenses by EWS as compared to other modes of payment of healthcare costs. In terms of pain, there was no significant association of Pain with educational status, mode of Payment, history of previous cannulization in current admission, vein quality at the time of PIVC insertion and PIVC insertion side.

Conclusions

Study concluded that Pictorial flashcard on self-care of PIVC was effective in increasing the indwelling time of PIVC and reducing the occurrence PIVC related complications. Patients who paid hospital expenses out of pocket had significant higher indwelling time as compare to patients who paid through some insurances. Patient education and their involvement in self-care may bring positive health related outcomes. Nurses must enable patients to participate in PIVC related self-care.

Ethical Considerations: The study was approved by College of Nursing Ethical Committee, ILBS, New Delhi, after getting approval of Scientific Review Committee. Written informed consent were obtained from the subjects and assumed for confidentiality of data.

Conflict of Interest: There are no conflicts of interest between the authors of this study.

Source of Funding: Self

References

1. Abdelaziz RB, Hafsi H, Hajji H. et al. Peripheral venous catheter complications in children: predisposing factors in a multicenter prospective

cohort study. Bio Medical Central Pediatric. 2017; 17: 208. doi: 10.1186/s12887-017-0965-y.

2. Abolfotouh MA, Salam M, Bani-Mustafa A, White D, Balkhy HH. Prospective study of incidence and predictors of peripheral intravenous catheter-induced complications. Ther Clin Risk Manag. 2014; 10:993–1001. Published 2014 Dec 8. doi:10.2147/TCRM.S74685.
3. Chhugani M, James MM, Thokchom S. A Randomized Controlled Trial to Assess the Effectiveness of Vialon Cannula Versus Polytetrafluoroethylene Cannula in Terms of Indwelling Time and Complications in Patients Requiring Peripheral Intravenous Cannulation. India International Journal of Science and Research. 2015; 4(12): 1075-1080.
4. Hossain AM, Hasan MIA, Haque M.M. Assessment of the Level of Knowledge and Practice on Intravenous Cannulization among Staff Nurses of Selected Tertiary Care Hospital. Med Crave Online Journal of Public Health. 2015; 4(5):00095. doi:10.15406/mojph.2016.04.00095.
5. Johann DA, Danski MR, Vayego SA, Barbosa DA, Lind J. Risk factors for complications in PIVCs in adults: secondary analysis of a randomized control trail. Revista Latino Americana de Enfermagem. 2016; 24:e2833, doi: 10.1590/1518-8345.1457.2833.
6. Makafi SA, Marfega MACM. Peripheral Intravenous Catheter (PIVC) Related Local Complications among inpatients. Advance Practice Nursing. 2017; 2(3):138. doi: 10.4172/25730347.1000138.
7. Miliani K, Taravella R, Thillard D, et al. Peripheral Venous Catheter-Related Adverse Events: Evaluation from a Multicentre Epidemiological Study. Public Library of Science. 2017; 12(1): e0168637. doi:10.1371/journal.
8. Pasalioglu BK & Kaya H, Catheter indwell time and phlebitis development during peripheral intravenous catheter administration. Pakistan Journal of Medical Sciences. 2014; 30(4):725–730.
9. Lopez JLG, Vilela AA, Palacio EFD, Corral JO, Marti CB, Portal PH. Indwell times, complications and costs of open vs closed safety peripheral intravenous catheters: a randomized study: Journal of Hospital infection. 2014; 86(2):117-126. DOI:10.1016/j.jhin.2013.10.008
10. Rickard MK, Marsh N, Webster J, Runnegar N, Larsen E, McGrail MR. Dressings and securements for the prevention of peripheral intravenous catheter failure in adults: a pragmatic, randomised controlled, superiority trial. Alliance for Vascular Access Teaching and Research. 2018; 392(4):419-430. doi:https://doi.org/10.1016/S0140-6736 (18)31380-1.
11. Warburton DE, McAllan F, Ramanan R, Lim ZJ, Nagle D, Dendle C, Stuart R. Human factor-designed multimodal intervention reduces the rate of unused peripheral intravenous cannula insertion. Emergency Medicine Australasia journal, 2018; doi: 10.1111/1742-6723.13165.
12. Sergio M, Bertoglio S, Boxtel T, et al. Improving outcomes of short peripheral vascular access in oncology and chemotherapy administration. Journal of Vascular Access. 2018; 18(2): 89-96. doi: 10.5301/jva.5000668
13. Cooke M, Ullman JA, Barruel RG, Wallis M, Corleyl A, Rickard MC. Not “just” an intravenous line: Consumer perspectives on peripheral intravenous cannulation (PIVC). 2018; https://doi.org/10.1371/journal.pone.0193436
14. Zhang W, Huang W, We HY. Modified fixation of indwelling intravenous catheter in management of exudates at Intensive Care Unit. European Review for Medical and Pharmacological Sciences. 2017; 21(3): 93-96.
15. Ryan D, Thompson S. Nottingham University Hospitals NHS Trust, Guide to intravenous Therapy, 2010; Retrieved from: https://www.rch.org.au/rchcpg.
16. Ray-Barruel, GH, Marsh N, Cooke M, Rickard CM. Effectiveness of insertion and maintenance bundles in preventing peripheral intravenous catheter related complications and bloodstream infection in hospital patients: A systematic review. Australia, Science Direct journals & Books. 2019; https://doi.org/10.1016/j.idh.2019.03.001.
17. Banerjee U, Dias J, Hemlata R. Intra venous (IV) safety nurse: from routine practice to safe practice’’. American Journal of Advances in Nursing Research. 2016; 3(2): 49-54.

DOI Number: 10.37506/ijone.v12i4.11253

Effect of Educational Sessions on Enhancing Female Nursing Students Knowledge about Human Papillomavirus and its Vaccination

Sabah Lotfy Mohamed El-Sayed[1], Mervat Mostafa Abd-El Monem Desoky[2], Hend Salah El-deen Mohamed[3], Amena Mahmoud Adel Omar Al-arnous[4]

[1]Assisstant Professor at Obstetrics and Gynecological Nursing Department, Faculty of Nursing, Zagazig University, Egypt, [2]Lecturer at Obstetrics and Gynecological Nursing Department, Faculty of Nursing, Zagazig University, Egypt, [3]Professor at Obstetrics and Gynecological Nursing Department, Faculty of Nursing, Zagazig University, Egypt, [4]Demonestrator at Obstetrics and Gynecological Nursing Department, Faculty of Nursing, Zagazig University, Egypt

Abstract

Background: Human papilloma virus infection is one of the most widespread sexually transmitted viral infection and considered to be a risk factor for cervical cancer development.

Aim of the study: Was to evaluate the effect of educational sessions on enhancing female nursing students' knowledge about human papilloma virus and its vaccination.

Study Design: A quasi-experimental design.

The setting of the study: Was conducted in the Faculty of Nursing, Zagazig University, Egypt.

Sample: A purposive sample.

Subjects: The study was conducted in one hundred eighty-two students.

The tool of Data collection: Females' characteristic data and Females' knowledge questionnaire.

Results: The findings of the study revealed that the mean age of the studied group was 19.95 ± 0.510 years old. There was an improvement with a highly statistically significant difference showed in the studied students' knowledge regarding HPV infection and its vaccination at post-intervention compared with pre-intervention ($p<0.001$).

Conclusion: The study concluded that educational sessions were enhanced female student's knowledge regarding human papilloma virus and its vaccination.

Recommendations: It was suggested to develop a planned education program for standard education by covering HPV subjects in courses more thoroughly in the curriculum before students' graduation and to integrate missing subjects into the programs and to apply current course content using various educational method.

Keywords: *Human Papilloma Virus, Educational sessions, Human Papilloma Virus vaccine, knowledge.*

Corresponding Author:
Sabah Lotfy Mohamed El-Sayed
Assistant Professor at Obstetrics and Gynecological Nursing Department, Faculty of Nursing, Zagazig University, Egypt
e-mail: sl_200878@yahoo.com

Introduction

Human papilloma virus (HPV) infection causing benign and malignant lesions of the skin and mucosae of the anogenital and upper aero-digestive tract in both women and men.[1,2] The incidence rate of cervical

cancer attributable to HPV who have already diagnosed about 569,847 new cases annually and 311,365 deaths worldwide.[3] In Egypt, about 969 new cervical cancer cases are diagnosed with annually.[4]

According to the relation with cancer, the virus can be classified to Low-risk HPV genotypes Infection (non-oncogenic type) which causing genital warts and High-risk HPV genotypes infection (oncogenic type)is a cause of certain morbidities, including cervical cancer.[5,6]

HPV is usually transmitted through penetrative genital contact (anal or vaginal), non-genital contact method without penetration or from infected mother to her fetus during pregnancy through the placenta or at the time of vaginal birth via vertical and perinatal transmission.[7, 8]

There is no HPV infection treatment, but only for its clinical manifestations.[9] Currently, there are three licensed HPV vaccines worldwide. The recommended age for vaccination is 11–12 years.[10] Gardasil® (Tetravalent) prevents against types 6, 11, 16 and 18.[11] Cervarix® (Bivalent) is effective against types 16 and 18.[12] Gardasil 9® prevents against types (6, 11, 16, 18, 31, 33, 45, 52, 58), showing potential coverage of approximately 90% of vulvar, vaginal, cervical and anal cancers.[13]

Significance of the study: Globally, Human Papillomavirus (HPV) infection is the most common sexually transmitted disease.[14] One of the obstacles to the implementation of primary and secondary prevention programs against the disease is the insufficient knowledge possessed by most populations about the virus and its consequences. Lack of knowledge may lead to the further spread of the disease.[15]

Aim of the study: To evaluate the effect of educational sessions on enhancing female nursing students' knowledge about human papilloma virus and its vaccination.

Research Hypotheses: Educational sessions will enhance female nursing students' knowledge about human papilloma virus and its vaccination.

Material and Method

Research Design: A quasi-experimental design was used in this study.

Study Setting: The study was conducted in the Faculty of Nursing, Zagazig University.

Subjects and Sample:

Sample size: The study was conducted in (182) female nursing students who registered in the first, second, third & fourth academic years (2019-2020).

Sample type and Sample criteria: A purposive sample for all the female students who are studied through the studied year (2019-2020) was included and agreed to participate in the study.

Tools of data collection: Data collection was done through the use of the following tools:

The tool I: A Structured Interview Questionnaire: A structured interview questionnaire was designed in a simple Arabic form, It was included items such as (Age, Academic year, Marital status, family history of HPV & contraceptive method,etc.).

Tool II: Females' Knowledge questionnaire items: It included (28) multiple-choice questions which divided into two sections:

Section (A): To pertaining students' knowledge regarding HPV infection as it included (12) multiple-choice questions (Definition, Incubation period, Types, etc.).

Section (B): To pertaining students' knowledge regarding HPV vaccination which comprised of (16) multiple-choice questions as (Definition,Component,Im portance, Recommended age of HPV vaccination etc.).

Scoring system for knowledge: For multiple-choice questions were categorized into: Don't know was given (zero), the incomplete answer was given (one) and the complete answer was given (two). The total knowledge score was calculated by adding the scores for each correct answer. The total score of knowledge ranged from 0 to 56 points.

Levels of knowledge:

Studied student's total knowledge was divided into 3 levels as the following:

- Good: (≥ 75% -100%).
- Average: (50 - < 75%).
- Low: (< 50%).

Official Approvals: Official approval was obtained by submitting an official letter to the Dean of the Faculty of Nursing at Zagazig University to obtain the agreement to apply this study after an explanation of its purpose.

Fieldwork:

Preparatory phase: During this phase, the researcher reviewed local and international literature to get more knowledge about the study. This also helped in designing the study tools.

Validity and Reliability: Tools were thoroughly reviewed by a panel of five experts in the field of Obstetrics and Gynecological Medicine and Nursing to test its content validity. Modifications were done accordingly based on their judgment. Reliability was done by Cronbach's Alpha Coefficient Test.

Pilot study: A pilot study was conducted on a sample of students on 10% (19 students) of the total sample who's not included in the total sample size. According to the results of it, required modifications were done.

Assessment Phase: The researchers introduced themselves, greetedall the students,and explained brief information around the questionnaire. The average time for the completion of the questionnaire was around (30 minutes).

Planning & Implementation Phase: The students were classified into four groups (each group specific to each academic year), this distribution according to their availability to facilitate their attendance to the sessions, at the educational lecture hall at the faculty of nursing at Zagazig University.

The content was divided into four interactive sessions "once per week" for each group of students for one month. Each session was conducted for 2 hours. The PowerPoint presentation was done with printed Arabic booklet for each student, followed by a group discussion.

Follow up and Evaluation Phase: At the final session for each group, the researchers asked the studied students to fill up the post-test by using the exact format of knowledge questionnaires.

Results

Part (I): Table (1): Distribution of the studied students regarding their sociodemographic characteristics (n = 182)

Variables		Percent
Age/year	18-20	54.6
	21-23	44.9
	More than 23	.5
Mean age = 19.95 ± 0.510		
Gynecological and Family history:		
Marital Status	Married	14.1
	Single	85.9
Contraceptive method	None	93.5
	Hormonal	6.5
Family History of HPV	No	98.9
	Yes	1.1
Family History of cervical cancer	No	98.9
	Yes	1.1
Previous knowledge about HPV and vaccine & its source:	Yes	12.3
	No	87.7
	Health care provider	64.9

Table (1) presents the distribution of the studied students according to their socio-demographic characteristics. It Illustrates that about more than half (54.6%) of studied students were in the age group 18-20 years with a mean age of 19.95 ± 0.510 years. Furthermore, the majority of them (85.9%) were single. The family history about HPV & cervical cancer, there was detected in 1.1% of the sample. This result also reveals that there was only 12.3% of the total studied students who had previous knowledge about HPV and its vaccine.

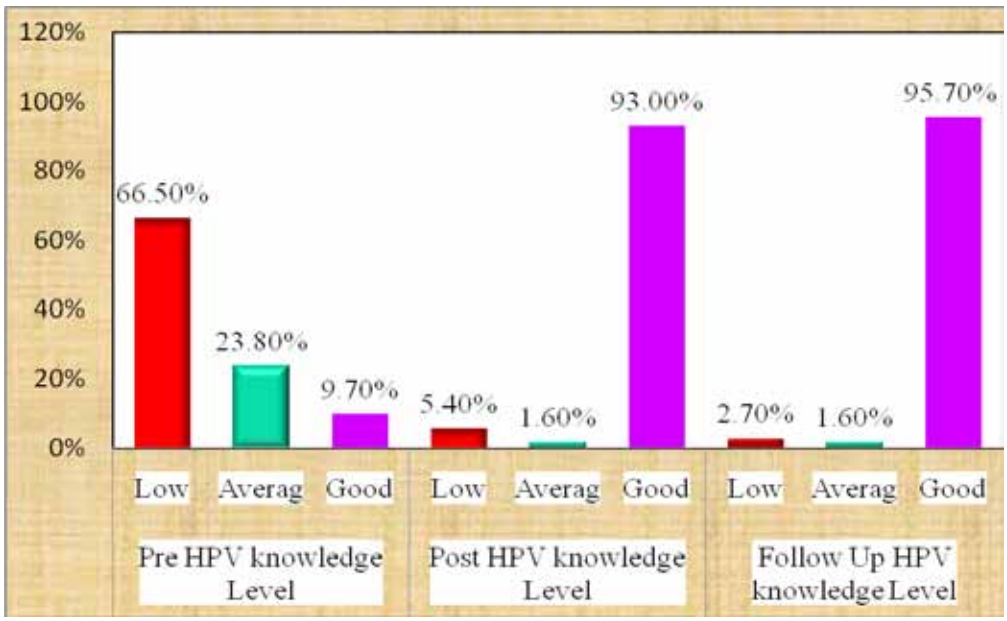


Figure (1): Distribution of the studied students regarding their level of knowledge about Human Papillomavirus (n = 182).

The distribution of the studied students regarding their level of knowledge about Human Papillomavirus was presented in Figure 2. It was noticed that majority (9.7%, 93% and 95%) of the studied sample had a good level of knowledge regarding HPV infection at pre-test, post-test & follow up phases respectively.

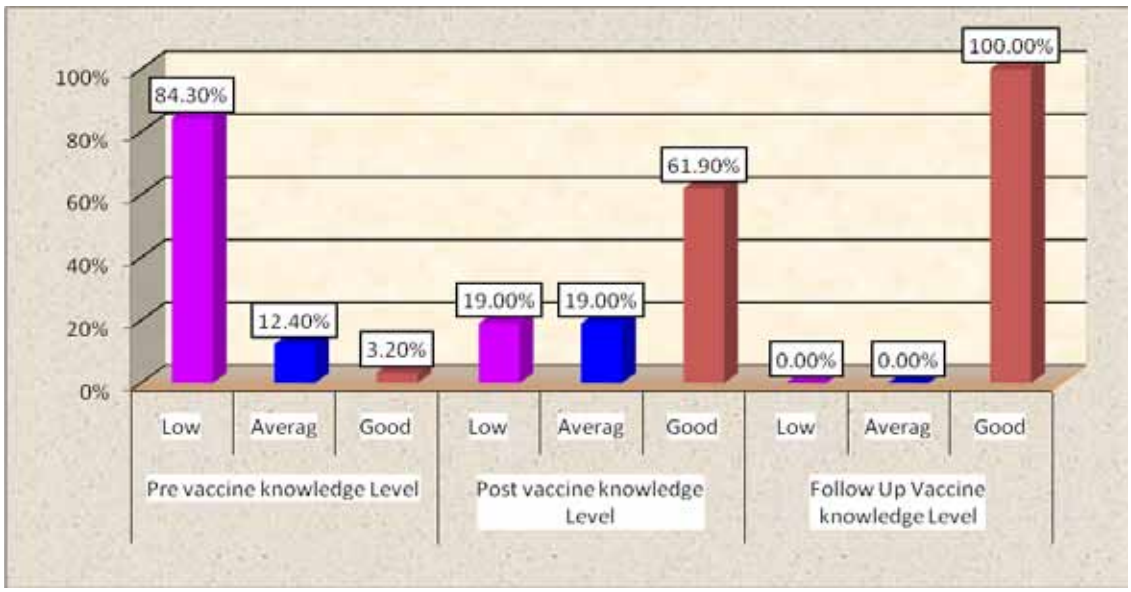


Figure (2): Distribution of the studied students regarding their level of knowledge about Human Papillomavirus vaccine

Figure 2 displays that, 3.2%, 61.9% and 100% of the studied sample had a good level of knowledge regarding human papilloma virus vaccine at pre-intervention, post-intervention & follow up phases respectively.

Table (2): Relationship between the level of students' knowledge about Human Papillomavirus and sociodemographic characteristics

Items		Pre HPV knowledge Level								Post HPV knowledge Level							
		Low		Average		Good		Test	P-value	Low		Average		Good		Test	P-value
		No	%	No	%	No	%			No	%	No	%	No	%		
Age/year	18-20	71	70.3	26	25.7	4	4.0	9.160	.057	5	5.0	0	0.0	96	95.0	3.951	.413
	21-23	51	61.4	18	21.7	14	16.9			5	6.0	3	3.6	75	90.4		
	> 23	1	100.0	0	0.0	0	0.0			0	0.0	0	0.0	1	100.0		
Marital Status	Single	16	61.5%	3	11.5%	7	26.9%	11.210	.004**	2	7.7%	1	3.8%	23	88.5%	1.282	.527
	Married	107	67.3%	41	25.8%	11	6.9%			8	5.0%	2	1.3%	149	93.7%		

Table 2 illustrates that there was a highly significant relation between studied students' pre educational sessions knowledge about Human Papillomavirus and marital status.

Table (3): Relationship between the level of students knowledge about Human Papillomavirus and Family and gynecological history:

Items		Pre HPV knowledge Level								Post HPV knowledge Level							
		Low		Average		Good		Test	P-value	Low		Average		Good		Test	P-value
		No	%	No	%	No	%			No	%	No	%	No	%		
Family H. of cc	Yes	2	100.0%	0	0.0%	0	0.0%	1.019	.601	1	50.0%	0	0.0%	1	50.0%	7.873	.020*
	No	121	66.1%	44	24.0%	18	9.8%			9	4.9%	3	1.6%	171	93.4%		
Contraceptive method	None	115	66.5%	43	24.9%	15	8.7%	11.552	.021*	9	5.2%	2	1.2%	162	93.6%	12.202	.016*
	Hormonal	3	42.9%	1	14.3%	3	42.9%			1	14.3%	0	0.0%	6	85.7%		
	IUCD	5	100.0%	0	0.0%	0	0.0%			0	0.0%	1	20.0%	4	80.0%		

Table 3 illustrates that there was statistically significant between studied students' Pre and post-intervention knowledge about Human Papillomavirus and contraceptive method (P = .021 and .016 respectively).

Discussion

There are about 630 million persons are infected with human papilloma virus (HPV), Worldwide. The prevalence of HPV infections increases in adolescence in both genders every year from 14 to 24 years of age; HPV infection has alarming proportions and is a predisposing factor for several types of cancers, such as cervicalcancer. The development of highly effective HPV vaccines is important to reduce the incidence of cervical cancer caused by HPV infection.[16]

Regarding the family history of HPV and cervical cancer, there were only 1.1% had a family history of HPV and cervical cancer. Similar findings were noted by **Dönmez et al., (2019)**[17] study about "Knowledge and perception of female nursing students about human papilloma virus (HPV), cervical cancer and attitudes toward HPV vaccination" stated that 1.2% of the sample had a family history of CC. **Abd El-azeem, (2018)**[18] study about "The Impact of A Designed Educational Nursing Program For High-Risk women on Their Awareness and Health Practices Regarding The Prevention and Management of The Precancerous Lesion of Cancer Cervix" in Egypt showed that only 6.2% of the sample had a family history of cervical cancer. This low rate could be explained by decrease awareness of the importance of annual checkups and screening.

This study showed that previous knowledge of the studied students about HPV and its vaccine was very

low and the majority of them had this knowledge from the health care provider. This supports the finding of a previous study done in Egypt by **Shaltout et al., (2014)** [19] about "Prevalence and type distribution of human papilloma virus among women older than 18 years in Egypt: a multicenter, observational study" in Cairo, Egypt who showed that more than half of the sample hadn't known before about HPV, the common source was from TV/magazine/newspaper and Friend or family member. On the contrary, **Pelullo et al., (2019)**[20] study about "Human Papillomavirus Infection and Vaccination: Knowledge and Attitudes among Nursing Students in Italy" reported that most of the sample had heard about HPV.

Regarding the female level of knowledge about HPV, this study showed the knowledge of studied students before the educational intervention that more than two-thirds of them had a low level while immediately after the educational intervention the majority had a good level and increase more after follow up. A similar finding was reported by **Atitt-Allah et al., (2019)**[21] study about "Effect of Educational Intervention on Knowledge and Attitudes Regarding Human Papillomavirus Infection and Its Vaccination among Nursing Students" showed that (4.5%) and (84%) of the studied sample had a good level of knowledge at pre-intervention and post-intervention phases respectively. While it was revealed that (94%) and (4.5%) of the studied sample had a poor level of knowledge of pre-intervention and postintervention phases respectively.

Conclusion

The educational sessions enhanced female student's knowledge regarding human papilloma virus and its vaccination.

Conflict of Interest: No conflict of interest

Source of Funding: No funding.

Ethical Clearance: During all phases of the study, all ethical issues were taken into consideration; the researcher maintained anonymity and confidentiality of the subjects.

Reference

1. Keten HS, Ucer H, Dalgaci AF, Isik O, Ercan Ö, Guvenc N. Knowledge, Attitude and Behavior of Teachers Regarding HPV (Human Papillomavirus) and Vaccination. Journal of Cancer Education. 2019 Dec 16:1-7.https://doi.org/10.1007/s13187-019-01668-2
2. Dixon BE, Zimet GD, Xiao S, Tu W, Lindsay B, Church A, Downs SM. An educational intervention to improve HPV vaccination: a cluster randomized trial. Pediatrics. 2019 Jan 1;143(1):e20181457. DOI: https://doi.org/10.1542/peds.2018-1457
3. Bruni L, Albero G, Serrano B, Mena M, Gómez D, Muñoz J, Bosch FX, de Sanjosé S. ICO/IARC Information Centre on HPV and Cancer (HPV Information Centre). Human Papillomavirus and Related Diseases in the World. Summary Report 17 June 2019.
4. Bruni L, Albero G, Serrano B, Mena M, Gómez D, Muñoz J, Bosch FX, de Sanjosé S. ICO/IARC Information Centre on HPV and Cancer (HPV Information Centre). Human Papillomavirus and Related Diseases in Egypt. Summary Report 17 June 2019.
5. Ibrahim, W. A., Hussein, N. R., Daniel, S., Assafi, M. S., & Othman, R. (2019). "Knowledge of Human Papillomavirus (HPV) and the HPV Vaccine Among Medical and Nursing Students of Duhok, Iraq". Women's Health Bulletin, 6(1), 0-0. DOI: 10.5812/whb.87203 .
6. Stier, E.A., Sebring, M.C., Mendez, A.E., Ba, F.S., Trimble, D.D. & Chiao, E.Y.(2015). "Prevalence of anal human papilloma virus infection and anal HPV related disorders in women: A systematic review". Am J Obstet Gynecol;213(3):278–309. doi: 10.1016/j.ajog.2015.03.034.
7. Ali A, Ping N, Prajapati S. Effect of intervention in increasing knowledge and awareness of Human Papilloma Virus (HPV) infection and HPV vaccination among graduate students in a private university, Kedah state, Malaysia. MOJ Bioequiv-Availab. 2018;5(4):187-93.DOI:10.15406/mojbb.2018.05.00101
8. Tanaka EZ, Kamizaki SS, Quintana SM, de Carvalho Pacagnella R, Surita FG. Knowledge of Pregnant Adolescents about Human Papillomavirus. Revista Brasileira de Ginecologia e Obstetrícia/RBGO Gynecology and Obstetrics. 2019 May;41(05):291-7. DOI: 10.1055/s-0039-1688708
9. Krzowska-Firych J, Lucas G, Lucas C, Lucas N, Pietrzyk Ł. An overview of Human Papillomavirus (HPV) as an etiological factor of the anal cancer. Journal of infection and public health.

2019 Jan 1;12(1):1-6. https://doi.org/10.1016/j.jiph.2018.06.005

10. Hamdi S. The impact of teachings on sexuality in Islam on HPV vaccine acceptability in the Middle East and North Africa region. Journal of epidemiology and global health. 2018 Mar 1;7:S17-22. https://doi.org/10.1016/j.jegh.2018.02.003
11. Wheeler BS, Rositch AF, Poole C, Taylor SM, Smith JS. Patterns of incident genital human papilloma virus infection in women: A literature review and meta-analysis. International journal of STD & AIDS. 2019 Nov;30(13):1246-56.https://doi.org/10.1177%2F0956462418824441
12. World Health Organization. (2014). Human papilloma virus vaccines: WHO position paper, Wkly Epidemiol Rec; 43:465-92.
13. European Medicines Agency. (2018). Cervarix human papilloma virus vaccine [types 16, 18] (recombinant, adjuvanted, adsorbed).
14. Burlamaqui JC, Cassanti AC, Borim GB, Damrose E, Villa LL, Silva L. Human Papillomavirus and students in Brazil: an assessment of knowledge of a common infection-preliminary report. Brazilian journal of otorhinolaryngology. 2017 Apr;83(2):120-5.https://doi.org/10.1016/j.bjorl.2016.02.006
15. Setiawati Tanzil S, Widjaja D, Natalia J, Eileen E, Fernando FH, Yaputri P. P1-141 Awareness towards cervical cancer in undergraduate students. Annals of Oncology. 2018 Oct 1;29(suppl_7):mdy375-013. DOI: https://doi.org/10.1093/annonc/mdy375.013
16. Ganju SA, Gautam N, Barwal V, Walia S, Ganju S. Assessment of knowledge and attitude of medical and nursing students towards screening for cervical carcinoma and HPV vaccination in a tertiary care teaching hospital. Int J Community Med Public Health. 2017 Nov;4(11):4186-93. DOI: http://dx.doi.org/10.18203/2394-6040.ijcmph20174826
17. Dönmez S, Öztürk R, Kısa S, Karaoz Weller B, Zeyneloğlu S. Knowledge and perception of female nursing students about human papilloma virus (HPV), cervical cancer and attitudes toward HPV vaccination. Journal of American College Health. 2019 Jul 4;67(5):410-7.https://doi.org/10.1080/07448481.2018.1484364
18. Abdel Azeem FM. "The Impact of A Designed Educational Nursing Program For High Risk women on Their Awareness and Health Practices Regarding The Prevention And Management of The Precancerous Lesion of Cancer Cervix." IOSR Journal of Nursing and Health Science (IOSR-JNHS), vol. 7, no.1,(2018) pp. 49-60. DOI: 10.9790/1959-0701074960
19. Shaltout MF, Sallam HN, AbouSeeda M, Moiety F, Hemeda H, Ibrahim A & DeAntonio R. Prevalence and type distribution of human papilloma virus among women older than 18 years in Egypt: a multicenter, observational study. International Journal of Infectious Diseases, 29,(2014) 226-231. https://doi.org/10.1016/j.ijid.2014.07.029
20. Pelullo, C. P., Esposito, M. R., & Di Giuseppe, G. (2019). Human papilloma virus infection and vaccination: knowledge and attitudes among nursing students in Italy. International journal of environmental research and public health, 16(10), 1770.https://doi.org/10.3390/ijerph16101770
21. Atitt-Allah NA, Abd-Elhady RM, Araby OA. Effect of Educational Intervention on Knowledge and Attitudes Regarding Human Papillomavirus Infection and Its Vaccination among Nursing Students. American Journal of Nursing. 2019;7(4):453-64. DOI:10.12691/ajnr-7-4-7

DOI Number: 10.37506/ijone.v12i4.11254

The Effect of Mindfulness-Based Psycho-Educational Program on Insight and Socio Occupational Functioning of Schizophrenic Patients

Sabah Hassan El-Amrosy[1], Hanaa Mohamed Abo Shereda[2]

[1]Assistant Professor of Psychiatric and Mental Health Nursing, Faculty of Nursing, Menoufia University, Egypt,
[2]Lecturer of Psychiatric and Mental Health Nursing, Faculty of Nursing, Menoufia University, Egypt

Abstract

Background: Schizophrenia causes many difficulties in the lives of patients because it is a chronic disease that reduces the mindfulness, causes disability, low insight, loss of social and vocational skills, and continues with relapses. psychoeducation in either an individual or group format, on a fortnightly to monthly basis, should be offered to patients with schizophrenia as it is consistently effective in patients' awareness of and insight into their schizophrenia and other functional outcomes. Mindfulness-based intervention helps patients with schizophrenia relate differently to their psychotic experiences by opening their awareness and non-judgmental acceptance and allow a more adaptive strategy of coping and control over those psychotic symptoms to be used by patients with schizophrenia.

Aim of the Study: The study aimed to assess the effect of mindfulness-based psychoeducation program on insight and socio-occupational functioning of schizophrenic patients.

Method: A quasi-experimental research design with a pretest-posttest is used to achieve the aim of the study. The study was conducted at The Psychiatric and Addiction Treatment Hospital in Meet-Khalaf that affiliated to the Ministry of Health at Menoufia Governorate, Egypt. A convince sample of 58 schizophrenic patients from inpatient of the above-mentioned setting was recruited for this study. The study sample was divided into two groups 30 patients in the case group and 28 patients in control. Three tools were used; Structured interview questionnaire, Beck Cognitive Insight Scale (BCIS) and Socio-Occupational Functioning Scale (SOFS).

Results: The results of this study revealed that there a was a significant decrease of mean Socio occupational functioning scale score in the study group after intervention than before (38.56±3.1 to be 28.23). Also, there was a highly statistically significant difference found in the cognitive insight scale and its subscales score among study groups pre and post-intervention.

Conclusion: Mindfulness-based intervention have increased the cognitive insight and socio occupational functioning of the patients in the study group.

Recommendation: Mindfulness-based psych educational program should be implemented as a routine care for all schizophrenic patients.

Keywords: *Mindfulness-based psych educational program, cognitive insight, Socio occupational functioning, schizophrenia.*

Corresponding Author:
Sabah Hassan El-Amrosy
Department of Psychiatric and Mental Health Nursing, Faculty of Nursing, Menoufia University, Egypt
Telephone: 0201060692408
e-mail: sabahhassan2010@yahoo.com

Introduction

Schizophrenia is a serious mental illness characterized by disturbances in a person's thoughts, perceptions, emotions, behaviors and by significant social or occupational dysfunction. Schizophrenia is an illness that has a profound effect on the life of

individuals[1]. The prevalence of schizophrenia among U.S adults is estimated to be 1.5 million people per year[2]. Schizophrenia is often diagnosed in young people during their late teens to early 30s with symptoms commonly presenting earlier in males than in females[3].

Despite the most distinctive symptoms of schizophrenia being those such as delusions and hallucinations, functional deficits are a core feature of the disorder. The decline in social functioning is one of the hallmarks of schizophrenia and may serve as a predictor of outcome[4]. Impairment or lack of insight is considered as one of the most central symptoms in schizophrenia and this feature to some extent helps in differentiating schizophrenia from other overlapping psychiatric disorders. Poor insight can potentially worsen the social and interpersonal malfunction which is observed in schizophrenia and insight has been linked to the poor outcome of psychosis in multiple ways[5].

Psych education defined as a patient's empowering training targeted at promoting awareness and proactivity, providing tools to manage, cope and live with a chronic condition. Psych education is an important element of psychiatric treatment[6]. it is generally aimed at improving the internal vision by informing about the disease, changing the false beliefs and attitudes, recognizing early symptoms, improving medication adherence, preparing individuals and families against stressful life events, improving coping skills and increasing social functioning. Effective education of people with schizophrenia can improve insight and understanding[7].

One of the psychosocial approaches that have emerged in the treatment of psychotic disordersin recent years is mindfulness-based therapies[8]. The mostpopular method of mindfulness-based therapies is the mindfulness-based stress Reduction program[9]. Mindfulness-based stress reduction (MBSR) is a clinical program that utilizes skills such as sitting and walking meditation, yoga and a somatically focused skill named the body scan. Mindfulness-based stress reduction (MBSR) programs consist of approaches that aim to facilitate patients' acceptance and are focused on reducing distress by changing negative thoughts, emotions and attitudes towards the illness[10]. Mindfulness-based intervention (MBI) is believed to help the patient with schizophrenia relate differently to their psychotic experiences by opening their awareness and non-judgmental acceptance and allow more adaptive strategy of coping and control over those psychotic symptoms to be used by patients with schizophrenia[11].

Psychiatric Nurses are responsible for implementing patient education that improves mental health and wellbeing and psych educational activities associated with illness[12]. Psychiatric nurses should take an active role in the elimination of lack of insight and treatment noncompliance which currently poses an obstacle in the treatment of schizophrenia. [9]and [10]found that a mindfulness-based psych education program for 36 patients with schizophrenia resulted in significant improvements in insight into the illness, functioning and symptom severity overa longer-term follow-up so, the study aimed to evaluate the effect of mindfulness-based psych education on social, occupational functioning and insight among schizophrenic patients.

Subjects and Method

The Aim of the Study: The study aims to evaluate the effect of a mindfulness-based psych education program on insight and socio-occupational functioning of schizophrenic patients.

Research Hypothesis

- Schizophrenic patients who will attend mindfulness -the based psych educationalprogramwill have better scores of insight than before the program, while the control group form Schizophrenic patients will not have better scores of insight than before the program

- Schizophrenic patients who attend a mindfulness-based psych educationprogramwill have better socio-occupational functioning than before the program, while the control group from Schizophrenic patients will not have better scores of socio-occupational functioning than before the program

Research Design: A quasi-experimental research design with a pretest-posttest and control group is used to achieve the aim of the study. There is a treatment group that is given a pretest, receives a treatment and then is given a posttest. But at the same time there is a control group that is given a pretest, does not receive the treatment and then is given a posttest.

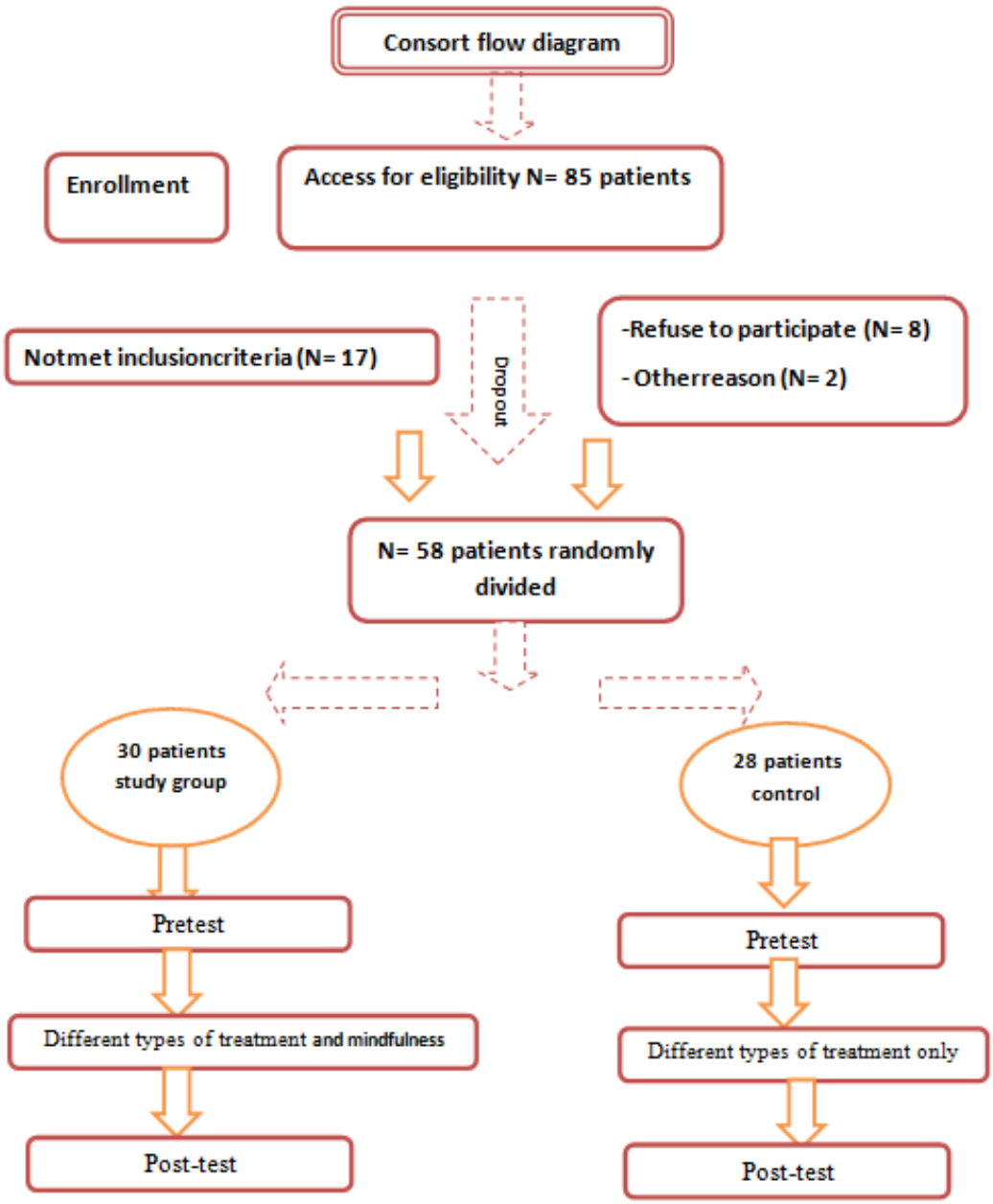
Research setting the study was conducted at The Psychiatric and Addiction Treatment Hospital in Meet-Khalaf that affiliated to the Ministry of Health at Menoufia Governorate, Egypt. **Sample Size** The sample sizing adopts that the appraised effect size is 5 and

the standard deviation of the result variable is 10. To accomplish 80% power to detect this difference with a significance level of 0.05 by the equation: n = [(Zα/2 + Zβ) 2 × 2(ó) 2]/(μ1 - μ2)2 it is estimated that 25 subjects per group would be required. Through a withdrawal/ non-evaluable subject rate of 10% a total of 25 subjects per group, so that the total sample size of 58 subjects would be included in the present study.

Subjects: A convince sample of 58 schizophrenic patients from inpatient of the above-mentioned setting was recruited for this study. The study sample was randomly divided into two groups. The case group (I) consists of 30 patients and the control group (II) consists of 28 patients. The case group (I) received a mindfulness-based psych educational program in addition to the use of medication. Control group (II) received only medication. The researchers deal with the control group first, to prevent result bias. They were chosen based on the subsequent power analysis and inclusion criteria.

Inclusion Criteria:

1. Schizophrenic Patients who were diagnosed by psychiatrists.
2. The aged of the patient from 21- 50 under treatment
3. The patient who can hear, read and write.
4. Patients who are willing to participate in the study.



Instruments of the Study:

Three tools were used for data collection:

1. A structured socio-demographic questionnaire to obtain demographic data of the studied sample including age, religion, sex, place of residence, level of education, duration of illness, marital status, income and type of treatment.
2. Beck Cognitive Insight Scale (BCIS): Cognitive insight was assessed using the BCIS.[13] A 15-item self-report scale that measures the two dimensions of self-reflectiveness and self-certainty. Items are rated by the participant on a four-point scale from 'do not agree' to 'agree'. Each item was scored as 0 (don't agree at all)-1 (agree slightly)-2 (agree with a lot) -3 (agree). The self-reflectiveness dimension is calculated as the sum of the remaining nine items (possible range 0–27) and measures the expression of introspection and willingness to acknowledge fallibility, for example' If someone points out that my beliefs are wrong I am willing to consider it', with a higher score indicating better cognitive insight. The self-certainty dimension is calculated as the sum of six items (possible range 0–18) and measures decision making regarding mental products: certainty about being right and resistance to correction, for example 'I know better than anyone else what my problems are'. Greater self-certainty indicates poorer cognitive insight (i.e., overconfidence in decision making). The composite measureis calculated by subtracting the self-certainty score from the self-reflectiveness score; a score of 10 points or more signifies good cognitive insight.
3. **Socio-Occupational Functioning Scale (SOFS):** Socio-Occupational Functioning Scale (SOFS) was developed by[14] to assess socio-occupational functioning. Rating is based on a patient's behavior during the last one month period. It has 14 items, on the patient's self-care and activities of daily living and patient's communication pattern and his or her interpersonal relationships and their instrumental living skills and their work functioning. Each item is rated on 5 points Likert scale (1= no impairment, 5= extreme impairment). Total scores ranged from 14 to 70 scores. A lower score in SOFS indicated better functioning and higher scores indicated greater impairment in social functioning.

The validity of the Tools: Beck Cognitive Insight Scale (BCIS) and Socio-Occupational Functioning Scale (SOFS) were translated by the researcher to the Arabic language and tested for content validity by the jury of five experts in the field of psychiatric mental Health Nursing and psychiatric medicine to ascertain relevance and completeness.

Reliability of the Tools: Reliability was applied by the researcher for testing the internal consistency of the tool, by the administration of the same tools to the same subjects under similar conditions on one or more occasions. Answers from repeated testing were compared (Test-re-test reliability). The tools revealed reliable at 0.81 for the tool (2) and 0.83 for the tool (3).

Pilot Study: The pilot study was conducted on 5 schizophrenic patients. Patients who participated in the pilot study were excluded from the total sample size. The results of the pilot study were incorporated in the questionnaires and the time needed for data collection was estimated.

Preparatory Phase:

Administrative and ethical considerations: An official letter was issued from the Faculty of Nursing Menofia University and sent to the director of the psychiatric and addiction treatment hospital in Mit-Khalf after explaining the aim of the study to get their permission for data collection. The questionnaires used in the study were administered by the researchers. The patients were briefed about the study, encouraged to participate and motivated to express their experiences and their feelings. The patients were given fully informed verbal consent to participate. It was emphasized that all data collected was strictly confidential and the data would be used for scientific purposes only.

Data Collection Phase: Data collection for this study was carried out in the period from the beginning of June 2019 to mid of January 2020). The researcher collected the data during the morning at two days/week from 10 AM to 12 AM. The number of 58 were randomly assigned study group (30)and control group(28) patients in the study group were then randomly divided into 3 groups to receive the mindfulness psych educational program. Primarily, the patients were asked to fill the pretest structured questionnaires to assess the level of functioning and the insight of the schizophrenic patients. The number of one session per week was conducted for each subgroup (10 schizophrenic patients) with a total

number of 12 sessions within 12 weeks for each group. Implementation of the study passed into three phases (assessment phase, implementation phase, evaluation phase).

Assessment Phase: A comfortable, quiet place was chosen for the implementation of the program. Orientation about the purpose, content, rules and significance of the study was done. Patients were asked to fill the pre-assessment beck cognitive insight scale and socio-occupational functioning scale.

Implementation Phase: The training program aimed at improving the insight and socio-occupational functioning of schizophrenic patients. This training program has a set of specific objectives for each of the 12 sessions. This was achieved through several teaching method such as lectures, group discussion, brainstorming and examples from real-life situations and experiences, modeling, role-playing, getting participants' feedback, providing feedback, providing corrective feedback and assigning homework. Variable teaching method also were used to facilitate the implementation of the program such as; Data show, videos, pictures and evidence-based booklets.

The content of the training program sessions was as follows (table):

Table (1): Mindfulness Psycho-educational program for schizophrenic patient

Main theme	No of session	Main Topics
Orientation	One session (1st session)	- Building a trust relationship between the researcher and the patients and among the patients and each other. - Explaining the aim, objectives and rules of the program. - Completing the pre-test questionnaire.
Introduction about schizophrenia and bodily sensation.	2 sessions (2nd and 3rd sessions)	- Definition of schizophrenia, signs and symptoms. - Exploring the relationship between thoughts and feelings. - Meaning of mindfulness and how they affect the body. - Explaining the different techniques of mindfulness. - Application of body scans technique.
Management of psychotic symptoms and maladaptive thoughts	2 sessions (4th and 5th sessions)	- Explaining how schizophrenia affects patients' attitudes, behavior, thoughts and feelings. - Exploring the relationship between perception of the specific situation and how it affects the patient's response to that situation, feelings and thoughts. - Providing alternatives to seeing situations from different perspectives. - Developing new techniques for dealing with negative thoughts and feelings (thought-stopping technique and contact with reality. - Application of mindfulness breathing.
Self-care of schizophrenic patients.	One session (6th session).	- Identifying the health care needs of the patients. - Instructing the patients about the importance of performing self-care needs, self-care hygiene and ho it affects patient mood. - Exploring the obstacles that face patients in performing the activity of daily living and how to overcome it. - Application of mindfulness bathing, brushing of teeth. - Mindfulness walking.
Problem-solving	2session (7th and 8th sessions)	- Identifying the patient's problem. - Developing adaptive ways of solving the problem. - Putting alternatives, selecting among them, applying the solution and waiting for the results. - Learning to seek help when needed. - Acceptance of the results and ability of modification. - Application of body scan and abdominal breath.

Main theme	No of session	Main Topics
Communication under a stressful situation	2 sessions(9th and 10th sessions)	- Knowing feelings and how to express them adaptively. - Awareness of the nature and importance of communication. - Importance of relationships in our lives. - Building a balanced relationship. - How to communicate in stressful situations. - Application of mindfulness prayer and mindfulness walks.
Relapse prevention	One session (11th session).	- Identify the signs and symptoms of relapse. - Recognize the relevant factors and causes of relapse. - Focusing on the importance of medication adherence even when the patient is stable. - Management of the side effects of medication. - Early recognition, good management. - Application of mindfulness listening to music.
Social support and community resources	One session(12th session)	- Identifying all the available community resources to the patient. - Importance of social network and social support in overcoming many problems. - Learning to seek help at times of need and whom people to trust. - Summarizing the main points of the program. - Application of body scan, abdominal breath and walking.

Evaluation Phase: The evaluation phase was done using the same beck cognitive insight scale and socio-occupational function scale.

Statistical data analysis: Data were collected, tabulated, statistically analyzed using an IBM personal computer with Statistical Package of Social Science (SPSS) version 20 where the following statistics were applied.

a. **Descriptive statistics:** In which quantitative data were presented in the form of the mean (X), standard deviation (SD), range and qualitative data were presented in the form numbers and percentages.

b. **Analytical statistics:** Used to find out the possible association between studied factors and the targeted disease. The used tests of significance included:

***Student t-test:**is a test of significance used for comparison between two groups having quantitative variables.

***Chi-square test ($\chi 2$)**: was used to study the relationship between two qualitative variables

***ANOVA (f) test:**is a test of significance used for comparison between three or more groups having quantitative variables

***Pearson correlation (r):**is a test used to measure the association between two quantitative variables.

Results

Figure 1: Revealed that there was a significant decrease of mean Socio occupational functioning scale score in the study group after intervention than before (38.56 to be 28.23)), while the mean Socio occupational functioning scale score among control group from (40.46 to 38.89) respectively.

The result in (figure 2) illustrated that there was a highly statistically significant difference found in the cognitive insight scale score in the study group after intervention than before (4.96 to be 12.53), while the mean cognitive insight scale score among control group from (5.07 to 6.82) respectively. Concerning its subscales score there was a highly statistically significant difference found in the study group after intervention than before in self- certainty and self-reflectiveness (11.3 to be 5.46 and 7.33 to be 18) respectively, while the mean score in self- certainty and self-reflectiveness among control groups (11.10 to be 9.82 and 7.10 to be 8.85) respectively

The result in (table 1) illustrated that; there was a statistically significant positive correlation between cognitive insight and socio-occupational functioning pre-intervention only .i.e. when cognitive insight decreases socio-occupational functioning decrease. There was no statistically significant correlation between cognitive insight, socio-occupational functioning and age pre and post-intervention.

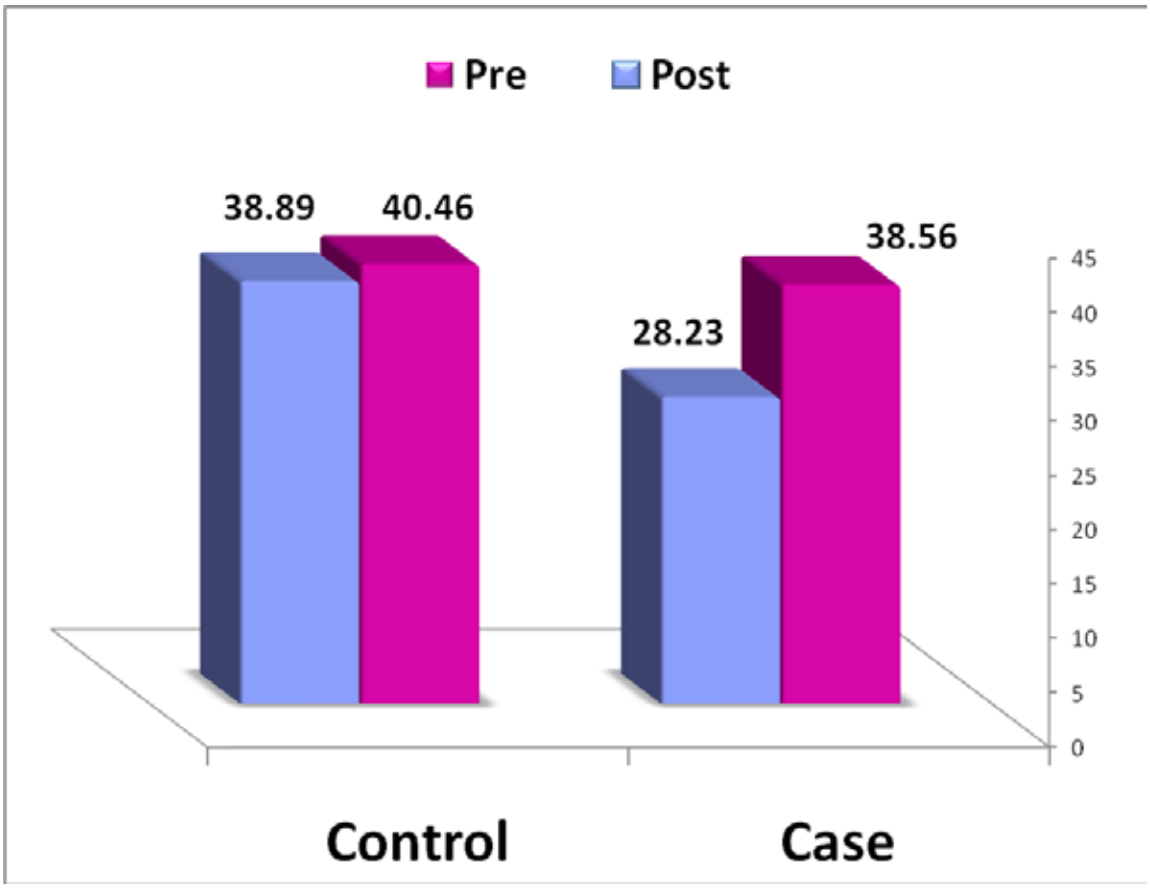


Figure (1): Total mean socio-occupational functioning scale score among cases and control groups pre and post-intervention (N=58).

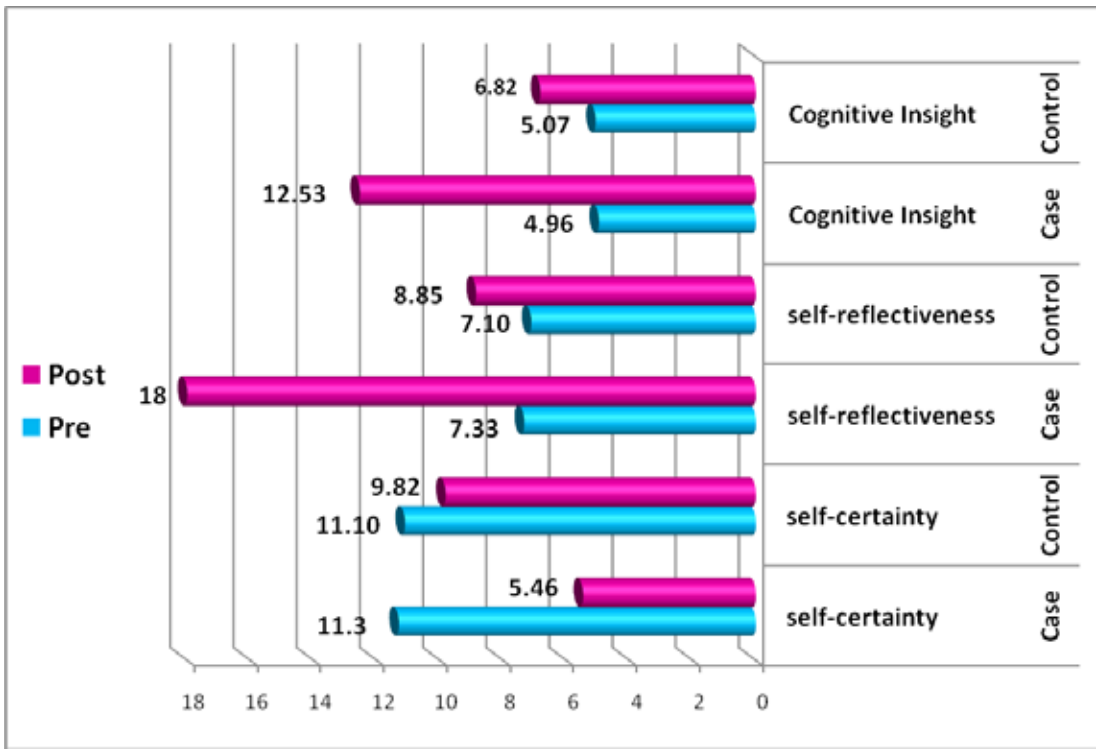


Figure (2): Mean cognitive insight scale and its subscales score among case and control groups pre and post-intervention (N=58).

As shown in (table. 2), it was found that there was no statistically significant relationship between cognitive insight scores among the studied sample and their demographic characteristics post-intervention, while pre-intervention there was a statistically significant relationship between cognitive insight scores and their demographic characteristics except the type of treatment and gender.

Table 3, illustrated that there was a highly statistically significant difference between socio-occupational functioning and (educational level and income) pre and post-intervention, while no significant difference between socio-occupational functioning and (gender, marital state and type of treatment) pre and post-intervention**.**

Table (1): Pearson Correlation between cognitive insights, socio-occupational functioning, And Age

Items	Pre		post	
	r	Sig.	r	Sig
Cognitive insight–socio occupational functioning	0.584**	0. 000	0.005	0.970
Cognitive insight -age	0.242	0.068	0.135	0.312
Socio occupational functioning - age	0.124	0.356	0.120	0.372

**High significant

Table (2): Relation between cognitive insight scale and Socio-Demographic Characteristics of the Studied Group (N=58)

Socio-demographic characteristics	Cognitive insight			
	Pre (n=58)	Test P-value	Post (n=58)	Test P-value
	$\bar{X}$±sd		$\bar{X}$±sd	
Gender: - Male - Female	5.12±.2.59 4.76±2.99	T-test 0.841 0. 363(NS)	9.90±.3.78 9.47±4.19	T-test 0.896 0.348(NS)
Marital State: - Single - Married - Widowed - Divorced	6.11±2.96 4.15±.1.98 4.57±2.43 2.75±1.50	ANOVA test 3.609** .019(HS)	10.44±3.68 9.60±.4.19 9.00±3.69 7.50±4.04	ANOVA test .827 .485(NS)
Education Level: - Primary - Preparatory - Secondary - University and above	3.50±1.50 5.00±.1.93 3.55±1.78 8.23±2.65	ANOVA test 16.069** 0.000(HS)	9.30±3.71 9.58±.3.85 9.05±4.39 11.38±3.15	ANOVA test 1.019 0.392 (NS)
Type of Treatment: - Medication - ECT - Psychotherapy - More than type	4.85±2.93 3.66±.577 5.08±2.93 6.12±1.24	ANOVA test .733 .537(NS)	9.74±4.25 12.00±.000 9.25±3.51 9.87±3.48	ANOVA test .393 .759(NS)
Income: - Enough - Not enough	5.70±.3.38 4.41±1.76	T-test 21.53** 0. 000(HS)	10.37±.3.46 9.25±4.18	T-test 2.21 0.143(NS)

*Significant **High significant *NS: Non-significant* HS: highly significant

Table (3): Relation between socio-occupational functioning and Socio-Demographic Characteristics of the Studied Group (N=58)

Socio-demographic characteristics	Socio-occupational functioning			
	Pre (n=58)	Test P-value	Post (n=58)	Test P-value
	$\overline{X}$±sd		$\overline{X}$±sd	
Gender:		T-test		T-test
- Male	39.65±.11.44	.092	33.75±11.97	.000
- Female	39.05±12.82	.763(NS)	32.47±13.42	.987 (NS)
Marital State:				
- Single	41.18±13.51		34.85±1.43	
- Married	41.10±.9.79	ANOVA test	35.15±.1.06	ANOVA test
- Widowed	32.00±2.23	1.729	25.71±5.12	1.460
- Divorced	33.00±14.00	.172(NS)	28.00±9.62	.236(NS)
Education Level:				
- Primary	30.70±4.62		23.30±5.47	
- Preparatory	37.00±10.98	ANOVA test	31.29±1.14	ANOVA test
- Secondary	39.05±8.68	7.595**	32.94±8.52	8.135**
- University and above	50.07±13.34	0.000(HS)	44.46±1.395	0.000(HS)
Type of Treatment:				
- Medication	39.91±11.33		34.05±1.17	
- ECT	30.33±4.61	ANOVA test	18.66±2.30	ANOVA test
- Psychotherapy	39.91±13.29	.629	34.16±1.28	1.557
- More than type	40.37±13.39	.599(NS)	34.75±1.45	.210 (NS)
Income:		T-test		T-test
- Enough	44.40±13.71	23.204**	38.07±14.80	22.62**
- Not enough	35.19±7.66	0. 000(HS)	29.29±7.80	0. 000(HS)

*Significant **High significant *NS: Non-significant* HS: highly significant

Discussion

As a growing body of research suggests that mindfulness-based psychosocial interventions are effective for a wide range of mental and physical health disorders in adult populations[15] and [16], but only a few studies have focused on the effect of mindfulness psych education on specific psychiatric disorder such as schizophrenia, especially the effect of mindfulness psycho-education on insight and socio-occupational functioning of schizophrenic patients. According to our knowledge, there is no published study that examines the correlation between the insight and the socio-occupational functioning of schizophrenic patients and the effect of mindfulness on these variables, so the current study aimed to assess the effect of mindfulness-based psych education program on insight and socio-occupational functioning of schizophrenic patients.

Recently, mindfulness training has gained great importance as an integrated approach for schizophrenia, bipolar disorder and depressive disorder. Mindfulness training is effective in improving many aspects of illness in schizophrenic patients. Regarding the effect of mindfulness-based psych education program on insight, After the application of the mindfulness-based psych education program on insight, results of the current study found that there was a highly statistically significant difference found in cognitive insight scale and its subscales score among study groups pre and post-intervention, while there was no statistically significant difference found in cognitive insight scale and its subscales score among control groups pre and post-intervention. This explained the effect of the mindfulness psycho-educational program which brings the patient to focus on here and now, providing the patient with the required knowledge about his illness. Also, it helps the patient to respond more adaptively to external and internal psychological experiences, leading to improvement of the patient's attention and emotional regulation and in turn improving patients' insight[17]and[18].

The above results are consistent with the study conducted by[19], which found that the mindfulness-based psych education given to the study group increased the cognitive insight of the schizophrenic patients. Also In an intervention study by [20], it was found that there was a slight increase in the mean score of insight, but the increase was not statistically significant. In the same line, [21]found that there was a significant increase in the level of insight during the first measurement after using films as a psych educational tool for patients with schizophrenia, but there was no statistically significant increase in insight level in the second measurement after the follow-up. This result may be explained in that the researcher used psych education only and didn't merge it with mindfulness training to increase the effectiveness of the program as our study did.

Also, the results of the study conducted by [22] concluded that there was an increase in the insight of the patients about schizophrenia after using mindfulness-based psych education on schizophrenic patients. On the same line, [10]found that mindfulness-based psych education on schizophrenic patients was effective in increasing the insight of the individuals about the disease.

As regards to the effect of mindfulness-based psych education program on socio-occupational functioning, the results of the current study revealed that there was a significant decrease of mean socio-occupational functioning scale score in the study group after intervention than before which mean that there was an improvement in the socio-occupational functioning of the schizophrenic patient after the application of mindfulness-based psych education program. This result is congruent with the findings of [16]who found that mindfulness meditation has a beneficial effect on occupational functioning. They explained that mindfulness psych education reduced anxiety symptoms and improved individuals' ability to be at work when expected and avoid leaving work early or coming in late.

Also in a narrative review done by [23], about the " role of yoga and mindfulness in severe mental illnesses " they found that yoga and mindfulness have shown promising results in improving the functional outcome of schizophrenia patients, including improved social and occupational functioning, quality of life, achieving functional remission, subjective well-being, personal hygiene, life skills, interpersonal activities and communication. Mindfulness can affect socio-occupational functioning by improving the patient's ability to deal with social situations.

Generally, mindfulness training modifies the patients' relationship with psychiatric experiences in many ways, either by improving patient's acceptance and awareness of the nature of symptoms or by minimizing patient's distress. It also facilitates developing self-compassion, regulating negative emotions and removing guilt feelings. Which in turn improve the patient's socio-occupational functioning. These results can be explained in that mindfulness psych education may distract the patient from thinking in negative ways, increase the patient cognitive awareness through focusing here and now.

As regards to the correlation between socio-occupational functioning and insight, the current study found that there was a statistically significant positive correlation between cognitive insight and socio-occupational functioning pre-intervention only, which means that when cognitive insight decreases socio-occupational functioning decrease. These results are consistent with the findings of [24]who found that "better clinical insight was correlated with better personal and social skills". Also, [25] concluded that clinical insight improves the abilities for social contact and may mediate the relationship of negative symptoms to a social function. On the same line [26]concluded that improved insight resulted in improving many higher community functions, including the frequency of social contact and perceived social support. [27]Also found that "improvement in psychosocial function was associated with significant improvements in clinical insight". Also In a study conducted by [28], they found that patients with poorer insight had a poor level of social functioning compared to a patient with fair insight.

This study mentioned that there was no statistically significant correlation between cognitive insight, sex, marital status, educational level and age post-intervention. This result in agreeing with[29]who found that " BCIS scores had no significant correlations with age (r=−0.17 to 0.09, P>0.05), sex (ρ=−0.21 to 0.06, P>0.05), years of education (r=−0.22 to 0.11, P>0.05), or marital status (ρ=−0.11 to 0.05, P>0.05). The current study revealed that there was no significant difference between socio-occupational functioning and gender pre and post-intervention. The results of the present study contradicted [30]who indicated that gender was a significant predictor, especially for occupational

functioning. Also, the current study revealed that there was no significant difference between socio-occupational functioning and marital state pre and post-intervention. The result of the present study contradicted to[31]This study confirmed that bad marital status is associated with higher odds of social dysfunction among patients with schizophrenia living in the community.

Conclusions

According to the results of the research, it was determined that the mindfulness-based interventions have increased the cognitive insight and Socio occupational functioning of the patients in the study group.

Recommendations: This research can be a guide for further studies based on mindfulness. Also, in the light of these results, the placement and implementation of mindfulness-based psych education program in the routine treatments of the psychiatric hospital and Community Mental Health Centers may contribute to the improvement of the cognitive insight and Socio occupational functioning of schizophrenic patients

Acknowledgments: The researchers wish to acknowledge the participants who took part in the study and the service for allowing this research to be undertaken

Conflict of Interest: There are no conflicts of interest between the authors

Source of Funding: Self

Ethical Clearance: An official letter was issued from the Faculty of Nursing Menofia University and sent to the director of the psychiatric and addiction treatment hospital in Mit-Khalf after explaining the aim of the study to get their permission for data collection. The patients were given fully informed verbal consent to participate.

References

1. Elmalky M. I, Elsayed S. M, El-Amrosy S.H. (2014). Effect of Recreation Therapy on Positive and Negative Symptoms of Schizophrenic Patients Egyptian Journal of Health Care, 2014 EJHC Vol. 5 No. 3 .23-40.
2. Mental Health By the Numbers, National Alliance on Mental Illness, 2019.
3. Schizophrenia, National Institute of Mental Health, 2018 (NIMH).
4. Brisson S, Molodynski A, Dias VV, Figueira ML. The importance of measuring psychosocial functioning in schizophrenia. Ann Gen Psychiatry. 2011 Jun 24;10:18. DOI: 10.1186/1744-859X-10-18. PMID: 21702932 Free PMC Article
5. Joseph B, Narayanaswamy JC, Venkatasubramanian G. (2015). Indian J Psychol Med. 2015 Jan-Mar;37(1):5-11. DOI: 10.4103/0253-7176.150797. Review. PMID:25722504
6. Suresh Yadav Sujita Kumar Ka. (2014). Models of Psychoeducation: an Indian Perspective Indian Journal of Applied Research 4(7):422-423 · August 2014 with 1,844 Reads DOI: 10.15373/2249555X/July2014/134
7. Alataş, G., Kurt, E., Tüzün Alataş, E., Bilgiç, V., & Karatepe, H. T. (2007). Psychoeducation in mood disorders. Düşünen Adam, 20(4), 196–205
8. Çatak, P. D., & Ögel, K. (2010). Mindfulness as a therapy method. Archives of Neuropsychiatry, 47, 69–73

9 NurdanÇetina, RukuyeAylazb (2018). The effect of mindfulness-based psychoeducation on insight and medication adherence of schizophrenia patients Archives of Psychiatric Nursing 32 (2018) 737–744

10. Chien, W. T., & Lee, I. Y. M. (2013). The mindfulness-based psychoeducation program for Chinese patients with schizophrenia. Psychiatric Services, 64, 376–379.
11. Strauss C, Thomas N, Hayward M.(2015). Can we respond mindfully to distressing voice A systematic review of the evidence for engagement, acceptability, electiveness and mechanisms of change for mindfulness-based interventions for people distressed by hearing voices? Front. Psychol 6(1), 1154 (2015).
12. Horatio: Europen Psychiatric Nurses (2011). Turku declaration. http://www.horatioweb.eu/downloads/The_Turku_Declaration-Turkish.pdf/, Accessed date: 13 June 2016.
13. Beck, A. T., Baruch, E., Balter, J. M., Steer, R. A., & Warman, D. M. (2004). A new instrument for measuring insight: the Beck Cognitive Insight Scale. Schizophrenia Research, 68(3), 319–329.
14. Saraswat N, Rao K, Subbakrishna D.K., Gangadhar B.N. (2006): The Social Occupational Functioning Scale (SOFS): A brief measure of functional status

in persons with schizophrenia: Schizophrenia Research, 81, 301– 309

15. Brown, K.W., Ryan, R.M., Creswell, J.D., 2007. Mindfulness: theoretical foundations and evidence for its salutary effects. Psychol. Inc. 18, 211–237.
16. Hoge, E.A., Bui, E., Marques, L., et al., (2013). A randomized controlled trial of mindfulness meditation for a generalized anxiety disorder: effects on anxiety and stress reactivity. J. Clin. Psychiatry 74 (8), 786–792. https://doi.org/10.4088/JCP.12m08083
17. Hoxhaj, E., Sadohara, C., Borel, P., D'Amelio, R., Sobanski, E., Muller, H., et al. (2018). Mindfulness vs psychoeducation in adult ADHD: A randomized controlled trial. European Archives of Psychiatry and Clinical Neuroscience. http://dx.doi.org/10.1007/s00406-018-0868-4.
18. Mitchell, J. T., McIntyre, E. M., English, J. S., Dennis, M. F., Beckham, J. C., & Kollins, S. H. (2017). A pilot trial of mindfulness meditation training for ADHD in Adulthood: Impact on core symptoms, executive functioning and emotion dysregulation. Journal of Attention Disorders, 21(13), 1105–1120. http://dx.doi.org/10.1177/1087054713513328.
19. Çetina, N., Aylazb, R.,(2018). The effect of mindfulness-based psychoeducation on insight and medication adherence of schizophrenia patients. Archives of Psychiatric Nursing (32) 737–744
20. Sauvanaud, F., Kebir, O., Vlasie, M., Doste, V., Amado, I., & Krebs, M. O.(2017). The therapeutic benefit of a registered psychoeducation program on treatment adherence, objective and subjective quality of life: French pilot study for schizophrenia. (2017). https://www.ncbi.nlm.nih.gov/pubmed/27658989 (05 January 2017).
21. VonMaffei, C., Görges, F., Kissling, W., Schreiber, W., & Rummel-Kluge, C. (2015). Using films as a psychoeducation tool for patients with schizophrenia: A pilot study using a quasi-experimental pre-post design. BioMedCentral Psychiatry, 15, 93.
22. Chien, W. T., & Thompson, D. R. (2014). Effects of a mindfulness-based psychoeducation program for Chinese patients with schizophrenia: 2-year follow-up. British Journal of Psychiatry, 205, 52–59.
23. Sathyanarayanan G, Vengadavaradan A, Bharadwaj B (2019): Role of yoga and mindfulness in severe mental illnesses: A narrative review. Int Journal of Yoga;12:3–28.
24. Lysaker, P., Pattison, M., Leonhardt, B.,Phelps, C.,Vohs, J.,(2018): Insight in schizophrenia spectrum disorders: relationship with behavior, mood and perceived quality of life, underlying causes and emerging treatments, World Psychiatry;17: (12–23).
25. Montemagni C, Castagna F, Crivelli B et al. (2014): Relative contributions of negative symptoms, insight and coping strategies to quality of life in stable schizophrenia. Psychiatry Res; 220:102-11.
26. Tastet H, Verdoux H, Bouisson J et al (2014): Impact of interpersonal factors on insight in schizophrenia. SchizophrRes;159:527-32.
27. Cannayo D, Minutolo G, Battaglia E, et al., (2016): Insight and recovery in schizophrenic patients. Int J Psychiatry Clin Pract;20:83-90.
28. Erol A, Delibas H, Bora O and Mete L,.(2015): The impact of insight on social functioning in patients with schizophrenia, International Journal of Social Psychiatry, Vol. 61(4) 379– 385.
29. Kim JH, Lee S, Han AY, Kim K, Lee J.(2015). Relationship between cognitive insight and subjective quality of life in outpatients with schizophrenia. Neuropsychiatr Dis Treat.
30. Judith Usall, Ph.D.; Josep M Haro, Ph.D.; Susana Araya, M.D.; Berta Moreno, Ph. D.; Pedro Enrique Muñoz, Ph.D.; Alfredo Martínez, M.D.; Luís Salvador, Ph.D.; and PSICOST group. Social functioning in schizophrenia: what is the influence of gender? Eur. J. Psychiat. vol.21 no.3 Zaragoza jul./sep. 2007
31. Xue-Jie Li a, Jing-Hua Wu b, Jun-Biao Liu b, Kai-ping Li b, Fang Wang a, Xiao-hui Sun a, Shi-hong Ma(2 0 1 5). The influence of marital status on the social dysfunction of schizophrenia patients in the community. International journanl of nursing sciences 2(2015)149e152

DOI Number: 10.37506/ijone.v12i4.11255

Screening for Polycystic Ovarian Syndrome and Effect of Health Education on its Awareness among Adolescents: A Pre-Post Study

Sabah Lotfy Mohamed El Sayed[1], Mohamed Lotfy Mohamed El Sayed[2], Godpower Chinedu Michael[3]

[1]Assistant Professor of Obstetrics & Gynecology Nursing, Faculty of Nursing, Zagazig University, Egypt,
[2]Professor of Obstetrics & Gynecology, Faculty of Human Medicine, Zagazig University, Egypt,
[3]Professor of Family Medicine, Aminu Kano Teaching Hospital, Kano, Nigeria

Abstract

Background: Polycystic ovariansyndrome is an endocrine disorder that can affect adolescent females. Screening and awarenessare important initial steps in PCOS management. Health education of the population at risk is crucial to health-seeking behavior that can improve quality of life.

Aim: Screening for features of PCOS and determining the effect of health-education on PCOS awareness among female university students.

Method: This study was of a pre-post research design. The current study involved 900 childbearing age females, who were randomly selected from students of Zagazig University. Data were collected using a structured questionnaire. PCOS screening was based on anthropometric measurements, as well as Rotterdam criteria. A structured lecture on PCOS was received by all participants.

Results: The participants' mean age was 19.01±0.7 years. Three-quarters of them had no information about PCOS. Less than one quarter of them were sufficiently aware of PCOS pre educational while 84.0% of them were sufficiently aware after the educational program.

Conclusion: The participants' awareness were improved after PCOS structured educational program.

Recommendation: Early screening and inclusion of PCOS in the student's curriculum are therefore recommended.

Keywords: *Awareness, Polycystic Ovary Syndrome, Screening, Structured Teaching Program.*

Introduction

Polycystic **ovarian** syndrome (PCOS) is a condition associated with an imbalance infemale sex hormones. It is a common health problem among female adolescents and young women. It affects 5-10% of women in their reproductive ages.[1] The WHO reported that 116 million women (3.4%) were affected by PCOS worldwide.[2] Globally, the prevalence of PCOS is varied and ranging from 2.2% to 26%.[3] This could be due to the criteria used for its estimation. Aprevalence of 22.5% was obtained using Rotterdam criteria,whereas it was 10.7% when the excess androgen association criteria were used.[3]

Adolescence is a transitional period of physical and psychological development, generally occurring during the period between puberty and adulthood; functional variants in the hypothalamic-pituitary-ovary axis

Corresponding Author:
Sabah Lotfy Mohamed El Sayed
Department of Obstetrics & Gynecology Nursing,
Faculty of Nursing, Zagazig University, Egypt
Telephone: 02-01128182813
e-mail:: sabahlotfy78@yahoo.com

during normal puberty leads to changes in reproductive hormones and menstrual patterns that imitator some of PCOS features, complicating the diagnosis of PCOS in adolescent female populations.[4] Using adult diagnostic criteria for adolescents with suspected PCOS has always raised concerns about mis- or over diagnosis in this age group.[5]

There are knowledge gaps in relation to the various aspects of PCOS in adolescents. This meaning absence of longitudinal studies during adolescence, the absence of specific diagnostic criteria to determine PCOS during this period, the absence of normative values for a number of biochemical markers and the lack of clarity as to whether the severity of symptoms during this stage predicts the extent of disruption in later life.[6]

Although early identification and management of adolescents with PCOS can prevent the long-term reproductive, cardio-metabolic and emotional consequences associated with syndrome in their future, over diagnosis can also influence an adolescents' quality of life and create an early and unwarranted anxiety about future fertility. [7]

PCOS have risk factors which include obesity, inadequate physical exercise and family history of PCOS during puberty transition.[1] It is accompanied by a wide range of manifestations, e.g., anovulation, obesity, abnormal facial and skin hair growth . It causes alterations in the menstrual cycle, ovary cysts, failure to become pregnant and other health complications that cause infertility.[1]

Screening during adolescence can provide the opportunity for early detection of risk factors, promotion of a healthy lifestyle and early intervention to prevent the development of PCOS disorder in the future.[3]Public information and awareness of the symptoms and the incurable nature of the disorder are critical to identifying women who need treatment. Awareness of PCOS is not only about recognizing the disease, but it also helps in encouraging healthy living, which impacts on the quality of life and longevity of women.[4]

Studies on knowledge of PCOS have been done in 50 engineering students in Thandalam, India,[9] 95 secondary school students in Mansoura, Egypt[10] and 96 university students in El Minia, Egypt. [11] Another PCOS knowledge study was also conducted in Karachi on 177 urban Pakistani women.[12] The increased prevalence of PCOS in the community may be due to lack of awareness. This makes exploring the symptoms of PCOS a vital policy for early identification of the syndrome. Early diagnosis has the potential of encouraging young women to seek medical advice early and prevent long-term complications. In addition, improving awareness and understanding of PCOS is regarded as acrucial first step in the management of the syndrome.[13]

However,studies with large sample size that assessed features of PCOS and the effect of health education on its awareness are scarce in Egypt. Therefore, this study aimed at determining the prevalence of symptoms of PCOS, PCOS awareness and the effect of health education of female adolecsents on their level of PCOS awareness. This study finding will add to a robust literature about the disease in Egypt to stimulate necessary interventions to prevent the disease and its complications by stakeholders.

Subjects and Method

Study design and setting: This study was of a single-arm, pre-post (quasi-experimental) design. It was carried at Zagazig University among students of Faculties of Technology and Development & Science over a three-month period. Zagazig is a city in Lower Egypt and is host to the Zagazig University (ZU). Located in the eastern part of the Nile Delta, Zagazig is the capital of Sharkia Governorate. ZU was established in 1974, as a nonprofit public higher education institution. It is accredited and recognized by the Ministry of Higher Education of Egypt. ZU is a coeducational higher education institution. It offers courses and programs for higher education degrees such as bachelor, diploma, master and doctorate degrees in several areas of study. It has several faculties including those of human medicine, nursing, engineering, veterinary medicine, pharmacy, education, agriculture, technology & development and science.

Eligibility criteria: Female students between the ages of 18-26 and who were willing to participate in the study were included. Students with thyroid or adrenal abnormalities or who declined consent were excluded from the study.

Sample size estimation: The study was conducted on 900 students based on Cochran's sample size formula $n_o = \frac{Z^2 pq}{e^2}$; where: e is the level of accuracy (5%); p is the estimated proportion of the population (p = 0.5); q is 1 – p. The value of z is 1.96.Therefore, a random sample

of 385 female students was obtained from each of the two faculties to make a total of 770. However, 10% was added for possible non-responses (i.e. a total of 847). Finally, this was rounded off to a total of 900.

Sampling technique: A simple random sampling technique was used based on a list obtained from the Student Affairs Administrative Department of the university and computer-generated random numbers.

Data collection: A questionnaire was developed by the researcher based on literature review. The validity of the content of the questionnaire was assessed by a panel of experts in Gynaecology and Obstetrics Nursing prior to the study. A pilot study was conducted to assess the reliability of the questionnaire. The reliability of the questionnaire was Cronbach Alpha = 0.8. This questionnaire consisted of two tools:

1. Structured interview questionnaire participants'**.** It had 4 sections: Section oneconsisted of participants' sociodemographic data (age, faculty, marital status and location of residence).Section two consisted of participants' menstrual history (age at menarche, the regularity of the menstrual cycle, menstrual bleeding and menstrual pain).Section three consisted of participants' family history of PCOS. The fourth section consisted of the general assessment of the participants (weight, height, [BMI calculated]), anthropometric measurements (blood glucose, systolic and diastolic blood pressure) and examining for the clinical manifestations of PCOS (hirsutism, acne and alopecia).An average of two blood pressure measurements (to the nearest 1 mmHg) was used. It was measured using aneroid sphygmomanometer following standard precautions. Height was measured (to the nearest 1 cm) barefooted and facing straight frontwards using a stadiometer. Weight was measured (to the nearest 1 kg) using a regularly calibrated bathroom weighing scale. Blood glucose was measured (mg/dL) using a glucometer and finger-prick blood from the participant.
2. A structured questionnaire on participants' awareness of PCOS. This had two sections. Section one assessed participants' information regarding PCOS (definition, criteria, risk factors and complications).Section two contained a question regarding the source of PCOS information.

Scoring of the questionnaires was done as follows:

1. Awareness level: There were a total of 16 awareness questions. A score of 1 point was given for each correctly answered question, whereas a score of zero (0) was given for each incorrectly answered or unanswered question. A total score of 11 points was the cutoff mark (corresponding to 69%). Hence, a total score of $\leq$ 11 was considered insufficient awareness while $\geq$ 12 was considered sufficient awareness.
2. Body mass index (Misra *et al*) [14]: Body mass indices of 18-22.9 kg/m^2, $\leq$17.9 kg/m^2, 23.0-24.9 kg/m^2 and $\geq$ 25 kg/m^2 were categorized as normal, underweight, overweight and obese, respectively.
3. Hirsutism was scored according to the modified Ferman Galloway score.[15] The severity scores were classified as follows: <4 mild, moderate 4-7, severe>7.

Study procedure: The researcher obtained oral consent from the students after explaining the aim of the research but before collecting data. The questionnaire was initially distributed among the consenting students and responses were collected. After retrieving the filled questionnaires, a structured short lecture (health education) was given to the students on the definition, causes, risk factors, clinical manifestations, diagnosis, lifestyle, complications and management of PCOS; thereafter, the same questionnaire was re-distributed to the participating students to answer. Their second responses were then collected.

Ethical considerations: The study was conducted following ethical guidelines. The study was approved by the Ethical Research Committee, Faculty of Nursing, Zagazig University. Written approval was obtained from the deans of the selected faculties at Zagazig University before collecting research data. Verbal informed consent was obtained from each study participant.

Statistical analysis: Data were entered and analyzed using the Statistical Package for Social Sciences (IBM SPSS version 21). Descriptive analysis of each element in the questionnaire was performed using frequencies and percentages. Chi-square test of significance was used to find the relationship between categorical variables.

Results

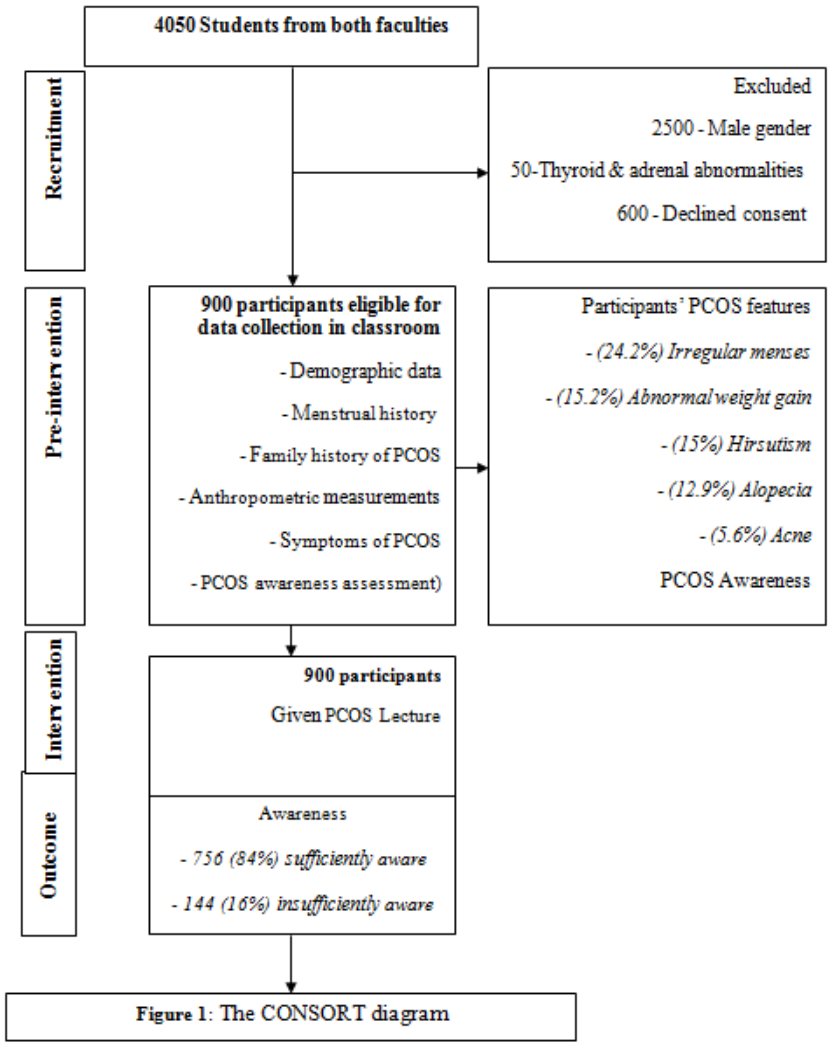


Figure 1: The CONSORT diagram

A total of 900 participants was recruited for this study and were used for analysis. The CONSORT diagram of this study is shown in Fig 1.

Table 1: Participants' demographic characteristics (n = 900)

Variable	Number	Percent
Age (years);		
18-20 years	375	41.7%
21-23 years	510	56.6%
24-26 years	15	1.7%
Mean	19.4 ±0.7	
Faculty		
Technology & Development	458	50.9
Science	442	49.1
Marital status		
Married	225	25.0
Single	675	75.0
Location of residence		
Rural	550	61.1
Urban	350	38.9

Table 1 shows that the mean age of participants was 19.4 ± 0.7 years with mostthem (56.6%) belonging to the 21-23 years age group. Half (50.9%)of them were from the Faculty of Technology & Development. Moreover, 75% & 61.1% of them were unmarried and were from rural areas, respectively.

Table 2: Distribution of students' menstrual history (n = 900)

Variable	N	%
Menstrual history		
Age of Menarche (years) Mean ±SD	12.5 ± 1.6	
Regularity of Menstrual cycle		
Irregular cycle (> 35 days or ≤ 8/year)	218	24.2
Regular cycle (21 - 35 days)	682	75.8
Menstrual bleed		
Heavier or lighter bleeding	196	21.8
Normal bleeding	704	78.2
Menstrual pain		
Yes	708	78.7
None	192	21.3

Table 2 shows thatparticipants' mean age of menarchewas 12.5±1.6 years. Most (75.8%)of them had a regular cycle; 78.2% and 78.7% of them had normal menstrual bleeding andno menstrual pain, respectively.

Table 3: Distribution of students' anthropometric measurements (n = 900)

Anthropometric measurements	Mean ± SD
Weight (Kg)	61.9±1.6
Height (cm^2)	164±13.1
Waist circumference	74.5±7.4
BMI (kg/m^2)	26.7±23.3
Level of blood glucose (mmol/L)	99.8±14.6
Systolic Blood pressure (mmHg)	115±1.6
Diastolic Blood pressure (mmHg)	72.5±10.3

BMI: Body Mass Index

Table 3 shows thatmean weight, height and BMIof participants were 61.9±1.6kg, 164±13.1cm, 26.7±23.3 kg/m^2, respectively. The mean blood glucose level of themwas 99.8±14.6 mg/dL.

Table 4: Participants' level of awareness about PCOS (n =900)

Items	Correct information no (%)	Wrong information no (%)
Definition		
Do you know the meaning of the term "polycystic ovary syndrome"?	209(23.2%)	691 (76.8%)
Criteria		
PCOS is characterized by a high level of androgens	324(36%)	576(64%)
PCOS is characterized by irregular or absence of menstrual cycle	233 (25.9%)	667(74.1%)
PCOS is characterized by abnormal hair growth on different parts of the body (upper lip, chin, neck, chest, upper or lower abdomen, upper arm, thigh)	138 (*15*.3%)	762 (84.7%)

Items	Correct information no (%)	Wrong information no (%)
PCOS is characterized by polycystic ovary	290 (32.2%)	610(67.8%)
PCOS is characterized by hair loss from the scalp more than usual	110 (12.2%)	790(87.8%)
Risk factors		
Obesity may cause PCOS	210(23.3%)	690(76.7%)
Prediabetes condition (due to decreased insulin action in the body) may cause PCOS	190(21.1%)	881(97.9%)
Complications		
PCOS may cause diabetes	52(5.8%)	848(94.2%)
PCOS may cause heart disease	70(7.8%)	830(92.2%)
PCOS may cause anxiety and depression	174(19.3%)	726(80.7%)
PCOS may lead to infertility	237(26.3%)	663(73.7%)
Diagnosis		
PCOS can be diagnosed by ultrasound	348(38.7%)	552(61.3%)
PCOS can be diagnosed by a specific type of blood test	224(24.9%)	676(75.1%)
Management		
PCOS can be treated with hormone therapy	162(18.0%)	738(82.0%)
PCOS can be treated with antidiabetic drugs	330 (36.7%)	570(63.3%)

PCOS: Polycystic ovary syndrome

Table 4 shows the participants' level of awareness about PCOS. It was observed that most participants gave the wrong answer to all questions related to PCOS. For instance, 76.7% of them gave the wrong answer about the meaning of the term PCOS.

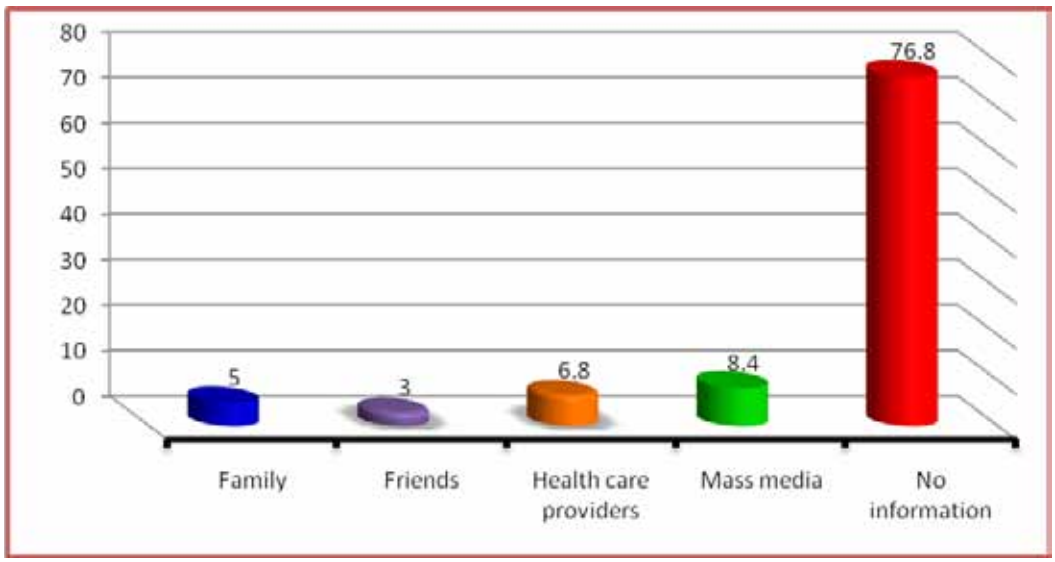


Figure 2: Percentage distribution of students in relation to their source of information about PCOS.

Figure 2 shows the distribution of participants in relation to their source of information about PCOS. It was observed that more than three-quarters (76.7%) of them had no information on PCOS, 8.4% received information from the mass media, 6.9% received their information from health care providers, 5.0% received information from the family and 3.0% received information from friends.

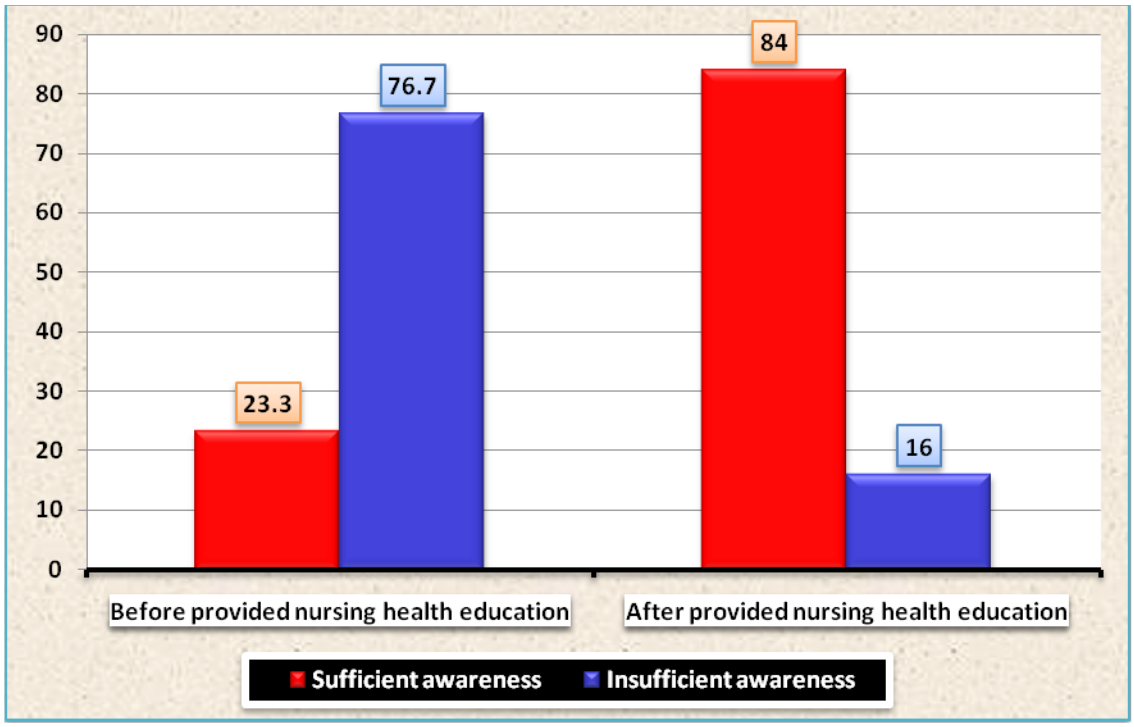


Figure 3: Percentage distribution of students in relation to their level of awareness before and after provided nursing health education on PCOS.

Figure 3 reveals the distribution of participants in relation to their level of awareness before and after providing nursing health education on PCOS. Regarding the level of awareness before providing health education on PCOS, 76.7%of them were insufficiently aware of PCOS while 23.3% were sufficiently aware. Concerning the level of awareness after the provision of health education on PCOS, 84.0%of them became sufficiently aware of PCOS while only 16.0% had insufficient awareness.

Table 5: Relationship between participants' variables and level of PCOS awareness (n = 900).

	Sufficiently aware (N=209)	Insufficiently aware (N=691)	X^2 test	P-Value
	n (%)	n (%)		
Age (years)				
18-20	200 (95.7)	663 (95.9%)	0.71	0.06
≥ 21	9(5.3)	28 (4.1%)		
Faculty				
Technology & Development	125 (59.8%)	386 (55.9%)	0.606	0.3
Science	84 (40.2%)	305(44.1%)		
MaritalStatus				
Married	7 (3.3%)	14 (2%)	0.134	0.4
Unmarried	202 (96.6%)	677(98%)		
Residential area				
Rural	135 (64.6%)	674(67.3%)	5.4	0.02*
Urban	74 (35.4%)	226 (32.7%)		

*Significant level < .05

Table 5 shows that there was a statistically significant association between participants' residential area and level of PCOS awareness (χ^2 =5.4, p=0.02). However, there were no significant associations between participants' age, marital status, faculty and level of PCOS awareness (p>0.05).

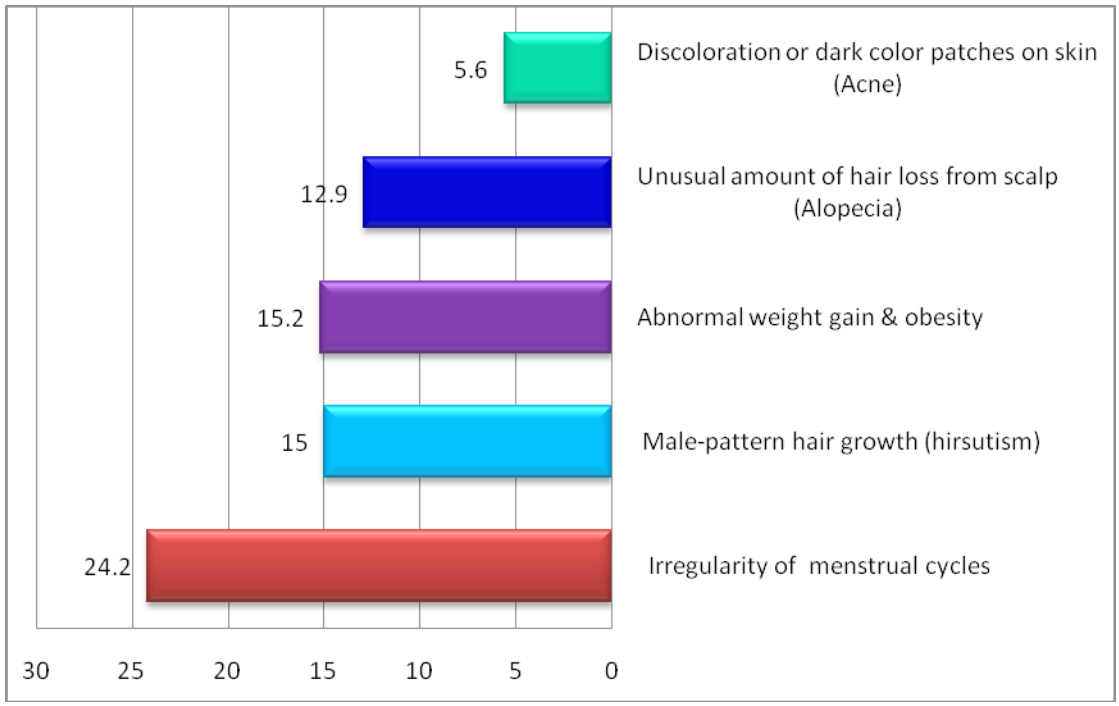


Figure 4: Percentage distribution of female students in relation to their clinical manifestations (alone or combined) of PCOS

Figure 4 shows the distribution of participants in relation to their clinical manifestations of PCOS. Only 24.2% of participants had irregular menstruation, 15.3% had hirsutism, 14.9% had an abnormal weight gain, 12.9%, had alopecia and 5.6% had acne.

Discussion

PCOS is the predominant endocrinopathy in females, characterized by chronic oligo-anovulation, increase level of androgen and polycystic ovary, all of which can lead to a deterioration in the quality of life of these patients.[16] The prevalence of PCOS in adolescents is unknown, but a recent study of females, between the ages of 15 and 19, was estimated to be 1.14%, using the NIH criteria.[17] It can be associated with a wide range of heart metabolic disorders, including obesity, type 2 diabetes, hyperlipidemia, metabolic syndrome, high blood pressure and risk factors for cardiovascular disease.[18,19]

This was a pre-post study with screening for features of PCOS among university female students in Egypt. It revealed that the highest proportion of participants were in the 21-23 years age group. This is similar to findings in Mangalore and El Minia were the modal age groups were 21-22 and 21-25 years, respectively.[1, 11]

The current results observed that a significant number of the participants had features of PCOS; nearly a quarter had irregular menses and nearly one fifth had an abnormal weight gain, hirsutism and had a family history of PCOS. This is similar to findings by Nazir *et al* in Pakistan and Zandi *et al* in Iran, where a significant proportion of females with PCOS had oligomenorrhea and hirsutism.[20,21] However, despite these features, the awareness of our study participants about features of PCOS was poor. Only about a quarter was sufficiently aware of PCOS.

Furthermore, in corroboration with earlier studies[9-11,22] health education remarkably improved the proportion of participants with sufficient awareness about the disease. In addition, whereas other studies

have reported an association between age[10,11], dietary pattern[1], family type[9] and knowledge of PCOS. Additional,most participants with sufficient PCOS awareness were found among those living in rural areas. Though a higher proportion of the study participants lived in rural areas, the complete link between rurality and sufficient awareness of PCOS may require further investigation. Differences in study variables examined and sample sizes may explain differences in the results of our study and previous works.

Implication for policy: The significant proportion of participants with manifestations of PCOS in this study suggest the need for strategic planning for regular screening of students. Similarly, the high proportion of participants that we're unaware of the features of PCOS and the improvement in PCOS awareness following health education also suggests the need to include PCOS in the educational programs of the university.

Study limitations: Among the limitations of this study was that we did not assess the hormonal profile and other specific investigation for definitive diagnosis of PCOS. Second, the pre-post design of this study precludes conclusive assertion that health education alone was responsible for the improved PCOS awareness post-intervention. Being an institutional-based study, a community-based study will be required to unveil the complete prevalence of the features of PCOS, PCOS awareness and the effect of health education on PCOS awareness.

Conclusion

A significant proportion of participants had manifestations of PCOS. However, their PCOS awareness was low. Awareness improved with PCOS structured teaching program.

Recommendations: Early screening and inclusion of PCOS in the student's curriculum are therefore recommended.

Conflict of Interest: No conflict of interest.

Sources of Funding: No funding source for this study.

Acknowledgements: The authors would like to thank all the female students who participated in this study

References

1. Sunanda B, Nayak S. A Study to Assess the Knowledge Regarding PCOS (Polycystic Ovary Syndrome) among Nursing Students at NUINS. Nitte University Journal of Health Science 2016; 6(3):24.
2. Vaidya R, Joshi B. PCOS-epidemic in India: An emerging public health challenge. International Conf PCOS Society India with AE-PCOS Society USA, 2016. Available from: http://www.pcosindia.org/files/education/pcos.
3. Joshi B, Mukherjee S, Patil A, Purandare A, Chauhan S, Vaidya R. A cross-sectional study of the polycystic ovary syndrome among adolescent and young girls in Mumbai, India. Indian J Endocrinol Metab 2014;18(3):317-24.
4. Spritzer, P. M., & Motta, A. B. (2015). Adolescence and polycystic ovary syndrome: current concepts on diagnosis and treatment. International journal of clinical practice, 69(11), 1236-1246.‏ Rosenfield, R. L. The diagnosis of polycystic ovary syndrome in adolescents. Pediatrics, 2015; 136(6), 1154-1165.‏
5. Witchel, S. F., Oberfield, S., Rosenfield, R. L., Codner, E., Bonny, A., Ibáñez, L., ... & Tfayli, H. The diagnosis of polycystic ovary syndrome during adolescence. Hormone research in paediatrics, 2015; 83(6), 376-389.‏
6. Fauser, B. C. J. M., Tarlatzis, B. C., Rebar, R. W., Legro, R., Balen, A. H., Lobo, R., ... & Boivin, J. Consensus on womens health aspects of polycystic ovary syndrome (PCOS). Human Reproduction, 2012; 27(1), 14-24.‏
7. Goodman, N. F., Cobin, R. H., Futterweit, W., Glueck, J. S., Legro, R. S., & Carmina, E. American Association of Clinical Endocrinologists, American College of Endocrinology, and androgen excess and PCOS society disease state clinical review: guide to the best practices in the evaluation and treatment of polycystic ovary syndrome-part 1. Endocrine Practice, 2015; 21(11), 1291-1300.‏
8. Dezarn, C. Effectiveness of structured teaching Programme on knowledge of polycystic ovary syndrome among adolescent girls. Nitte University Journal of Health Science, 2013; 3(3). Retrieved from https://www.pcos. com/blog/199/september-is-PCOS-awareness-month/Fernandes.
9. Biam, N, Bhuvaneshwari P. Effectiveness of Self-Instructional Module on Knowledge Regarding

Polycystic Ovary Syndrome among Engineering Students. International Journal of Novel Research in Healthcare and Nursing 2015; 2 (3):66-69

10. Mohamed HE, Mansour SE, Ibrahim AE. Effect of Educational Sessions about Polycystic Ovary Syndrome for Late Adolescent Girls Self Protective Measures. International Journal of Nursing Didactics 2015; 5(8):5-11.
11. Mohamed HA. Effect of educational program on the level of knowledge regarding polycystic ovary syndrome among adolescent girls. Journal of Nursing Education and Practice 2016; 6(10):80-7.
12. Gul S, Zahid SA, Ansari A. PCOS: symptoms and awareness in urban Pakistani women. International Journal of Pharma Research and Health Sciences 2014; 2(5):356-360.
13. Colten HR, Altevogt BM. Improving awareness, diagnosis, and treatment of sleep disorders. In Sleep Disorders and Sleep Deprivation: An Unmet Public Health Problem 2006. National Academies Press (US).6:173.
14. Misra A, Chowbey P, Makkar BM, Vikram NK, Wasir JS, Chadha D, Joshi SR. Consensus statement for diagnosis of obesity, abdominal obesity and the metabolic syndrome for Asian Indians and recommendations for physical activity, medical and surgical management. JAPI, 2009; 57(2):163-70.
15. Hatch R, Rosenfield RL, Kim MH, Tredway D. Hirsutism: implications, etiology, and management. American Journal of Obstetrics and Gynaecology 1981;140(7):815-30.
16. Amiri, M., Ramezani Tehrani, F., Nahidi, F., Bidhendi Yarandi, R., Behboudi-Gandevani, S., & Azizi, F. Association between biochemical hyperandrogenism parameters and Ferriman-Gallwey score in patients with polycystic ovary syndrome: A systematic review and meta-regression analysis. Clinical endocrinology, 2017; 87(3), 217-230.
17. Christensen, S. B., Black, M. H., Smith, N., Martinez, M. M., Jacobsen, S. J., Porter, A. H., & Koebnick, C. Prevalence of polycystic ovary syndrome in adolescents. Fertility and sterility, 2013; 100(2), 470-477.
18. Behboudi-Gandevani, S., Amiri, M., Bidhendi Yarandi, R., Noroozzadeh, M., Farahmand, M., Rostami Dovom, M., & Ramezani Tehrani, F. The risk of metabolic syndrome in polycystic ovary syndrome: A systematic review and meta-analysis. Clinical endocrinology, 2018; 88(2), 169-184.
19. Jaliseh, H. K., Tehrani, F. R., Behboudi-Gandevani, S., Hosseinpanah, F., Khalili, D., Cheraghi, L., & Azizi, F. Polycystic ovary syndrome is a risk factor for diabetes and prediabetes in middle-aged but not elderly women: a long-term population-based follow-up study. Fertility and sterility, 2017; 108(6), 1078-1084.
20. Nazir F, Tasleem H, Tasleem S, Sher Z, Waheed K. Polycystic ovaries in adolescent girls from Rawalpindi. JPMA-Journal of the Pakistan Medical Association. 2011;61(10):960.
21. Zandi S, Farajzadeh S, Safari H. Prevalence of polycystic ovary syndrome in women with acne: hormone profiles and clinical findings. Journal of Pakistan Association of Dermatology. 2016; 20(4):194-8.
22. Sowmya MA, Fernandes P. Effectiveness of structured teaching programme on knowledge of Polycystic Ovary Syndrome among adolescent girls. Nitte University Journal of Health Science. 2013; 3 (3):54.

DOI Number: 10.37506/ijone.v12i4.11256

Factors affecting Quality of Life (QoL) in Breast Cancer Patients : A Case Study at King George's Medical University, Lucknow

Sanjiv Srivastava[1], Alpana Srivastava[2], Sandeep Tiwari[3]

[1]Research Scholar, Amity Business School, Lucknow, UP, India, [2]Professor, Department of ABS, Amity University, Lucknow, [3]Professor & Head, Department of Trauma Surgery, King Georges Medical University, Lucknow3

Abstract

Globally Cancer is the second leading cause of death and approximately 9.6 million deaths due to cancer in 2018. Approximately about 1 in 6 deaths is due to cancer globally. In low and middle-income countries approximately 70% of deaths are due to cancer. Some common cancers in Indian women are Breast, Cervix, Ovary, Mouth & Esophagus, Colorectal and other cancers. Breast cancer is the commonest cancer among women across the World as well as in India. Although rapid advancement, mammography & screening has increased rate of survival but women who survive continue to face medical, physical, social and psychosocial challenges. Evaluation of quality of life is also important for understanding the effect of treatment and how much different factors affect quality of life of the breast cancer patients.

This paper aims to predict Quality of Life (QoL) in breast cancer patients using various physical, psychological, social and spiritual domains. This descriptive and cross sectional study was undertaken to determine the factors affecting quality of life (QOL) in breast cancer patients. Patient's response and hospital records analyses the dimensions which affects quality of life among breast cancer patients in the state of Uttar Pradesh. Findings suggest strong relationship between clinical and socio-demographical factors and breast cancer patients' QoL. This study demonstrates the strength of the relationship between education and physical well-being, education with social well-being and education with spiritual well-being. A strong relationship was found between marital status and spiritual well being. A strong relationship was found between clinical stage and spiritual well being. A good relationship was found between tumor stage and social and spiritual well being. A strong relationship was also found between type of treatment and physical, psychological and social well being. This study fills a gap in the literature related to QoL in Indian women suffering from carcinoma breast.

Keywords: *Cross-sectional study, QoL, QoL instrument, physical well being, psychological; well being, social well being, spiritual well being, independent t-test, ANOVA analysis.*

Introduction

Breast cancer is the most common type of cancer which affects women worldwide (**World Health Organization, 2012)[14]**. The standard treatment for breast cancer is surgery, followed by different combinations of treatments like chemotherapy, radiotherapy and hormone therapy. Although the rate of survival among breast cancer patients has increased in recent past due to rapid advancements in treatment and mammography screening **(Holleczek B et al, 2011)[9]** the surviving women pass through various medical, physical and psychosocial challenges **(Dizon, 2009)[8].**

Studies on breast cancer survivorship seek to examine a broad area of topics related to cancer diagnosis

Corresponding Author:
Sanjiv Srivastava, M.Sc.
Research Scholar, Amity Business School, Lucknow, UP, India
e-mail-sanjivbanlaxmi@gmail.com
Tel.: 09336530358

and treatment-related outcomes like medical status, late effects of treatment, second cancers and quality of life (QoL) (**Aziz, 2002; Lemieux et al, 2007**)[2,3],. The importance of QoL has been illustrated by studies that evaluated QoL during treatment and found that it can be used to improve the treatment, serve as a prognostic medical factor and predict survival **(Ali Montazeri, 2008; Coates et al, 1997)**[5,6]. Lack of research into QoL among cancer survivors has been proclaimed as a challenge area within academia **(Aziz, 2002)**[2].

Material and Method

Diagnosis of breast cancer and its long term treatment have been shown to have positive and negative effects in recovery and QoL as different interventions have different effects. QoL expresses an overall sense of well-being, happiness and satisfaction with life. It includes subjective evaluations of both positive and negative aspects of life **(CDC, 2000)**.[7]

According to the World Health Organization, QoL is "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns" **(World Health Organization, 1997)**[13]. Hence, focus on quality of life issues and measurement of quality of life among breast cancer patients is a very important area for research **(Ali Montazeri et al, 2008)**[5]

The physical domain includes disease or treatment related body concerns like fatigue and pain, while the functional domain measures the ability to work as affected by the illness. The psychological domain assesses the positive and negative emotional effects including stress, depression and anxiety. The ability to participate in the usual social activities are measured in the social domain, while the spiritual domain examines the existential dimension of the patient's experience. Lastly, the sexual domain assesses the impact of the illness on the intimate life of the patient. Hence, health-related quality of life (HRQoL) seems to cover aspects of overall QoL that can be shown to affect both physical and mental health **(CDC, 2000).**[7]

The socio-ecological context assesses socioeconomic status (income, education and employment), life burden (living situation, neighborhood character and resources, day-to-day strain) and social support (emotional, instrumental, social networks). The cultural context includes ethnicity (region of ancestral origin), ethnic identity (level to which ethnicity and cultural heritage defines self), acculturation (language, choice of media, social network and practices), interconnectivity (quality and pressure of family life and social relationships), world-view (attitudes and beliefs) and spirituality (faith based beliefs and practices). The demographic context includes age, while the healthcare system context includes access to health care (cost, insurance, availability of treatment centers), quality of healthcare (state of the art, satisfaction with care) and quality of physician–survivor relationship (compassion, communication, involvement).

The individual level is measured under general health (disease status and co-morbid illness(es)), cancer-specific medical factors (stage, surgery, chemotherapy, radiation and age at diagnosis), health efficacy (motivation and know-how about health practices, utilization, perceived health efficacy, medical adherence) and psychological well-being (level of functioning as affected by depression, anxiety, stress, self-esteem)

Existing research on QoL of breast cancer survivors has looked into measurement of QoL from a diverse range of focus areas like surgical treatment, systemic therapies, psychological distress, supportive care and common symptoms **(Ali Montazeri et al, 2008)**[5]. Further, research papers have looked into QoL by examining defined subgroups under age, ethnicity, treatment (surgical procedure, adjuvant therapy, breast reconstruction) and time elapsed since diagnostic **(Lemieux et al, 2007)**[3]. While studies have focused on the physical, functional and psychological effects, more research is required in order to examine the economic effects of cancer on the quality-of-life outcomes **(Aziz, 2002)**[2]. As argued by (**Ashing-giwa,2005)**[4]under the contextual model of HRQoL, diverse variables like care-giving and medical care settings need to be taken into consideration (**Rowland et al, 2002)**[1] in order to shed more light on the topic. Furthermore, it is required that factors like socio-economic status, education level be considered, especially in countries like India where a large percentage of women are from rural backgrounds with limited literacy and healthcare access **(Sharma and Purkayastha, 2017).**[11]

Method

This cross-sectional study was conducted at King George's Medical University, Lucknow, UP, India. Data collection was conducted through a structured questionnaire of two portions. The first portion included

demographic, disease and treatment related information and second portion consist of specific questionnaire regarding the quality of life of breast cancer patients.

This is a descriptive study done at King George's Medical University, UP, Lucknow which is situated at capital of U.P. Lucknow, India. A non-probability purposive and convenience sampling was done as the Institute is a tertiary care centre and all types of cancer patients are treated here. Study was conducted between April 2018 and June, 2018. All the patients attending Endocrine Surgery Department and Radiotherapy Department both in OPD and Indoor were included in the study who agreed to participate and gave written consent. Patients who were serious and unable to give a written consent were excluded from the study. Ethical clearance was taken from Institutional ethics committee of KG Medical University, Lucknow.

The data includes patient's demographics, clinical stage, type of treatment etc and entered in a data collection Proforma already designed for the study. The quality of life of patients were assessed using a QoL questionnaire designed by Ferrel's Quality of Life Instrument-Breast Cancer patient version and the instrument is already validated by Ferrel BR et al (2012). The data obtained gives Cronbach alpha value of 0.642 which is reliable enough for further study.

The quality of life instrument (BREAST CANCER PATIENT VERSION) is a forty-six item ordinal scale which measures the quality of life of a breast cancer patient. These questionnaires consist of general well being, psychological well being, distress, fearfulness, social concerns and spiritual well being.

Statistical analysis: Data entry and analysis was performed using SPSS version 25. Before the analysis data was cleaned, accuracy was checked, missing values were filled and categorization and coding of fields were completed. Demographic characteristics (qualitative/ categorical data) were presented as frequencies and percentages and quality of life subscale score (quantitative data) were presented as mean and SD. The mean score for each subscale of the QOL instrument (physical, psychological, social and spiritual subscale) was compared to socio-demographic and clinical characteristics of the patients by ANOVA (Analysis of variance), p-value $\leq .005$ was considered significant.

Findings:

Demographic characteristics of patients: In this study 10.7% respondents were above 60 years age and 54.7% were between 41 and 60. 37.4% were aged less than 40 years. Regarding marital status 96.7% women were married and 2.7% were unmarried. Among all these women 47.3% were illiterate and 14% were merely educated up to primary level. As far as occupation is concerned, 95.3% were housewives and 3.3% were employed as government servant. 74% woman belongs to low income category while 25.3% belongs to middle income group..

Clinical and treatment related characteristics of patients: Cancer staging of all patients were II-A, II-B, III-A, III-B, III-C and stage IV. Among all patients 51.3% patients had stage III-B while Stage IV were 14.7%, Stage IIIA were 12.7 and IIB were 12%. Regarding treatment 90.7% received neo-adjuvant chemotherapy (NACT) while 6% patients received adjuvant chemotherapy.

QOL Item scores: In the physical well-being subscale, highest mean score was observed for menstrual changes or fertility (Mean = 5.41, SD = 2.35) followed by vaginal dryness/menopausal symptoms (Mean = 5.37, SD = 2.32), Weight gain (Mean = 5.28, SD = 2.36). In Psychological well-being subscale highest score was observed for fear of metastasis (Mean = 6.03, SD = 2.58) followed by appearance (Mean = 6.01, SD = 1.53), treatment completion distress (Mean = 5.39, SD = 1.99).In the social well-being subscale, highest score was observed for employment (Mean = 6.73, SD = 2.55) followed by sexuality (Mean = 5.73, SD = 2.27) and support/others (Mean = 5.66,SD = 1.47). The highest score in spiritual well being subscale was observed for spiritual activities (Mean = 6.19, SD = 2.65) followed by religious activities (Mean = 5.95, SD =2.54) and spiritual changes (Mean = 5.89, SD = 2.34).

QOL subscale scores: The spiritual well-being subscale (Mean = 5.32, SD = 2.46) exhibited the highest score followed by social well-being (Mean=4.98, SD=1.94), psychological well-being (Mean=4.95, SD=2.02), physical well-being (Mean = 4.82, SD = 2.19). (T

QOL subscale domain scores in relation to demographic and clinical characteristics of the patients: Age (patients < 40 years had the highest

scores and patients between 41-60 years had the lowest scores).Urban population had higher scores as compared to rural population. Obese (≥30 Kg/m2) had higher scores followed by normal weight (18.4-24.9 Kg/m2). Post-graduates had higher scores followed by higher secondary. Marital status also influences QoL and widows were found to score high. Unemployed had highest scores followed by home maker and for socio-economic status, upper had higher scores followed by middle. Patients with stage-I had highest scores followed by stage-II and surgery has shown highest level of improvement as this treatment type reflects highest scores followed by adjuvant chemotherapy Clinical stage showed significant correlation with social well being and spiritual well-being.

Discussion

This study aims to assess the QoL of Indian women with breast cancer receiving treatment at Endocrine Surgery department at King Georges Medical University, Lucknow, UP, India. The QoL of these women was compared according to their socioeconomic, psychological and clinical characteristics to determine the impact of these factors on their routine lives. Currently assessment of QoL is an essential component of cancer research and clinical trials.

The results of this study showed that the mean score for spiritual well-being (Mean=5.32, SD=2.46) was highest followed by social well-being (Mean=4.98, SD=1.94), psychological well-being (Mean=4.95, SD=2.02), physical well-being (Mean=4.82, SD=2.19). The higher the scores, the worse the quality of life (**Victoria Wochna Loerzel et al, 2008)**[12]

In this study the mean score of the physical well-being showed significant differences with respect of age, marital status and weight/BMI category. Patients who are less than 40 years of age, unmarried and who are Obese (≥30 Kg/m2) have higher scores indicating poorer physical functioning. For the social well-being subscale, the highest score was observed for employment followed by sexuality, social support and personal relationship. Married and unmarried women have shown significantly higher scores for the spiritual well-being indicating their positive approach with spiritual and religious activities as well as positive changes and hopefulness towards their health and recovery. Studies have also shown that spirituality affects the QoL in a positive way by helping to cope the side effects of treatment given and other symptoms of the diseases during treatment like hair-loss, body pain and life threatening aspects and uncertainly about the disease. **Kimberly A Wildes (2009)**[10] reported a positive correlation between spirituality, social and functional well-being.

This study also reported that patients with higher education levels had higher scores and thus poor physical functioning compared to women who are less educated. This study has also shown a positive effect of age on QoL. Items of the physical well-being scale, fatigue and appetite showed the lowest scores and menstrual changes or fertility and vaginal dryness/menopausal symptoms showed higher scores.

Findings of this study cannot be directly compared to other studies for many reasons like cultural differences and the instrument used to assess the QOL of patient (may be the instrument was not developed in Indian scenario). The results of the study can be utilized by health care providers for effective prediction and proper management of breast cancer patients.

Conclusion

QoL was assessed in patients diagnosed with breast cancer who were undergoing treatment and follow-up at different departments like Endocrine Surgery department at King Georges Medical University, Lucknow, UP, India. This study demonstrates the strength of the relationship between clinical and socio-demographical factors and QoL of breast cancer patients'. This study demonstrates the strength of the relationship between education and physical well-being, education with social well-being and education with spiritual well-being. A strong relationship was found between marital status and spiritual well being. A strong relationship was found between clinical stage and spiritual well being. A good relationship was found between tumor stage and social and spiritual well being. A strong relationship was also found between type of treatment and physical, psychological and social well being. This study fills a gap in the literature related to QoL in Indian women suffering from carcinoma breast.

Conflict of Interest: There is no conflict of interest.

Source of Funding: No

Ethical Clearance: Yes

References

1. Rowland AS, Umbach DM, Stallone L, Naftel AJ, Bohlig EM, Sandler DP. Prevalence of medication treatment for attention deficit–hyperactivity disorder among elementary school children in Johnston County, North Carolina. American journal of public health. 2002 Feb;92(2):231-4.
2. Aziz NM. Cancer survivorship research: challenge and opportunity. The Journal of nutrition. 2002 Nov 1;132(11):3494S-503S.
3. Lemieux J, Bordeleau LJ, Goodwin PJ. Medical, psychosocial, and health-related quality of life issues in breast cancer survivors. InCancer survivorship 2007 (pp. 122-144). Springer, New York, NY.
4. Ashing-Giwa KT. The contextual model of HRQoL: A paradigm for expanding the HRQoL framework. Quality of Life Research. 2005 Mar 1;14(2):297-307.
5. Montazeri A, Vahdaninia M, Harirchi I, Ebrahimi M, Khaleghi F, Jarvandi S. Quality of life in patients with breast cancer before and after diagnosis: an eighteen months follow-up study. BMC cancer. 2008 Dec 1;8(1):330.
6. Coates A, Porzsolt F, Osoba D. Quality of life in oncology practice: prognostic value of EORTC QLQ-C30 scores in patients with advanced malignancy. European Journal of Cancer. 1997 Jun 1;33(7):1025-30.
7. Taylor VR. Measuring healthy days; population assessment of health-related quality of life.
8. Dizon DS. Quality of life after breast cancer: survivorship and sexuality. The Breast Journal. 2009 Sep;15(5):500-4.
9. Holleczek B, Arndt V, Stegmaier C, Brenner H. Trends in breast cancer survival in Germany from 1976 to 2008—a period analysis by age and stage. Cancer epidemiology. 2011 Oct 1;35(5):399-406.
10. Wildes KA, Miller AR, de Majors SS, Ramirez AG. The religiosity/spirituality of Latina breast cancer survivors and influence on health-related quality of life. Psycho-Oncology: Journal of the Psychological, Social and Behavioral Dimensions of Cancer. 2009 Aug;18(8):831-40.
11. Sharma N, Purkayastha A. Factors affecting quality of life in breast cancer patients: a descriptive and cross-sectional study with review of literature. Journal of mid-life health. 2017 Apr;8(2):75.
12. Loerzel VW, McNees P, Powel LL, Su X, Meneses K. Quality of life in older women with early-stage breast cancer in the first year of survivorship. In Oncology Nursing Forum 2008 Nov 1 (Vol. 35, No. 6).
13. Graham P, Stevenson J, Flynn D. A new measure of health-related quality of life for children: preliminary findings. Psychology and Health. 1997 Oct 1;12(5):655-65.
14. Youlden DR, Cramb SM, Dunn NA, Muller JM, Pyke CM, Baade PD. The descriptive epidemiology of female breast cancer: an international comparison of screening, incidence, survival and mortality. Cancer epidemiology. 2012 Jun 1;36(3):237-48.

DOI Number: 10.37506/ijone.v12i4.11257

Educational Mission for Effective Vision

Sujitha Jebarose Jebanesy T.[1], Sandhya R.[1], Manickam S.[2]

[1]Assistant Professor, Faculty of Nursing, Dr. M.G.R. Educational and Research Institute, Chennai, Tamilnadu, India, [3]B.Sc. (N) IV Year Candidate, Faculty of Nursing, Dr. M.G.R. Educational and Research Institute, Chennai, Tamilnadu, India

Abstract

Aim and Objective: To examine the knowledge and skill regarding prevention of computer vision syndrome among computer science Students.

Methodology: A quasi experimental pre test post test design was chosen to assess the knowledge and skill regarding prevention of computer vision syndrome among 60 computer science Students at Selected College, Chennai. The samples were selected using simple random sampling (lottery method). Results: The findings of the study showed that the pre test mean for knowledge was 8.41 with a standard deviation of 2.07 and the post test mean for knowledge was 14.93 with a standard deviation of 2.65 and the post test mean for skill was 34 with a standard deviation of 1.96 which indicated that there was statistically high level of significant difference in the post test level of knowledge and skill among computer science Students at $p<0.001$ level.

Conclusion: The study infers that there was a significant improvement in the knowledge and skill regarding prevention of computer vision syndrome among computer science Students after providing IEC cum Demonstration.

Keywords: *Computer vision syndrome, IEC package with Demonstration, Computer Science students.*

Introduction

"Keep Your Eyes Healthy in the Digital World"

Computers have become an essential part of modern human life. Life in today's world would be unimaginable without computers. They have made human lives better and happier. Although computers have become a vital part of human society, they cause a lot of health problems to humans.

Computer vision syndrome [CVS] is the strain on the eyes that happens when you use a computer or digital device for prolonged period of time. Many individuals who work at computer, report a high level of job-related complaints and symptoms, including ocular discomfort, muscular strain and stress. The level of discomfort appears to increase with the amount of computer use. Anyone who has spent a few hours on the computer has probably felt some of the effects of prolonged use of the computer or other digital technology.

The prevalence rate of computer vision syndrome is increased in 20th century. Computer vision syndrome affects the people who spend three hours or more a day at a computer[4]. The **world statistics** explored about **60 million people** are suffering from Computer Vision Syndrome and approximately a million new cases occur every year[3,4]. In **India**, the people using computer is more than **40 million** and 80% of them have discomfort due to CVS[1, 5].

There are many studies in worldwide raising the topic of prevention of computer vision syndrome,

Corresponding Author:
Ms. Sujitha Jebarose Jebanesy T.
M.Sc. (Nursing)., M.B.A., Assistant Professor, Faculty of Nursing, Dr. M.G.R. Educational and Research Institute, Chennai, Tamilnadu, India
Contact No.: 8681979871
e-mail: jebarosesuji@gmail.com

emphasizing on taking steps to control the computer vision syndrome and computer related eye problems.

There are various method available in order to improve the skill and knowledge regarding prevention of computer vision syndrome. IEC and exercise were improving the students' knowledge in a beginning part of their life to avoid complication in future periods.

In our country, usage of computer is increased and the prevalence rate of computer vision syndrome is also getting increased. This motivates the students to choose computer as their carrier. Hence this study had done among Computer Science students to create awareness regarding Computer Vision syndrome in order to prevent it in future

Statement of the Problem: A Quasi Experimental Study to Assess the Effectiveness of Information Education Communication Cum Demonstration on Knowledge and skill regarding Prevention of Computer Vision Syndrome among computer science students at selected College, Chennai.

Objectives:

1. To assess the effectiveness of Information Education Communication cum demonstration on knowledge and skill regarding prevention of Computer Vision Syndrome.
2. To co-relate knowledge and skill regarding prevention of computer vision syndrome.
3. To associate the selected demographic variables with the mean differed level of knowledge and Skill regarding prevention of Computer Vision Syndrome.

Research Hypothesis:

NH_1: There is no significant difference between the pre and post-test level of knowledge and skill regarding prevention of computer vision syndrome among computer science students at $p<0.05$ level.

NH_2: There is no significant association between of the selected demographic variables with the mean differed level of knowledge and skill regarding prevention of computer vision syndrome among computer science students at $p>0.05$ level.

Materials and Method

Research Approach-Quantitative Approach

⇩

Research Design- Quasi Experimental Design

⇩

Independent Variable -Information Education Communication cum demonstration

⇩

Dependent Variable – Knowledge and skill regarding prevention of computer vision syndrome.

⇩

Setting- Selected College, Chennai

⇩

Population – B.Sc.,Computer Science Students studying at Selected College, Chennai

⇩

Sample

↙ ↘

Sample size- 60 B.Sc., Computer Science Students

Sampling Technique- Simple Random sampling(Lottery method)

Sampling Criteria:

1. Age between 17-21 years
2. Students never attended the any class for Knowledge and skill regarding prevention of computer vision syndrome

Instruments Used:

Part I: Demographic Variables: Age, Gender, Year of study, Availability of computer at house, Type of computer used, duration of computer used, Any preventive measure used, Type of lighting used at computer room.

Part II: Structured Knowledge Questionnaire: It consists of 20 self-structured questions to assess the knowledge of computer science students regarding prevention of computer vision syndrome.

Scoring Interpretation:

Score	Level of Knowledge
0-6	Inadequate knowledge
7-13	Moderate knowledge
14-20	Adequate knowledge

Part III: Observational Checklist: It is a 3 point likert scale, consisting of 5 exercises (1. Incessant blinking, 2. 20-20-20 rule, 3. Eye rolling 4. Palming 5. eye breathing exercise) to observe the skills on prevention of computer vision syndrome. It is scored in range from 0-2(0-not done, 1- partially done, 2-done.) Total marks are 36.

Scoring Interpretation:

1. >8	Good practice
2. <8	Poor practice.

Intervention:

1. **Information Education & Communication Package:** It is a lecture cum discussion on Prevention of Computer vision Syndrome, using PowerPoint & pamphlets. This lecture describes the definition, causes, signs of CVS, management & preventive measures of CVS.

2. Demonstration on Exercises to prevent Computer Vision Syndrome: This comprises of the demonstration of five exercises [1. Incessent Blinking, 2.20-20-20 rule, 3. eye rolling, 4. Palming, 5. eye breathing exercise] to prevent Computer Vision Syndrome.

Results

The analysis of **demographic variables** show that majority of the Computer Science students, 46(77%) were in the age group of 18 – 20 years & 43(72%) were Males. In regard to year of study, most of them were 2nd year students 44(73%) & 30(56%) had Computer at home.

The maximum number of students used laptop 38(63%) & most of them 39(65%) used computers for more than 2 hours in a day. The majority of the students 49(82%) did not use any preventive measures & used natural lights 39(65%) while using computer.

1. Effectivesness of iec cum demonstration on the level of knowledge among computer science students

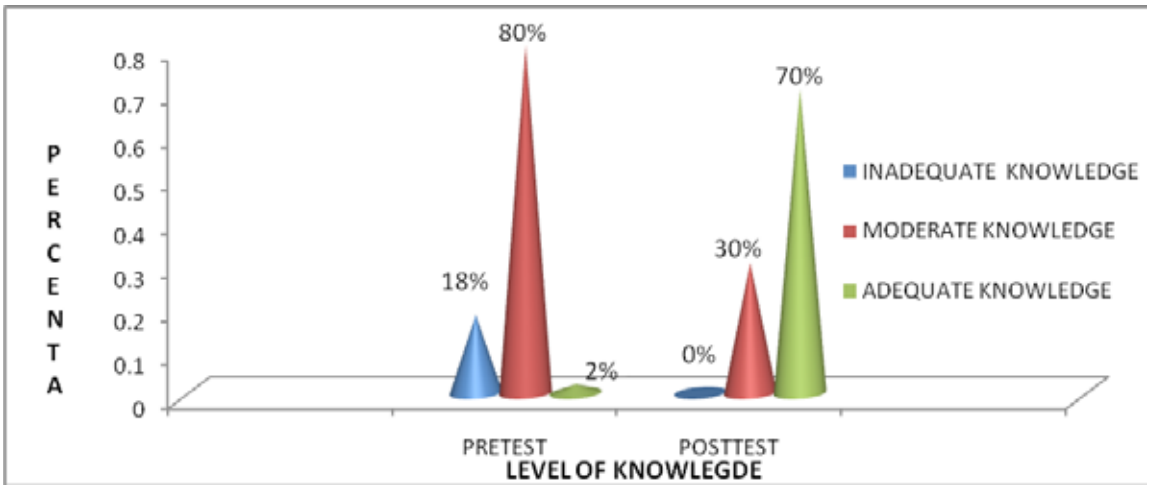


Fig. 1: Percentage distribution Pre & post test level of Knowledge among Computer Science Students N=60

Table 1: Mean & standard Deviation of Pre & post test level of Knowledge among Computer Science Students N=60

Computer vision syndrome	Mean	S.D.	Paired 't' value
Pre test	8.41	2.07	t=3.460* p= 0.001,S
Post test	14.93	2.65	

P<0.001,S-significant

2. Effectivesness of iec cum demonstration on the level of skill among computer science students

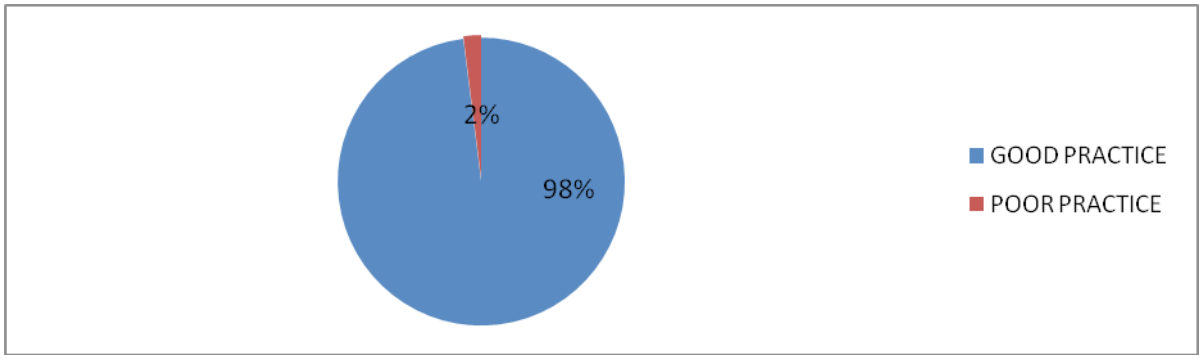


Fig. 2: Percentage distribution of Post test level of Skill among Computer Science Students N=60

Table 2: Mean & standard Deviation of Post test level of Skill among Computer Science Students N=60

Computer vision syndrome	Mean	S.D.
Post test	34	1.96

3. Correlation between post-test level of knowledge and skill regarding prevention of computer vision syndrome among computer science students N=60

Variables	Mean	S.D.	'r' Value
Knowledge	14.93	2.65	'r'= 1 P 0.001, S*
Skill	34	1.96	

***p<0.001, S-Significant

4. Association between the knowledge and skill regarding prevention of computer vision syndrome among computer science students with their selected demographic variables: The analysis showed only the gender and preventive measures while using computer had significant association with the level of skill among the computer science students.

There is no significant association between Knowledge with ny of the Demographic variables.

Discussion

1. Effectiveness of Information Education Communication cum demonstration on knowledge and skill regarding prevention of Computer Vision Syndrome: The findings of Pretest shows 18% had inadequate Knowledge,80% had moderate level of Knowledge and only 2% had adequate level of Knowledge.

The findings of Post test shows improvement in the level of knowledge, about **30%**had **moderate** level of Knowledge and **70%** had **adequate** level of Knowledge.

In regard with skill, the post test shows 98% of the students had Good practice & only 2% had poor Practice**.**

The findings were consistent with a cohort study of **Gupta R, Gour D, Meena M, 2014** conducted for the evaluation of computer vision syndrome

among 330 computer workers before and after the educational intervention for managing CVS at Bhopal. The intervention was able to decrease complaints of computer workers to 46.5%[2].

2. **Co-relation of knowledge and skill regarding prevention of computer vision syndrome:** The calculated correlation value (r=1) between knowledge and skill shows a highly **positive correlation** between post- test knowledge and skill.

The above findings clearly indicate when knowledge increase and skill also increases.

3. **Association of the selected demographic variables with the mean differed level of knowledge and skill regarding prevention of computer vision syndrome:** The analysis showed only the **gender and preventive measures while using computer** had significant association with the level of **skill** among the computer science students.

Conclusion

Computer vision syndrome is a complex of eye or vision problem. About 40% of computer users are developing computer usage related in India. The IEC educational module was proven to increase the awareness of participants and thus in turn has enhanced them to practice the preventive measures to protect their eyes in future.

Source of Support: Nil

Conflict of Interest: None declared

Ethical Clearance: The Ethical Clearance was obtained from institutional ethical review board. The samples were explained about the study purpose and confidentiality was maintained throughout the study

Acknowledgement: We would like to thank the College Principal & participants of this study for their cooperation throughout the study.

Contributors

SJJ & SR: Conceptualization of the study, collection, analysis of the data, writing the manuscript, finalized the manuscript and will act as the guarantor of the paper;

MS: Collection, analysis of the data & writing the manuscript.

References

1. Ayakutty Muni Raja, Siddharam S. Janti, Charanya Chendilnathan, Metheen Adnan. Ocular problems of computer vision syndrome: Review. Journal of Mahatma Gandhi Institute of Medical Sciences. 2015; 20(2): 134-6. 11.
2. Gupta R, Gour D, Meena M. Interventional Cohort Study for evaluation of Computer Vision Syndrome among Computer Workers. International Journal of Medicine Research. 2014. Vol:2(1):40-44. doi:10.17511/ijmrr.2014.i01.009.
3. Logaraj M, Madhupriya V, Hegde SK. Computer Vision Syndrome and Associated Factors Among Medical and Engineering Students in Chennai. Ann Med Health Sci Res. 2014 Mar-Apr; 4(2): 179–185. 10.
4. Sen. A, Richardson S. A study of computer related upper limb discomfort and computer vision syndrome. J Hum Ergol (Tokyo). 2007; 36(2): 45–50.
5. Available from: http://www. ejournalofophthalmology.com/e jo/ejo30a.html.

DOI Number: 10.37506/ijone.v12i4.11258

To Assess the Effectiveness of Planned Teaching on Knowledge Regarding Epilepsy in Children among the Anganwadi Workers

Vaishali Taksande[1], Nilesh Burbare[2], Karishma Chaure[2], Nitisha Deogade[2], Shubham Deshmukh[2], Jayshree Dhole[2]

[1]Prof. Dean (Academies), Faculty of Nursing, DMIMS (DU), Sawangi Meghe, Wardha, Maharashtra, India, [2]Final Year Post Basic B.Bc. Nursing

Abstract

Introduction: Epilepsy is a most common clinical entity in neurology clinics. The prevalence rates of epilepsy in India are similar to those of developed country. However, the large treatment gap is a major challenge to our public health system. Perinatal injuries are a major causative factor in children. There are very few epidemiological studies looking at the incidence of epilepsy from India. A state of Kerala with higher literacy rates better the public health awareness (4.9/1000).[1] a recent rural epilepsy surveillance program from Uttarakhand showed a prevalence rate of two or more meaningless seizures to be 7.5 per 1000.[2] A pediatric study from Kashmir valley shows prevalence rates of 3.74/1000 in males and 3.13/1000 in females.[3] A study conducted in Kolkata's urban population showed an annual incidence rate of 27.27 per 100,000 per year[4] as per a recent study, 70 million people have epilepsy worldwide and nearly 90% of them are found in developing regions. [1] The study also estimated a median prevalence of 1.54% (0.48-4.96%) for rural and 1.03% (0.28-3.8%) for urban studies in developing countries.[5]

Aims: The aim of the study is assess the effectiveness of planned teaching on knowledge regarding the epilepsy in children's among the Anganwadi female workers in selected Anganwadi.

Material and Method: The Descriptive evaluator approach was used in this study and the sampling technique was non probability convenient sampling was used. Data was collected using self structured knowledge questionnaire and sample size was 110 Anganwadi female workers.

Result: Study shows that pretest knowledge of anganwadi female worker3(2.73%)had poor level of knowledge score,58(52.73%)had average level of knowledge,45(40.9%)had good knowledge and no one was in excellent knowledge score, whereas in post test 65(59.09% had very good knowledge score and 23(20.91%)had excellent knowledge score.

Conclusion: Even though epilepsy is an eminently preventable and treatable condition, it still remains a major public health problem due to high stigma, wide socioeconomic inequity, huge treatment gap and the poor epilepsy healthcare delivery system in India. It is clearly evident that epilepsy is a complex public health problem that requires integrated multidisciplinary approach. Neurologists, public health professionals, psychiatrists, psychiatric social worker, psychiatric nurse and program managers need to join hands for prevention, improved care and rehabilitation of persons with epilepsy in India.

Keywords: *Planned teaching, Epilepsy, female workers, Anganwadi and knowledge.*

Introduction

Epilepsy is one of the most frequent chronic disorders of childhood**.** The term epilepsy derivers from Greek word 'Epilamabavian' which means **to take hold of** or to seize. As per WHO intimates that 3-10 per 1000 of total world population have epilepsy.[6] As a children

are growing age spend most of the time in school and in school having frequent attach of seizer, large doses of antiepileptic drugs will interference of leaning of the child.[7] The prevalence rates of epilepsy in India are similar to those of developed country. However, the large treatment gap is a major challenge to our public health system. Perinatal injuries are a major causative factor in children. There are very few epidemiological studies looking at the incidence of epilepsy from India. A state of Kerala with higher literacy rates better the public health awareness (4.9/1000).[1] a recent rural epilepsy surveillance program from Uttarakhand showed a prevalence rate of two or more meaningless seizures to be 7.5 per 1000.[2] A pediatric study from Kashmir valley shows prevalence rates of 3.74/1000 in males and 3.13/1000 in females.[3] A study conducted in Kolkata's urban population showed an annual incidence rate of 27.27 per 100,000 per year.[4] as per a recent study, 70 million people have epilepsy worldwide and nearly 90% of them are found in developing regions. [1] The study also estimated a median prevalence of 1.54% (0.48-4.96%) for rural and 1.03% (0.28-3.8%) for urban studies in developing countries.[5]

Aims: Aims of the study is to assess the effectiveness of planned teaching on knowledge regarding the epilepsy in children's among the Anganwadi workers in selected

Objectives: To assess the existing knowledge regarding epilepsy in children's among the Anganwadi female workers in selected Anganwadi.

1. To assess the effectiveness of planned teaching on knowledge regarding epilepsy in children's among the Anganwadi female workers in selected Anganwadi.
2. To find out association between knowledge score with selected demographic variable.

Material and Method

The Descriptive evaluator approach was used in this study and the sampling technique was non probability convenient sampling was used. Data was collected using self structured knowledge questionnaire and sample size was 110 Anganwadi female workers. Inclusion criteria were those who are willing to participated in the study and available during the data collection and exclusion criteria are Anganwadi female worker those who are attended same type of planned teaching before 6 months and those who are experience less than 6 month. The investigator visited selected Anganwadi in advance and obtained the necessary permission from the concerned authorities. Based on the objectives and the hypothesis the data were analyzed by using various statistical tests.

Result

The percentage wise distribution Anganwadi female workers with regards to their demographic characteristics. The data obtained to describe the sample characteristics including age, educational level, experiences in year and monthly family income.

Table No. 1: Percentage wise Distribution according to Anganwadi female workers demographical variables. n = 110

Demographic Variables	No of ASHA workers	Percentage (%)
Age in years		
20-30	9	8.2
31-40	32	29.1
41-50	42	38.2
51-60	27	24.5
Educational Level		
Primary school	8	7.3
High school	78	70.9
Graduation	18	16.4
Post Graduation	6	5.5
Experience in Years		
1-5 years	7	6.4
6-10 years	34	30.9
11-15year	12	10.9
>15 years	57	51.8
Monthly Family Income(Rs)		
Below 5000	48	43.6
5000-10000/	21	19.1
10001-15000/	8	7.3
>15000/	33	30

In the present study it was found that out of 110 Anganwadi female worker Majority of 9(8.20%) of the Anganwadi female workers were in the age group of 20-30 years, 32(29.10%) in the age group of 31-40 years,42 (38.20%) in the age group of 41-50 years and 27(24.5%) were in the age group of 51-60 years. Anganwadi Female Workers according to their Education 8(7.30%) of the Anganwadi female workers were educated upto primary school, 78(70.90%) were educated upto high

school, 18(16.40%) upto graduates and 6(5.50%) were postgraduates. Anganwadi Female Workers according to their experience 7(6.40%) of the Anganwadi female workers were having working experience of 1-5 years, 34(30.90%) had experience of 6-10 years, 12(10.90%) had 11-15 years and 57(51.80%) had experience of more than 15 years. Anganwadi Female Workers according to their Income (Rs) 48(43.60%) of Anganwadi female workers had monthly family income of below 5000 Rs, 21(19.10%) between 5000-10000 Rs, 8(7.30%) between 10000-15000 Rs and 33(30%) had monthly family income of Rs. More than 15000 Rs respectively.

Table 4: Difference between knowledge score in pretest and post test of Anganwadi female workers.

Overall	Mean	SD	Mean difference	t-value	p-value
Pre test	11.17	3.03	7.67±3.44	23.35	0.0001 S, p,0.05
Post test	18.84	2.82			

The above table shows that the effectiveness of planned teaching on knowledge regarding epilepsy in children's among the Anganwadi female workers and the finding were in pretest and post test knowledge scores of Anganwadi Female workers regarding epilepsy in children. Pre test Mean 11.17 and post test mean are 18.84 effectiveness and student's paired 't' test is applied at 5% level of significance. The tabulated value for n=110-1 i.e 109 degrees of freedom was 1.98. The calculated 't' value i.e. 23.35 are much higher than the tabulated value at 5% level of significance for overall knowledge score of Anganwadi female workers which was statistically acceptable level of significance. Hence it is statistically interpreted that the planned teaching programme on overall knowledge regarding epilepsy in children among Anganwadi female workers in selected Anganwadi was effective. Thus the H_1 is accepted.

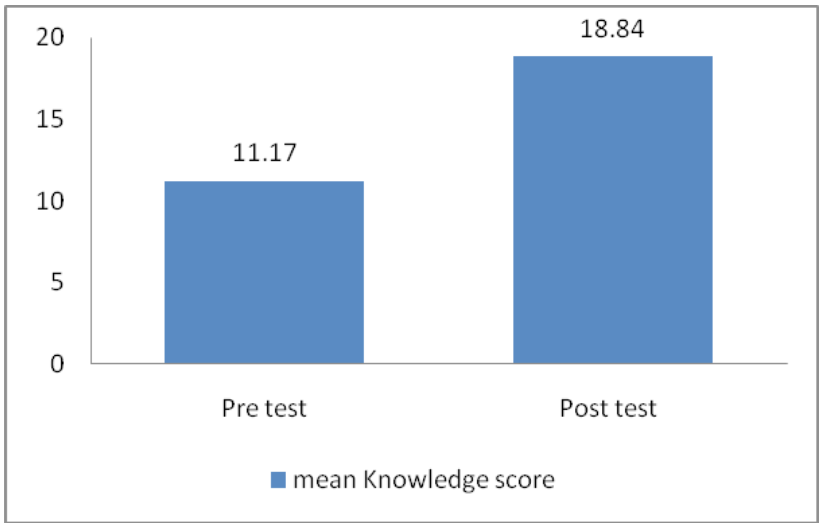


Fig. No. 1: Significance difference between the pre and post test knowledge score

There is no significance association between knowledge score with selected demographic variable such as age, education, experience and monthly income.

Discussion

In this present study majority of 9(8.20%) of the anganwadi female workers were in the age group of 20-30 years, 32(29.10%) in the age group of 31-40 years, 42 (38.20%) in the age group of 41-50 years and 27(24.5%) were in the age group of 51-60 years. Similar study which was conducted in to assess the effect of health educational program on knowledge about epilepsy and its management among primary schools teachers by **Magda Aly Mohamed and Omaima Elalem** and the finding was the majority 27(18.9%)were age group in 20-30 years, 69(48.3%) in the age group of 31-40 years, 38(26.6%) in the age group of 41-50 years and 9(6.3%) in the age group of 51-60 years.[8]

In our study finding Anganwadi female worker had heard about epilepsy with 47(49%) of them linking epilepsy to a central nervous system disturbance and some anganwadi female worker thought that epilepsy was black magic 18(21%), evil spirit 28(25%),a curse 17(20%)[8]

In this study shows that pre test knowledge of Anganwadi female worker 3(2.73%) had poor level of knowledge score, 58(52.73%) had average knowledge score,45(40.9%) had good knowledge score, 4(3.69%) had very good knowledge score and 0(0%) had excellent knowledge score. Minimum knowledge score in pretest was 3 and maximum knowledge score in pretest was 20. Mean knowledge score in pretest was 11.17±3.06 and mean percentage of knowledge score in pre test was 41.38±11.33 and post test 0(0%) had poor level of knowledge score,1(0.91) average knowledge score,21(19.09%) had good knowledge score,65(59.09%) had very good knowledge score and 23(20.91%) had excellent knowledge score. Minimum knowledge score in post test was 10 and maximum knowledge score in post test it was 25. Mean knowledge score in post test it was 18.84±2.82 and mean percentage of knowledge score in post test it was 69.79±10.46 similar study done to assess the effectiveness of planned teaching program on knowledge regarding epilepsy and its management among the teachers working in the selected primary schools of Belgaum, Karnataka in 2013 in that pretest majority of subject 37(74%)had average knowledge, 9(18%) had good knowledge and 4(8% had poor knowledge whereas in post test majority of subjects 50(100%) had good knowledge.[9] therefore the planned teaching program on epilepsy in effective to improve the knowledge of the subjects.

Recommendation: On the basis of the study that had been conducted, certain recommendations are given for future studies.

1. A study can be done to compare the knowledge on management of epilepsy in school children among rural and urban primary school teachers.
2. A study can be done to assess the knowledge, practice and attitude regarding management of epilepsy in school children among teachers.
3. A study to evaluate a Video assisted teaching among primary school teachers regarding on management of epilepsy in school children.

Conclusion

Even though epilepsy is an eminently preventable and treatable condition, it still remains a major public health problem due to high stigma, wide socioeconomic inequity, huge treatment gap and the poor epilepsy healthcare delivery system in India. In the anganwadi mainly anganwadi female workers may be the first adult to witness a child having a convulsion. Each and every child's behavior will vary according to the type of convulsion; therefore the anganwadi female workers should have the basic knowledge about the management of convulsion to provide first and foremost care to the child to save its life.

Conflict of Interest: Nil

Source of Funding: Self

Ethical Clearance: Ref no DMIMS (DU)/ IEC/2017-18/6975 dated 05/01/2018.

References

1. Radhakrishnan K, Pandian JD, Santhoshkumar T, Thomas SV, Deetha TD, Sarma PS, et al. Prevalence, knowledge, attitude and practice of epilepsy in Kerala, South India. Epilepsia. 2000;41:1027–35. [PubMed] [Google Scholar]
2. Goel D, Agarwal A, Dhanai JS, Semval VD, Mehrotra V, Saxena V, et al. Comprehensive rural epilepsy surveillance programme in Uttarakhand state of India. Neurol India. 2009;57:355–6. [PubMed] [Google Scholar]
3. Shah PA, Shapoo SF, Koul RK, Khan MA. Prevalence of epilepsy in school-going children (6-18 years) in Kashmir Valley of North-west India. J Indian Med Assoc. 2009;107:216–8. [PubMed] [Google Scholar]
4. Banerjee TK, Ray BK, Das SK, Hazra A, Ghosal MK, Chaudhuri A, et al. A longitudinal study of epilepsy in Kolkata, India. Epilepsia. 2010;51:2384–91. [PubMed] [Google Scholar]
5. Ngugi AK, Bottomley C, Kleinschmidt I, Sander JW, Newton CR. Estimation of the burden of active and life-time epilepsy: A meta-analytic approach. Epilepsia. 2010;51:883–90. [PMC free article] [PubMed] [Google Scholar]
6. Epilepsy; 2007: http://www.epilepsy.com

7. Vinayan KP. Epilepsy, antiepileptic drugs and educational problems. India paediatric, 2006:43786-794.
8. Magda Aly Mohamed & Omaima Mohamed Elalem Effect of Health Educational Program on Knowledge About Epilepsy and its Management Among Primary Schools Teachers. International Journal of Advanced Research (2015), Volume 3, Issue 11, 221- 227.
9. Malur, Kolar, Karnataka Shrikant Desai 1, Prabhuswami Hiremath 2, Prakash Naregal, A Study To Assess The Effectiveness Of Planned Teaching Programme On Knowledge Regarding Epilepsy Management In School Children Among Primary School Teachers Working In Selected Primary Schools; IJHSR Vol. 5; Issue: 8; August 2015 page no 417-422.

DOI Number: 10.37506/ijone.v12i4.11259

Factors Affecting the Success of Psychiatric Nurses in Conducting Risk Assessment of Violence Behavior

Wahyu Yuniati[1], Kuswantoro Rusca Putra[2], Dhelya Widasmara[2]

[1]Magister Students of Brawijaya University, Medical Faculty, Malang, Indonesia,
[2]Lecture of Brawijaya University, Medical Faculty, Malang, Indonesia

Abstract

Background: Patient violence behavior in psychiatric services is a challenge for health care providers. Violence behavior can affect patients themselves, other patients and staff including nurses and affect the quality of service. Psychriatic nurses can play roles in conducting risk assessment of violence behaviors to reduce impact and make appropriate decisions.

Purpose: This systematic review aims to find out the factors that influence the success of psychiatric nurses in conducting risk assessment of violence behavior.

Method: This systematic review begins with making questions by the PICO method, identification, eligibility, article inclusion criteria selection, screening and appraisal. Search articles through the database of Science Direct, Pubmed and Ebsco with a time span from 2009-2019. And continue with PRISMA flow diagram and JBI critique tool up to get 13 articles that relevant to be analyzed be systematic review.

Result and Discussion: Reviews are carried out on articles that fit the inclusion criteria. Factors that influence the success of psychiatric nurses in conducting risk assessment of violence behavior are training and continuing education, self-confidence, understanding early warning signs/alert systems, understanding the causes of violence and the use of violence risk assessment tools) such as the Brøset Violence Checklist (BVC) and Dynamic Appraisal of situational Aggression (DASA)

Conclusion: Psychiatric nurses still need continuing education and training in understanding the early signs of a patient's violence behavior and the use of assistive devices in the form of risk assessment of violence behavior to increase the confidence of nurses and assist in making appropriate decisions.

Keywords: *Factors, psychiatric nurses, risk assessment, violence.*

Introduction

Violence behavior in patients with mental disorders has become common. Violence behavior includes physical violence, verbal violence that endangers and even harms others[(1)]. At least 17% of patients treated have had violence behavior[(2)].

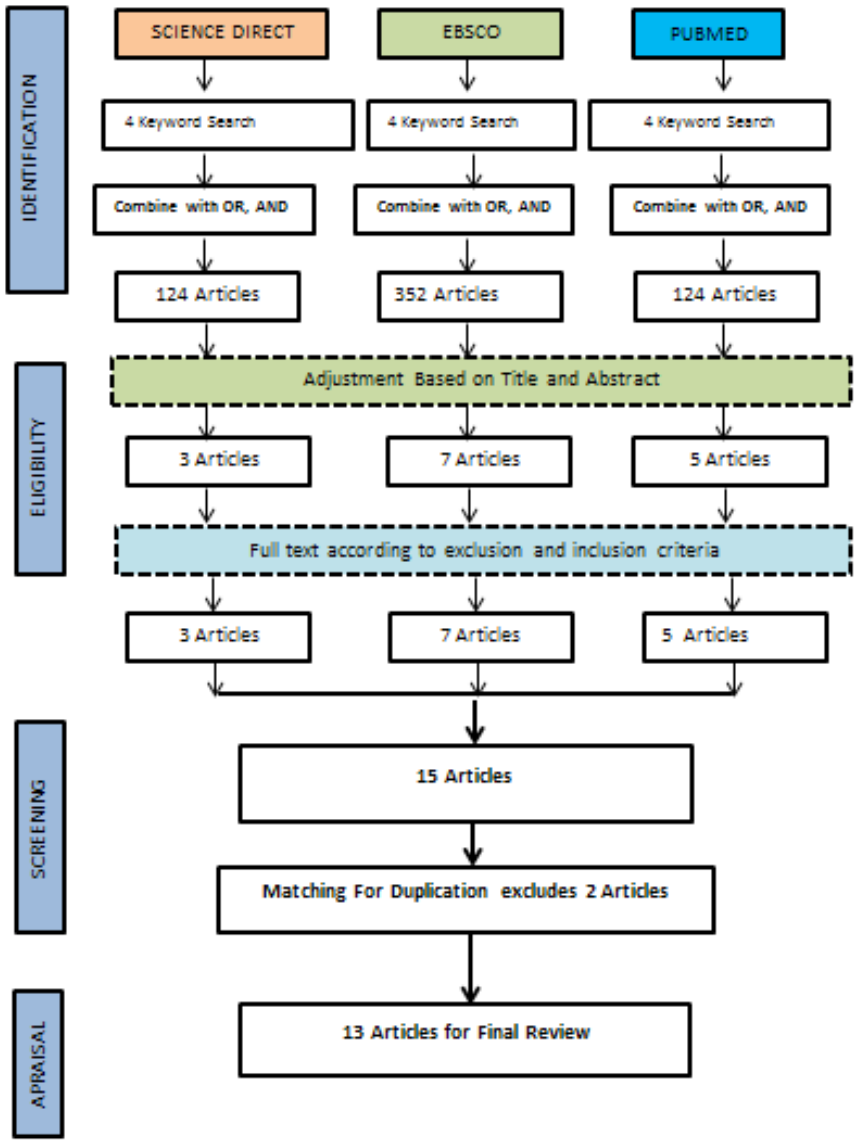
Violence behavior impacts both the patient and others. Direct impact on the physical and psychological patient and staff[(3)], the consequences of financing[(4)], extending Length of Stay (LOS)[(5)] and influencing quality nursing provided by nurses to patients[(6),(1)]. Patients who experience violence from other patients can experience pain, injury and even worsening trauma conditions if the patient is a patient with Post Traumatic Stress Disorder (PTSD)[(4)].

Nurses are staff in care rooms that play a role in conducting risk assessment of violence behavior. Lack of awareness in detecting early and managing effectively is still a factor in inhibiting handling that is not fast[(4)]. Nurses often ignore early warning signs of violence behavior[(7)]. As early as possible, conducting an appropriate structured risk assessment is expected to reduce violence behavior. This systematic review aims to find out the factors that influence the success of psychiatric nurses in conducting risk assessment of violence behavior.

Method

This systematic review begins with making questions by the PICO method, identification, eligibility, article inclusion criteria selection, screening and appraisal. Literature search aims to find articles that have been published in 3 databases, namely Science Direct, Proquest and Ebsco from 2009-2019. The search strategy uses several keywords: “psychiatric”, “nurse”, “risk assessment”, “violence”, combined with AND. The article will be included if the article describes the factors that influence the success of psychiatric nurses in conducting risk assessment of violence behavior. Articles in English. The article will be excluded if the article is a letter to editor, the contents of the article are not factoring that influence the success of psychiatric nurses in conducting risk assessment of violence behavior. Screening and selection of articles based on inclusions and exclusions determined by the author.

In the search process, it was found 124 article titles on Science Direct, 352 on Ebsco and 124 on Pubmed. Then adjust the title and abstract obtained 15 articles. Articles that meet the inclusion and exclusion criteria are 15 articles, 5 articles in Pubmed, 3 articles in Science Direct and 7 articles in Ebsco. The screening process to find out the duplication results obtained there are duplication of 2 articles so they must be excluded. At the end of the stage, 13 articles were left for review. The search results and article selection are summarized in a diagram adapted from Preferred Reporting Items for Systematic reviews and Meta-Analyzes (PRISMA) are presented in Table 1. Search Framework



Result and Discussion

From the review of the article it can be concluded that several factors can influence the success of psychiatric nurses in conducting conducting risk assessment of violence behavior in patients, namely:

a. **Sustainability training and education:** In conducting risk assessment for risk management of violence behavior, mental nurses still need adequate training and education aspects. The majority of respondents (98%) stated the need for continuing education and training on policies, procedures, processes, strategies and skills in conducting risk assessments and managing risks[8]. Another study, continuing education about the use of risk assessment tools is needed to show their use is compatible with therapy[9]. With the basic training of psychiatric nurses, one of the benefits of competency being felt was one of risk assessment of violence behavior ($p = 0.004$) as well as suicide and self-harm[10]. Continuing training and education are needed to improve the ability of nurses to make conducting risk assessment. Nurses as key agents in patient care. Knowledge and confidence aspects in managing risk and involving family play an important role[8]. In Malaysia, basic training for psychiatric nurses performing psychiatric services with competencies taught is assessment skills, risk assessment, therapeutic relationship skills, psychosocial interventions, medication management and clinical leadership skills[10].

b. **Confidence:** Nurses need confidence in making conducting risk assessment of violence behavior. Nurses who have good self-confidence can conduct risk assessments and better risk management[8]. In line with the results of another research that nurses with good confidence can make responsible decisions related to risk management[9]. Nurses are more confident in dealing with aggressive behavior after understanding the patient's warning signs[11]. Nurses who have done basic training for mental nurses also affect nurses' confidence [10]. Nurses review, monitor and document improvement in behavior within 24 hours during treatment [12] .

c. **Understanding early warning signs/alert systems:** Mental nurses as officers who are always with patients have sensitivity when there is an increase in patient behavior. The results of research, the implementation of the Alert System is important to increase awareness and communication around the risk of patient violence in psychiatric nurses[13]. In addition, research from the forensic service that introduces the FESAI (Forensic Early Warning Signs of Aggression Inventory) consists of 44 initial warning signs and 15 main categories. FESAI can assist nurses in recognizing early signs of violence behavior in patients. Understanding and awareness of the causes of violence behavior and signs that appear are key in handling patients with a patient-focused approach [14]. Nurses need more comprehensive observation skills related to interpreting signs or triggers of violence (sign and triggers) [15]. Nurses implement an Alert (risk assessment) System important to increase awareness and communication around the risk of patient violence [13].

d. **Understanding the factors that cause violence:** Understanding the factors that cause violence can help nurses make conducting risk assessment of violence behavior in patients. The determinants of violence behavior include female sex, diagnosis of personality disorders, disorders due to substance abuse[16]. Other factors described in the study are patients with psychological disorders and poor social skills, male gender, non-western ancestry, age less than 35 years old, unmarried and have personality disorders associated with acts of exile due to violence behavior[17]. Understanding of risk factors for violence behavior is an important step to improve predictions and take preventative actions[3]. Diagnosis of patients who most often experience violent behavior is psychopathy [18]; schizophrenia as much as 48.8%, bipolar beads [19]; schizophrenia and delusions as much as 55.1%, personality disorders, acute psychosis[20]; substance abuse[16].

e. **Use of violence risk assessment tools:** Mental nurses in carrying out the assessment function can use tools to assess the risk of violence (violence risk assessment). Risk assessment and safety planning (risk assessment and safety planning) become a central component in mental health services[8]. In future research, hope to minimize the number of practitioners who believe that intuition is superior to a structured approach (clinical knowledge, research evidence and available tools)[9]. Nurses can use an accurate and reliable risk assessment tool[21]. Violence risk assessment tools help identify the risk of violence behavior of patients so that prevention can be carried out[22]. The role of nurses in psychiatric

services are comprehensive, namely risk assessment and management, violence and aggression management, therapeutic relationships,medical knowledge, psychopharmacology and crisis escalation[23]. Broad definition of risk is the possibility of danger to yourself or others or serious unwanted events. Risk assessment is the process of measuring whether this will happen. Risk management is a process or intervention to assist clients in reducing risk[24].

Risk assessment (risk assessment)is a strategy that can be used to reduce the occurrence of aggressive behavior[25],[26] and life-saving for patients and the people around him[22]. In line with research that nurses play a role in conducting a structured risk assessment in the prevention of violence behavior[5]. This is an important step to improve predictions and take preventative measures[3].

Nurses involved in research and filling out risk assessment tools are illustrated in two tools, the Brøset Violence Checklist (BVC) and DASA that can be performed in an acute room[21]. In immediate prediction time, BVC and DASA have been proven to be easy to use, fast and within 24 hours able to predict the occurrence of violence behavior to help nurses in assessing the risk of violence behavior patients[21],[22].

DASA consists of seven assessments using dynamic factors and can help nurses by encouraging violent prevention interventions when the level of risk increases[27]. DASA is accurate as a predictor of violence in hospitalization. DASA with Area Under Curve (AUC) in the range 0.84 (verbal aggression against others) to 0.93 (physical violence to others) [26]. The DASA total score shows the prediction accuracy for violence in others and seclusion with restrain but less in violence against objects .Nurses say DASA is very useful in their practice [28]. DASA psychometric results are quite good in predicting violent behavior [16]. BVC is a strong predictor of violence. BVC consists of six assessments using dynamic factors and is very appropriate to be used on the first day of hospital admission[29]. For the standard cut-off point 3, specificity is 0.997 and sensitivity is 0.656. BVC shows satisfying specifications and sensitivity as predictors of the risk of short-term violence against staff and others by patients in forensic services[30].

Conclusion

Psychiatric nurses can make conducting risk assessment of violence behavior that is influenced by several factors including training and continuing education, confidence, understanding early warning signs/alert systems, understanding the causes of violence and using violence risk assessment tools (violence risk assessment). Psychiatric nurses still need continuing education and training in understanding the early signs of a patient's violence behavior and the use of assistive devices in the form of risk assessment of violence behavior to increase nurses' self-confidence and assist in making appropriate decisions.

Ethical Clearance: This article has been approved by the Medical faculty of Brawijaya University.

Source of Funding: Self founding

Conflict of Interest: Nil

Reference

1. Harwood R. How to deal with violent and aggressive patients in acute medical settings. J ournal R Coll Physicians Edinburgh. 2017;47(2):176–82.
2. Iozzino L, Ferrari C, Large M, Nielssen O, De G. Prevalence and Risk Factors of Violence by Psychiatric Acute Inpatients : A Systematic Review and Meta-Analysis. PLoS One [Internet]. 2015;10(6). Available from: http://dx.doi.org/10.1371/journal.pone.0128536
3. Papadopoulos, Ross J, Stewart D, Dack C, James K, L B. The antecedents of violence and aggression within psychiatric in-patient settings. Acta Psychiatr Scand. 2012;125:425–39.
4. Hankin CS, Bronstone A, Koran LM. Agitation in the Inpatient Psychiatric Setting : A Review of Clinical Presentation, Burden and Treatment. J Psychiatr Pract. 2011;17(3):170–85.
5. Sarver WL, Radziewicz R, Coyne G, Colon K, Mantz L. Implementation of the Brøset Violence Checklist on an Acute Psychiatric Unit. J Am Psychiatr Nurses Assoc. 2019;1–11.
6. Hegney D, Tuckett A, Parker D, Eley RM. Workplace violence : Differences in perceptions of nursing work between those exposed and those not exposed: A cross-sector analysis. Int J Nurs Pract. 2010;16:188–202.

7. Yang C, Hsieh W, Lee L, Chen S. Assault experiences : Lessons learned from mental health nurses in Taiwan. Int J Ment Health Nurs. 2016;25:225–33.
8. Higgins A, Doyle L, Downes C, Morrissey J, Costello P, Brennan M, et al. There is more to risk and safety planning than dramatic risks : Mental health nurses ' risk assessment and safety-management practice. Int J Ment Health Nurs. 2016;25:159–70.
9. Downes C, Morrissey J, Gill A, Doyle L, Higgins A, Mental A, et al. Survey of mental health nurses ' attitudes towards risk assessment, risk assessment tools and positive risk. J Psychiatr Ment Health Nurs. 2016;23:188–97.
10. Oranye NO, Arumugam U, Ahmad N, Marian E. Perceived training needs of nurses working with mentally ill patients. Contemp Nurse. 2016;6178.
11. Fuente M De, Foresman-capuzzi J, Schoenfisch A, Wadsworth B. Impact of Behavior Management Training on Nurses ' Confidence in Managing Patient Aggression. J Nurs Adm. 2019;49(2):73–8.
12. Marques MI, Bessa A, Santos L, Carvalho S, Neves G. Assessment of the Risk of Violence in Portuguese Psychiatric Settings Using the Brøset Violence Checklist. Sociol Study. 2015;5(5):360–70.
13. Kling RN, Yassi A, Smailes E, Lovato CY, Koehoorn M. Evaluation of a violence risk assessment system (the Alert System) for reducing violence in an acute hospital : A before and after study. Int J Nurs Stud [Internet]. 2011;48(5):534–9. Available from: http://dx.doi.org/10.1016/j.ijnurstu.2010.10.006
14. American Psychiatric Nurses Association (APNA). Violence Prevention [Internet]. APNA Board of Directors. 2016 [cited 2019 Oct 18]. Available from: https://www.apna.org/m/pages.cfm?pageID=6081
15. Lantta T, Anttila M, Kontio R, Adams CE, Välimäki M. Violent events, ward climate and ideas for violence prevention among nurses in psychiatric wards : a focus group study. Int J Ment Health Syst. 2016;10(27):1–10.
16. Chan O, Chow KK. Assessment and determinants of aggression in a forensic psychiatric institution in Hong Kong, China. Psychiatry Res [Internet]. 2014;220(1–2):623–30. Available from: http://dx.doi.org/10.1016/j.psychres.2014.08.008
17. Sande R Van De, Noorthoorn E, Wierdsma A, Hellendoorn E, Staak C Van Der, Mulder CL, et al. Association between short-term structured risk assessment outcomes and seclusion. Int J Ment Health Nurs. 2013;22:475–84.
18. Beaudoin M, Potvin S, Dellazizzo L, Luigi M, Giguère C, Dumais A. Trajectories of Dynamic Risk Factors as Predictors of Violence and Criminality in Patients Discharged From Mental Health Services : A Longitudinal Study Using Growth Mixture Modeling. Front Psychiatry. 2019;10(May):1–13.
19. Amoo G, Fatoye FO. Aggressive Behaviour and Mental Illness : A Study of In-Patient at Aro Neurpsychiatric Hospital, Abeokuta. Niger J Clin Pract. 2010;13(3):351–5.
20. Salzmann-erikson M, Yifter L. Risk Factors and Triggers That May Result in Patient-Initiated Violence on Inpatient Psychiatric Units : An Integrative Review. Clin Nurs Res. 2019;1–38.
21. Ghosh M, Twigg D, Kutzer Y, Towell-barnard A, Dodds M, De G. The validity and utility of violence risk assessment tools to predict patient violence in acute care settings : An integrative literature review. Int J Ment Health Nurs. 2019;
22. Anderson KK, Jenson CE. Violence risk – assessment screening tools for acute care mental health settings : Literature review. Arch Psychiatr Nurs [Internet]. 2018;1–8. Available from: https://doi.org/10.1016/j.apnu.2018.08.012
23. Lyons T. Role of the forensic psychiatric nurse. J Forensic Nurs. 2009;5:53–7.
24. Woods P. Risk assessment and management approaches on mental health units. J Psychiatr Ment Heal Nursing,. 2013;20:807–13.
25. Gaynes BN, Brown CL, Lux LJ, Brownley KA, Dorn RA Van, Edlund MJ, et al. Preventing and De-escalating Aggressive Behavior Among Adult Psychiatric Patients : A Systematic Review of the Evidence. Psychiatr Serv. 2017;(11):819–31.
26. Lantta T, Daffern M, Kontio R, Va¨lima¨ki M. Implementing the Dynamic Appraisal of Situational Aggression in Mental Health Units. Clin Nurse Spec. 2015;
27. Maguire T, Daffern M, Bowe SJ, Mckenna B. Predicting aggressive behaviour in acute forensic mental health units : A re-examination of the dynamic appraisal of situational aggression's

predictive validity. Int J Ment Health Nurs. 2017;26:472–81.

28. Dumais A, Larue C. Predictive Validity and Psychiatric Nursing Staff ' s Perception of the Clinical Usefulness of the French Version of the Dynamic Appraisal of Situational Aggression. Issues Ment Health Nurs. 2012;33:670–5.
29. Almvik R. Assessing the risk of violence in a psychiatric clinic : the Brøset Violence Checklist (BVC) Turkish version — validity and reliability study. 2018;(November):1–8.
30. Hvidhjelm J, Sestoft D, Skovgaard LT. Sensitivity and specifi city of the Br ø set Violence Checklist as predictor of violence in forensic psychiatry. Nord J Psychiatry. 2014;68(8):536–42.

DOI Number: 10.37506/ijone.v12i4.11260

Perceived Level of Preparation for Nursing Internship

Abeer Mohamed Abdelkader[1], Rowena Abundo[2], Gremma Baratas[2]

[1]Assistant Professor, College of Applied Medical Sciences/King Faisal University,
[2]Lecturer, College of Applied Medical Sciences, King Faisal University

Abstract

Background: Internship programs have increased in number and popularity in the past decade. It was designed to assist in the transition period of nursing graduates and providing the necessary specialized training to work in various specialty. Nursing programs assure the basics of a comprehensive knowledge that support novice students to get ready to practice in different workplace.

Purpose: The study aimed to identify perceived level of preparation for nursing internship.

Method: A descriptive exploratory research design was employed with the sample of 121 nurse interns and Clinical preparation requirements Electronic survey utilized for data collection.

Result: Majority of the respondents gave their highest percentage for educational preparation requirements with Teaching & Information Giving, Psychomotor Skills and Communications Skills (79.70%, 78.82% and 76.92% respectively). Also, regarding nursing process the results revealed that the respondents indicated their highest percentage with evaluation and intervention steps (76.03 and 75.7% respectively)

Conclusion: The respondents perceived that all educational preparation requirement described in the current study were essential/very important for their preparation for practice during internship training and for developing their clinical competencies.

Keywords: *Clinical Experience; Educational Preparation; Nurse; Internship.*

Introduction

Internship programs have increased in number and popularity in the past decade. It was designed to assist in the transition period of nursing graduates and providing the necessary specialized training to work in various specialty. Nursing programs assure the basics of a comprehensive knowledge that support novice students to get ready to practice in different workplace.[1]

Nursing education aims to guide nursing students into becoming beginner nursing practitioners. During the training period, these beginner practitioners are expected to changeover into a clinical work environment promptly, and are adept at providing safe care for patients requiring complex care.[2] Since nursing is a blended profession on application of theory and practice as its core foundation, the quality of nursing education is dependent upon the quality of clinical experience provided to nursing students in the clinical setting.[3,4]

Intern period is well known as "a short-lived experience of practical work in a specific field which serves as a future career path of students which they receive through training and acquire indispensable job experience of their chosen field of interest".[5,6] Internships can deepen students' problem-solving skills, ameliorate their commitment to their selected professional advancement which eventually promote suitable opportune to learn and secure the necessary empirical experience thus enhancing employment

Corresponding Author:
Abeer Mohamed Abdelkader, Ph.D.
Assistant Professor, College of Applied Medical Sciences/King Faisal University

qualifications, professional specialization, time optimization, self-reliance, ability to communicate and professional etiquette towards work.[7-10]

Effective training programs must be those in which teaching and learning activities are provided to help the novice nursing graduates generate the transition from the trainee to the advanced beginner who can demonstrate a satisfactory level of performance and deal with real situations.[11] A study conducted by Abdel-Kader et.al. (2012) to investigate nursing interns' viewpoint regarding their clinical appointment readiness qualification, showed that nursing process steps as well as psychomotor performance are recognized as very influential prerequisite in preparing for clinical duty assignment.[12]

Furthermore, Aldeeb et. al., (2016) and Althiga et.al. (2017) studies concluded that clinical instruction and involvement should take incremental steps to achieve clinical practice standard to foster client's welfare and health professional training for nurses.[13,14] Moreover, the study carried-out by Gaundan et. al. (2018) indicated that participants need the support and guidance of their unit managers, colleagues and the nursing management in general during their transition phase as they face the constant change, progress and complexity in nursing.[15] In addition, a study performed by Keshk et.al. (2018) showed the importance of enacting the educational program of internship for nursing students on the benefits of applying the nursing process. This helps them improve both their professional and personal attributes such as acquiring advanced skills, critical thinking, communication, leadership and management skills.[2]

In Saudi Arabia/King Faisal University/College of Applied Medical Science, 3rd and first semester of 4th year nursing students are exposed to client assignment and hospital duties. During the hospital experience's there is the availability of clinical instructor who provides guidance and assistance as compared to internship. The hospital experiences from that one and half years possesses limited earning of confident-skills, it can be a year for completing all necessary college requirements. By the time of internship, it just like a continuation of hospital experiences from that college days, wherein nursing interns are under the supervision of a nurse-preceptor, they get monitored most of the time by them.

Significance of the Study: The internship program at College of Applied Medical Science in King Faisal University provides the needed skills to comply with the respective clinical organization's goals and mission. This study will help the nursing interns measure their level of preparation in the internship program. For College of Applied Medical Science, this study contributes to the improvement of nursing internship program by reducing the disparities in theory and clinical practice.

Purpose of the study: The study aimed to identify perceived level of preparation for nursing internship.

Research Question: what is perceived level of preparation among nursing internship.

Method

Research Design: A descriptive exploratory research design was used in this study.

Subjects: The study subjects included all nurse interns (n = 121) who were enrolled within the Academic Year 2019-2020.

Setting: The study was conducted at the King Faisal University (College of Applied medical Sciences, nursing department) among Internship of Nursing affiliated in all Tertiary hospital, Primary Health Center and Special Hospitals affiliated in Ministry of Health of Kingdom of Saudi Arabia (KSA). Interns also are affiliated in private hospital in Al Ahsa and Dharan, Khobar like Al Ahsa Hospital, Almoosa Hospital and John Hopkins Aramco Hospital.

Tool for Data Collection: 4 Likert scale (1 = not important, 2 = somewhat important, 3 = important, and 4 = essential) clinical preparation requirements questionnaire was developed by researchers after reviewed related literature and used in the present study.[12,16-17] It includes 51 items to assess the requirements of clinical preparation. It is subdivided into two parts; Part I contains demographic data such as: age, academic achievement, marital status, number of children; Part II includes 5 subscales namely, Teaching and Information Giving (4 items), Use of Resources (4 items), Psychomotor Skills (13 items), Steps in Nursing Process (27 items), and Communication Skills (3 Items).

Procedures: An official permission was obtained to conduct this study from the College Dean of College of Applied Medical Sciences and Department Head of Nursing in King Faisal University. The content was assessed for validity of the tool by three juries in the related fields. Cronbach's alpha used to ensure the

reliability of the tool; it is value was 0.92. Electronic survey was used for data collection. Email and contact number of the study participants was provided through coordination with the Internship committee Coordinator. a survey link was Sent for the participants with an attached consent form, as they agree with the conditions then respondent's fill-up and sent a feedback immediately. The data was collected from April 15 to June 3,2020.

Ethical Consideration: The deanship of scientific research at King Faisal University provide ethical approval to conduct this study (grant No. 186206). Also,the consent for participation was included in the survey. In addition, privacy, confidentiality, and anonymity of the respondents and their responses were assured.

Statistical Analysis: For analysis of data, IBM SPSS statistics for windows, version 24.0 was utilized. Frequency, mean, standard deviation, and Pearson correlation coefficients was used to measure Correlations of variables. Level of significant calculated at P value of ≤ 0.05.

Results

Table 1 illustrates the distribution of the study subjects according to their general characteristics. Mostly of the participants are 23 years old (mean and standard deviation are 23.55 ± 3.45) not yet married (73%) and without children (97%). Respondents mostly resides in the urban area (78.50%) and academically achievers during the nursing preparation, categorized as excellent and very good students (34,70% and 36.40%, respectively).

Table 1: Distribution of the study sample according to their general characteristics.

General Characteristic	N	%
Age	Mean ± SD	
	23.53 ± 3.45	
Place Of Residence		
Rural	26	21.50
Urban	95	78.50
Married		
No	73	60.30
Yes	48	39.70
With Children		
No	97	80.20
Yes	24	19.80
Academic Achievement		
Excellent	42	34.70
Very Good	44	36.40
Good	27	22.30
Pass	8	6.60

Table 2: Descriptive statistics of educational preparation requirement for nursing internship by the study sample. N= 121

Educational Preparation Requirements	%	Minimum Mean	Maximum Mean	Mean	SD
Nursing Process	75.83%	2.41	44.48	30.25	9.49
Use of Resources	73.72%	2.15	60.15	35.75	3.74
Psychomotor Skills	78.82%	2	57.92	41.92	3.79
Teaching & Information Giving	79.70%	1.25	53.75	33	3.69
Communication Skills	76.92%	2.5	51.75	33.37	3.3

Table 2 presents that the highest percentage(79.70%) reported by the participants with Teaching & Information Giving (sample item includes define terminology used to describe diagnosis, symptoms, and complications and able to interpret findings on the client). Also, this table shows that 78.82 % of the respondents perceived Psychomotor Skills as essential for their internship (sample item includes blood drawing and vein puncture). Moreover, concerning Communications Skills it was noticed that 76.92% of the respondents view it as essential requirement for internship (sample item includes Seek assistance when necessary). Additionally, 73.72% of the respondents considered that Use of Resources essential educational requirement (sample items are Utilize knowledge from all nursing courses in providing nursing care and utilize the nursing care plan in the client's record).

Table 3: Descriptive statistics regarding steps in nursing process requirement by the study sample. N= 121

Step in Nursing Process	%	Minimum Mean	Maximum Mean	Mean	SD
Assessment	74.27	3.96	46.8	30.64	12.47
Planning	74.38	3.2	45.6	30,25	12.30
Intervention	75.7	2.6	47.2	30.25	8.77
Evaluation	76.03	2.5	47.5	30.25	4.40

Table 3 Shows that regarding nursing process steps the respondents indicated their highest percentage (76.03) with evaluation (sample item includes Initiate evaluation of nursing care with others and Evaluate results of nursing care). Furthermore, regarding intervention steps it was noticed that 75.7% of the students perceived it as essential requirement (sample item like Identify the rationale for prescription of the medications).In addition, it was clear that planning step was perceived as educational requirement by 74.38 % of the participants. In relation to assessment step it was founded that 74.27% of the respondents perceived it positively as educational requirement for internship.

Table 4: Pearson Correlation (r) of Preparation requirement for nurse internship by the study participants. N=1

Preparation requirement	Nursing Process	Use of Resources	Psychomotor Skills	Teaching & Information Giving	Communication Skills
Nursing Process					
Use of Resources	.805**				
Psychomotor Skills	.734**	.751**			
Teaching & Information Giving	.728**	.713**	.820**		
Communication Skills	.814**	.686**	.724**	.857**	

**.Correlation is significant at the 0.01 level (2-tailed).

Table 4 shows Pearson Correlation (r) of Preparation requirement for nurse internship by the study participants. It was observed that significant positive relationship at the 0.01 level was existed among all preparation requirement of nurse internship. Concerning nursing process requirement, it was clear that significant positive relationship existed with Use of Resources, Psychomotor Skills, Teaching & Information Giving, and Communication Skills (r= .805, .734, .728, and .814 respectively). Also, it was founded that significant positive relationship occurred between Use of Resources and psychomotor Skills, Teaching & Information Giving, and Communication Skills (r=.751, .713, and .686 respectively). Furthermore, it was noticed that significant positive relationship was between Psychomotor Skills and both Teaching & Information Giving, and Communication Skills (r=.820, .724 respectively). In addition, significant positive relationship was existed between Teaching & Information Giving, and Communication Skills (r=.857).

Discussion

Clinical practices must en able and support nursing students during the transition period, which begins as senior professional in their intern year to be independent and competent registered nurse.[14] The current study aimed to identify nursing student perception of educational requirement for nursing internship. Findings of present study revealed that Teaching & Information Giving were perceived as the primary essential requirement for internship practice. This finding consistent with Halse et.al. (2014) who stated that Health teaching has been viewed as an important aspect of nursing care for many years. To empower student nurseto health teaching, they

required to be aware about content areas and topics of health education programs and the teaching role of the nurse. Health teaching has a positive impact on a patient's health situation. Consequently, it is very important to emphasis on the role of health teaching during nursing education.[17]

Also, the study results revealed that psychomotor skills were perceived positively by the respondents and viewed as essential requirement for internship practice. This finding agrees with the results of the studies conducted by Ulrich et.al. (2010). They provide convincing evidence that both new graduate nurses and their organizations benefit from the application of a planned internship that comprises classroom instruction, directed opportunities to improve nursing psychomotor skills, support,engagement of stakeholders, and professional supervision.[18]

Moreover, findings of this study showed that communication skills perceived as essential requirement for internship. This results in the same line with Curtis et.al (2013), Seada and Yousef (2012), Thomas (2010) studies.[19-21] They stated that It is essential to introduce or strengthen the usage of a professional communication skills to reduce errors and improvement of communication technique among health care providers. Also, McCaffrey et.al (2010) commented that collaborative work and communication between health care team members is essential to care of patients and job satisfaction for nurses.[22] Also, communication is one of the characteristics measured to identify whether healthcare settings demonstrate excellence in nursing and patient care. This result was also consistent with Blevins (2018). He stated that without effective socialization, new nurses may get discouraged, impacting their productivity and engagement in patient care.[23]

Additionally, the present study responses founded that nursing process steps perceived as essential requirement for nursing interns specifically evaluation and intervention steps. This finding agrees with AL-Fattah (2019) who mentioned that the nursing process give nurses the responsibility of developing the nursing care plan based on the client needs and nursing diagnosis. Nursing care plan must be comprising different aspects of client needs as physical, emotional, social, spiritual and cultural. In addition, all nursing intervention actions that implemented by the nurse should be evaluated to identify whether the goal for patient wellness have been achieved.[24]

Furthermore, the current study founded that positive correlation was existed between nursing process, communication skills, and resources usage. This result supported by Aboshaiqah et.al (2018) and Joseph (2017) and who mentioned that planning nursing care allows for clear communication among healthcare members regarding patient's condition,which in turn it improves patient's care consistency and promote the possibility of safe results for patient. Moreover, he stated that the key difficulties for utilization of the nursing process such as shortage of materials, scarcity of resources, shortage of time,lack of human power and motivation. Formal internship with measured outcomes mustbe the norm for all new graduate nurses. Additionally, the Internship is a moment of acquisition and improvement of knowledge and skills essential to professional practice.[25-27]

Recommendation for practice and future research:

- Address health education in Nursing curriculum for better preparation of future nurses to Teach and encourage patients/family members about the patient's needs and preventive health measures.
- Seek methods to better prepare nurse intern to utilize therapeutic communication with patients, family members, and health care team members.
- Provide nurse intern with adequate pre-clinical preparation on how could they could effectively use nursing process, identify and appropriate use of available resources in the community in developing a plan of care for a patient and his family.
- Future research could be enhanced by replication the study with large sample to get more reliable and general findings.

Limitations: The generalizability of our findings is limited by a relatively small sample size.

Conclusion

Collectively, the respondents perceived that all educational preparation requirement described in the current study were essential/very important for their preparation for practice during internship training and for developing their clinical competencies. Also, Internship is an important learning-teaching strategy and careful attention must be given for the preparation of nursing students in the clinical experience to empower students and newly registered nurses in their professional nursing practice. Internship educational preparation should focus on the following considerations: Teaching & Information

Giving, Psychomotor Skills, Communication Skills, Nursing Process, and Use of Resources.

Conflicts of Interest Disclosure: There is no conflict of interest in the current study for all authors.

Funding Source: This study funded by The Deanship of Scientific Research at King Faisal University.

Acknowledgment: The authors acknowledge the Deanship of Scientific Research at King Faisal University for the financial support under Nasher Track (Grant No.186206).

Reference

1. Childress SB, Gorder D. Oncology Nurse Internships: A Foundation and Future for Oncology Nursing Practice. Oncology Nursing Forum. 2012;39(4):341-44.
2. Keshk L, Qalawa S, Ibrahim N. Effectiveness of an Educational Program regarding Nursing process on Acquiring Advanced Skills among Internships Nursing Students. International Journal of Nursing Students. 2018;5(2):32-44.
3. Henderson A, Twentyman M, Heel A, Lloyd B. Students' Perception of the Psycho-Social Clinical Learning Environment. An Evaluation of Placement Models. Nurse Education Today. 2006;26(7): 564-571.
4. IP WY, Chan DS. Hong Kong Nursing Students' Perception of the Clinical Environment: A questionnaire survey. International Journal of Nursing Studies. 2005;42(6):665-672.
5. Zopiatis, A., & Theocharous, AL. Revisiting hospitality internship practices: A holistic investigation. Journal of Hospitality, Leisure, Sport & tourism Education. 2013;13:33–46. doi:10.1016/j.jhlste.2013.04.002
6. Hora M, Wolfgram M, Thompson S. What do we Know about the Impact of Internships on Student Outcomes: Results from a Preliminary Review of the Scholarly and Practitioner Literatures. Wisconsin Center for Education Research., University of Wisconsin-Madison;2017;4.
7. Assante LM, Huffman L, Harp SS. A taxonomy of academic quality indicators for US-based 4-year undergraduate hospitality management programs. Journal of Hospitality & Tourism Research. 2010;34(2):164–184. doi:10.1177/1096348009349821
8. Chiu FT. A study of the effectiveness of internship program for students of institutes of technology in Taiwan (Master thesis). Department of Public Administration, Tamkang University, New Taipei;2012
9. Garside JR, Nhemachen JZZ. A Concept Analysis of Competence and its Transition in Nursing. Nurse Education Today. 2013;33(5):541-545.
10. Safadi R, Jaradeh M, Bandak A, et al. Competencies Assessment of Nursing Graduates of Jordanian Universities. Nursing & Health Sciences. 2010;12(2):147-154.
11. Al-Mahmoud S, Dorgham S, Abd El-Medeed M. Relationship between Nurse Interns' Satisfaction Regarding Internship Program and Clinical Competence. Med. J. Cairo Univ. 2013;81(2):154.
12. Abdel-Kader A, Mohamed EA, Abood SA. Perception of nurse intern about clinical assignment preparation requirement. J Am Sci. 2012;8(12):676–682.
13. Aldeeb G., Basal A., Ebrahem R., Elnagar S. (2016). Perceptions of Role Transition among Nursing Interns at Tanta University. Journal of Nursing and Health Science. 2016;5(5):1-18.
14. AlThiga H, Mohidin S, Park YS, et al. Preparing for Practice: Nursing Intern and Faculty Perceptions on Clinical Experiences. Medical Teacher. 2017;39(1):55-62. Available at: http://dx.doi.org/10.1080/0142159X.2016.1254739.
15. Gaundan D., Mohammadnezhad M. Intern-Nurses' Perception on Transition at Labasa Hospital, Fiji. A Qualitative Study. J Nurs Health Stud. 2018;3(1):2.
16. Hickey M. Baccaulaureate Nursing Graduate's Perception of their Clinical Instructional Experiences And Preparation for Practice. Journal of Professional Nursing. 2010;26(1):35-41.
17. Halse KM, Fonn M, Christiansen B. Health Education and the Pedagogical Role of the Nurse: Nursing Students Learning in the Clinical Setting. Journal of Nursing Education and Practice. 2010;4(3):30-37.
18. Ulrich B, Krozek C, Early S, et al. Improving Retention, Confidence, And Competence of New Graduate Nurses: Results from a 10-Year Longitudinal Database.,Nursing Economics. 2010;28(6):363-375.

19. Curtis JR, Back AL, Ford DW, et al. Effect of Communication Skills Training for Residents and Nurse Practitioners on Quality of Communication With Patients With Serious Illness: A Randomized Trial. Journal of American Medical Association. 2013;310(21): 2271-2281
20. Seada AM, Yousef E. Clinical Instructional Experiences of Baccalaureate Nursing Graduates: Actual Versus Importance for Preparation to Entry into Practice. The Medical Journal of Cairo University.2012;8(1):1-16.
21. Thomas C. (2010). Teaching Nursing Students and Newly Registered Nurses Strategies to Deal with Violent Behaviors in the Professional Practice Environment. The Journal of Continuing Education in Nursing. 2010;41(7):299-308. doi:10.3928/00220124-20100401-09
22. McCaffrey RG, Hayes R, Stuart W, et al. A Program to Improve Communication and Collaboration Between Nurses and Medical Residents. J Contin Educ Nurse.,2010;41(4):172-178.
23. Blevins S. From Nursing Student to Registered Nurse: The Challenge of Transition. MedSurg Nursing., 2018;27(3):199-200.
24. Al-Fattah MN. Assessments of the Application of Nursing Process in Surgical Wards. Mosul Journal of Nursing.2019;7(1):50-59. DOI: 10.33899/mjn.2019.162875.
25. Aboshaiqah AE, Tumala RB, Patalagsa JG, et al. Perceptions of Confidence among Saudi Nursing Interns during Internship Program: A Cross-Sectional Study. Ann Saudi Med.2018;38(4):288-298. DOI: 10.5144/0256-4947.2018.288
26. Joseph J. The Need of Nursing Care Plans in Hospitals. Indian Journal of Basic and Applied Medical Research. 2010;6(2):318-322.
27. Santos JA, Fonseca LJ, Pereira GS, et al. Curricular internship in nursing at the Bahian Family Health Unit: An Experience Report. Journal of Nursing UFPE On Line. 2016;10(5):1877-1883. DOI: 10.5205/1981-8963-v10i5a13569.

DOI Number: 10.37506/ijone.v12i4.11261

Impact of COVID-19 on Nursing and other Healthcare Professionals: Strategies for Strengthening Nursing Education, Training and Leadership

Shivaleela P. Upashe[1], Sunaya Gosh[2], Amitha R.[3], Kavita Chandrakaran[4]

[1]Associate Professor of Child Health Nursing, [2]Lecturer of Medical Surgical Nursing, [3]Assistant Professor of Child Health Nursing, [4]Assistant Professor of Medical Surgical Nursing, College of Nursing Sciences, Dayananda Sagar University, Kumaraswamy Layout, Bengaluru-560078, Karnataka, India

Abstract

The damage extension of the SARS-CoV-2 virus, the cause of the coronavirus disease (COVID-19) outbreak that started in December 2019, was completely unexpected. The virus infected more than 20.21 million and killed more than 737,136 people as of 10th august 2020, leaving healthcare professionals under abnormal pressure. Although there are no estimates of how many are health care professionals infected, it may be 15-18% of the healthcare professionals and suppose a correspondingly high death count. From emergency physicians and nurses to public health officers and psychologists, the exposure to distressing experiences points to a high chance of developing post-traumatic stress disorder, depression, and burnout syndrome. In the case of COVID-19, decisions upon scarce resources, frustration about patients' outcomes, lengthened working hours, concerns regarding the family's health, and widespread vicarious trauma are present and costly for health care professionals. Coordinated reorganization of health and well managed social services is essential to assess and diagnose rapidly, treat patients effectively, and protect hospitals and health personnel. The policymakers were thinking that investing in the *nursing sector and maintaining a professional nursing workforce is an economic burden but now everyone is understood that they are especially for the wellbeing of our peoples and families. H*ence it is necessary to support nursing professionals at the workplace and ensuring the appropriate payout is a must along with appropriate timely training is required to ensure the quality service. Furthermore, they should be allowed to involve in policy formulation and decision making all the time.

Keywords: *SARS-CoV-2 virus, Depression, Education, Job Satisfaction, Skill development.*

Introduction

The novel coronavirus (COVID-19) surged up in Wuhan, China, and provokes symptoms similar to other coronaviruses, including cough, fever, fatigue, and nausea, but extends to organ failure in a significative amount of cases. The lack of community immunity, the high infection rate, and sizeable asymptomatic window were factors that, along with the delayed time of government response, led to the overload of health care professionals and establishments. Medical students have been recruited to aid[1] the thousands are overloaded with work, and many have been infected after working on the front line.[2] There are multiple reports of physiological and psychological problems during pandemics, with related heightened insomnia, anxiety, depression, and obsessive-compulsive symptoms.[3] Somatization was also seen at a significative rate, with frequent dizziness and toughness for breathing. COVID-19 is unlikely to end suddenly given the lack of available therapeutics and the uncertain prospects.[4]

Corresponding Author:
Mrs. Shivaleela P. Upashe
College of Nursing Sciences, Dayananda Sagar University, Kumaraswamy Layout, Bengaluru-560078, Karnataka
e-mail: spupashe@gmail.com

Impact of COVID-19 on Health Care professionals: The atypical health care situation requires not-so-atypical pressure on health care workers. As highlighted by Shi and Hall[5], the experience of various traumatic events can have drastic effects on mental health, and the circumstances surrounding the COVID-19 outbreak restrain traditional psychological services for both patients and health professionals. Kang et al.[6] assure that emergency physicians, nurses, and other types of emergency professionals that are exposed to distressing experiences have a high chance of developing problems such as post-traumatic stress disorder, depression, and burnout syndrome. In the case of COVID-19, decisions upon scarce resources, frustration about patients' outcomes, lengthened working hours, concerns regarding the family's health, and widespread vicarious trauma are present and costly for health care professionals.[7] The complete account of consequences upon health care professionals will only be perceived in the next years.

Among the distressing causes were the uncertainty of safety at work, extended work shifts, lack of prevention knowledge, shortened rest, shortage of protective equipment, exposure to death, fear for autoinoculation, and viral spread.[3,7] When associated with quarantine-affected relationships, those are likely to promote the development of psychiatric dysfunctions. As opposed to the common public, health care professionals deal with more than their stress; they also have to deal with others' anxiety, which may enhance despair and produce vicarious trauma.

Vicarious trauma, or the trauma acquired through close contact with trauma victims and patients' struggles, reflects directly in an individuals' mental health. The symptoms of vicarious traumatization involve loss of appetite, fatigue, sleep disorder, irritability, lack of attention, fear, despair, and suicidal ideation.[8] Besides the symptoms, health professionals often have to deal with the stigma and the frustration of not being able to make appropriate decisions due to the lack of resources. Studies enrolling 740 individuals, amongst which the general public and nurses found out that despite the trauma of the general public is higher, it was acknowledged that direct exposure to patient suffering led to vicarious traumatization.[8] Those responses were also seen in the Severe Acute Respiratory Syndrome outbreak in 2004.

Not only the pandemics have affected the individuals directly, but indirectly through the quarantine measures that harm mental health. The isolation, along with deep concern for family and friends and high pathogen exposure, can cause uncertainty about the future and fear, bringing a high burden upon the affected individuals. Therefore, Fiorillo and Gorwood[2] highlight that after the pandemics, there might be a shortage of health professionals because of burnout, and calls for action to prevent worse effects. Besides that, the pressure is so high they are likely to keep working even though they have lost beloved ones such as family and team members.

Considering the impact that pandemics and social isolation altogether can cause to the society and the health professionals' community, scientists are urging for mental health research. Not only because of the psychosocial characteristics but because they are afraid that COVID-19 infect the brain and trigger immune responses that enhance the risk for mental illnesses.[9] They claim that psychological support measures have to be taken and that resources must be provided so that they can recognize psychological distress symptoms on themselves.[7] Levin[10] highlights that wounds of healthcare personnel can last for many years after the end of an outbreak, which explains the impacts past pandemics had on society, requiring psychological support for decades.[10] As explained by Dhamir and Khan[11], the psychological aspects of pandemics bring uncertainty and doubt that end up in a mass panic, disrupting the sense of reality, which applies not only to the general population but to health practitioners. Being in the front-line is exhausting to the point that gratitude is not enough: mental care needs to be provided to those professionals so that they can keep living after keeping others aliv

Nursing Professionals and their Contributions: *Nursing professionals are demonstrating outstanding* compassion and courage *towards the battle against COVID-19* never before their value been more clearly demonstrated.[12] *They play a* vital *role to ensure to keep the world healthy through their* experience and expertise in the management of health services and their contribution to the emergency responses is unique.[13] The policymakers were thinking that e*ducating nursing professionals and maintaining a professional nursing workforce is an economic burden but now everyone is understood that they are especially for the wellbeing of our peoples and families.*[14,15] The nursing professionals optimizing their role can contribute to the progressive

realization of universal health coverage (UHC) and the Sustainable Development Goals (SDGs). They have consistently experienced different challenges such as shortage and maldistribution along with low levels of retention and high levels of migration. Education of the nursing workforces is not always competency-based, interdisciplinary, or supported by quality assurance. Strengthening the nursing profession is essential to ensure high quality, secure, and efficient patient services once after this pandemic. To achieve this it is necessary to strengthen nursing education, training and strategies to tackle pandemic should be revisited with appropriate policies.[14-17]

Strengthening Nursing Education[18,19]:

- The appropriate curriculum should be developed to address the current needs and to understand the new technologies by providing the experienced faculty and infrastructure during the study period.
- The curriculum should be introduced to understand the constantly evolving guidelines and clinical practices during uncertainty such as COVID-19.
- Problem-based learning should be introduced to understand epidemics and pandemics from which one should learn to analyze the age, risk factors, and proportion of individuals with infections and their transmission potential.
- Nurse's professional skills should be assessed once after the completion of their graduate or postgraduate degree by conducting a national level eligibility test before awarding the actual degree.

Internship programs, Training, and Service[20-26]

- Appropriate internship programs should be implemented for students to retain them in the nursing profession.
- Interdisciplinary, inter-professional healthcare, and skill development training should be given to the nursing professionals to enhance the knowledge and competencies which will help enhance patient outcomes.
- The compulsory rule should be made for nurses to undergo meditation and yoga to tackle personal and professional challenges.
- Mandatory online courses, webinars, and short term courses should be implemented for nursing professionals to know and understand the recent developments in the health care system and to implement them during health care service.
- Appropriate nurse-led models of care and practices should be developed to tackle health care needs.

Nursing Jobs[27- 30]

- It is necessary to evaluate the demand for new nursing professionals and to recruit them based on the requirements of the work setting.
- Around 90% of the nursing workplace is female and this gap should be fulfilled by identifying the actual drawbacks to compensate for the shortage of 5.9 million nurses around the world.
- The migration of nurses to other countries should be monitored and the implementation of retention policy should be adopted by improving the salaries, retention packages, and working conditions along with insurance policies.

Leadership in policymaking [31-42]

The following policy must be implemented,

- to ensure the senior and experienced nursing professional's involvement in evidenced-based decision-making to achieve a better health care system.
- to organize leadership programs to develop leadership skills among the new nursing professionals.
- to ensure the nursing professional safety at the workplace as well as at vulnerable settings. Furthermore, violence against nursing/health care professional should be made punishable.
- To address the gender pay gap in the nursing profession.
- To attract qualified applicants to nursing education programs and undervaluing the nursing profession should be addressed.
- To have clinical experience in health care settings before becoming faculty of any institution to enhance the quality of education.
- To invest in nursing education and training is required to cope with the current needs of the health care system to meet international standards.
- To distribute nursing professionals among the health care sectors and it must be monitored and documented well.

- For nurses to see themselves as frontline policy leaders who are responsible for identifying the roles and opportunities.

Conclusions

All health care workers are through overwhelming demands and endless working hours, worsened due to the frequent distressing isolation from the family. Nursing professionals have played an important role as part of teams, especially during this pandemic. The roles and responsibilities of nurses to promote health by treating vulnerable along with decision-making roles are substantial. Regardless of the chaotic scene, mental health is as important as physical health and needs to be treated accordingly. Thus, it is recommended that health care professionals and their families attend obligatory, weekly, counseling sessions; and that institutions establish rules concerning turn intervals. Furthermore, they should be allowed to involve in policy formulation and decision making all the time.

Declarations:

Ethical Clearance: Not applicable

Source of Funding: Self

Conflict of Interest: Nil

References

1. Li Z, Ge J, Yang M, Feng J, Qiao M, Jiang R, Bi J, Zhan G, Xu X, Wang L, Zhou Q, Zhou C, Pan Y, Liu S, Zhang H, Yang J, Zhu B, Hu Y, Hashimoto K, Jia Y, Wang H, Wang R, Liu C, Yang C. Vicarious traumatization in the general public, members, and non-members of medical teams aiding in COVID-19 control. Brain Behav Immun. 2020;10:S0889-1591(20)30309-3.
2. Fiorillo A, Gorwood P. The consequences of the COVID-19 pandemic on mental health and implications for clinical practice. Eur Psychiatry. 2020;63(1):e32. doi:10.1192/j.eurpsy.2020.35
3. Kottasová I. Thousands of medical students are being fast-tracked into doctors to help fight the coronavirus [Internet]. CNN World. 2020. Available from: https://edition.cnn.com/2020/03/19/europe/medical-students-coronavirus-intl/index.html.
4. Mehta P, McAuley DF, Brown M, Sanchez E, Tattersall RS, Manson JJ; HLH Across Speciality Collaboration, UK. COVID-19: consider cytokine storm syndromes and immunosuppression. Lancet. 2020;395(10229):1033-1034.
5. Shi W, Hall BJ. What can we do for people exposed to multiple traumatic events during the coronavirus pandemic? Asian Journal of Psychiatry. 2020;51:102065.
6. Kang X, Fang Y, Li S, Liu Y, Zhao D, Feng X, Wang Y, Li P. The Benefits of Indirect Exposure to Trauma: The Relationships among Vicarious Posttraumatic Growth, Social Support, and Resilience in Ambulance Personnel in China. Psychiatry Investig. 2018;15(5):452-459.
7. Ornell F, Halpern SC, Kessler FHP, Narvaez JCDM. The impact of the COVID-19 pandemic on the mental health of healthcare professionals. Cadernos de SaúdePública. 2020;36(4):e00063520.
8. Cohen, E., Nigam, M. CDC estimates more than 9,200 health care workers have been infected with covid-19 [Internet]. CNN Health. 2020. Available from: https://edition.cnn.com/2020/04/15/health/coronavirus-9200-health-workers-infected/index.html.
9. Zhang WR, Wang K, Yin L, Zhao WF, Xue Q, Peng M, Min BQ, Tian Q, Leng HX, Du JL, Chang H, Yang Y, Li W, Shangguan FF, Yan TY, Dong HQ, Han Y, Wang YP, Cosci F, Wang HX. Mental Health and Psychosocial Problems of Medical Health Workers during the COVID-19 Epidemic in China. Psychother Psychosom. 2020;9:1-9.
10. Levin J. Mental Health Care for Survivors and Healthcare Workers in the Aftermath of an Outbreak. Psychiatry of Pandemics. 2019 May 16:127–41.
11. Damir H, Khan S. Psychology of the Pandemic. In: Psychiatry of Pandemics: A Mental Health Response to Infection Outbreak. 2019. p. 37–44.
12. WHO (2020). First ever State of the World's Nursing report launched amid COVID19 pandemic. https://www.who.int/news-room/detail/06-04-2020-world-health-worker-week-2020
13. Narang S. Nursing - The backbone of healthcare delivery in the quest for universal access.https://www.asianhhm.com/articles/nursing-the-backbone-of-healthcare-delivery
14. Institute of Medicine (US) Committee on the Robert Wood Johnson Foundation Initiative on the Future of Nursing, at the Institute of Medicine. The Future of Nursing: Leading Change, Advancing Health.

Washington (DC): National Academies Press (US); 2011. 4, Transforming Education. Available from: https://www.ncbi.nlm.nih.gov/books/NBK209885/

15. Aiken LH. Economics of nursing. Policy Polit Nurs Pract. 2008;9(2):73-9.
16. Alameddine M, Baumann A, Laporte A, Deber R. A narrative review on the effect of economic downturns on the nursing labour market: implications for policy and planning. Hum Resour Health. 2012;10:23.
17. Ajuebor O, McCarthy C, Li Y, Al-Blooshi SM, Makhanya N, Cometto G. Are the Global Strategic Directions for Strengthening Nursing and Midwifery 2016–2020 being implemented in countries? Findings from a cross-sectional analysis. Hum Resour Health. 2019;17:54.
18. Ferrell BR, Grant M, Virani R. Strengthening nursing education to improve end-of-life care. Nurs Outlook. 1999;47(6):252-256.
19. Nkowane AM, Ferguson SL. The World Health Organization Launches the 2016-2020 Global Strategic Directions for Strengthening Nursing and Midwifery. Nurs Econ. 2016;34(4):206-7.
20. Van Soeren M, Hurlock-Chorostecki C, Reeves S. The role of nurse practitioners in hospital settings: implications for interprofessional practice. J Interprof Care. 2011;25(4):245-251.
21. Al-Mahmoud SA, Dorgham SR, Abd-El Megeed M. Relationship between nurse interns' satisfaction regarding internship program and clinical competence. Med J Cairo Univ. 2013;81:151-61.
22. Freiburger OA. Preceptor programs: increasing student self-confidence and competency. Nurse Educ. 2002;27(2):58-60.
23. Mathad MD, Pradhan B, Sasidharan RK. Effect of Yoga on Psychological Functioning of Nursing Students: A Randomized Wait List Control Trial. J Clin Diagn Res. 2017;11(5):KC01-KC05.
24. Shirey MR. An evidence-based solution for minimizing stress and anger in nursing students. J Nurs Educ. 2007;46(12):568-571.
25. LeBlanc VR. The effects of acute stress on performance: implications for health professions education. Acad Med. 2009;84(10):S25-S33.
26. Chaghari M, Saffari M, Ebadi A, Ameryoun A. Empowering Education: A New Model for In-service Training of Nursing Staff. J Adv Med Educ Prof. 2017;5(1):26-32.
27. Santos LSC, Guirardello EB. Nurses' attention demands in the work setting. Rev. Latino-Am. Enfermagem 2007;15(1):27-33.
28. Nevidjon B, Erickson JI. The nursing shortage: solutions for the short and long term. Online J Issues Nurs. 2001;6(1):4.
29. WHO and partners call for urgent investment in nurses. https://www.who.int/news-room/detail/07-04-2020-who-and-partners-call-for-urgent-investment-in-nurses 7-04-2020.
30. Henderson LN, Tulloch J. Incentives for retaining and motivating health workers in Pacific and Asian countries. Hum Resour Health. 2008;6:18.
31. Bhargava K, Bhargava D. Evidence Based Health Care: A scientific approach to health care. Sultan Qaboos Univ Med J. 2007;7(2):105-7.
32. Kohn MK, Berta W, Langley A, Davis D. Evidence-based decision making in health care settings: from theory to practice. Advances in Health Care Management 2011;11:2015-234.
33. Sanjiv Kumar, Rinu P K. Leadership Skills for Nurses. JOJ Nurse Health Care. 2018; 8(5):555747.
34. Major D. Developing effective nurse leadership skills. Nurs Stand. 2019;34(6):61-66.
35. Jamali D, Sidani Y, Kobeissi A. The gender pay gap revisited: insights from a developing country context. Gender in Management 2008;23(4):230-246.
36. Wilson BL, Butler MJ, Butler RJ, Johnson WG. Nursing Gender Pay Differentials in the New Millennium. J Nurs Scholarsh. 2018;50(1):102-108.
37. Flott EA, Linden L. The clinical learning environment in nursing education: a concept analysis. J Adv Nurs. 2016;72(3):501-513.
38. Ohlén J, Segesten K. The professional identity of the nurse: concept analysis and development. J Adv Nurs. 1998;28(4):720-727.
39. Fawaz M, Tassi A, Hamdan-Mansour A. Challenges facing nursing education in the advanced healthcare environment. Int J Afr Nurs Sci. 2018;9:105-110.
40. Lamb A, Martin-Misener R, Bryant-Lukosius D, Latimer M. Describing the leadership capabilities of advanced practice nurses using a qualitative descriptive study. Nurs Open. 2018;5(3):400-413.

41. Sherman RO, Schwarzkopf R, Kiger AJ. Charge nurse perspectives on frontline leadership in acute care environments. ISRN Nurs. 2011;2011:164052.
42. Johnson J, Talley M and Watts P. A Quality and Policy Focus to Academic Leadership. In: Hassmiller SB, Pulcini J, editors. Advanced Practice Nursing Leadership: A Global Perspective. Advanced Practice in Nursing. UK: Springer Nature; 2020. p. 185-204.

DOI Number: 10.37506/ijone.v12i4.11262

Environmental and Personality Influences on Nurse Discipline Public Health Center

Suprapto[1], Trimaya Cahya Mulat[2], Nur Syamsi Norma Lalla[2]

[1]Senior Lecturer, Department of Public Health Sciences, [2]Senior Lecturer, Department of Nursing Management, Faculty of Nursing, Politeknik Sandi Karsa, Makassar 90245 Makassar, South Sulawesi, Indonesia

Abstract

Introduction: discipline is a benchmark to find out whether the role of a manager or leader as a whole can be implemented well or not.

Method: This research is a quantitative study supported by qualitative data with cross-sectional study design.

Results: the test with the chi-squer test of personality and environmental factors obtained a p-value of 0.827 that Ha was rejected and H0 was accepted so that there was no influence between personality and environmental factors on the discipline of nurses in Barombong Public Health Center, Makassar.

Conclusion: There is no influence between personality and environmental factors on the discipline of nurses in the Makassar City Barombong Health Center. This research can be used as a reference material for learning about nurse discipline and is expected for health workers to be used as input for carrying out their duties.

Keywords: *Discipline, Personality, Environment.*

Introduction

World Health Organization (WHO), that in order to improve the performance of nurses both in the enforcement of discipline of nurses must be able to provide comfort and satisfaction to nurses as an appreciation for the performance they do. Based on medical record data obtained at the Makassar City Barombong Health Center, that the total number of nurses is 124 people[1,2].

Nurses as one of the important assets in the management of health facilities in hospitals and health centers have a very important role, other than as paramedics to treat patients, because of these very important tasks, nurses should have a high work discipline, for example about work discipline is associated with risks that may occur, for nurses who are not disciplined delays in handling patients (even in seconds) will greatly jeopardize the safety of patients' lives[3].

Discipline is a matter of benchmarks to determine whether the role of a manager or leader as a whole can be implemented properly or not. Nursing is one of the professions in hospitals and dipuskesmas that plays an important role in the implementation of efforts to maintain the quality of health services in health centers and hospitals. Health services at puskesmas are a form of service provided to clients, by a multi-disciplinary team including the nursing team. The nursing team is a member of the health team that faces client health problems for 24 hours continuously [4].

Public health center has a role in efforts to improve the highest public health. In an effort to achieve the

Corresponding Author:
Suprapto
Senior Lecturer, Department of Public Health Sciences, Faculty of Nursing, Politeknik Sandi Karsa Makassar
90245 Makassar, South Sulawesi, Indonesia
e-mail: atoenurse@gmail.com
Tel.: +6281242800025
Fax: +62(0411) 591279

degree of public health, Public health center and hospitals organize affordable and quality health services for the community [5]. To improve services, one important factor that must be considered by hospitals and health centers is Human Resources (HR). Explain that the success of an institution is determined by two main factors, namely Human Resources or Labor and supporting infrastructure or work facilities. People who work or become members of an organization called personnel, employees, employees, workers, labor, and others [6,7].

Material and Method

This study uses quantitative research methods supported by qualitative data with a cross sectional or cross sectional research design, where the independent variable (the influencing variable) and the dependent variable (the affected variable) are measured and observed at the same time. The sample in this study amounted to 50 respondents. with cross sectional or cross sectional research design, using non-rundem sampling method with criteria determined by researchers.

Findings :

Table 1. Personality Factor Analysis of Nurses' discipline at the Makassar City Barombong Health Center

Personality Factor	Discipline		Total	Value p
	Good	Not Good		
Good	47	0	47	0,827
Not Good	0	3	3	
Total	**7**	**3**	**50**	

Source: Primary data processed, 2019

Table 2. Analysis of Environmental Factors on Nurse Discipline at the Makassar City Barombong Health Center

Environmental Factor	Discipline		Total	Value p
	Good	Not Good		
Good	47	0	47	0,827
Not Good	0	3	3	
Total	**447**	**3**	**50**	

Source: Primary data processed, 2019

Discussion

The results of the analysis of personality factors on the discipline of nurses in the Makassar City Barombong Health Center after being given a questionnaire showed a significant value of 0.827> 0.05 which means that Ha was rejected and H0 was accepted. This shows that personality factors on discipline have no effect. An important factor in a person's personality is the value system adopted, the value system in this case is directly related to discipline. Values that uphold the discipline taught or instilled by parents, teachers, and communities are used as a frame of reference for the application of discipline in the workplace. The value system will be seen from one's attitude and attitude is expected to be reflected in behavior.

Research conducted shows that there is no meaningful relationship between motivation for working conditions and work discipline. That there is no meaningful relationship between work environment conditions and nurse performance. Other research that is in line is to conclude that there is no significant relationship between developing opportunities and work discipline. Thus it can be concluded that environmental factors have no influence on the discipline of nurses at the Makassar City Barombong Health Center[8,9].

Efforts to instill discipline are basically instilling values in order to achieve the goals of the Puskesmas from within namely the morale or enthusiasm and awareness of the nurse of the importance of work discipline, discipline because of compliance with existing commitments, and compliance based on identification. The results of the analysis of environmental factors on nurse discipline at the Makassar City Barombong Health Center after being given a questionnaire showed a significant value of 0.827> 0.05 which means that Ha was rejected and H0 was accepted. This shows that environmental factors on discipline had no effect.

This study is in line with research that analyzes the effect of work environment and work stress on employee performance with the conclusion that the positive influence of work environment with performance is rejected because a significant value of 0.102 is obtained. Results of analysis using chi-square obtained p value = 0.332 or p value > 0.05. Thus, H0 is accepted and Ha is rejected, so it can be concluded that there is no meaningful relationship between work environment and the performance of inpatients at Tugurejo Hospital Semarang[10].

This study is in line with the results that there is no relationship between education, work environment conditions and the quality of nursing services in the Emergency Room Installation of the Salewangan Maros Regional Hospital with p> 0.05, and there is a relationship between workload and the quality of nursing services in the Room of the Nursing Installation. Emergency Regional Hospital of Salewangan Maros with p = 0.003. There is a relationship between factors interpersonal relationships with the quality of nursing services in the Emergency Room Installation of the Salewangan Maros Regional Hospital with p = 0.004. Based on the results of this study it was concluded that the factors of work stress nurses with the quality of nursing services in the Emergency Room Installation of the Salewangan Maros Regional Hospital were workload factors and interpersonal relationships[11].

Contrary to the results of the study that the work environment has a positive but not significant effect on organizational commitment. Work discipline and work stress have a positive and significant effect on organizational commitment the work environment has a positive and significant effect directly on nurse performance without having to go through organizational commitment. Work discipline directly influences but not significantly to nurse performance, but indirectly work discipline has a positive and significant effect on nurse performance through organizational commitment. Thus it can be concluded that personality and environmental factors have no influence on the discipline of nurses in the Makassar City Barombong Health Center [12].

Conclusions

Based on research that has been done, it can be concluded that; there is no influence between personality and environmental factors on the discipline of nurses in the Makassar City Barombong Health Center. The results of this study can be used as a reference material for learning about the discipline of nurses for health workers so that this research input material to carry out their duties properly.

Conflict of Interest: There are no conflicts of interest between the authors.

Source of Funding: Self

Ethical Considerations: The investigator obtained clearance from the Institutional ethics committee before collecting data and has taken informed written consent from each participant. Participant information sheet was also shared which assured privacy and confidentiality of data.

References

1. Rekammedik. Rekam Medik Public health center Barombong Kota Makassar. Makassar: Public health center Barombong; 2019.
2. Baynham M, Lea M, Stierer B. Academic writing in new and emergent discipline areas. Supporting Lifelong Learning: Perspectives on learning. 2002;1:188.
3. Yatnikasari A. The Relationship Between Retention Program and Organizational Nurse Organizational Commitments at Harapan Kita Hospital Jakarta. Tesis; 2010.
4. Yulian R, Yeni Y. Optimization of Puskesmas Services in Improving the Quality of Community Health Services in Kubu Raya Regency, West Kalimantan Province. Journal of Motivation Management. 2017;13(2):850–67.
5. Rifai M, Madjid U, Ismunarta I. Policy Implementation of Minimum Service Standards in the Health Sector at Garawangi Health Center,

Kuningan Regency, West Java Province. Journal of Government Politics. 2016;9(1):25–43.

6. Dessler A. Introduction to modern climate change. Cambridge University Press; 2015.
7. Nawawi. Strategic Management: Non-Profit Organizations in Government. Yogyakarta: UGM; 2005.
8. Meidian FA. Analysis of the Relationship between Work Motivation Factors and Non-Medical Staff Work Discipline in Administration Building X Hospital. Thesis, Faculty of Public Health, University of Indonesia Thing. 2012;1–21.
9. Prasojo S. Relationship between characteristics and motivation with the work discipline of implementing nurses in inpatients at RSUD Batang. 27182; 2005.
10. Dwi Septianto DS, Lataruva E. The influence of work environment and work stress on the performance of study employees at PT Pataya Raya Semarang. Universitas Diponegoro; 2011.
11. Suprapto S. Nursing Work Stress Factors That Are Related to the Quality of Nursing Services in the Emergency Care Installation of the Salewangan Area, Maros Regency. Journal Health Scientific Sandi Husada. 2016;4(1):1–10.
12. Rumoning MH. Effect of Work Environment, Work Discipline and Job Stress on Organizational Commitment in Improving Nurses' Performance in Asmat District Hospital. EMBA Journal: Journal of Economic Research, Management, Business and Accounting. 2018;6(2).

DOI Number: 10.37506/ijone.v12i4.11263

Psychological and Social Status of Children Treated with Renal Dialysis and their Mothers at Tanta City

Amira Mohamed Saed Khalil[1], Fareda El Sayed Osman[2]

[1]Assistant Professor of Pediatric Nursing, Faculty of Nursing, Tanta University,
[2]Lecturer of Psychiatric and Mental Health Nursing, Faculty of Nursing, Tanta University.

Abstract

Background and Aim: Renal dialysis treatment of children with end-stage kidney disease (ESKD) poses various challenges including financial difficulties, social challenges and psychological problems. Parents frequently face financial difficulties as they require more time off work and cannot work overtime. Sickness of a child causes a decline in the financial and socioeconomic status of the family and also hampers its functionality. Moreover, care for those children involves considerable psychological and social stress. This study aimed to assess psychological and social condition of children treated with renal dialysis and their mothers.

Materials and Method: The research was conducted on children with End-stage renal disease (ESRD) treated with renal dialysis and their mothers. The total studied population in this study was 40 child and their mothers (N= 40). One tool was used to collect data about the children illness and socio-demographic characteristics. Children psychological and social status is assessed using the Paediatric Quality of Life Inventory (PedsQL)and their parents the PedsQL-proxy version. Mothers health, social, and psychological data were collected using General Health Questionnaire (GHQ-12), and Berlin Social Support Scales(BSSS).

Result: Children psychological and social status were significantly low as reported by the children or the mothers who provide primary care for APD children**.** The mothers perceived available and actually received support is low. Overall score of General Health Questionnaire of the mothers was very high by median and quartile 17 (15–18).

Conclusions: Children psychological and social status were low according to PedsQL test. The family of children with renal dialysis need financial support. Mothers who provide primary care to children on renal dialysis require emotional support and assistance in self fulfillment. The mothers have high GHQ-12 scoring which means that they are have greater chance for increase of non-psychotic mental disorders. There is a strong need to provide continuous psychological care for caregivers.

Keywords: *Psychological, Social, Children Treated with Renal Dialysis, Mothers.*

Introduction

End-stage renal disease in children is a life-threatening disorder. It is considered to be a major public health problem because of increasing in its incidence and prevalence. It is still a health problem in children with increasing morbidity and affecting children's quality of life (QoL). The prevalence of children with chronic kidney disease worldwide is approximately 82 cases/ year/1 million children (2019)[1,2]. Children with chronic kidney disease (CKD) need lifelong medical treatment, which put significant uncertainty and inconvenience on their lifestyle and on that of their families. Renal dialysis treatment of children with end-stage kidney disease (ESKD) poses various challenges including financial difficulties, social challenges and psychological problems. Parents frequently face financial difficulties as they require more time off work and cannot work overtime. Sickness of a child causes a decline in the financial and socioeconomic status of the family and also hampers its functionality[3,4]. The challenges of

kidney failure for children involve physical effects from the loss of kidney function and emotional effects due to their illness. Physical effects of kidney failure can encompass extreme fatigue, weak bones, nerve damage, sleep problems, and growth failure. Emotional effects of kidney failure can include depression and feelings of isolation, which is especially a problem for children, who put great importance on making friends and fitting in. Individualized plans may be needed for children with kidney failure to help them to become active, productive, well-adjusted adults[5, 6].

From the moment of diagnosis and beginning of living with the disease, chronic kidney failure (CKF) causes changes in habits and excite emotional changes in children and adolescents. These changes may be appeared through feelings of insecurity and fear, limitations on quality of life (QOL), resulting in a higher incidence of psychological changes than in the general population[7,8]. Families caring for a child with kidney failure face certain challenges including understanding treatment options, scheduling and performing dialysis, and learning how to keep the child as healthy as possible. Constant stress on caretakers is reported to alter neural, neuroendocrine, and immune responses, which impact physiologic and psychological outcomes. The prevalence of anxiety and depression is expected to be high in parents of children with ESKD and treated with renal dialysis.[9, 10].

Families that lack social support are often unable to continue chronic medical management even if it is provided free of cost. On the other hand, relatives and friends may shy away from keeping contact with families with children with CKD because they may require financial support, or from time to time, other favors, such as blood donation, which may be frequently needed by children not maintained on erythropoietin due to its high cost or limited availability. Further, parents may limit socialization to avoid embarrassing their children who cannot compete with peers in sports. [11]. Parents assume various important roles, including those of nurses, pharmacists, and physicians. Parents deliver home-based interventions, including dialysis and nutritional supplementation, which are technically demanding and are basically provided by highly trained nurses in hospitals[12]. Because of the core role which were played by parents in the care of their children with CKD, their own health and well-being are important and at risk. Parents of children with CKD face many social and psychological problems, including a lower quality of life, higher levels of anxiety, and maladaptive behaviors. This problems by turn have a deleterious impact on the child's personal development and medical treatment. However, these problems can be decreased and eliminated by providing support for parents, which can indirectly lead to better outcomes in the children[13].

Nevertheless, impaired health-related quality of life among children on dialysis remains a challenge[14]. Children's QoL is closely related to the family, especially when the child is on renal dialysis. In addition to the usual parental responsibilities and activities of providing support, parents must also be involved in the therapeutic process[15,16]. In many cases, family members becoming the main caregivers burdened with many responsibilities and thus affects the life of the children's family. On the other hand, each parent's perception of their psychosocial situation, as well as their reaction to it, may affect the relationship between parents and their children and the child's functioning[17,18]. Before the decision concerning renal replacement treatment is made, it is necessary to assess the family's social, psychological, and economic background and recognize the needs of parents/caregivers[19]. Disregarding those factors creates the risk of complicating the method**.** Children with CKD usually have a poor quality of life because of the disease itself and dialysis are invariably quite stressful. As a result, it considered a predisposing factor for the development of psychiatric disorders in these patients and their family members, particularly in their main caregivers [14].Psychological and social aspects of children with chronic kidney disease (CKD) treated with renal dialysis have rarely been analyzed, and never in Tanta, Egypt. Therefore, we conducted national study with the aim of analyzing the psychosocial situation in families of children treated with renal dialysis and their mothers.

Material and Method

Research Design: A descriptive research design was used in the current study.

Research Setting: This study was conducted at pediatric dialysis unit of pediatric medical department of Tanta university Hospital. It has a capacity of 10 beds. It also provide health care services to three Governments, namely El Gharbeya, El Menofeya, and Kafr El Sheikh. **Subjects:** The research was conducted on children with End-stage renal disease (ESRD) treated with renal dialysis and their mothers. It include all

available children and their parent whom admitted to dialysis unit from July to September 2019 for a period of 3months. The total studied population in this study was 40 child and their mothers (N= 40), they are selected by convenience method of sampling if they have the inclusion criteria. Inclusion criteria for children were as follows: CKD diagnosed at least 12 months prior to the study, renal dialysis beginning at least 3 months prior to the study, age ≥2 years, and informed consent. Exclusion criteria for children comprised: a history of severe to profound mental retardation, renal, other solid-organ, bone marrow, or stem cell transplantation, cancer/leukemia diagnosis, hospitalization within 14 days (excluding hospitalization due to peritoneal dialysis control visit), and a significant life event unrelated to their kidney disease in the past 30 days, such as losing a family member.

Tools of the Study: Four tools were used by the researchers to obtain the necessary data.

Tool I: Structured interview questionnaire sheet. A structured interview questionnaire sheet which was designed by the researchers based on thorough review of literature. This tool comprises the following parts:

Part 1: *Child' Socio-demographic* and clinical data: age, sex, level of education, primary diagnosis of kidney disease, patient's age at time of CKD diagnosis, illness duration, Family renal history, dialysis duration, renal care duration, additional non-renal comorbidities, and number of hospitalizations.

Part 2: *Parents' demographic* information and certain changes as a result of child illness include: age, working status, place of residence educational level, health problems, having another children, who care of child, participation of other people in child care, change in economic status, and change in residence after starting dialysis, changes in attitude toward the ill child, changes in social contacts.

Tool (II): Assessment of children psychological and social status by *Pediatric Quality of Life Inventory (PedsQL) and their parents the PedsQL-proxy version.* It developed by ***Varni JW(2003)***[20,21]. The PedsQL assesses physical, emotional, social, and school functioning in children and adolescents. The measure comprises a report from children 5–18 years of age and a parent report for children between 2 and 18 years of age regarding the child's HRQoL. The PedsQL 4.0 Generic Core Scales were specifically designed to measure the core health dimensions outlined by the World Health Organization. The PedsQL is composed of 21 items comprising 4 dimensions (physical Functioning 8, psychological 5, social Functioning 5, and school functioning 3). The Scoring of The PedsQL include 5-point Likert scale from 0 (Never) to 4 (Almost always). Scores are transformed on a scale from 0 to 100. Higher scores indicate better psychological, and social Functioning.

Tool (III): Assessment of mothers psychological *status by General Health Questionnaire (GHQ-12)*. It developed by ***Goldberg D***[22]. The GHQ-12 measures psychological distress and is used to detect nonpsychotic psychiatric disorders such as depression or anxiety in adults. The scale asks whether the respondent has experienced a particular symptom or behavior recently. Each item is rated on a four-point scale (less than usual, no more than usual, rather more than usual, or much more than usual). The GHQ-12 is brief, easy to complete, and its application in research settings as a screening tool is well documented. We used the original scoring method in our study (response categories score: 0, 0, 1, and 1, respectively). This produces scores ranging from 0 to 12; the higher values indicate more psychological symptoms.

Tool (IV): Assessment of mothers Social status *by Berlin Social Support Scales (BSSS):* It developed by ***Schwarzer R (2003)***[23]. The original BSSS includes six independent subscales (perceived available support, need for support, support seeking, actual received support, provided support, and protective buffering) and measures both the cognitive and behavioral aspects of social support of the mother. Four subscales were used for this study: perceived available support (8 items), need for support (4 items), support seeking (5 items), and actual received support (15 items). The perceived support subscale comprises items of emotional and instrumental support; the overall received support includes items of emotional, instrumental, and informational support. The response format is the same for all subscales. Individuals rate their agreement with the statements on a four-point scale [strongly disagree (1), somewhat disagree (2), somewhat agree (3), and strongly agree (4)]. An average mean within the range of 1–4 was calculated for each subscale. A higher score indicated greater burden [24].

Method: Before conducting the study, a written permission letter was obtained from the Faculty of Nursing Tanta University to the manager of pediatric

medical department of Tanta university Hospital in order to obtain an approval to carry out the study. The manager was informed about the goal of the study, the date and time of data collection. **Ethical consideration:** Approval of the study was taken from the Faculty of Nursing to the manager of the previous settings in order to attain an approval to carry out the study. Informed written and oral consent was obtained from children and their parents to participate into the study. Also Confidentiality was assured. **The procedure of data gathering;**Structured interview schedule related to socio-demographic data (tool I) was developed by the researcher. Either tools(III, IV, & V) were translated into Arabic language by the researcher. A pilot study was done before embarking in the field of work on 10% from total subjects to ascertain the clarity and applicability of the study tools. The pilot subjects were excluded from study sample. This study was performed in 3 steps: The first; after obtaining a written permission from the previous settings, the researchers presented it to the pediatric renal dialysis unit. The study protocol was thoroughly explained to children and their parents and written informed **consent** was obtained from parents and children >16 years of age before enrollment in the study. Verbal consent was obtained from children <16 years where possible. The second; Medical files were analyzed to obtain child' clinical data. Third; All tools questionnaires related to child were collected by researcher through an individual interview. While each parent filled out the questionnaire separately. Each session of data collection with each study subject last from 20-40 minutes.

Statistical Analysis: The data were coded, entered and analyzed using SPSS (version 20). Descriptive statistics (frequency numbers and Percentages) identified demographic characteristics and parents‟ responses to the questionnaire. The median and quartiles were calculated for children and parents quality of life. Paired t tests were used to analyze the relationships; statistical significant was set at P value < 0.05% results of tests of significance.

Results

Characteristics of the examined children are showed in Table 1. As regard children sex, slightly more than half of children (55%) were males. The mean of the children age was (Mean ±SD: 11.85 ± 3.62). Majority of children (75%) hadn't family renal history. Less than half (45%) of children had anomaly of urinary tract and chronic pyelonephritis. More than three quadrant of children (80%) lived in rural areas. Most children (90%) were hospitalized from 1-4 times. Median of children's age at CKD diagnosis was 1.5 year. Whiles median number of years of dialysis therapy among children was 2.98.

The characteristics of APD children's families, their mothers in particular as all examined children was accompanied by their mothers at time of dialysis, are presented in Table 2. Most children were growing up in complete families; only two of them lived with one parent (mother). The age of the mothers of examined children was ranged from 30-50 years old. 60% of children' mothers were having moderate level of education. Most of children' mothers) 85%) were employees. Half of the mothers hadn›t any health problems.

Parents' perceived change in their families ‹situation after the child's diagnosis with CKD is summarized in Table 3. It appeared a harsh deteriorated change in economic situation for the family, where all families (100%) had changes in their financial status. While there wasn›t changes in location of residence of all families after CKD diagnosis in their children. More than half (60%)of mothers stated that the father give care more for their ill children. Thirty percent (30%) of mothers report that grandparents participate with parents in child care. About three quadrant of mothers (70%) report that there isn›t change in their attitude toward their children. The majority of mother (85%)stated that there were change in relations among their children, 70% of them stated that the relations among their children and the ill child was improved. Also there are improvement changes in social contact of other with ill child represented by 60%.

Table 4 illustrates Pediatric Quality of Life Inventory of the studied children. The PedsQL test results of the studied children as reported by the children or the mothers who provide primary care for APD children were significantly lower in relation to results among parents of healthy children as median and quartile of overall PedsQL test was (250(195–275) and 280(225–315)). In explaining different aspects of PedsQL test results among APD patients, it was found that the studied children have problems in physical functioning as they cannot walking more than one block, running, participating in sports activity or exercise, lifting something heavy with median and quartile 252 (182–316) as reported by children and 235 (192–260) by the mothers compared to normal child. Also the emotional functioning of the studied children was lower than the healthy children as reported by both the children and the

mothers (150 (112–165) and 190(125–210) respectively. The test results also revealed that the children have low social function in relation to normal PedsQL score with median and quartile 120 (93–130.75) as reported by the children and 150 (112–165)by the mother. Also the school functioning was low as reported by the studied children with median and quartile 190(125–210) and mothers 120 (93–130.75). There were no significant differences between children and mothers reporting in the PedsQL test results as $P > 0.05$.

Berlin Social Support Scale (BSSS) test results among mothers of children on renal dialysis was showed through table (5). It is clear that the mothers perceived available support and actually received support is low. Regarding to perceived social support, median and quartile of perceived emotional and instrumental social support was 5 (4–7) and 6 (5–7.75) respectively. While median and quartiles of studied mothers whom need for support and support seeking were 9 7 (6–8.5) and 5 (4–6.75) respectively. On the other hand of the other subscale BSSS test « actually received support», the studied mother report that they actually received low emotional, informational and instrumental support as revealed by median and quartiles 5 (4–6.75),6 (5–7.7), and 5 (4–7.8) respectively.

Table 1: Characteristics of the studied children

Characteristics of the studied children	Studied children (n=40)	
	No	%
Sex:		
Males	22	55
Females	18	45
Age in Years:		
6-10	16	40.0
11-15 >15	16 8	40.0 20.0
Range Mean±SD	6-17 11.85±3.65	
Family renal history:		
Yes No	10 30	25.0 75.0
Causes of CKD: - Chronic glomerulonephritis	6	15.0
- Anomaly of urinary tract and chronic pyelonephritis	18	45.0
- Hereditary kidney disease	8	20.0
- Others	6	15.0
- Unknown cause	2	5.0
Place of residence - Urban - Rural	8 32	20.0 80.0
Number of hospitalization - 1-4 - 5-10	36 4	90.0 10.0
Age at CKD diagnosis (years)	Median (quartiles), 1.5 (0.02–6.0)	
CKD duration (years)	Median (quartiles) 2.17 (1.21–2.75)	
Dialysis therapy (years)	Median (quartiles) 2.98 (1.0–2.20)	
Distance from Dialysis therapy center (km)	Median (quartiles) 55.0 (15.5–75.5)	

Table 2: Characteristics of mothers of children on Dialysis therapy

Characteristics of the studied children	Studied children (n=40)	
	No	%
Age in Years:		
30-35	20	50.0
36-40	10	25.0
>40	10	25.0
Range	30-50	
Mean±SD	63.7±8.65	
Educational level:		
- Illiterate	8	20.0
- Moderate	24	60.0
- High	8	20.0
Employment:		
-Yes	34	85.0
- No	6	15.0
Presence of healthproblems		
- Yes	20	50.0
- No	20	50.0
Presence of Sibling		
- Yes	38	95.0
- No	2	5.0
Type of family		
- Full	38	95.0
- Single parent	2	5.0

Table 3: Family Changes after chronic kidney disease (CKD) diagnosis in the child

Family Changes	Mothers' evaluation			
	Yes		No	
	No	%	No	%
Change in location of residence	0	0.0	40	100.0
Change in financial status	40	100.0	0	0.0
Caring for the child				
- Mother	10	25.0		
- Father	24	60.0		
- Both parents	6	15.0		
Participation of others in child care				
- Grandparents	12	30.0		
- Sisters	10	25.0	2	6.6
- Relatives	18	45.0		
Changes in attitude toward the ill child	12	30.0	28	70.0
- Improved	12	30.0		
- Deteriorated	0	30.0		
Changes in relations among children	34	85.0	6	15.0
- Improved	28	70.0		
- Deteriorated	6	15.0		
Changes in social contact	26	66.6	14	33.4
- Improved	24	60.0		
- Deteriorated	2	6.6		

Table 4: Children Psychological and Social Status and Overall PedsQL

Pediatric Quality of Life Inventory (PedsQL)	Studied children	Mothers
	Median and quartiles (first–third quartile)	Median and quartiles (first–third quartile)
Physical functioning	252 (182–316)	235 (192–260)
Emotional functioning	150 (112–165)	190(125–210)
Social functioning	120 (93–130.75)	150 (112–165)
School functioning	190(125–210)	120 (93–130.75)
Overall PedsQL	250(195–275)	280(225–315)

Table 5: Berlin Social Support Scales (BSSS), General Health Questionnaire test results among Mothers of children on renal dialysis.

Berlin Social Support Scales (BSSS)	Mothers
	Median and quartiles (first–third quartile)
Perceived available support:	
Emotional	5 (4–7)
Instrumental	6 (5–7.75)
Need for support	7 (6–8.5)
Support seeking	5 (4–6.75)
Actually received support:	
Emotional	5 (4–6.75)
Informational	6 (5–7.7)
Instrumental	5 (4–7.8)
General Health Questionnaire	
Total	**17 (15–18)**

Discussion

Care for children with chronic renal dialysis encompass considerable social and psychological stress. These children are dependent on their parents for dialysis-related home care procedures[26]. The results of the current study showed that there is deterioration change in economic situation for the family of children with renal dialysis, as all mothers 100% claimed the deterioration of financial situation followed the diagnosis of their child's illness. There is a positive correlation between change in financial status and children dialysis duration. Also there is positive correlation between change in financial status and place of residence as the majority of families from rural area which increase the economic burden during transportation to the place of dialysis. This result is in agreement with Katarzyna et al. (2013)[27], who found a harsh deterioration change in economic situation for the family of children with renal dialysis.

Psychological and social status among the studied children was low according to PedsQL test, which is in consistent with the findings of ***Anouck Splinter, eta.l, (2018)***[28] who stated that both dialysis and renal transplantation have a severe impact on the health related quality of life of children with end stage renal disease. The decrease in children psychological and social status may be related to the deterioration in their school and physical functioning as mentioned by the studied Children and mothers. There significant correlation between children physical, school, social and psychological status. It is worth of glory that the overall quality of life was rated as low by parents than by their children. The same findings were obtained by other researches which applied on children with chronic disorders[28,29]. This condition may lead to over protectiveness and thus inhibit the child's development of self-reliance and sufficiency and, as a result, increase the perceived burden experienced by the mothers. The mothers in this study evaluated their total burden as median and low, this could be related to assistance from the father of the diseased child and other members in her family. There is appositive correlation between the perceived burden and the Perceived available support. It can be also proposed that participating as a caregiver also carries positive effects that decrease the perceived burden. Among such positive effects, mothers become stronger with different interactions with others while accompanying the child to the haemodialysis sessions, like; the mother's communication with the health team, with the other mothers at the Center, with the family and the child himself. This result is consistent with the

claimed enhancement of relationships with the sick child by the parents (or lack of changes in attitude toward the child) and the evaluation of the relationship with the patient as very good in most cases.

Child's illness make changes in the family that usually include living location rearrangement, involving of additional individuals in caring for the sick child, and the deterioration of existing social relationships. Parents often establish only new friendships with other sick children's parents which supposed to be beneficial in exchanging experiences; however,it also indicates the affected families' isolation[30]. Any information provided by the parents about changes in the family connected with the child's disease should be taken into consideration during interaction with medical personnel[31]. Schwarzer and Schulz definedsocial support as resources and help provided by other people[23]. Researchers and theorists distinguish different types of social support: instrumental support (sharing certain goods), informational support (advice on how to solve a problem), and emotional (comforting and showing compassion[22,23,27]. Findings of Our research suggest that children's mothers are in the need for social supportas most of the mothers are employees and in greet need for social support to coordinate between her work and child care. There is appositive correlation between mothers' social support and their work. This result is in agreement with Katarzyna et al[27] whom found in their research that parents of children under renal dialysis have the need for social support. Also, the finding of the current research revealed that there is a positive correlation between the mother general strain and the amount of given support, their feelings towards their children, and social isolation.

In the current study the researchers used GHQ-12 screening instrument to assess mothers' psychological status[24]. The result of our study indicated that the mothers have high GHQ-12 scoring which means that they are have greater chance for increase of non-psychotic mental disorders. However, the results may indicate anxiety, the loss of confidence, and depression as a reaction to difficulties and the inability to fulfill their own objectives[32]. Our study found that there is a positive correlation between the mother support request and their health status which suggests that external environmental factors may be an important determinant of an individual's mental state. Moreover, significantly higher general strain and poorer overall mental health as a consequence of greater burdens. The results underline the strong need to provide continuous psychological care for mothers.

Mothers from urban area are at a disadvantage in terms of the sense of social isolation, overall burden, and perceived available instrumental support. This may stem from anonymity and loosening of social ties, more intensified need. There is a significant positive correlation between mothers' psychological and social status and that of their children which means that if the mothers' psychological and social status are high, the children psychological and social status on turn will be high and vise viscera.

Conclusion

Health-related quality of life among the studied children was low according to PedsQL test. The family of children with renal dialysis need financial support. Mothers who provide primary care to children on renal dialysis require emotional support and assistance in self fulfillment. The mothers have high GHQ-12 scoring which means that they are have greater chance for increase of non-psychotic mental disorders. There is a strong need to provide continuous psychological care for caregivers.

Ethical Clearance: Approval for study conducting was taken from the Faculty of Nursing to the manager of pediatric dialysis unit of pediatric medical department of Tanta university Hospital in order to attain an approval to carry out the study. Informed written and oral consent was obtained from children and their parents to participate into the study. Also Confidentiality of children and mothers data was assured**.**

Funding Source: Self

Conflict of Interest: Nil.

College Address: Faculty of nursing, Tanta University, Tanta; El BaherStreet, Egypt.

References

1. Pardede SO, Rafli A, Gunardi H. Quality of Life in Chronic Kidney disease children using assessment Pediatric Quality Of Life Inventory™. Saudi J Kidney Dis Transpl. 2019; 30(4):812-818.
2. Baek HS, Park KS, Ha IS, Kang HG, Cheong HI, Park YS, Lee JH, Cho HY, Cho MH. Impact of end-stage renal disease in children on their parents. Nephrology (Carlton) J. 2018; 23(8):764-770.
3. National Institutes of Health. The National Institute

of Diabetes and Digestive and Kidney Diseases (NIDDK) US. Department of Health and Human Services. 2014, available at: National Institute of Diabetes and Digestive and Kidney Diseases .

4. Harambat J, van Stralen KJ, Kim JJ, Tizard EJ Epidemiology of chronic kidney disease in children. PediatrNephrol J 2012: 27:363–37.
5. Schoenmaker NJ, Haverman L, Tromp WF, van der Lee JH, Offringa M, Adams B, et al. Children of non-Western origin with end-stage renal disease in the Netherlands, Belgium and a part of Germany have impaired health-related quality of life compared with Western children. Nephrology Dialysis Transplantation. 2014; 29(2):448–457. doi: 10.1093/ndt/gft436.
6. Chand DH, Swartz S, Tuchman S, Valentini RP, Somers MJ. Dialysis in Children and Adolescents: The Pediatric Nephrology Perspective. Am J Kidney Dis. 2017 Feb;69(2):278-286.
7. KDIGO Clinical practice guidelines for the evaluation and management of chronic kidney disease. Chapter 5: referral to specialists and models of care. Kidney Int J 2012: 3:112–119
8. Alan R. Watson. Psychosocial support for children and families requiring renal re placement therapy. Pediatric Nephrology J. 2014, 29, (7), pp 1169–1174
9. Tjaden L, Tong A, Henning P, Groothoff J, Craig JC. Children's experiences of dialysis: a systematic review of qualitative studies. Arch Dis Child J 2012: 97:395–402
10. Neu AM, Sander A, Borzych-Duzalka D, Watson AR, Valles PG, Ha IS, Patel H, Askenazi D, Balasz-Chmielewska I, Lauronen J, Groothoff JW, Feber J, Schaefer F, Warady BA, IPPN investigators Comorbidities in chronic paediatric peritoneal dialysis patients: a report of the International Pediatric Peritoneal Dialysis Network. Perit Dial Int J 2012: 32:410–418
11. Neul SK, Minard CG, Currier H, Goldstein SL Health-related quality of life functioning over a 2-year period in children with end-stage renal disease. PediatrNephrol J 2013:28:285–293
12. Kogon AJ, Vander Stoep A, Weiss NS, Smith J, Flynn JT, McCauley E Depression and its associated factors in pediatric chronic kidney disease. PediatrNephrol J, 2013 28:1855–1861.
13. Chand DH, Swartz S, Tuchman S, Valentini RP, Somers MJ. Dialysis in Children and Adolescents: The Pediatric Nephrology Perspective. Am J Kidney Dis. 2017 Feb;69(2):278-286.
14. Tong A, Samuel S, Zappitelli M, Dart A, Furth S, Eddy A, Groothoff J, Webb NJ, Yap HK, Bockenhauer D, Sinha A, Alexander SI, Goldstein SL, Gipson DS, Hanson CS, Evangelidis N, Crowe S, Harris T, Hemmelgarn BR, Manns B, Gill J, Tugwell P, Van Biesen W, Wheeler DC, Winkelmayer WC, Craig JC; SONG-Kids Investigators. Standardised Outcomes in Nephrology-Children and Adolescents (SONG-Kids): a protocol for establishing a core outcome set for children with chronic kidney disease.Trials. J, 2016; 12(17):401.
15. Amaral S, Sayed BA, Kutner N, Patzer RE. Preemptive kidney transplantation is associated with survival benefits among pediatric patients with end-stage renal disease. Kidney International. 2016;90(5):1100–1108.
16. Schoenmaker NJ, Haverman L, Tromp WF, van der Lee JH, Offringa M, Adams B, et al. Children of non-Western origin with end-stage renal disease in the Netherlands, Belgium and a part of Germany have impaired health-related quality of life compared with Western children. Nephrology Dialysis Transplantation. 2014;29(2):448–457
17. Tjaden LA, Vogelzang J, Jager KJ, van Stralen KJ, Maurice-Stam H, Grootenhuis MA, et al. Long-term quality of life and social outcome of childhood end-stage renal disease. The Journal of Pediatrics. 2014;165(2):336–342.
18. Neul SK, Minard CG, Currier H, Goldstein SL. Health-related quality of life functioning over a 2-year period in children with end-stage renal disease. Pediatric Nephrology. 2013;28(2):285–293. doi: 10.1007/s00467-012-2313-7.
19. Abreu IS, Nascimento LC, Lima RAG, Santos CB. Children and adolescents with chronic kidney disease in haemodialysis: perception of professionals. Rev Bras Enferm. 2015;68(6):712-8.
20. Varni JW, Burwinkle TM, Katz ER. The PedsQL 4.0 as a pediatric population health measure: feasibility, reliability, and validity. AmbulPediatr J, 2003; 3:329–341.
21. Varni JW. PedsQL TM (Pediatric Quality of Life Inventory TM). www.pedsql.org. accessed at 25/5/2020.

22. Goldberg D, The General Health Questionnaire. https://www.gl-assessment.co.uk/products/general-health-questionnaire-ghq/ accessed at 25/5/2020.
23. Schulz U, Schwarzer R. Social support in coping with illness: the Berlin Social Support Scales (BSSS). Diagnostica J 2003; 49:73–82.
24. Schwarzer R. Berlin Social-Support Scales (BSSS). http://userpage.fu-berlin.de/~health/soc_pol.htm, accessed at 25/5/2020.
25. Elmstahl S, Malmberg B, Annerstendt L. Caregiver's burden of patients 3 years after stroke assessed by a novel caregiver burden scale. Arch Phys Med Rehabil J 1996; 77:177–182.
26. Schaefer F, Warady BA. Peritoneal dialysis in children with end-stage renal disease. Nat Rev Nephrol J 2011; 7:659–668.
27. K. Kiliś-Pstrusińska,A. Wasilewska,I. Bałasz-Chmielewska, R. Grenda,A. Kluska,B. Leszczyńska,M. Miklaszewska,M. Szczepańska,M. Tkaczyk,M. Zajączkowska,I. Olszak. Psychosocial aspects of children and families of children treated with automated peritoneal dialysis. PediatrNephrolJ2013; 28:2157–2167.
28. Anouck Splinter, Lidwien A. Tjaden, LotteHaverman, Brigitte Adams,Laure Collard, KarlienCransberg, Maria van Dyck, Koen J. Van Hoeck,[7] Bernd Hoppe, Linda Koster-Kamphuis, Marc R. Lilien, Ann Raes, Christina Taylan, Martha A. Grootenhuis, and Jaap W. Groothoff. Children on dialysis as well as renal transplanted children report severely impaired health-related quality of life. Qual Life Res J. 2018; 27(6): 1445–1454.
29. Frota MA, Vasconcelos VM, Machado JC, Landin FLP, Martins MC. [Life quality of children with chronic renal failure]. Esc Anna Nery [Internet]. 2010; 14(3):527-533.
30. Hee Sun Baek, Hee Gyung Kang, Hyun Jin Choi, Hae Il Cheong, Il Soo Ha, Kyung Hee Han, SeongHeon Kim, Hee Yeon Cho, Jae Il Shin, Young Seo Park, JooHoon Lee, Joongyub Lee, Curie Ahn, Min Hyun Cho. Health-related Quality of Life of Children With Pre-Dialysis Chronic Kidney Disease PediatrNephrol J, 2017; Nov; 32(11):2097-2105.
31. Moreira JM, Bouissou Morais Soares CM, Teixeira AL, Simões E Silva AC, Kummer AM Anxiety, depression, resilience and quality of life in children and adolescents with pre-dialysis chronic kidney disease. Pediatr Nephrol. 2015 (12):2153-62.
32. Heath J, Norman P, Christian M, Watson A. Measurement of quality of life and attitudes towards illness in children and young people with chronic kidney disease. Qual Life Res. 2017; 26 (9):2409-2419.

DOI Number: 10.37506/ijone.v12i4.11264

Effect of Using Case Study Teaching Strategy on Nursing Students' Perception of Teaching Effectiveness

Abeer Mohamed Abdelkader[1], Aishah Abdulrahman Almefarfesh[2]

[1]Professional Title: Assistant Professor, Institutional Affiliations: Faculty of Nursing/Minia University,
[2]Professional Title: Assistant Professor, Institutional Affiliations: College of Applied Medical Sciences, King Faisal University

Abstract

Background: A case-study approach in teaching promotes the level of knowledge retention by nursing students, enhances their critical thinking skills, and expands their problem-solving capabilities.

Purpose: This study aimed to determine the effect of using case study teaching strategy on nursing students' perception of teaching effectiveness.

Method: Quasi experimental/pre and post-test research design was used in this study

Results: Post-test mean scores were significantly higher than the pre-test mean scores of all teaching effectiveness domains named space & equipment, classmate- interaction, academic goal, teaching method, internship & practicum, and course content. Also, a positive attitude towards case-study teaching strategy reported by the participants.

Conclusion: The implemented case study as a teaching strategy had a significant positive effect on the students' perceptions of teaching effectiveness.

Keywords: *Case-study, Effective teaching, Nursing students, Nursing education.*

Introduction

A case-study approach in teaching promotes the level of knowledge retention by nursing students, enhances their critical thinking skills, and expands their problem-solving capabilities. It also enables students to be better prepared in the event of examinations.

Corresponding Author:
Abeer Mohamed Abdelkader, Ph.D.
Assistant Professor, Institutional Affiliations: Faculty of Nursing/Minia University–61519
Permanent Address: Faculty of Nursing/Minia University/Egypt
Phone Number: 002/01114326248
e-mail: abeermabdel@mu.edu.eg

University education is a very costly and important investment, and students' satisfaction with degree programs has significant marketing implications. However, there is little literature that investigates case study teaching strategy and its predictive relationship to student satisfaction. Nursing educators should be able to maintain knowledge of trends that emerge in nursing education as well as be willing to learn and adapt to new method.[1]

Case study teaching strategy is a method of education that favours student-based method to teacher-based method and improves students' motivation and self-efficacy.[1,2]. It allows for the active participation of students and is a practical approach in enhancing student learning.[3] Thistlethwaiteet al., (2012) concluded in their study that the case-based learning (CBL) enhanced students' learning. They asserted that the students enjoyed the sessions and there was partial enjoyment of

CBL by the teachers because students enjoyed it, and it motivated them to engage in better learning.[4]

Also, Habasisa (2014) mentioned that using a case study has been efficient in creating a positive learning environment for students. However, the approach faces several barriers, such as lack of teacher experience in using case studies as witnessed in South Africa and the construction of cases.[5] In addition, Majeed (2014) performed a research to assess the efficacy of a case-based approach where concluded that there was a significant improvement in exam performing after didactic teaching. The Higher education in Saudi Arabia recently started to acknowledge that classroom culture plays a critical role in student satisfaction, retention, and learning.[6]

Significance of the study: Using case teaching in University and colleges have many good practices as boosts positive interaction between students and faculty, encourages active learning, advances mutuality and cooperation among students. It also gives prompt feedback on students' performance, and encourages students to have great self - confidence and increases the level of self-expectations, emphasizes time on task, and respects variety of talents and ways of learning.

Purpose of the study: The aim of this study is to determine the effect of using case study teaching strategy on nursing students' perception of teaching effectiveness.

Hypothesis of the study: Post-test scores of students about their perception of effective teaching after using case study teaching strategy are higher than their pre-test scores.

Method

Design: Quasi-experimental/pre and post-test research design was employed in the present study

Sample: Convenient sample from third year nursing students (90 out of 122 who fill up the questionnaire) who taking the course, health care ethics during the first semester of academic year 2018-2019, in the traditional baccalaureate nursing program.

Setting: Nursing Department, College of Applied Medical Science (CAMS), KFU. Saudi Arabia

Data Collection Tool: Perceptions of Teaching Effectiveness questionnaire (PTE) developed by Quay and Quaglia (2004), Tsai & Chou (2007) and modified by Hsieh (2011) was used for collection of the study data using 5-point Likert scales ranging from strongly disagree (1) to strongly agree (5).[7-8,1] The questionnaire consisted of three parts as follow: Part I: Personal data such as age, gender, previous academic achievement, and place of residence, Part II: PTE scalecategorized to six domains as; course content, space & equipment, teaching method, internship & practicum, classmate-interaction, and academic goal, and Part III: Students' Attitude towards case study teaching strategy scale developed by Bansal and Goyal (2017).

Procedures: Reliability of the tool was tested by using the Cronbach's Alpha test. The value was 0.95. Content validity was assessed by tow experts in the related field of nursing education and administration. Also, Validity of the tool for factor analysis was completed using Kaiser-Meyer-Olkin (KMO) Test. The value was 0.90. A pilot study was undertaken on a sample of ten percent from the study participants to check and guarantee that the study tool was clear and applicable. As well as, performed the required modifications. The subjects of the pilot were included in the main subjects of the current research. Data were collected through monkey electronic survey during first semester for academic year 2018/2019. The study conducted using three phases as:

Planning Phase: The researcher reviewed related literature to prepare case studies related specific topics of healthcare ethics course to use in the class discussion(ethical issues of informed consent, confidentiality, death and dying, abortion, and organ donation). Case studies that used taken from actual situations; every effort has been made to mask the identities of the participants' involved.[9-12]

Implementation phase: The class time of the course was three hours per week; it divided into two sessions, first session for the researcher (course faculty) presentation and explanation of the content and the second session for the assigned case study analysis and discussion by students. After Pre-test data collection the researcher (course faculty) starts to use case study approach in teaching the class for four consecutive weeks by presenting short cases that followed immediately with highly directed questions to get students attention and continue to discuss the topic. At the end of the class, the students provided with homework to be discussed in the next class in the form of mini case related to the topic

that was covered. In small groups (4 per each group) students must present justifications for all actions based on principles; the students should gather all information to determine whether an ethical dilemma exists, examine his or her own values, express the exist problem, consider all possible courses of action, discuss the outcomes, and appraise the action executed.

Evaluation phase: In week 14 of academic calendar for the post-test data collection, each participant requested to fill the post-test questionnaires including the Attitude towards case study teaching strategy. The time required to complete a given questionnaire was approximately ten to fifteen minutes.

Ethical consideration: All official permission obtained from concerned authority (department head, students' affair and clinical training coordinator). In addition, all participants were voluntarily involved in this study after they informed with the study purpose and expressed their approval; the participants were able to pullout from this research at any point of this study as they wanted. In addition, confidentiality, privacy, and anonymity of the participants and their responses were assured.

Statistical analysis: Data analysis of the current study done by SPSS (version 23). Data produced using descriptive statistic in the structure of frequency, percentage, mean, standard deviation, and Pearson correlation. Moreover, P value of ≤ 0.05 used for significant measurements of the study variables.

Results

Table 1 demonstrates socio-demographic characteristics of the study participants. It was clear from this table that of the age of 20 to 21 got the highest percentage (68.9%). Also, this table shows that 57.8% of the participants were not married. Additionally, the majority of the participants (75%) do not have children. Concerning the previous academic achievement of the participants, it was noticed that highest percentage (46.7%) got very good score. Furthermore, it was observed that the majority (85.6%) of the participants live in urban areas.

Table 1: Socio-demographic characteristics of the study participants. N = 90

Socio-demographic characteristics	No	%
Age		
20-21	28	31.1
22-23	62	68.9
Total	**90**	**100**
Marital Status		
No	52	57.8
Yes	38	42.2
Total	**90**	**100**
Having children		
No	63	70.0
Yes	27	30.0
Previous academic achievement:		
Pass	2	2.2
Good	18	20.0
Very good	42	46.7
Excellent	28	31.1
Total	**90**	**100**
Residence Place		
Rural	13	14.4
Urban	77	85.6
Total	**90**	**100**

Table 2: Pre and post-test mean scores of Teaching Effectiveness perception by the study participants. N=90

Teaching Effectiveness Domains	Pretest	Post-test	t test	P-value
	Mean ± S. D	Mean ± S. D		
Course Content	6.9 ± 2.5	10.0 ± 2.4	8.919	.0001**
Space & Equipment	12.6 ± 3.6	17.2 ± 4.1	8.505	.0001**
Teaching Method	10.2 ± 3.4	16.0 ± 4.5	10.320	.0001**
Internship & Practicum	9.0 ± 2.8	12.8 ± 3.7	8.302	.0001**
Classmate- Interaction	11.6 ± 4.3	16.6 ± 5.5	7.239	.0001**
Academic Goal	11.0 ± 3.9	16.4 ± 5.4	8.096	.0001**

Table 2 represents pre and post-test mean scores of teaching effectiveness perception by the study participants. The results revealed that the post-test mean scores were recorded significantly higher (p= .0001) than the pre-test mean scores of for all teaching effectiveness domains named space & equipment, classmate-interaction, academic goal, teaching method, internship & practicum, and course content (17.2±4.1, 16.6±5.5, 16.4±5.4, 16.0±4.5, 12.8±3.7, 10.0±2.4 successively).

Table 3 display positive attitudes towards case-study teaching strategy reported by the participants. The highest percent for strongly agree were obtained with three items as" This technique provided the real time relevance", "This technique provided an opportunity for self-learning" and " It was a satisfying learning experience" which values are 38.9, 37.8, and 37.8 respectively.

Table 3: percentage distribution of the study participants regarding their Attitude towards case study teaching strategy. N=90

No	Items	Strongly Agree		Agree		Undecided		Disagree		Strongly Disagree	
		No	%	No	%	No	%	No	%	No	%
1	This technique helped me to understand the subject effectively.	20	22.2	26	28.9	20	22.2	9	10.0	10	11.1
2	This technique was an interesting experience.	23	25.6	22	24.4	13	14.4	10	11.1	9	10.0
3	This technique provided the real time relevance.	35	38.9	20	22.2	15	16.7	9	10.0	12	13.3
4	This technique encouraged my intellectual curiosity.	29	32.2	15	16.7	17	18.9	9	10.0	13	14.4
5	This technique kept me engaged during the session.	25	27.8	28	31.1	15	16.7	5	5.6	7	7.8
6	This technique provided an opportunity for self-learning.	34	37.8	26	28.9	11	12.2	15	16.7	11	12.2
7	I feel confident about the subject after this technique.	26	28.9	26	28.9	17	18.9	11	12.2	12	13.3
8	This was an effective means to learn the concepts.	23	25.6	25	27.8	20	22.2	12	13.3	15	16.7
9	It was a satisfying learning experience.	34	37.8	24	26.7	20	22.2	14	15.6	11	12.2
10	I would like to involve in more of such cases.	20	22.2	30	33.3	14	15.6	17	18.9	15	16.7
11	This involved deeper learning approach	14	15.6	33	36.7	20	22.2	11	12.2	9	10.0
12	This technique helped me in development of critical thinking.	19	21.1	30	33.3	14	15.6	17	18.9	12	13.3

Table 4 illustrates high statistically significant difference and positive relationship among all domains of teaching effectiveness. Regarding course content domain, it was noticed that moderate positive relationship with domains of teaching effectiveness named as Space & Equipment, Teaching Method, Internship & Practicum, and Classmate- Interaction (r= .714, .636, .619, and .587 respectively). Additionally, the same table display moderate positive relationship between Space & Equipment domain and other teaching effectiveness domains named as Teaching Method, Internship & Practicum, Classmate- Interaction, and academic goal (r= .603, .603, .502, and. 571 respectively).

Table 4: Correlation matrix of Teaching Effectiveness Domains of the study participants. N =90

Domains of Teaching Effectiveness	Course Content	Space & Equipment	Teaching Method	Internship & Practicum	Classmate-Interaction	Academic Goal
Course Content						
Space & Equipment	.714**					
Teaching Method	.636**	.603**				
Internship & Practicum	.619**	.603**	.705**			
Classmate- Interaction	.587**	.502**	.613**	.676**		
Academic Goal	.752**	.571**	.695**	.701**	.775**	

* Significant at $p \leq 0.05$. ** Highly significant $p \leq 0.001$.

Discussion

Case study teaching proven its effectiveness in improving students learning by many studies in the globe.[13]The present revealed a positive response from nursing students who noticed a remarkable improvement in their perception about effective teaching after using case-study teaching strategy. In addition, the present study found a high statistically significant difference between the pre and post-test percentage for all items of teaching effectiveness domains. This result congruent with the result by Fatima et al. (2015). They stated the that the students found case-based learning a very effective tool for expanding their learning, communication as well as improving their analytical skills.[14]

In addition, in this study according to Space & Equipment domain, it was observed that a high statistically significant difference between its pre and post-test mean scores (sample item includes "the equipment can facilitate my presentation"). This finding agrees with Bijani(2019) who clarified that students can become highly frustrated in case of unavailability of the equipment or be greatly motivated with the extensive equipment. However, case-based learning is uncomplicated and easy to utilize. It does not need specific materials and supplies for implementation.[15]

Another interesting finding was that the study participants reported a high statistically significant difference between pre and post-test mean scores of classmate interaction domain (sample item includes "I can enjoy a cooperative learning"). This finding supported by Torredà et al., (2014). Their findings revealed that case-study teaching is enjoyable because it promotes active interaction among students, creates an academic challenge.[16]

Moreover, the findings of the current research showed that a high statistically significant difference was existed between pre and post-test mean scores of academic goal domain (sample item includes "The course is for academic development in future" and "The course is for work prepare in future"). This finding consistent with Cheng & et al., (2016), and Akhlaghi et al., (2018). They emphasized that case- based learning enhanced the students' belief that they can be successful in their assignments and tasks, thus bettering their academic outcomes.[17-18]

Concerning teaching method domain, it was observed that a high statistically significant difference was existed between its pre and post-test mean scores (sample item includes "I like the instructor's teaching method". This result constant with the previous studies findings (Sahimi & Said (2016), Albaradie (2018), Sayyah, (2017), andPapanagnouet.al. (2016). They asserted that to ensure that the students have a positive learning experience; it is essential to understand student's perspectives, needs, emotions, and interests regarding their learning environment.[19-22]

Regarding attitudes towards the case study teaching strategy, the participants of the current study reported their positive attitudes towards the case study teaching strategy. This result corresponds with Escartín et al., (2015) who clarified that case study encourages self-learning because nursing students need to search for more information about their cases in textbooks, articles, and online databases for evidence-based research.[23]

In addition, the current study revealed a statistically significant difference and positive relationship between all teaching effectiveness domains. This finding is coherent with the study conducted by Alarcón, et. al.

(2019), Rehna & Abraham (2019). They concluded that the curriculum of nursing education is majorly comprised of intense theory, lab practical and clinical practice and community work as well. Therefore, various teaching method would integrate to suit the diverse aspects of the curriculum as well as nursing student needs.[24-25]

Recommendations

- Use the relevant case studies that address learning objectives and content accuracy to promote learning.
- Further studies are required to provide deeper insight and provide more information on the effectiveness of the case-study teaching technique on improving learning outcomes, learners and faculty perceptions and their satisfaction level.
- Limitations: There limitation of this study includes using a specific case studies and a small size of population, which may limit to some extent the generalizability of the findings.

Conclusion

The results of the current study suggest that the implemented case study as a teaching strategy had a significant positive effect on the students' perceptions of teaching effectiveness. Based on students' perception, it was noticed that student evaluations of teaching effectiveness were very positive. The most positive domain of teaching effectiveness perceived by the students were space & equipment and classmate interaction. The study provides evidence that the use of case study offered active learning environment during case-study discussion and promoted greater order, social skills and communication abilities in nursing students.

Conflicts of Interest Disclosure: Authors disclose that there was no conflict of interest.

Source of Funding: The study was self-funded.

References

1. Hsieh K. A study of students' perceptions of teaching effectiveness in selected sport management courses at selected colleges and universities in Taiwan. Doctoral thesis, United States Sports Academy. Daphne, Alabama. 2011.
2. Johansson SG. Case Studies and Their Impact on Teaching and Learning. 2016. http://www.divaportal.org/smash/get/diva2: 1050903/FULLTEXT01.pdf
3. LiS., Ye X., & Chen W. Practice and effectiveness of "nursing case-based learning" course on nursing student's critical thinking ability: A comparative study. Nurse Education in Practice. 2019;(36): 91-96. doi: 10.1016/j.nepr.2019.03.007
4. Thistlethwaite JE., Davies D., Ekeocha S., Kidd JM., Macdougall C., Matthews P., Clay D. The effectiveness of case-based learning in health professional education. A BEME systematic review: BEME Guide No. 23. Medical Teacher. 2012; 34(6). doi:10.3109/0142159x.2012.680939
5. Habasisa, M. Using Case Study as a Teaching and Learning Strategy in the Teaching of Economics: A Literature Review. Mediterranean Journal of Social Sciences. 2014;5(23): 999.DOI: 10.5901/mjss.2014.v5n23p999
6. Majeed F. Effectiveness of case-based teaching of physiology for nursing students. Journal of Taibah University Medical Sciences. 2014; 9(4):289-292. doi: 10.1016/j.jtumed.2013.12.005
7. Quay SE., Quaglia, RJ. Creating a classroom culture that inspires student learning. Teaching Professor. 2004; 18 (2): 1-5.
8. Tsai FC., Chou HS. A study on flow experience and learning satisfaction for students of college toward their choice take in a physical education program. Journal of Physical Education. 2007; 40(4):37-49.
9. Professionalism and Ethics Handbook for Residents. Saudi Commission for Health Specialties, King Fahd National Library Cataloging-in-Publication Data. Riyadh – Saudi Arabia, 2015
10. Billings D. Lippincott's Q & A Review for NCLEX-RN. (11th Edition). Philadelphia: Lippincott Williams and Wilkins. ISBN 13: 978-1469887760.2014.
11. Nettina SM. Lippincott's Manual of Nursing Practice. (10th Edition). Philadelphia: Lippincott, Williams and Wilkins. ISBN 13: 978-1451173543.2013.
12. Silvestri L. Saunders Comprehensive Review for the NCLEX-RN Examination (6th edition). MO: Saunders Elsevier. ISBN 13: 978-1455727551. 2013
13. Bonney KM. Case Study Teaching Method Improves Student Performance and Perceptions of Learning Gains. Journal of Microbiology & Biology Education. 2015;16(1): 21-28. doi:10.1128/jmbe.v16i1.846.

14. Fatima N., Shameem M., Haris MK. Evaluation of Case-Based Lectures for Teaching Medical Microbiology. Irjet Journal. 2015;(2):1-2.
15. Bijani, M. A comparative study of the effectiveness of case-based learning and lecturing in enhancing nursing students' skills in diagnosing cardiac dysrhythmias. Revista Latinoamericana de Hipertension. 2019; 14 (6):651-655.
16. Torredà MR., PujolJO., Collado ÀR., Aguilera MC., Masó JP., Bagué AB. Case-Based Learning and Simulation: Useful Tools to Enhance Nurses' Education? Nonrandomized Controlled Trial. Journal of Nursing Scholarship. 2014; 47(1):34-42. doi: 10.1111/jnu.12113
17. ChengA., MorseKJ., Rudolph J., ArabAA., Runnacles J., Eppich, W. Learner-Centered Debriefing for Health Care Simulation Education. Simulation in Healthcare: The Journal of the Society for Simulation in Healthcare.2016; 11(1): 32-40. doi:10.1097/sih.0000000000000136
18. Akhlaghi N., Mirkazemi H., Jafarzade M., Akhlaghi N. Does learning style preferences influence academic performance among dental students in Isfahan, Iran?. Journal of educational evaluation for health professions. 2018;15: 8. doi:10.3352/jeehp.2018.15.8
19. Sahimi N., & Said I. Young Children Selections of the Physical Elements in the Preschool Environment. Journal of ASIAN Behavioural Studies. 2016; 1(1): 91. doi: 10.21834/jabs.v1i1.175
20. Albaradie R. Perception of students and teachers about didactic teaching: A cross-sectional study. Saudi Journal for Health Sciences. 2018; 7(2):107. doi:10.4103/sjhs.sjhs_28_18
21. Sayyah M., Shirbandi K., Saki-Malehi A., Rahim F. Use of a problem-based learning teaching model for undergraduate medical and nursing education: A systematic review and meta-analysis. Advances in Medical Education and Practice.2017; 8: 691-700. doi:10.2147/amep.s143694
22. Papanagnou D., Serrano A., Barkley K., ChandraS., Governatori N., Piela N. Does tailoring instructional style to a medical student's self-perceived learning style improve performance when teaching intravenous catheter placement? A randomized controlled study. BMC Medical Education. 2016; 16(1):205doi: 10.1186/s12909-016-0720-3
23. Escartín J., Saldaña O., Martín-Peña J., Varela-Rey A., Jiménez Y., Vidal T., Rodríguez-Carballeira Á. The Impact of Writing Case Studies: Benefits for Students' Success and Well-being. Procedia - Social and Behavioral Sciences.2015; 196: 47-51. doi:10.1016/j.sbspro.2015.07.009
24. Alarcón A., Alcas N., Alarcón H., Natividad J., Rodríguez A. Use of Learning Strategies in the University. A Case Study. Propósitos y Representaciones. 2019; 7(1): 10-32.Doi: http://dx.doi.org/10.20511/pyr2019.v7n1.265.
25. Rehna T., Abraham R. Effectiveness of case scenario-based learning over didactic lectures on teaching pediatric infectious diseases to undergraduate medical students. International Journal of Contemporary Pediatrics. 2019; 6(5):2137. doi:10.18203/2349-3291.ijcp20193740

Effects of Positive HIV Status Disclosure on Sexual Behaviour Change

Jonathan Taiswa[1], Erastus Lewis Mukhisa[1], Rukia Omolloh[1], Dolphine Mochache[1], Joyce Atieno Nyacharo[1], Brian Barasa Masaba[2]

[1]Masters Nursing Student, Department of Clinical Nursing and Health Informatics, Masinde Muliro University of Science and Technology, Kenya, [2]Doctoral Fellow, Department of Health Studies, University of South Africa, South Africa

Abstract

Introduction: Disclosure of HIV serostatus is critical to controlling the spread of HIV, and understanding the experience for disclosure enhances the development of prevention interventions and ultimately leads to better control of the spread of the disease. The present narrative review aimed to synthesize literature on the effects of positive HIV status disclosure on sexual behaviour change.

Method: Anarrative review design was utilized. Literature search of articles was from the following databases; Scopus, Science Direct, PUBMED, OVID and Google scholar. The searches were conducted from August 2019 to June 2020. The qualitative analysis was used to presented data into themes.

Results: The main findings were discussed under four thematic domains: 1) disclosure, 2) number of sexual partners, 3) type of sexual partners and 4) use condoms.

Conclusion: The narrative review presents evidence on; how patients revealing their HIV positive status to their sexual partner(s), family members, or others in their social circle are associated to better, less risky sexual behaviors. This finding implies that when people living with HIV disclose their status, they are most likely to; 1) have less sexual partners, 2) use condoms and 3) minimize casual/temporary sex. The behavior change brought by the positive HIV status disclosure can significantly reduce the transmission of HIV within the society.

Keywords: *Disclosure, HIV infections, Humans, Partners, Sexual Behavior.*

Introduction

Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) still remains a potentially fatal transmissible disease of the immune system and a significant threat to the quality of life[1]. There were approximately 37.9 million people living with HIV at the end of 2018[2]. As a result of concerted international efforts to respond to HIV, coverage of services has been steadily increasing [2]. The role of HIV counseling, testing and disclosure linked with the timely uptake of antiretroviral drugs has been significant in changing HIV infection to a progressively chronic manageable disease with the potential of living a long healthy and productive life[1]. In 2018, 62% of adults and 54% of children living with HIV in low- and middle-income countries were receiving lifelong antiretroviral therapy (ART) [2]. Eastern and Southern Africa accounts for 45% of new HIV infections in the world and is home to 53% of people living with HIV globally in 2017; which makes it the region most affected by the HIV epidemic [3]. According to international reports by AIDS Virus Education Research Trust [AVERT], Kenya has the

Corresponding Author:
Brian Barasa Masaba
Doctoral Fellow, Department of Health Studies, University of South Africa, South Africa
e-mail: 63714094@mylife.unisa.ac.za

joint third-largest HIV epidemic in the world (alongside Tanzania) with 1.6 million people living with HIV in 2018 [4]. In the same year, 25,000 people died from AIDS-related illnesses. While this is still high the death rate has declined steadily from 64,000 in 2010 [4]. The western part of the country through Homabay, Siaya, Migori and Kisumu are the most affected with HIV prevalence rates of 18.9%, 14.3%, 13.2% and 12.6% respectively [5].

In the context of HIV prevention, "disclosure" is defined as the process of revealing HIV positive status to sexual partner(s), family members, or others in their social circle and typically occurs gradually, over time[6]. Disclosing one's HIV status to a sexual partner means talking honestly about one's sexual orientation, possible drug use, and results of HIV testing [7]. Disclosure of HIV serostatus is critical to controlling the spread of HIV, and understanding the experience for disclosure will enhance the development of prevention interventions and ultimately lead to better control of the spread of the disease[7]. Annual reports by Center of Disease Control [CDC] advised that knowing your HIV status, telling it to your sexual partners, and having them tell you their status before you start having sex may help reduce risky behaviors and lessen the chances of getting or transmitting HIV [8]. The disclosure rate is notably lower in developing countries than in the developed world (17% vs 86%, respectively) [7]. In sub-Saharan Africa, disclosure rates among partners vary between 33% and 93%, depending on the country [7] The lowest rate was reported in Malawi [7].

The positive attributes of disclosure include the ease to access HIV-Related services such as counselling and participating in education and training services accessing ART services [9]. Furthermore, disclosure tremendously increases opportunities for obtaining social support, implementation of HIV risk reduction with partners and motivates the partners to seek voluntary counseling and testing (VCT) [9]. Self-disclosure of HIV status to sexual partners is an important strategy to prevent future transmission of HIV because it can reduce risky sexual behavior and improve HIV testing of sexual partners [10]. In addition, disclosure of HIV status to sexual partners enables couples to make informed reproductive health choices that may ultimately lower the number of unintended pregnancies among HIV-positive women[11]. However, there are also several potential negative consequences associated with HIV disclosure such as domestic violence and abuse, abandonment, and discrimination, which can serve as viable reasons for nondisclosure[12].

Promoting and encouraging HIV positive partners in sero-discordant relationships to disclose their status, remains an important component of prevention that results in the adoption of preventive behaviours such as partner uptake of HCT and condom use and also, where in the event of disclosure, the negative partner can refuse sex or only participate in safe sex or significantly reduce the practice of risky sexual acts [1]. The failure of people infected with HIV to disclose their positive status can expose their sexual partners and other relatives that have close contact with them to the virus [13].

UNAIDS and WHO encourage beneficial disclosure[3]. This is disclosure that is voluntary; respects the autonomy and dignity of the affected individuals; maintains confidentiality as appropriate; leads to beneficial results for those individuals, their families and sexual and drug-injecting partners; leads to greater openness in the for community about HIV/AIDS; and meets the ethical imperatives of the situation where there is need to prevent onward transmission of HIV [3]. The exchange of information about one's HIV status with a prospective partner is associated with safer sexual practices: when HIV-negative individuals are informed of a sexual partner's HIV infection, this information influences the types of sexual practices in which they choose to engage [14]. Risky sexual behavior among people receiving ART is an area of concern; hence, it is the major effective driver of the HIV epidemic [15]. Among people living with HIV (PLHIV), these behaviors are common and potentially expose their partners to risk of disease, and for HIV-positive partners these habits expose them to a real risk of supra-infection by other strains of HIV [15].

The main objective of this review was to describe the effects of positive HIV status disclosure on sexual behaviour change. The same methodology used in previous review studies was adapted to process and prepare the data for this study[16].

Disclosure: Previously a study conducted on disclosure of HIV status to sex partners and sexual risk behaviours among HIV-positive men and women, in Cape Town, South Africa revealed that among the 903 participants who were currently sexually active, 378 (42%) indicated that they had had sex with a person they had not disclosed their HIV status to in the previous 3 months[17]. In support of this, a large cross-sectional survey among 380 HIV positive persons in rural western Kenya on disclosure status and disclosure intentions

showed that; 318 (84%) had "disclosed", 22 (6%) had "not disclosed but intend to disclose" and 39 (10%) had "not disclosed and do not in- tend to disclose" their positive HIV status to their spouse at the time of the interview [18]. A recent similar study among HIV Positive Male Patients Receiving Care in Hospitals in Imo State, Nigeria reported that one third of the respondents had not disclosed their HIV positive status (31.7%) and 12% of the respondents were willing to disclose their HIV positive status [1]. This has implications for HIV transmission as one of the partners who was already infected with HIV fails to disclose his/her status[1]. Ssebunya et al. correspondingly calls for a need to promote mutual HIV status disclosure between sexual partners [19]. Furthermore, disclosure has been associated with greater adherence to HIV care and regimens, and improved mental and physical health [20].

Number of Sexual Partners: A retrospective survey conducted among PLWHA, who had been notified their HIV-positive status for more than 6 months in Hunan, China showed that among those who had risky sex, about 50% subjects had more than 1 sexual partner before notification [21]. After notification, the proportions of subjects who had more than 1 sexual partner decreased by 36.9% [21]. Anonymous surveys in South Africa completed by 413 HIV-positive men and 641 HIV-positive women sampled from HIV/AIDS services revealed that, people who had not disclosed their HIV status to partners reported more sex partners and reported more unprotected vaginal and anal intercourse than people who had disclosed [17].

Type of sexual partners: In a Nigerian study, researchers noted that more than half of the respondents who reported involvement in casual sex had not disclosed their positive HIV status to their sexual partners [22]. A study conducted in Hunan, China among PLWHA, within those who had risky sex, the proportions of those who had temporary sexual partners decreased by 48.4% after notification of them being HIV-positive [21].

Condom Use: In a South African study; unprotected vaginal and anal intercourse was far less common for participants who had disclosed their status to all of their recent sex partners, including unprotected acts with both concordant and non-concordant partners[17]. Adebiyi and Ajuwon study on Sexual Behaviour and Serostatus Disclosure among Persons Living With HIV in Ibadan, Nigeria revealed that about one-third of all the respondents had not used condom with any sexual partner since knowledge of their HIV status [22]. The Adebiyi and Ajuwon study also found that non-usage of condom was more among females than males[22]. The increased sexual risk behaviors of women compared with men has been linked to the challenges faced by HIV-positive women in convincing their male partners to use condoms since condoms have been stigmatized as methods used primarily in commercial sex [22]. WHO recommends for correct and consistent use of male and female condoms during vaginal or anal penetration as this can protect against the spread of STIs, including HIV [2]. Evidence from WHO studies shows that male latex condoms have an 85% or greater protective effect against HIV and other STIs [2].

Conclusion

The narrative review presents evidence on; how patients revealing their HIV positive status to their sexual partner(s), family members, or others in their social circle are associated to better, less risky sexual behaviours. This finding implies that when people living with HIV disclose their status, they are most likely to; 1) have less sexual partners, 2) use condoms and 3) minimize casual/temporary sex. The behavior change brought by the positive HIV status disclosure can significantly reduce the transmission of HIV within the society.

Declarations:

Ethics Approval and Consent to Participate: Not Applicable

Declaration of Competing Interest: The authors have declared that no conflicts of interest exist.

Funding: No funding

Acknowledgements: The authors would like to thank the Masinde Muliro University of Science and Technology for their support to the study.

References

1. Iwu AC, Duru CB, Diwe KC, Uwakwe KA, Merenu IA. Sexual Behaviour, Sero-Status Disclosure and Willingness to Disclose Status among HIV Positive Male Patients Receiving Care in Hospitals in. AIDS Clin Res. 2017;8(7):1-10.
2. WHO. HIV/AIDS. Geneva: World Health Organization; 2019.

3. WHO. Opening up the HIV/AIDS Epidemic. Geneva: World Health Organization; 2020.
4. AVERT. HIV and AIDS in Kenya. New York: UNAIDS; 2018.
5. NACC. Homa Bay County Report on the Hiv Implementing Partners Online Reporting System (Hipors) for the Financial Year 2016/2017 February 2018. Nairobi: National AIDS Control Council; 2018.
6. Dessalegn NG, Hailemichael RG, Shewa-amare A, Hillman J. HIV Disclosure : HIV-positive status disclosure to sexual partners among individuals receiving HIV care in Addis Ababa, Ethiopia. PLoS One. 2019;14(2):1-17.
7. Hallberg D, Kimario TD, Mtuya C, Msuya M, Björling G. Factors a ff ecting HIV disclosure among partners in Morongo, Tanzania. Int J Africa Nurs Sci. 2019;10(4):49-54.
8. CDC. Disclosure of HIV Status HIV Risk Reduction Tool. New york: Center for Disease Control and Prevention; 2020.
9. Atuyambe LM, Ssegujja E, Ssali S, et al. HIV/AIDS status disclosure increases support, behavioural change and, HIV prevention in the long term : a case for an Urban Clinic, Kampala, Uganda. BMC Health Serv Res. 2014;14(1):1-11.
10. Hino S, Grodensky C, Rutstein SE, et al. HIV status disclosure during acute HIV infection in Malawi. PLOSONE. 2018;13(7):1-10.
11. Medley A, Garcia-moreno C, Mcgill S, Maman S. Rates, barriers and outcomes of HIV serostatus disclosure among women in developing countries : implications for prevention of mother-to-child transmission programmes. Bull World Health Organ. 2004;82(4):299-307.
12. Ssali SN, Atuyambe L, Tumwine C, Segujja E. Reasons for Disclosure of HIV Status by People Living. AIDS Patient Care. 2010;24(10):675-683.
13. Tesfaye T, Darega J, Belachew T, Abera A. HIV positive sero-status disclosure and its determinants among people living with HIV/AIDS following ART clinic in Jimma University Specialized Hospital, Southwest Ethiopia : a facility-based cross-sectional study. Arch Public Heal. 2018;76(1):1-10.
14. Deribe K, Woldemichael K, Wondafrash M, Haile A, Amberbir A. Disclosure experience and associated factors among HIV positive men and women clinical service users in southwest Ethiopia. BMC Public Health. 2008;8(81):1-10.
15. Mosisa G, Woldemichael K, Ayalew F. Risky sexual behavior and associated factors among antiretroviral ther HIV. Res Palliat Care. 2017;10:1-13.
16. Liberati A, Altman DG, Tetzlaff J, et al. The PRISMA Statement for Reporting Systematic Reviews and Meta-Analyses of Studies That Evaluate Health Care Interventions :Explanation and Elaboration. Ann Intern Med. 2009;151(4):65-94.
17. Simbayi LC, Kalichman SC, Strebel A, Cloete A, Henda N, Mqeketo A. Disclosure of HIV status to sex partners and sexual risk behaviours among HIV-positive men and women, Cape Town, South Africa. sti journal. 2007:29-34.
18. Burmen B, Obunga J, Mutai K. Disclosure status and disclosure intentions among HIV positive persons in rural western Kenya, 2011 –2012. Cogent Med. 2017;4(1291096):1-11.
19. Ssebunya RN, Matovu JKB, Makumbi FE, Kisitu GP, Maganda A. Factors associated with prior engagement in high-risk sexual behaviours among adolescents (10 – 19 years) in a pastoralist post-conflict community, Karamoja sub- region, North eastern Uganda. BMC Public Health. 2019;19(1027):1-11.
20. Clum GA, Czaplicki L, Andrinopoulos K, Muessig K. Strategies and Outcomes of HIV Status Disclosure in HIV-Positive Young Women with Abuse Histories. AIDS Patient Care STDS. 2013;27(3):191-200.
21. Zhou Y, Liu Y, Zhang Y, et al. Sexual Risk Behavior and Its Change among HIV-Positive Persons after Notifying their HIV Infection Status : A Retrospective Survey Keywords : J Prev Med. 2016;1(2):1-6.
22. Adebiyi I, Ajuwon AJ. Sexual Behaviour and Serostatus Disclosure among Persons Living With HIV in Ibadan, Nigeria. Afr J Biomed Res. 2015;18(2):69-80.

Call for Papers/ Article Submission

Article submission fee

- Please note that we charge manuscript handling charges for all publications.Charges can be enquired by sending mail.
- In cases of urgent publication required by author, he /she should write to editor for discretion.
- Fast tracking charges are applicable in urgent publication
- Please note that we charge only after article has been accepted for publication, not at the time of submission.
- Authors have right to withdraw article if they do not wish to pay the charges.

Article Submission Guidelines

Please submit paper in following format as far as applicable

1. Title
2. Names of authors
3. Your Affiliation (designations with college address)
4. Corresponding author- name, designations, address, E-mail id
5. Abstract with key words
6. Introduction or back ground
7. Material and Methods
8. Ethical Clearance
9. Findings
10. Discussion / Conclusion
11. Conflict of Interest
12. Source of Support
13. References in Vancouver style.
14. Word limit 2500-3000 words, MS WORD Format, single file
15. Please quote references in text by superscripting.

OUR CONTACT INFO

Institute of Medico-Legal Publications

Logix Office Tower, Unit No. 1704, Logix City Centre Mall,
Sector- 32, Noida - 201 301 (Uttar Pradesh)
Mob: 09971888542, Ph. No: +91 120 429 4015
E-mail: editor.ijone@gmail.com, Website: www.ijone.org

International Journal of Nursing Education

CALL FOR SUBSCRIPTIONS

About the Journal

Print-ISSN: 0974-9349 **Electronic - ISSN:** 0974-9357, **Frequency:** Quarterly (Four issues in a year)

"International Journal of Nursing Education" is an international peer reviewed journal. It publishes articles related to nursing and midwifery. The purpose of the journal is to bring advancement in nursing education. The journal publishes articles related to specialities of nursing education, care and prctice. The journal has been assigned international standard serial numbers 0974-9349 (print) and 0974-9357 (electronic). The journal is covered by Index Copernicus, Poland and is included in many international databases.

Journal Title	Print Only
Indian Journal of Nursing Education	**INR 9000**

NOTE FOR SUBSCRIBERS

- Advance payment required by cheque/demand draft in the name of **"Institute of Medico-Legal Publications"** payable at New Delhi.
- Cancellation not allowed except for duplicate payment.
- Claim must be made within six months from issue date.
- A free copy can be forwarded on request.

Bank Details

Name of account :	**Institute of Medico-Legal Publications Pvt Ltd**
Bank:	**HDFC Bank**
Branch	Sector-50, Noida-201 301
Account number:	**09307630000146**
Type of Account:	**Current Account**
MICR Code:	110240113
RTGS/NEFT/IFSC Code:	HDFC0000728

Please quote reference number.

Send all payment to :

Institute of Medico-Legal Publications

Logix Office Tower, Unit No. 1704, Logix City Centre Mall,
Sector- 32, Noida - 201 301 (Uttar Pradesh) Mob: 09971888542, Ph. No: +91 120 429 4015,
E-mail: editor.ijone@gmail.com, Website: www.ijone.org

Published, Printed and Owned : Dr. R.K. Sharma
Printed : Printpack Electrostat G-2, Eros Apartment, 56, Nehru Place, New Delhi-110019
Published at: Institute of Medico Legal Publications Pvt. Ltd., Logix Office Tower, Unit No. 1704, Logix City Centre Mall Sector- 32, Noida - 201 301 (Uttar Pradesh) Editor : Dr. R.K. Sharma, Mobile: + 91 9971888542, Ph. No: +91 120- 429 4015