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

Volume 14 Number 4 October-December 2022

International Journal of Nursing Education

www.ijone.org

International Journal of Nursing Education

NATIONAL BOARD

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). We have pleasure to inform you that IJONE is a double blind peer reviewed indexed international journal and is now covered by GOOGLE SCHOLAR and many other international databases.

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

Published at

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

Content

International Journal of Nursing Education
Volume 14 No. 4, October-December 2022
https://doi.org/10.37506/ijone.v14i4.18674

Function of Directing in Performing Physical Restrain in Intensive Care Wards: A Phenomenological Study

Aina Fitri [1], Asniar Asniar[2*], Fithria Fithria[3]

[1]Master Student Program of Nursing, Faculty of Nursing, Universitas Syiah Kuala, [2]Assistant Profesor Department of Community Health Nursing, Faculty of Nursing, Universitas Syiah Kuala, [3]Assistant Profesor Department of Family Health Nursing, Faculty of Nursing, Universitas Syiah Kuala.

How to cite this article: Fitri A, Asniar A, Fithria F. Function of Directing in Performing Physical Restrain in Intensive Care Wards: A Phenomenological Study. 2022;14(4):1-6.

ABSTRACT

The restraint to limit patient's movements with psychomotor agitation is often performed in the intensive care wards. Hence, optimizing the directing function is considerably needed to implement safe restraints. However, performing restraints frequently lead to injuries to patients. This study explores nurses' experiences performing physical restrain in intensive care wards. This study applied a descriptive phenomenological design, using in-depth interviews to collect data from eight key participant dan two associate participant. The key participant were nurse practisioner and team leader of nurse, the associate participant were head of nurse in intensive care wards in Aceh Province, Indonesia. The results of this study identified four themes: Socialization of Standard Operating Procedure (SOP) Restraint, optimization of supervision, lack of documentation, and improvement of nurse capacity development. The study findings show the problems in the decision-making process that needs to be considered by nurse managers to improve patient safety. It is recommended that nurse managers improve directing function and the nurse's competency in delivering nursing services at intensive care wards, especially related to restraining procedures, as one of the efforts to improve patient safety and optimize the nursing outcomes.

Keywords: Directing, hospital, nurse, physical restraint, qualitative study

INTRODUCTION

The restraint to limit the movements of patients is often performed in the intensive care wards. The prevalence of restraint use in critical care varies widely worldwide [26]. Prevalence of restraint use showed between 0 % - 100 %[4].

In the literature, many factors determine the use of physical restraint. Agitation and attempted self-removal of artificial airways, patients with artificial airways, and ETT[1]. Used among patients receiving mechanical ventilation[25]. Complex care situations, such as patients at risk of falling or delirium [24]. However, restraints are still frequently found to cause injuries to patients. Physical restraint complications include limb edema, bruising, and redness[22].

Decision-making is a complex cognitive process of choosing a particular action. It is an important task that relies heavily on

Corresponding author: Asniar Asniar, Assistant Profesor Department of Community Health Nursing, Faculty of Nursing, Universitas Syiah Kuala.

Email: asniar@unsyiah.ac.id

critical thinking and clinical reasoning skills that includes evidence-based research [15,18]. Clinical decision-making in nursing involves applying critical thinking skills to select the best evidence-based options to control risk and meet the needs of patients in the provision of high-quality care [21]. More specifically three components of clinical decision-making: clinical reasoning, choosing and applying challenging alternatives, professional assessment, and resetting [17].

Several pieces of evidence highlighted the lack of nurses' knowledge in physical restrain [3,8,14,22]. Lack of knowledge about continuous assessment in patients and lack of training regarding the application of physical restraints can contribute to the effectiveness of restraint implementation [2]. Increasing nurse knowledge results in more positive feelings and beliefs [14]. These strategies can help nurses prevent or reduce ethical dilemmas [20]. The use of restraint is in line with the ethical principles of beneficence and non-maleficence but contrary to the principle of autonomy[20]. Therefore, it is essential to establish an organizational climate where value-oriented activity is prioritized [6].

This study applies integral nursing theory[7] as a conceptual framework. This research is part of the primary research with several other themes, but this study only focuses on the directing function. In the implementation of restraint, there are management functions that must be considered, one of which is the directing function. When this directing function is weak, it can result in the achievement of optimal nursing care cannot be achieved. This study explores how the management function is related to the implementation of restraint.

METHOD

This study is descriptive phenomenological research that explores the experiences of direction functions in implementing physical restraint. This study was conducted in Band Aceh, Aceh Province, Indonesia.

The sampling criteria included: (1) nurse practitioner and head nurse in the ICU and ICCU rooms, (2) Having a minimum of one year of service, (3) agreeing to be interviewed, (4) Not in self-isolation due to COVID-19 infection, (5) Not on annual leave/maternity leave/study assignment.

Interviews lasted between 20–50 minutes and were recorded and transcribed verbatim. The interview questions were derived from the study's aims and were open-ended. When data saturation was reached after eight interviews, data gathering was stopped.

The seven-step phenomenology approach of Colaizzi was used to examine the data acquired in this study: (1) interview recordings were attentively listened to, and the participants' comments were verbatim captured to reflect the entire content of the interview; (2) organizing critical statements to provide data that is closely relevant to the topic under investigation; (3) extracted meaningful sentences; (4) the four themes were created by grouping and categorizing; (5) the study themes from phenomenon were utilized to further organize comprehensive general descriptions; (6) detailed descriptions were summarized; and (7) the participants were allowed to look over the analyzed data[13].

Ethical Clearance: The Ethical Clearance was obtained from the Research Ethics Committee of the Faculty of Nursing, Syiah Kuala University, with research code 112013190422.

RESULT

This research was conducted in Mei – June 2022. This study interviewed eight key participant dan two associate participant. Themes that emerged from the data included: Socialization of Standard Operating Procedure (SOP) Restraint, optimization of supervision, lack of documentation, and improvement of nurse capacity development.

Socialization of Standard Operating Procedure (SOP) Restraint

This theme explains the need to optimize the socialization of SOP *restraint*. Less than optimal socialization was carried out by the

hospital related to SOP *restraint*. Some nurses are not aware of the SOP and do not use *restraint* according to the SOP but perform it based on work experience, seniors, and studying during college.

> *"That's because I don't know whether SOP exists or not, but a collection of SOPs is in a cupboard; I don't know whether there is SOP restraint or not. So I also learned from seniors (P1)*

> *"As for the SOP, there is no" (P5)*

However, Based on interviews with the *associate participant,* it was found that there is an SOP for *restraining* in the room's document cabinet. And it was validated by researchers by checking documents. This indicates the lack of SOP socialization, so nurses are unaware of the existence of SOP restraint.

Optimization of supervision

This theme explains the need for optimization of supervision related to the implementation of *restraint*. Generally, participants said that there was no supervision regarding the performance of *restraints*; among the eight nurses, only one said that supervision was carried out, while the others said that no supervision was carried out.

> *"There is no special supervision about restraint" (P2)*

> *"None (no supervision is carried out)" (P3)*

Lack of documentation

This theme explains the need to increase proper documentation. In general, nurses say that they do not do documentation to implement *restraint*.

> *"There is no (no documentation is done)" (P7)*

> *"There is no documentation " (P5)*

Improvement of nurse capacity development.

This theme explained the need for the development of nurse knowledge carried out by the hospital to increase the knowledge and skills of nurses in carrying out *restraints; in* this case, it could be in the form of training. The nurse said that no training had ever been conducted in developing nurses' ability regarding *restraint*.

> *"None (No training/development conducted by the hospital)" (P5)*

> *"There has never been training on restraint" (P7)*

DISCUSSION

This study found that nurses did not do restraints based on SOP; most nurses were unaware of the existence of restraints SOP. Based on interviews conducted with associate participants (head nurses), there is SOP restrain in the room. The lack of socialization among SOP nurses leads to nurses' ignorance regarding SOP.

Socialization of SOP restraint is essential for nurses to know the procedures in the implementation of bond following standard operating procedures, prudent application regulated by standards meets the risks associated with the use of physical restraint. Prefious study found that, in Jordan, it's probable that the excessive use of physical conditions is a result of the lack of rules and regulations governing its application [22].

This finding indicated that nurses in restraint based on work experience and seniors. This finding is consistent with other studies; nurses said that understanding how to utilize *physical restraint* through brief, informal bedside instruction from senior nursing staff, observing and copying others, and learning from their own experiences [19].

This study found that the nurses use gauze to restrain. This finding agrees with other studies; nurses commonly bind patients with crude devices like gauze rolls and crepe bandages, which is the leading cause of severe issues. Additionally, the occasional evaluation of the restraint site can make these issues more likely [22]. The most common side effects of PR application, according to the study's participating nurses, were skin issues.

This could be the result of poor practice or inappropriate tools. Most nurses who responded said they used gauze and cotton for PR [3].

Every hospital's management must create clear physical restraint usage rules or standard operating procedures, and the facilities must inform the nurses of these policies or procedures to deliver safe care[2,22].

Supervision is part of the directing management function, one of the supervisory functions is to ensure that the activities carried out are by established standards through supervision of the implementation of activities. Lack of supervision can impact optimizing the provision of nursing care.

This study found, lack of supervision in implementation restrain. In another study, the nurses said that they were left alone without support, they mentioned that they lacked support from nursing colleagues and other professionals [10]. When nurses are overworked, and their ability to supervise patients is constrained, they are more likely to use physical restraint [6].

Motivation and communication are part of supervision [12]. The motivation would impel the team toward a change in organizational and healthcare culture[1]. Restraint was more common when a nurse was 'doubled' and were fewer opportunities, suggesting that the provision of additional support could lessen the need for control [23]. Reduce restraints with various patient groups by utilizing a restraint collaborative with different nursing units, a critical care clinical nurse specialist team [16].

Adequate documentation is indispensable for quality, effective, and efficient nursing services. Nursing documentation is proof of recording and reporting owned by nurses in carrying out nursing records that are useful for the benefit of patients, nurses, and health teams in providing health services. Another finding from our study is documentation in medical records was described as lacking. This finding is consistent with other studies; most nurses consider that manual restraint does not require documentation[5]. More than half of the nurses (52%) indicated that they never recorded data for PR use in patient charts [3]. Lack of nurse documentation of physical restrain and nurses' infrequent recording of the specifics of the restraint[22]. There were incomplete physical restraint records in the patients' nursing notes [11].

Nurses must report and document all instances of manual restraint, this information will be used to develop effective strategies to ensure patient and staff safety during these events[5]. Inadequate documentation also prevents a systematic reassessment and evaluation of the use of restraint [24].

The capacity building of nurses about restraint needs to be improved. This study found that there has never been any training to develop nurses' capabilities related to restraint, even though this is necessary for nurses in the ICU and ICCU. In another study that found the majority of participants in earlier research, a nurse with received training had good guidelines about using restraint that could lead to a better attitude[14].

Implementing educational programs that can affect nurses' knowledge and attitudes can minimize the use of restraints in hospitals[8]. Avoid complications and improve ICU care services [14]. Several authors have highlighted the importance of ICU nurse skills and training programs in decision-making on restraint use [1,2,22,20,9,5]. The implications of the lack of training and education related to physical restraint are demonstrated through nurses' confidence in their decision-making skills [19].

CONCLUSION

The study findings show the problems in the directing function in the implementation of restraint that needs to be considered by nurse managers to improve patient safety. It is recommended for the nurse managers to improve directing function and the nurse's competency in delivering nursing services at ICU and ICCU wards, primarily related to socialization of Standard Operating

Procedure (SOP) restraint, documentation of restraining, supervision, and education, as one of the efforts to improve patient safety and optimize the nursing outcomes.

Limitations: The results of this study cannot be generalized by institutions with different characteristics, and this research is qualitative; the pattern of knowing and quadrant in integral nursing theory cannot be found as a whole.

Funding: This study was supported by educational fund management institution (Lembaga Pengelola Dana Pendidikan/ LPDP).

Conflict of interest: The authors declare that they have no conflict of interest.

REFERENCES

1. Acevedo-Nuevo M, González-Gil MT, Martin-Arribas MC. Physical restraint use in intensive care units: Exploring the decision-making process and new proposals. A multi-method study. International Journal of Environmental Research and Public Health. 2021;18(22). 52-57 https://doi.org/10.3390/ijerph182211826.
2. Almomani MH, Khater WA, Qasem BAAL, Joseph RA. Nurses' knowledge and practices of physical restraints in intensive care units: An observational study. Nursing Open. 2021;8(1), 262–272. https://doi.org/10.1002/nop2.625.
3. Azab-Sonya MS, Negm LA. Use of physical restraint in intensive care units (ICUs) at Ain Shams University Hospitals, Cairo. Journal of American Science. 2013;9(4):230-240. https://www.researchgate.net/publication/261251295.
4. Benbenbishty J, Adam S, Endacott R. Physical restraint use in intensive care units across Europe: The PRICE study. Intensive and Critical Care Nursing. 2010;26(5), 241–245. https://doi.org/10.1016/j.iccn.2010.08.003.
5. Chapman R, Ogle KR, Martin C, Rahman A, Mckenna B, Barnfield J. Australian nurses' perceptions of the use of manual restraint in the emergency department: A qualitative perspective. Journal of Clinical Nursing. 2016;25(9–10), 1273–1281. https://doi.org/10.1111/jocn.13159.
6. de Casterlé BD, Goethals S, Gastmans C. Contextual influences on nurses' decision-making in cases of physical restraint. Nursing Ethics. 2015;22(6), 642–651. https://doi.org/10.1177/0969733014543215.
7. Dossey BM.. Theory of integral nursing. Advances in Nursing Science. 2008;31(1), 52–73. https://doi.org/10.1097/01.ANS.0000311536.11683.0a.
8. Eskandari F, Abdullah KL, Zainal NZ, Wong LP. Use of physical restraint: Nurses' knowledge, attitude, intention and practice and influencing factors. Journal of Clinical Nursing. 2017;26(23–24), 4479–4488. https://doi.org/10.1111/ijlh.12426.
9. Estévez-guerra GJ, Fariña-lópez E, Núñez-gonzález E, Gandoy-crego M, Calvo-francés F, Capezuti EA. The use of physical restraints in long-term care in Spain : a multi-center cross-sectional study. BMC Geriatrics. 2017;17(29), 1–7. https://doi.org/10.1186/s12877-017-0421-8.
10. Guenna Holmgren A, Juth N, Lindblad A, von Vogelsang AC. Nurses' experiences of using restraint in neurosurgical care: A qualitative interview study. Journal of Clinical Nursing. 2021;1–12. https://doi.org/10.1111/jocn.16044.
11. Gu T, Wang X, Deng N, Weng W. Investigating influencing factors of physical restraint use in China intensive care units: A prospective, cross-sectional, observational study. Australian Critical Care. 2019;32(3), 193–198. https://doi.org/10.1016/j.aucc.2018.05.002.
12. Huber, Diane.L. Leadership and nursing care management. 4th ed. Phladelphia: Sauders Elsevier. 2010.
13. Hobbs PS, du Plessis E, Benadé, P. Here and now: Lived experiences of professional nurses practising caring presence in a rural public hospital in the North West Province, South Africa. Health SA Gesondheid, 2020;25(1405), 1–9. https://doi.org/10.4102/hsag.v25i0.1405.
14. Kassew T, Dejen TilahunA, Liyew B. Nurses' knowledge, attitude, and influencing factors regarding physical restraint use in the intensive care unit: A Multicenter Cross-Sectional Study. Critical Care Research and Practice, 2020;1–10. https://doi.org/10.1155/2020/4235683.
15. Marquis BL, Huston CJ. Leadership roles and management functions in nursing; Theory and Application. 9th ed., Philadelphia. Lippincott. 2017.
16. Mitchell DA, Panchisin T, Seckel MA. Reducing use of restraints in intensive care units: A quality improvement project. Critical Care Nurse. 2018;38(4), e9–e16. https://doi.org/10.4037/ccn2018211.
17. Oh S, Gu M.. A Concept Analysis of Nurses ' Clinical Decision-Making : Implications for Korea. International Journal of Environmental Research and Public Health. 2022;1-12. https://doi.org/10.3390/ijerph19063596

18. Robbins SP, Judge TA. Organizational behavior. 15th ed. New Jersey: Pearson. 2013.

19. Perez D, Murphy G, Wilkes L,nPeters K. Understanding nurses' perspectives of physical restraints during mechanical ventilation in intensive care: A qualitative study. Journal of Clinical Nursing. 2021;30(11–12), 1706–1718. https://doi.org/10.1111/jocn.15726.

20. Salehi Z, Najafi Ghezeljeh T, Hajibabaee F, Joolaee S. Factors behind ethical dilemmas regarding physical restraint for critical care nurses. Nursing Ethics. 2020;27(2), 598–608. https://doi.org/10.1177/0969733019858711.

21. Standing M. Clinical judgment and decision making for nursing students. Learning matters. 2017.

22. Suliman M. Prevalence of physical restraint among ventilated intensive care unit patients. Journal of Clinical Nursing. 2018;27(19–20), 3490–3496. https://doi.org/10.1111/jocn.14588.

23. Teece A, Baker J, Smith H. Understanding the decision-making of critical care nurses when restraining a patient with psychomotor agitation secondary to hyperactive delirium: a 'think aloud' study. Journal of Clinical Nursing. 2022;31(1–2), 121–133. https://doi.org/10.1111/jocn.15889.

24. Thomann S, Zwakhalen S, Richter D, Bauer S, Hahn S. Restraint use in the acute-care hospital setting: A cross-sectional multi-centre study. International Journal of Nursing Studies. 2021;114, 103807. https://doi.org/10.1016/j.ijnurstu.2020.103807.

25. Unoki T, Sakuramoto H, Ouchi A, Fujitani S. Physical restraints in intensive care units: a national questionnaire survey of physical restraint use for critically ill patients undergoing invasive mechanical ventilation in Japan. Acute Medicine & Surgery, 2019;6(1), 68–72. https://doi.org/10.1002/ams2.380.

26. Via-Clavero G, Guàrdia-Olmos J, Falcó-Pegueroles A, Gil-Castillejos D, Lobo-Cívico A, De La Cueva-Ariza L, Romero-García M, Delgado-Hito P. Factors influencing critical care nurses' intentions to use physical restraints adopting the theory of planned behaviour: A cross-sectional multicentre study. Australian Critical Care. 2020;33(5), 426–435. https://doi.org/10.1016/j.aucc.2019.09.003.

ORIGINAL RESEARCH

International Journal of Nursing Education
Volume 14 No. 4, October-December 2022
https://doi.org/10.37506/ijone.v14i4.18675

Small Scale Study on Awareness of Breast Cancer Among Women Aged >35years, the Risk Factors for Breast Cancer and Utilization of Mammogram

Arkierupaia Shadap

Associate Professor, Sikkim Manipal College of Nursing, Sikkim Manipal University-Sikkim 737102

How to cite this article: Shadap A. Small Scale Study on Awareness of Breast Cancer Among Women Aged >35years, the Risk Factors for Breast Cancer and Utilization of Mammogram. 2022;14(4):7-12.

ABSTRACT

Introduction: Breast cancer has become an increasing concern and is a major global public health burden. Over 100, 000 new breast cancer patients are estimated to be diagnosed annually in India. The health care facility pattern is diverse, where the benefits of the awareness, early diagnosis and treatment programs is still not available in many regions of the country. However, the study aimed to assess the awareness of the small scale community women on breast cancer, its risk factors and utilization of manmmogram as a screening test. This will give an insight for the large scale community study.

Methods: The researcher adopted a descriptive research design using a simple random sampling technique to collect data among 20 unmarried and married women from the village of Badagabettu, Udupi district, Karnataka. Tools were developed and sent for validation. Reliability of tools were done before the data collection. Data was collected after getting ethical clearance and written consent from the participants. Collected data were analyzed using the descriptive statistics through SPSS version 16.0.

Result: Majority 14 (70%) had moderate knowledge on breast cancer, 6 (30%) had poor knowledge and none (0%) were having good knowledge on breast cancer. The study also revealed that 30% were aware of mammogram and majority 70% were not. The risk factors for breast cancer among women aged 35 years also revealed that 15% women had menarche at the age of ≤ 12 years, 5% have the history of having sister diagnosed with breast cancer, 15% did not deliver baby till now and 30% women did not breast feed. There were 5% women who had the history of breast biopsy, 10% had the history of taking oral contraceptives within 5 years period and 100% did not have the history of taking alcohol in their life.

Keywords: awareness, breast cancer, women, risk factors, mammogram.

INTRODUCTION

Breast cancer has become an increasing concern and is a major global public health burden. Malignancy of the breast has been reported to be the second leading cause of cancer, accounting for 25% of all new cancer cases among women across the world in 2012.[1] Additionally, breast cancer has the highest incidence in women in low and middle-income countries. The increasing incidence in economically developing countries is likely influenced by lifestyle changes and

Corresponding author: Arkierupaia Shadap, Associate Professor, Sikkim Manipal College of Nursing, Sikkim Manipal University-Sikkim 737102

Email: arkierupaiashadap.p@smims.smu.edu.in

growing urbanization.[2] More importantly, breast cancer is known to be the leading cause of cancer deaths in women in many Asian countries.[3] According to India statistics, the number of new breast cancer cases is about 115,000 per year and this is expected to rise to 250,000 new cases per year by 2015. To reduce mortality from breast cancer, early detection through awareness on screening test is a must.[4] Over 100, 000 new breast cancer patients are estimated to be diagnosed annually in India.[5,6] Breast cancer is the commonest cancer in urban Indian females, and the second commonest in the rural Indian women.[7] India is is a country with wide ethnic, cultural, religious, and economic diversity and variation in the health care infrastructure. The health care facility pattern is diverse, where the benefits of the awareness, early diagnosis and treatment programs is still not available in many regions.[8] Breast cancer is observed to be highest in the Northeast and in cities such as Mumbai and New Delhi.[9] Apart from breast self-examination, mammography screening is now well established and recommended by the World Health Organization. This method is considered to be cost-effective and feasible in countries that have a good health infrastructure.[10]

METHODS AND MATERIAL

The researcher adopted a descriptive research design and the study was conducted on Dec 2012 among 20 unmarried and married women from the village of Badagabettu, Udupi district, Karnataka by using simple random sampling. Tools were developed and sent for validation. Reliability coefficient of knowledge tool was established (r=0.85) by split method using Spearman Brown prophecy formula. Structured risk assessment tool was done using test-re-test method and was found to be r=0.85, it was reliable. Data was collected after getting ethical clearance and written consent from the participants. Collected data were analyzed using the descriptive statistics through SPSS version 16.0.

Table 1: Frequecny and percentage distribution of sample characteristics

[N=20]

Item(s)	*Frequency*	*Percentage (%)*
1. Age (years)		
35-44	11	55
45-54	2	10
55 and above	7	35
2. Marital status		
Married	14	70
Unmarried	3	15
Widow	3	15
3. Religion		
Hindu	18	90
Christian	0	0
Muslim	2	10
4. Education		
Primary	9	45
High school	2	10
Higher Secondary	4	20
PUC	3	15
Graduate	1	5
Post graduate	1	5
5. Occupation		
Government employee	0	0
Private employee	5	25
Self-employee	1	5
Daily wage	1	5
Housewife	13	65
6. Family monthly income in rupees		
Below 3000	5	25
3001-5000	9	45
5001-10,000	4	20
10,001 and above	2	10
7. Heard about breast cancer		
Yes	20	100
No	0	0
7.1. Sources of nformation		
Health care personal	9	45
Family	5	25
Friends	3	15
Mass/Media	3	15

RESULTS

The study findings showed in table 1, majority 55% of women were at the age group of 35- 44 years. Majority 70% are married women and majority 90% belonged to the Hindu religion. Majority 45% had primary education, majority 65% were housewife and majority 45% of their monthly family income is within Rs.3001- 5000. All women 100% have heard about breast cancer and 45% obtained the source of information from the health personnel.

The data presented in figure 1 depicted the level of awareness on breast cancer among the samples. Majority 14 (70%) had moderate knowledge on breast cancer, 6 (30%) had poor knowledge and none (0%) were having good knowledge on breast cancer.

Table 2 depicted that out of the total sample, 30% were aware of mammogram and 70% were not. Those who were aware of mammogram 66.6% know that it is available in nearby hospital, 33.3% does not have any idea whether it is available or not and none knows that it is not available in the nearby hospital. Majority 66.6% got the source of information from health personnel, 33.3% from friends. 100% of sample have not utilize the mammogram in their life and 66.6% believe that mammogram can detect breast cancer at the earliest and 33.3% does not belief that mammogram can detect breast cancer at the earliest.

Table 3 shows the risk factors for breast cancer among women aged 35 years and above who participated during the study. About 15% women had menarche at the age of ≤ 12 years, 60% between the age group of 13-15 years

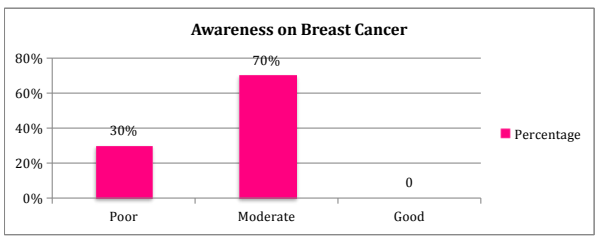


Figure 1: Bar diagram representing the level of awareness on Breast cancer

Table 2: Frequency & Percentage distribution on utilization of mammogram

N=20, n=6

Utilization of mammogram	*Frequency*	*Percentage (%)*
1. Aware of mammogram		
Yes	6	30
No	14	70
2. Available nearby hospital		
Yes	4	66.6
No	0	0
Not known	2	33.3
3. Source of information		
Friends	2	33.3
Relatives	0	0
Neighbours	0	0
Health personnel	4	66.6
Mass media	0	0
4. Undergone mammogram		
Yes	0	0
No	6	100
5. Belief in mammogram		
Yes	4	66.6
No	2	33.3

and 25% had menarche at the age of ≥16 years. 100% women do not have the history of breast cancer and 95% women do not have the history of any first degree relatives – mother, sisters and daughter with breast cancer and 5% have the history of having sister diagnosed with breast cancer. There were 50% of women who first had their delivery at the age of ≥25 years and above, 35% delivered at the age of ≤ 25 years and 15% did not deliver till now. After the delivery 65% continue to breast feed their chid till 1-2 years, 5% breast feed within 1 year and 30% women did not breast feed. There were only 5% women who had the history of breast biopsy and 95% has no history of breast biopsy. 10% had the history of taking oral contraceptives within 5 years period and 90% of them had no history of taking oral contraceptives. 100% women who

Table 3: Frequency and percentage distribution of risk factors for breast cancer among 20 women:

[N=20]

Risk factor	*Frequency*	*Percentage(%)*
Age at menarche (years)		
A. ≤ 12	3	15
B. 13 – 15	12	60
C. ≥16	5	25
The woman have a medical history of any breast cancer		
None	20	100
One breast affected	0	0
Both breast affected	0	0
The woman's have the history of any first degree relatives – mother, sisters and daughter with breast cancer		
None	19	95
One	1	5
Two	0	0
Age at first full term delivery (years)		
< 25	7	35
≥ 25	10	50
None	3	15
Total duration of breast feeding (years)		
Absent	6	30
< 1	1	5
1-2	13	65
The woman ever had a breast biopsy		
Absent	19	95
1	1	5
> 1	0	0
Used of oral contraceptives (years)		
None	18	90
≤ 5	2	10
> 5	0	0
The woman consumed alcohol(drink of 24g) in a day		
None	20	100
< 2	0	0
≥ 2	0	0

participated in the study did not have the history of taking alcohol in their life.

DISCUSSION

Women more commonly believed that unhealthy habits related to alcohol and tobacco consumption were more important risk factors than reproductive history, which is a much stronger determinant of breast cancer.[11,12,13] Studies shows that 15-21% are aware that strongest risk factors of breast cancer are related to age at menarche and age at menopause.[14,15] Further, 13–58% are aware that family history as a risk factor for breast cancer.[16] Age at birth of first child and that of breast feeding were considered to be risk factors by 8–83% and 17–88% of the women, respectively.[17] Tobacco smoking was reported to be a risk factor in 20–74% of women. No studies report on the literacy levels on number of children as a risk factor. 11%-51% considered obesity and overweight to be risk factors.[18,19] In India, the media publicity and policy efforts on cancer have primarily focused on the reduction of tobacco use.[20] There has been little discussion of other important risk factors such as alcohol, reproductive history and overweight.[21] Indian women need to be aware of both modifiable and non-modifiable risk factors for breast cancer to adopt appropriate practices for prevention.[22] With wide variations in the

state-level burden, a coordinated, intensive health promotion intervention programme on risk factors, prevention, screening and management for breast cancer is prudent. Training on the latest evidence regarding breast cancer risk factors should be offered to healthcare providers and community workers to raise their cancer literacy so they can disseminate the knowledge to the society. Continuing medical education programmes with enhanced emphasis on breast cancer in the nursing curriculum at institutional level and other healthcare training institutions should be a priority for women's health in the country.[23]

CONCLUSION

Indian women need to be aware of the risk factors for breast cancer, so as to be able to adopt appropriate practices measures for prevention. There is a need for more programs on screening test and preventive assessment awareness community-level organizations and the health system. It is necessary to provide support for breast cancer management as well as for screening and rehabilitation so to help in the early stage cancers diagnosis and timely treatment. This will result in improving survival and quality of life among the Indian breast cancer patients.

Acknowledgement: The author would like to thank the participants and everyone involved in the study.

Conflict of interest: None

Funding : None

REFERENCES

1. Ferlay J, Soerjomataram I, Dikshit R, et al. Cancer incidence and mortality worldwide: sources, methods and major patterns in GLOBOCAN 2012. Int J Cancer. 2015;136:359–86.
2. Jemal A, Bray F, Center MM, et al. Global cancer statistics. CA Cancer J Clin. 2011;61:69–90.
3. Kimman M, Norman R, Jan S, et al. The burden of cancer in member countries of the Association of Southeast Asian Nations (ASEAN) Asian Pac J Cancer Prev. 2012;13:411–20.
4. TS. Tang, LJ. Solomon, McCracken. Cultural barriers to mammography, clinical breast exam, and breast self-exam among Chinese-American women 60 and older. Preventive Medicine. 2000 Nov; 31(5): 575 - 83.
5. Fitzmaurice C, Dicker D, Pain A, Hamavid H, et al. (2015) The global burden of cancer 2013. JAMA Oncol 1(4): 505-527.
6. Jones S, Johnson K.Women's awareness of cancer symptoms: a review of the literature. Women's Health. 2012; 8(5): 579-591.
7. National Cancer Registry Program. Ten year consolidated report of the Hospital Based Cancer Registries, 1984–1993, an assessment of the burden and care of cancer patients.New Delhi: Indian Council of Medical Research; 2001.
8. National Cancer Registry Programme. National Centre for Disease Informatics and Research. and Indian Council of Medical Research., Three year report of population based cancer registries 2009–2011 national cancer registry programme. National Cancer Registry, 2013.
9. National Cancer Registry Programme. National Centre for Disease Informatics and Research. and Indian Council of Medical Research., Three year report of population based cancer registries 2009–2011 national cancer registry programme. National Cancer Registry, 2013.
10. Krishnan S, Sivaram S, Anderson BO, Basu P, Belinson JL, Bhatla N. Using implementation science to advance cancer prevention in India. Asian Pac J Cancer Prev. 2015; 16(9):3639–3644.
11. Xue F, Willett WC, Rosner BA. Cigarette smoking and the incidence of breast cancer. Arch Int Med. 2011; 171(2):125–133.
12. Gaudet M, Gapstur SM, Sun J. Active smoking and breast cancer risk: original cohort data and meta-analysis. J Natl Cancer Inst. 2013; 105(8):515–525.
13. Bagnardi V, Rota M, Botteri E. Light alcohol drinking and cancer: a meta-analysis. Ann Oncol. 2012; 24(2):301–308.
14. Bala D, Gameti H. An educational intervention study of breast self-examination (BSE) in 250 women beneficiaries of urban health centers of west Zone of Ahmedabad. Healthline 2011; 2(2).
15. Ahuja S, Chakrabarti N. To determine the level of knowledge regarding breast cancer and to increase awareness about breast cancer screening practices among a group of women in a Tertiary Care Hospital in Mumbai, India. Internet Public Health 2009;1(1).
16. Sharma P, Ganguly E, Nagda D, Kamaraju T. Knowledge, attitude and preventive practices of

South Indian women towards breast cancer. Health Agenda 2013;1(1):16.

17. Puri S, Mangat C, Bhatia V, Kalia M, Sehgal A, Kaur A. Awareness of risk factors and aspects of breast cancer among North Indian women. Internet J Health 2008;8(2).
18. Somdatta P, Baridalyne N. Awareness of breast cancer in women of an urban resettlement colony. Indian J Cancer 2008;45(4).
19. Garg P, Bansal M, Garg M, Arora B. Creating awareness about the painless nature of early breast cancer lump is important in low-income countries. Breast J 2010;16(1):101–2.
20. Ministry of Health and Family Welfare, Government of India Annual Report 2009–2010, in The Cigarettes and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) Act, (2003) and Related Rules & Regulations; 2003
21. Raj S, Piang LK, Nair KS, Tiwari VK, Kaur H, Singh B. Awareness regarding risk factors, symptoms and treatment facilities for cancer in selected states of India. Asian Pac J Cancer Prev. 2012;13(8):4057–4062.
22. Krishnan S, Sivaram S, Anderson BO, Basu P, Belinson JL, Bhatla N. Using implementation science to advance cancer prevention in India. Asian Pac J Cancer Prev. 2015;16(9):3639–3644.
23. Gupta A, Shridhar K, Dhillon PK. A review of breast cancer awareness among women in India: Cancer literate or awareness deficit. Eur J Cancer. 2015;51(14):2058-2066.

International Journal of Nursing Education
Volume 14 No. 4, October-December 2022
https://doi.org/10.37506/ijone.v14i4.18676

Determinants of Preparedness Management and Nurses' Response to COVID-19 Prevention Measures at a Government-Owned General Hospital in Indonesia

Ayu Widya Lestari[1], Teuku Tahlil[2], Darmawati[3]

[1]Postgraduate Student, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh, Indonesia [2]Associate Professor, Department of Community Health Nursing, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh, Indonesia, [3]Associate Professor, Department of Maternity Nursing, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh-Indonesia

How to cite this article: Lestari AW, Tahlil T, Darmawati. Determinants of Preparedness Management and Nurses' Response to Covid-19 Prevention Measures at a Government-Owned General Hospital in Indonesia. 2022;14(4):13-18..

ABSTRACT

Backgrounds: The increasing number of COVID-19 cases demands the preparedness of nurses as the front line in providing health services to prevent being infected with COVID-19. This non-natural disaster has been declared a pandemic epidemic in the world so that efforts must be made to overcome it

Objectives: The purpose of this study was to determine the factors that influence the management of preparedness and nurse response to COVID-19 prevention measures in a government-owned public hospital in a province in Indonesia.

Methods: This quantitative study used a correlative design with a cross sectional approach to 220 nurses who were selected using a proportionate stratified random sampling technique. The data were obtained using a self-report questionnaire and analyzed using the Chi-Square test and Logistic Regression.

Results: The results showed that the effective response factor and facility readiness were the factors that most influenced the nurse's preparedness and response to COVID-19 prevention measures in hospitals. Nurses are expected can maintain their already very good preparedness so that no more nurses are infected with the COVID-19 virus and are ready to be on standby with a new variant of the virus. Hospitals are expected to carry out routine maintenance of facilities so that preventive measures for COVID-19 nurses can be carried out effectively and appropriately and with adequate facilities and infrastructure.

Keywords: Preparedness, COVID-19, Prevention, Nurse, Hospital

INTRODUCTION

In early 2020, the world faced a catastrophic Coronavirus Disease 2019 (COVID-19) pandemic, with positive cases reported in every country with a total of more than 8 million cases worldwide.[1] The World Health Organization (WHO) has designated this pandemic disaster as a public health emergency that is troubling the world because the increase in the number of cases occurred quite quickly and across countries.[2] This pandemic disaster is estimated to cause a fairly high number

Corresponding author: Teuku Tahlil, PhD, Associate Professor, Department of Community Health Nursing, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh, Indonesia

Email: ttahlil@unsyiah.ac.id; Tel: +6281316533791

of cases in Indonesia, with 6,051,850 people exposed to COVID-19 and 156,510 deaths, 500 new cases per day although the recovery also continues to show an increase as of 19 May 2022.[3] COVID-19 disease is an infectious disease caused by severe acute respiratory syndrome Coronavirus 2 (SARS-CoV-2) a new type of virus that infects the human respiratory system with symptoms such as fever, cough and shortness of breath are common signs and symptoms of COVID-19 patients or indicated person.[4]

The first case of COVID-19 was detected in Indonesia in early March 2020 with the number of new cases seen experiencing 2 spikes in the addition of new cases, namely in mid-July 2021 as many as 56,757 the number of victims increased significantly then decreased for 7 months until February 2022 as many as 63,956 there was a spike new cases significantly, this increase was due to the number of cases caused by the Delta Variant.[3] The findings of a global survey on COVID-19 infections in 52 countries showed that 22,073 health workers in hospitals tested positive, most of the infected health workers were nurses in charge of treating COVID-19 patients.[2] Indonesia is one of the countries affected by the COVID-19 pandemic.[4] Cases of spread have spread to 350 regencies/cities in 34 provinces in Indonesia.[5] The Indonesian government reported that 5.8% of health workers confirmed positive for infection.[6] As of May 30, 2022, as many as 12,087 health workers were confirmed to have COVID-19 and 717 nurses were declared dead.[3] Aceh is one of the provinces in Indonesia with the number of COVID-19 cases ranked 19th in Indonesia.[7] A total of 9912 nurses were reported to have tested positive, and 395 died in Aceh Province.[6]

This COVID-19 virus is spreading so fast with a high number of infected people, for this reason, fast and appropriate handling is needed. Nurses who have direct contact with patients are at high risk of contracting the COVID-19 virus.[8] To reduce the spread of the COVID-19 virus, the participatory role of nurses in preventing the spread is urgently needed, including by increasing the preparedness of nurses in the event of an emergency or a spike in new cases with new variants.[9] Nurse readiness is a factor that needs to be considered for work safety.[5] The forms of nurse preparedness can include aspects of knowledge, facility readiness, effective response and readiness of Personal Protective Equipment (PPE).[10] Existing literature review shows that research on nurse preparedness for COVID-19 prevention measures has not been widely carried out and indicates that it still needs to be done in Indonesia. This study aims to identify the factors that influence the preparedness management and nurse response to COVID-19 prevention measures in government-owned public hospitals in Indonesia.

METHODS

This quantitative research used a correlative design with a cross sectional approach. The research was conducted in one of the Regional General Hospitals in one of the westernmost provinces in Indonesia. The total respondents involved were 220 nurses who worked in inpatient rooms, emergency departments and special care for COVID-19 who were selected using proportionate stratified random sampling technique.

Data collection was carried out with three instruments, namely the demographic, preparedness and preventive measures questionnaire for nurses which was adapted from the WHO Hospital Readiness Checklist questionnaire for COVID-19. Prior to use, the instrument was translated into Indonesian by health professionals who are proficient in English. The back translation method is used in this translation process. An adaptation process to achieve a different language version of the English language instrument which is conceptually equivalent in each country/ culture is also carried out. The instrument used has a good level of reliability. The preparedness question has a Cronbach alpha score of 0.89, the preventive action question has a Cronbach alpha score of 0.87.

Questionnaires were distributed and answered directly by the respondents when the respondents were on duty. The data that has been collected is then checked for completeness, processed and analyzed using univariate, bivariate, and multivariate analysis.

Respondents' involvement is voluntary. All respondents involved were given an explanation about the research including the pros and cons of their involvement and asked to give written consent for their involvement in the research. Research ethics permit was obtained from the Ethics Committee of RSUD dr Zainoel Abidin Banda Aceh with Registration Number: 1171012P.

Table 1: Demographic Characteristics of Respondents

Characteristics of Respondents	*Frequency (f)*	*Percentage (%)*
Age (Mean ± SD)	33.18 ± 5.580	
Length of work	7.827 ± 5.1032	
Status		
Marry	193	87.7
Single	26	11.8
Widow/ widower	1	0.5
Gender		
Man	38	17.3
Woman	182	82.7
Last education		
D-III	135	61.4
D-IV	2	0.9
Nurse	82	37.3
S2	1	0.5
Job status		
Civil servant	81	36.8
Contract	139	63.2
COVID-19 Vaccine		
Vaccine 2	28	12.7
Vaccine 3 (Booster)	192	87.3
Caring for COVID-19 Patients		
Once	172	78.2
Never	48	21.8

RESEARCH RESULTS

Characteristics of respondents

The characteristics of research respondents can be seen in Table 1..

Table 1 shows that the average age of the respondent nurses is 33 years, the average working period in the hospital is 7 years, most of the respondents stated that they were married (87.7%), female (82.7%), educated D-III Nursing (61.4%), employment status as contract employee (63.2%), has received COVID-19 vaccine Dose 3 or Booster (87.3%) and has treated COVID-19 patients (78.2 %).

Level of Preparednessnurses and COVID-19 Precautions

The level of nurse preparedness and COVID-19 prevention measures can be seen in Table 2. As can be seen in Table 2, almost all of the nurses surveyed were in the ready category (94.5 %), most nurses had COVID-19 preparedness in the ready category for the knowledge aspect (88.2%), facilities (83.2%), effective response (88.2%), and availability of PPE (87.7%). A total of 76.4% of nurses also stated that the COVID-19 preventive measures in hospitals were in the good category.

Relationship between Nurse Preparedness and COVID-19 Prevention Measures

The relationship between nurse preparedness and COVID-19 prevention measures can be seen in Table 3. As can be seen, Table 3 shows that there is a significant relationship between nurse knowledge readiness (p=0.032), facility readiness (p=0.015), effective response readiness (p=0.0001), and PPE readiness (p=0.0001) with preventive measures. COVID-19 in nurses in hospital.

Factor The Most Dominant Related to COVID-19 Precautions Nurses in Hospitals

Table 4 shows that the variables of facility readiness (p=0.044) and effective response (p=0.013) are predictors related to COVID-19 prevention measures for nurses. Meanwhile knowledge (p=0.593) and PPE readiness (p=0.064) were

Table 2: Levels of Nurses' COVID-19 Preparedness and Precautions

Variable	*Preparedness*	*Frequency (f)*	*Percentage (%)*
Preparedness	Ready	208	94.5
	Not ready	12	5.5
Knowledge	Ready	194	88.2
	Not ready	26	11.9
Facility Readiness	Ready	183	83.2
	Not ready	37	16.9
Effective Response	Ready	194	88.2
	Not ready	26	11.9
PPE readiness	Ready	193	87.7
	Not ready	27	12.3
Preventive measure	Well	168	76.4
	Not good	52	23.6

Table 3: Relationship between Preparedness and COVID-19 Prevention Measures

	Preventive measure				*Total*		
	Well		*Not good*				
Variable	*f*	*%*	*f*	*%*	*f*	*%*	*p-value*
Knowledge							
Ready	153	78.9	41	21.1	194	100.0	0.032
Not ready	15	57.7	11	42.3	26	100.0	
Facility Readiness							
Ready	146	79.8	37	20.2	183	100.0	0.015
Not ready	22	59.5	15	40.5	37	100.0	
Effective Response							
Ready	159	82.0	35	18.0	194	100.0	0.0001
Not ready	9	34.6	17	65.4	26	100.0	
PPE readiness							
Ready	157	81.3	36	18.7	193	100.0	0.0001
Not ready	11	40.7	16	59.3	27	100.0	

Table 4: Selection of Candidates for Multivariate Variables

			95% CI	
Predictor	*OR*	*p-value*	*Lower*	*Upper*
Knowledge	1.335	0.593	0.463	3,851
Facility Readiness	2,143	0.044	0.956	4.,804
Effective Response	3,943	0.013	1.332	11,674
PPE readiness	2,199	0.064	0.954	5.068

not predictors related to COVID-19 prevention measures in nurses and had to be excluded from the logistic regression model.

Further test results with logistic regression test using the Stepwise method can be seen in table 5. As can be seen, Table 5 show that

Table 5: Logistic Regression Test of the Dominant Factors Associated withCOVID-19 Precautions

Predictor	*OR*	*p-value*	*95% CI*	
			Lower	*Upper*
Effective Response	6,693	0.0001	2,771	16,165
Facility Readiness	2,205	0.044	0.986	4,932
Constant	0.013	0.0001		

the factor of facility readiness (p=0.044) and effective response (p=0.0001) were predictors related to COVID-19 prevention measures for nurses. Table 5 also shows that the effective response factor (OR: 6,69) is the most dominant predictor associated with COVID-19 prevention measures in nurses compared to the facility readiness factor (OR: 2,21).

DISCUSSION

Nurses are at the forefront of treating patients and fighting COVID-19 transmission in hospitals, therefore, preparedness is needed to deal with the current pandemic.[5] The American Nurses Association continues its strategic support to control and prevent further spread while securing nurses on health care teams and communities.[11] Preparedness includes early identification and notification. Nurses need the necessary protection, including quality PPE for protection and the provision of quality care for COVID-19 patients. Nurses need to know COVID-19 protocols, infection control guidelines, early identification, quarantine procedures, and precautions in health care settings.[12,13]

Based on the results of research that has been done, it is known thatpreparedness of nurses in the ready category with a frequency of 208 nurses (94.5%) and as many as 168 nurses (76.4%) indicating that preventive measures were in the good category. Preparedness has a positive attitude towards COVID-19 prevention measures in the face of a pandemic.[14] Preparedness and response get good results and can affect preventive measures, therefore nurse preparedness is very much needed in order not to contract this virus which can ultimately improve the quality of health services in hospitals.[10]

Based on the results of the study from the results of statistical tests, the most determinant factors obtained were p-value <0.05, namely effective response (p=0.0001) and facility readiness (p=0.044) which means that there is a significant relationship between effective response and facility readiness. with preventive measures with values (OR = 6,693) and (OR = 2,205). The results of the analysis were then calculated using k=logistic regression with SPSS software, the results of the effective response influencing COVID-19 prevention actions on nurses were 6.693 times or 7 times. Then for every 1 time increase in the effective response and readiness of each facility, it will increase 7,016 or 7 times the nurse's COVID-19 prevention measures.

CONCLUSION

Nurse very susceptible against contracting the COVID-19 virus because nurses are at the forefront in dealing with this virus, so nurses need to be prepared for COVID-19 prevention measures to prevent contracting this virus in the event of a spike in new cases in the future. Recognizing this problem, the effective response of nurses who carry out treatment is the most important thing in handling efforts to minimize the incidence of nurses being infected with the COVID-19 virus. Hospital support to overcome nurses to avoid being infected with the COVID-19 virus can be in the form of the availability of complete facilities and the availability of adequate personal protective equipment (PPE) and good knowledge of nurses can prevent the transmission of this virus.

LIMITATIONS OF THE RESEARCH

Research time cannot be carried out at one time, so it requires more enumerators so that data can be collected from one room to the next.

SOURCES OF FUNDING

This research was funded by the Education Fund Management Institute (LPDP).

CONFLICT OF INTEREST

No conflict of interest exists to disclose

REFERENCES

1. World Health Organization. Coronavirus disease (COVID-19) [Internet]. Who.int. 2022 [cited 2022 Aug 31]. Available from: https://www.who.int/health-topics/ coronavirus.
2. World Health Organization. Coronavirus disease (COVID-19) [Internet]. Who.int. 2022 [cited 2022 Aug 31]. Available from: https://www.who.int/emergencies/diseases/novel-coronavirus-2019.
3. SATGAS COVID-19. COVID-19 situation in Indonesia [Internet]. Covid19.go.id. 2022 [cited 2022 Aug 31]. Available from: https://covid19.go.id/article/2022/05/19/situasi-covid-19-di-indonesia-update-19-mei-2022.
4. Indonesian Ministry of Health. Guidelines for Preparedness for Infection with Novel Coronavirus (2019-nCoV). Jakarta: MoH RI; 2020. p. 1-78.
5. Jihad FN. Preparedness of emergency room nurses against the Coronavirus Disease (COVID-19) pandemic: Literature review [Final project]. Bandung: Indonesian Education University; 2020.
6. Sihombing R, Nabban D, Sihombing VIG, Sihombing FZ, Sitorus ME. Factors relating to the preparedness of health workers in facing COVID-19 at the Latersia Binjai General Hospital in 2020. Journal of Semesta Sehat (J-Mestahat). 2021. p 1(2), 53–67.
7. Aceh Health Office. COVID-19 information [Internet]. Banda Aceh: Acehprov.go.id; 2022 [cited 2022 Sep 1]. Available from: http://covid19.acehprov.go.id/accessed
8. PPNI. Guide to Nursing Care During the COVID-19 Pandemic (Isted). Central Board of the Indonesian National Nurses Association. Jakarta: PPNI; 2020.
9. El-Monshed AH, Amr M, Ali AS, Elmasry YM, Zoromba M. Nurses' knowledge, concerns, perceived impact and preparedness toward the COVID-19 pandemic: A cross-sectional survey. International Journal of Nursing Practice. 2021 Dec; 27(6): e13017. http://dx.doi.org/10.1111/ijn.13017.2021
10. Suryani A, Setiowati R, Suharsono JT, Handrija H. The use of Personal Protective Equipment (PPE) for the safety of nurses during the COVID-19 pandemic era in the isolation room of Dharmais Cancer Hospital. The Journal of Hospital Accreditation. 2022; 4(1):36–9. https://jha.mutupelayankesehatan.net/index.php/JHA/article/view/107.
11. Al-Baalharith IM, Pappiya EM. Nurses' preparedness and response to COVID-19. Int j Afr nurs sci. 2021 March; 14(100302):100302. http://dx.doi.org/ 10.1016/j.ijans.2021.100302.
12. Shannon M. ANA Enterprise [Internet]. ANA; 2014 [cited 2022 Sep 1]. Available from: https://test.nursingworld.org/news/newsreleases/2020/?filter=2020&p=6.
13. Biscayart C, Angeleri P, Lloveras S, Chaves TDSS, Schlagenhauf P, Rodríguez-Morales AJ. The next big threat to global health? 2019 novel coronavirus (2019-nCoV): What advice can we give to travellers? - Interim recommendations January 2020, from the Latin-American society for Travel Medicine (SLAMVI). Travel Med Infect Dis. 2020 Jan-Feb; 33:101567. https://doi.org/10.1016/j.tmaid.2020.101567.
14. Han J, Kang H-J, Kwon GH. Impact of intelligent healthscape quality on nurse job outcomes and job satisfaction: A test of the moderating effect of innovativeness. J Nurs Manag. 2020; 28(1):43–53. http://dx.doi.org/10.1111/jonm.12875

International Journal of Nursing Education
Volume 14 No. 4, October-December 2022
https://doi.org/10.37506/ijone.v14i4.18677

Efficacy of Video-Assisted Teaching on Learning Needs of Children And Literacy of Attention Deficit Hyperactivity Disorder Among Teacher Trainees in South India

Bincy Joseph[1*], Dushad Ram[2]

[1]In-charge, Nursing school, Kunkuri, Chhattisgarh, India, [2]Associate Professor, Department of Medicine (Psychiatry), College of Medicine, Shaqra University, Shaqra, KSA.

How to cite this article: Joseph B, Ram D. Efficacy of Video-Assisted Teaching on Learning Needs of Children And Literacy of Attention Deficit Hyperactivity Disorder Among Teacher Trainees in South India. 2022;14(4): 19-24.

ABSTRACT

Context: Traditional teaching approaches prove to be a viable alternative to video-assisted learning. Teachers are under-informed about the illness and learning needs of children with mental disorders, notably attention deficit hyperactivity disorder.

Aim: This study aimed to examine how effectively video-assisted teaching meets the learning needs and literacy of attention deficit hyperactivity disorder among teacher trainees in South India.

Settings and Design: Institution-based longitudinal study.

Material and Methods: Before and one week after video-assisted teaching about ADHD, 30 randomly selected trainee teachers were examined using questionnaires on ADHD literacy and learning need.

Statistical Analysis Used: descriptive statistics, ANOVA, and paired-samples t-test.

Results: On paired-samples t-test, there was a statistically significant difference in the score of ADHD literacy [t (29) = -18.46, p =.001] and learning needs [t (29) = -32.66, p =.001] pre and post scores.

Conclusions: Using video-assisted teaching improves ADHD literacy and the learning needs of children.

Keywords: Attention deficit hyperactivity disorder, video-assisted teaching, learning needs, literacy.

INTRODUCTION

Though video-assisted teaching has been around for a long time, it has recently become popular in India in the mental health field [1]. It has been utilized for mental disorders in general [3,4]. Few reports use this instrument when it comes to childhood mental illnesses. In India, almost 9.5 percent of the child and adolescent population has attention deficit hyperactivity disorder (ADHD) [5]. Teachers have the greatest chance of noticing odd behavior in students and identifying children with ADHD [6,7]. However, the literature suggests that Indian teachers have low ADHD literacy, making it difficult to accurately diagnose it as a specific diagnosis [7,8,9,10,11-], though they frequently refer to mental health professionals as abnormal behavior and due to academic difficulty [7-12,14]. Improving ADHD literacy among potential teachers is particularly important since there are school-

Corresponding author: Bincy Joseph, Teuku Tahlil, In-charge, Nursing school, Kunkuri, Chhattisgarh, India

Email: bincymullakkudy@gmail.com

based interventions that may be used to help students with the disorder achieve academic parity with their peers [13].

ADHD literacy refers to the knowledge and beliefs regarding ADHD that can help with diagnosis, management, and prevention. It includes the ability to diagnose illnesses so that help may be sought; knowledge of professional services and therapies; knowledge of effective self-help tactics; knowledge and abilities to provide first aid and support; and information on ways to prevent ADHD [14]. As seen by the 84 percent treatment gap for mental diseases [15], there appears to be a lack of mental health literacy, notably among teachers who failed to recognize and refer in India [16]. The report reveals that teachers have a poor understanding of ADHD [17]. In India, more than half of teachers are likely unaware of ADHD [9]. Thus, there is a need to establish cost-effective educational approaches to promote literacy among them.

The gap between a learner's current level of knowledge and skills and the amount of knowledge and skills required to complete a task or a set of activities is referred to as learning needs. The actual requirements vary, as do the methods used to meet them. Children with ADHD have a variety of characteristics that make it difficult for them to learn and complete tasks [18,19]. Most children with attention deficit hyperactivity disorder (ADHD) are educated in general education classes [19,20]. Unfortunately, general educators may not be equipped to assist children with ADHD [20,21]. Educational intervention, classroom management tactics, behavior modification strategies, organizational strategies, and other strategies are among the learning needs of children with attention deficit hyperactivity disorder. Traditional didactic lectures about ADHD have been tried, effectively boosting knowledge and the ability to recognize ADHD. However, due to a scarcity of mental health specialists in India, an alternative teaching strategy must be devised to enable them to understand ADHD literacy better.

Based on the preceding, the purpose of this study was to see how effective video-assisted teaching is at improving ADHD literacy and learning needs. We expected that video-assisted teaching would improve ADHD literacy and learning needs.

MATERIAL AND METHODS

Thirty students from St. Alphonse College of Education in Hyderabad, India, participated in this study. Subjects were recruited using simple random selection after informed consent was obtained. Students enrolled in a B Ed course for at least six months met the inclusion criteria, but those with a psychology background did not. All participants were first assessed using demographic and academic proforma, an ADHD literacy questionnaire, and an ADHD learning needs questionnaire, followed by video-assisted instruction. An ADHD literacy assessment and an ADHD learning needs questionnaire were administered one week after the video-assisted instruction. The assessment tool consisted of

1. Demographic and academic characteristics: Age, education, Source of information about ADHD, educational background.
2. ADHD literacy questionnaire: There were ten questions in this questionnaire. The concept, demographic factors, clinical symptoms, causation, and treatment of ADHD were all addressed in the items. There was just one correct response. The lowest possible score was 0, and the highest possible score was 10. More points imply a higher level of literacy.
3. ADHD learning need questionnaire: The questionnaire included 20 questions about educational intervention, teaching methods, instructional practices, time management, skill development, strategies to reduce inattention, hyperactivity, and impulsivity, language and reading comprehension, dealing with the lesson, taking care of individual subjects, organizational skills, and behavioral

techniques. There was just one correct response. The lowest possible score was 0, and the highest possible score was 20. A higher score suggests better learning needs awareness.

Development of tools

Based on the relevant literature, a ten-item ADHD literacy survey was designed [22,23,24]. Each item would focus on a different component of ADHD, such as the concept, epidemiology, clinical features, treatment, and the role of the teacher.

After consulting a psychiatry textbook and pertinent published research, a 20-item learning needs survey was designed [25,26,27,28]. It featured teaching methods and skill development, measures for dealing with inattention and hyperactivity, lessons, homework and daily assignment planning, time management, and effective behavioral interventions.

- **Teaching Video:** After consulting a psychiatry textbook and journal papers, a 40-minute teaching video was created in English that included ideas, epidemiology, etiology, clinical features, management, comorbidities, teachers' roles, and learning demands of children with ADHD.

Thirteen specialists in the field of psychiatry, including psychiatric nurses, psychiatrists, and clinical psychologists, assessed the tool to determine its content validity. Their important recommendations were implemented after they were obtained, and as a result, appropriate improvements were made. A pilot study in a sample of 10 subjects was administered with these tools among randomly selected students pre- and post-training with teaching video in the interval of one week. The spearman-Brown formula is used to assess the tool's reliability, accuracy, and feasibility. The ADHD literacy questionnaire had reliability of r=.94, whereas the learning requirement was r=.92. A structured questionnaire is feasible and comprehensive for data collection, according to the pilot study.

Statistical analysis

Demographic and academic variables were analyzed using descriptive statistics. The ANOVA test was used to examine demographic variables' pre-and-post scores on literacy and learning needs. To compare the score of ADHD literacy and learning need before and after video-assisted teaching, a paired-samples t-test was used. The significance level was kept at.05.

RESULTS

The sample's demographic and academic characteristics were the majority aged 20-25 years, Undergraduate, unheard-of ADHD, and belonging to the mathematics subject.

On the ANOVA test, there were no statistically significant group differences on the score of the demographic variable on literacy and learning need except score of literacy by education (F=6.388; df=1; p=.017) and subject background (F= 3.295; df=3; p=.036) (Table 1).On the ANOVA test, there were no group differences in learning needs and literacy scores by any demographic and academic variables (Table 2).

A paired-samples t-test was conducted to compare the score of literacy before and after video-assisted teaching. There was a significant (not a significant) difference in the pretest scores for literacy (M=4.60, SD= 1.47) and posttest scores for literacy (M=9.40, SD=.62) conditions; t (29) = -18.46, p = .001 (Table 3).

Similarly, the paired-samples t-test of comparison on the score of learning needs before and after video-assisted teaching. There was a significant (not a significant) difference in the pretest scores for literacy (M=6.56, SD= 1.85) and posttest scores for literacy (M=16.8, SD=1.15) conditions; t (29) = -32.66, p = .001 (Table 3).

Table 1: Pretest score of the demographic variable on needs and literacy					
	Sum of Squares	*df*	*Mean Square*	*F*	*Sig.*
Pretest literacy score * Age	2.798	2	1.399	.625	.543
Pretest learning need score * Age	4.961	2	2.480	.709	.501
Pretest literacy score * Education	11.740	1	11.740	6.388	.017
Pretest learning need score * Education	.129	1	.129	.036	.850
Pretest literacy score * Information source	4.756	2	2.378	1.098	.348
Pretest learning need score * Information source	5.978	2	2.989	.864	.433
Pretest literacy score * Subject background	17.408	3	5.803	3.295	.036
Pretest learning need score * Subject background	14.467	3	4.822	1.477	.244

Table 2: Posttest score of the demographic variable on needs and literacy					
	Sum of Squares	*df*	*Mean Square*	*F*	*Sig.*
Posttest literacy score * Age	.316	2	.158	.392	.680
Posttest learning needs score * Age	.137	2	.068	.048	.953
Posttest literacy score * Education	.311	1	.311	.800	.379
Posttest learning need score * Education	2.292	1	2.292	1.758	.196
Posttest literacy score * Information source	1.367	2	.683	1.876	.173
Posttest learning needs score * Information source	6.744	2	3.372	2.840	.076
Posttest literacy score * Subject background	1.323	3	.441	1.161	.344
Posttest learning needs score * Subject background	4.708	3	1.569	1.197	.330

Table 3: Efficacy of video-assisted training

	Paired Differences							
				95% Confidence Interval of the Difference				
Variables	*Mean*	*Std. Deviation*	*Std. Error Mean*	*Lower*	*Upper*	*t*	*df*	*Sig. (2-tailed)*
Pretest – posttest literacy score	-4.80000	1.42393	.25997	-5.33171	-4.26829	-18.463	29	.001
Pretest– posttest learning needs score	-10.23333	1.71572	.31325	-10.87399	-9.59267	-32.669	29	.001

Pretest literacy score: Mean = 4.60, SD = 1.47; Posttest literacy score: Mean = M = 9.40, SD = .62. Pretest learning need score: Mean = 6.56, SD = 1.85; Posttest learning need score: Mean = 16.8, SD = 1.15

DISCUSSIONS

The B Ed course participants were chosen because they were potential teachers who would be able to detect and comprehend the needs of students with ADHD. Most students were between the ages of 20 and 25, had a bachelor's degree, had never heard of ADHD, and were studying mathematics.

The demographic and academic characteristics are comparable to those found in another study in south India using a similar methodology for other illnesses [29]. The results show that trainees with a PG and a science background score are statistically considerably higher. This could be because there are more opportunities to obtain knowledge from various sources.

This could be because most of the higher-scoring trainees had a science background and thus had more opportunities to learn about medical or illness-related knowledge. It's possible that there's no difference in post-test scores for demographic and academic characteristics on literacy and learning needs since video-assisted teaching has an equivalent impact on learning.

The study's main finding was a substantial difference in pre-post literacy and learning needs scores. Surprisingly, the mean value increased twofold after video-assisted instruction. This form of teaching has gained popularity in India over the years and has been utilized by teachers, carers, and nursing professionals. It appears beneficial in teaching and learning other topics [5,6,29,30-,]. We couldn't find any research on video-assisted teaching for ADHD thus far.

Teachers' ADHD literacy appears to be low in India [9,10,11,12], and they may have a negative attitude toward ADHD students [9,10,11,12]. They may be unable to recognize the condition [13]. As a result, there is a need to educate prospective teachers about such illnesses, as they can play an important role in the academic development of students with ADHD using various strategies in the Indian context [15] and are the primary source of referral to appropriate care [14].

There has been no research into the learning needs of children with ADHD in India so far. This is especially important because teachers can help students with ADHD in the classroom using various empirical evidence-based strategies such as (a) technical-support mediated strategies; (b) classroom strategies; (c) activity-based strategies; (d) peer tutoring strategies; and (e) homework strategies [15,]. This is significant given that the prevalence of ADHD in school-aged children ranges from 30% to 28.9% [7].

Based on the findings, it can be stated that video-assisted teaching helps improve literacy and meet the learning needs of ADHD students. However, because the sample size was small and the study was a cross-sectional and single center, the results should be considered cautiously. To corroborate the findings, more research is required.

Conflict of Interest: None.

Funding: None.

Ethical clearance: Taken from the institutional ethics committee, JMJ College of Nursing, Hyderabad.

REFERENCES

1. Ashitha C. A study to assess the effectiveness of Video Assisted Teaching on Anxiety and Depression among patients subjected to PTCA and their spouses at KMCH, Coimbatore (Doctoral dissertation, KMCH College of Nursing, Coimbatore). 2011.
2. Almeida V, Paniyadi NK, Nayak AK. Effectiveness of video-assisted teaching on awareness (knowledge and attitude) towards mental illness among the public. Manipal J Nursing Health Sci. 2021;7(1):4.
3. Nagarajan P, Balachandar G, Menon V, Saravanan B. effect of a Video-assisted Teaching Program about ECT on Knowledge and attitude of Caregivers of Patients with Major Mental Illness. Indian J Psychol Med. 2021 Jan;43(1):45-50.
4. Chandran H, Jayanthi K, Prabavathy S, Renuka K, Bhargavan R. Effectiveness of video assisted teaching on knowledge, attitude and practice among primary caregivers of children with autism spectrum disorder. Adv Autism. 2019 Sep 26.
5. Joseph JK, Devu BK. Prevalence of attention-deficit hyperactivity disorder in India: A systematic review and meta-analysis. Indian J Psych Nursing. 2019 Feb 1;16(2):118.
6. Jament J. Attention deficit hyperactivity disorder (ADHD) within a South Indian (Keralian) mainstream school context (Doctoral dissertation, University of Northampton),2009.
7. David N. ADHD in Indian Elementary Classrooms: Understanding Teacher Perspectives. Inter J Special Edu. 2013;28(2):4-16.
8. Shetty A, Rai BS. Awareness and knowledge of attention deficit hyperactivity disorders among primary school teachers in India. Int J Cur Res Rev. 2014 May 12;6(09).
9. Shroff HP, Hardikar-Sawant S, Prabhudesai AD. Knowledge and misperceptions about attention deficit hyperactivity disorder (ADHD) among schoolteachers in Mumbai, India. Int J Disability Dev Edu. 2017 Sep 3;64(5):514-25.

10. Premchand PR. Assess the Knowledge and Attitude of School Teachers Regarding Attention Deficit Hyperactivity Disorder in Selected School at Gwalior (M.P). Int J Sci Res. January 2018;7 (1):941-946.

11. Anyachebelu FE, Anyamene A. Literacy strategies for facilitating learning for the attention-deficit/ hyperactivity disordered. Ghana J Deve Studies. 2008;5(2):82-9.

12. Anand P, Sachdeva A, Kumar V. Pathway to care and clinical profile of children with attention-deficit hyperactivity disorder in New Delhi, India. J Family Community Med. 2018 May;25(2):114.

13. Dilawari K, Tripathi N. Strategies to improvise teacher tasking for children suffering from attention deficit hyperactive disorder (ADHD). Int J Disability and Human Dev. 2014 Feb 1;13(1):19-24.

14. Simmons M, Hetrick S, Jorm A. Experiences of treatment decision making for young people diagnosed with depressive disorders: a qualitative study in primary care and specialist mental health settings. BMC Psychiatry. 2011, 11: 194-10.

15. Gautham MS, Gururaj G, Varghese M, Benegal V, Rao GN, Kokane A, Chavan BS. The National Mental Health Survey of India (2016): Prevalence, socio-demographic correlates and treatment gap of mental morbidity. Int J Soc Psychiatry. 2020 Jun;66(4):361-72.

16. Prabhu V, Ashok L, Kamath VG, Sekaran VC, Kamath A, Padickaparambil S, Hegde AP, Devaramane V. What predicts mental health literacy among schoolteachers? Ghana Med J. 2021 Jun 1;55(2):141-6.

17. See LC, Li HM, Chao KY, Chung CC, Li PR, Lin SR. Knowledge of attention-deficit hyperactivity disorder among the general public, parents, and primary school teachers. Medicine. 2021 Mar 26;100(12): e25245.

18. Barkley R. Attention-deficit hyperactivity disorder: A handbook for diagnosis and treatment (2nd ed.). New York: Guilford. 1998.

19. Zentall SS. ADHD and education: Foundations, characteristics, methods, and collaboration. Upper Saddle River, NJ: Pearson/Merrill/ Prentice Hall. 2006.

20. McKinley LA. Educational accommodations adopted by general and special education teachers for students with attention deficit-hyperactivity disorder. Unpublished doctoral dissertation, University of Missouri– Columbia. 2003.

21. Zentall SS, Stormont-Spurgin M. Educator preferences of accommodations for students with attention deficit hyperactivity disorder. Teacher Edu and Special Edu. 1995 Apr;18(2):115-23.

22. Jerome L, Gordon M, Hustler P. A comparison of American and Canadian teachers' knowledge and attitudes towards attention deficit hyperactivity disorder (ADHD). The Canadian J Psychiatry. 1994 Nov;39(9):563-7.

23. Sciutto MJ, Terjesen MD, Frank AS. Teachers' knowledge and misperceptions of attention□ deficit/hyperactivity disorder. Psychol Schools. 2000 Mar;37(2):115-22.

24. Abed MG. The knowledge and beliefs concerning ADHD held by children, parents, and teachers in Saudi Arabia. University of Leeds; 2013.

25. Gardill MC, DuPaul GJ, Kyle KE. Classroom strategies for managing students with attention-deficit/hyperactivity disorder. Intervention in school and clinic. 1996 Nov;32 (2) :89-94.

26. Brodin J, Ljusberg AL. Teaching children with attention deficit hyperactivity disorder in remedial classes. Int J Rehabil Res. 2008 Dec;31(4):351-5.

27. Moldavsky M, Sayal K. Knowledge and attitudes about attention-deficit/hyperactivity disorder (ADHD) and its treatment: the views of children, adolescents, parents, teachers and healthcare professionals. Curr Psychiatry Rep. 2013 Aug;15(8):377.

28. Efstratopoulou M, Simons J, Janssen R. Concordance among physical educators', teachers', and parents' perceptions of attention problems in children. J Atten Disord. 2013 Jul;17(5):437-43.

29. Uma K. A study to assess the effectiveness of video teaching program on knowledge regarding dyslexia among teacher trainee in selected teacher training institution at Erode (Doctoral dissertation, Sre Sakthimayeil Institute of Nursing and Research, Komarapalayam). 2014.

30. Devi B, Khandelwal B, Das M. Comparison of the effectiveness of video-assisted teaching program and traditional demonstration on nursing students learning skills of 44. performing obstetrical palpation. Iranian J Nursing Midwifery Res. 2019 Mar;24(2):118.

International Journal of Nursing Education
Volume 14 No. 4, October-December 2022
https://doi.org/10.37506/ijone.v14i4.18678

OSCE Finest Practice Guidelines—Pertinency for Nursing Simulations

Dipankar Maiti[1*], Victoria Sarvand[2]

[1]Nursing Tutor, Sushrutha College of Nursing, Rajiv Gandhi University of Health Sciences, Karnataka, India, [2]Professor & HOD, Department of Obstetrics & Gynecological Nursing, Adichunchanagiri College of Nursing, Adichunchanagiri University, B.G. Nagara, Mandya, Karnataka, India

How to cite this article: Maiti D, Sarvand V. OSCE Finest Practice Guidelines—Pertinency for Nursing Simulations. 2022;14(4):25-30.

ABSTRACT

OSCEs are a form of simulation and are often collective but may be determinative. This educational tactic requires robust design based on sound pedagogy to assure practice and evaluation of holistic nursing care. The OSCE, first used in the 1970s, is an assessment of capability carried out in a well-planned, arranged and objective way. Summative OSCEs are often used at the end of courses or programmes or on accomplishment of a module to test students in contradiction of set objectives and learning consequences. OSCE is used in different areas like history taking skills, interpersonal and communication skills, Mental Health Assessment, clinical diagnosis making, clinical problem-solving skills etc. Preparation is vital and increases students' self-confidence in performing skills during the OSCE and in clinical areas. The OSCE examination entails of about 10-15 stations, each of which requires about 4-5 minutes. The number of stations and time consumed on each station may vary based on needs of evaluation. Thus, using 15 stations of 4 minutes separately, 15 students can complete the examination within 1 hour. The OSCE style of clinical evaluation, given its obvious advantages, specifically in terms of objectivity, standardization and resourcefulness of clinical scenarios that can be measured, shows superiority over so called clinical assessment methods especially in medical fields majorly in nursing practices.

Keywords: Response Stations, Assessment, Procedure Stations, Simulations, BLS, Peak Expiratory Flow Rate.

BACKGROUND

OSCE have been used for many years within healthcare programmes as a degree of students' and clinicians' clinical performance. OSCEs are a form of simulation and are often collective but may be determinative. This educational tactic requires robust design based on sound pedagogy to assure practice and evaluation of holistic nursing care. As part of a project testing seven OSCE including BPGs across three sites, the BPGs were applied to an existing simulation activity. The aim of this study was to determine the pertinency and value of the OSCE including BPGs in an existing influential simulation.[1]

INTRODUCTION

OSCE is a modern type of examination often used in health science (e.g. medicine, dentistry, nursing, pharmacy and

Corresponding author: Dipankar Maiti, Nursing Tutor, Sushrutha College of Nursing, Rajiv Gandhi University of Health Sciences, Karnataka, India

Email: dipankarmaiti2015@gmail.com

physiotherapy) to assess clinical skill performance and competence in skills such as communication, clinical examination, medical and nursing procedures or prescription, exercise prescription, joint mobilization or manipulation techniques and interpretation of results.

As per **Harden** the OSCE is an approach to the assessment of clinical competence in which the components of competence are assessed in a planned or structured way with attention being paid to the objectivity of the examination.

METHODOLOGY

We performed a PubMed, Google Scholar, Cochrane quest in May 2022 by using the phrases OSCE, Modern Clinical Evaluation techniques, Nursing Evaluation Techniques etc. The search borne almost 49 papers, including reviews, case reports, case series, and clinical studies. After excluding the 15 non-English reports without an English abstract, we encompassed the remaining 34, irrespective of publication date.

HISTORY

The OSCE, first used in the 1970s, is an assessment of capability carried out in a well-planned, arranged and objective way (Harden and Gleeson, 1979). It is well established within medicine and is used progressively in nurse education (Nulty et al, 2011).

The valuation of knowledge and skills plays an important part in student nurses' evolution though pre-registration programmes because they need to demonstrate competency and self-confidence in the performance of clinical skills (Nursing and Midwifery Council, 2007).

OSCEs are used to analyse, clinical skills in both pre-registration and postgraduate programmes (Rushforth, 2007; Major, 2005). The NMC has published essential skills clusters in response to the poor acquisition of clinical skills within nursing, and suggested using OSCEs for evaluating student nurses for medicines supervision in particular in 2007.[2]

EVIDENCE FOR OSCE

The pyramid of capability (Miller, 1990) is a framework that classifies the stages of skills students should achieve. In continuing up the pyramid to "shows how", students reveal their knowledge and understanding by carrying out in a simulated setting such as an OSCE.

OSCEs may be used as a collective or determinative assessment and on their own or with another form of evaluation. Summative OSCEs are often used at the end of courses or programmes or on accomplishment of a module to test students in contradiction of set objectives and learning consequences. Where they are used as a formative assessment, the feedback provided helps students to advancement (Taras, 2005; Alinier, 2003). Formative OSCEs also help to concoct students for placements, inspire them to engage with their learning and help them to accomplish their learning outcomes (Nulty et al, 2011).

The NMC (2010) says programme providers for pre-registration nurse education must confirm "the outcomes, capabilities and aptitudes of the approved programme are tested using valid and unswerving assessment methods". OSCEs assess students' psychomotor, cognitive and affective skills in a simulated environment and various tools score their performance.[2]

PURPOSES

According to Boursicot, Ware and Hazllet(2011)-

- ❍ Measures clinical skills
- ❍ Match assessment to intended constructs
- ❍ Promote planned interaction between student and examiner
- ❍ Make structured marking scheme possible
- ❍ Present all candidates with the similar test
- ❍ Promote objectivity

USES OF OSCE

- ✓ History taking skills
- ✓ Interpersonal and communication skills

- ✓ Mental Health Assessment
- ✓ Clinical diagnosis making
- ✓ Clinical problem-solving skills
- ✓ Patient education
- ✓ Health promotion
- ✓ Acting securely and appropriately in a crucial clinical situation
- ✓ Basic and advanced nursing care procedures practices

STEPS IN IMPLEMENTING OSCE

- ❖ Have set of clear objectives
- ❖ Identify the practical aspects
- ❖ Select the task
- ❖ Set up situations
- ❖ Assign scores for each sub tasks
- ❖ Set up situations
- ❖ Conduct after orienting students and examiners
- ❖ Make notes of the process and review
- ❖ Analyse the results and use the same for student assessment

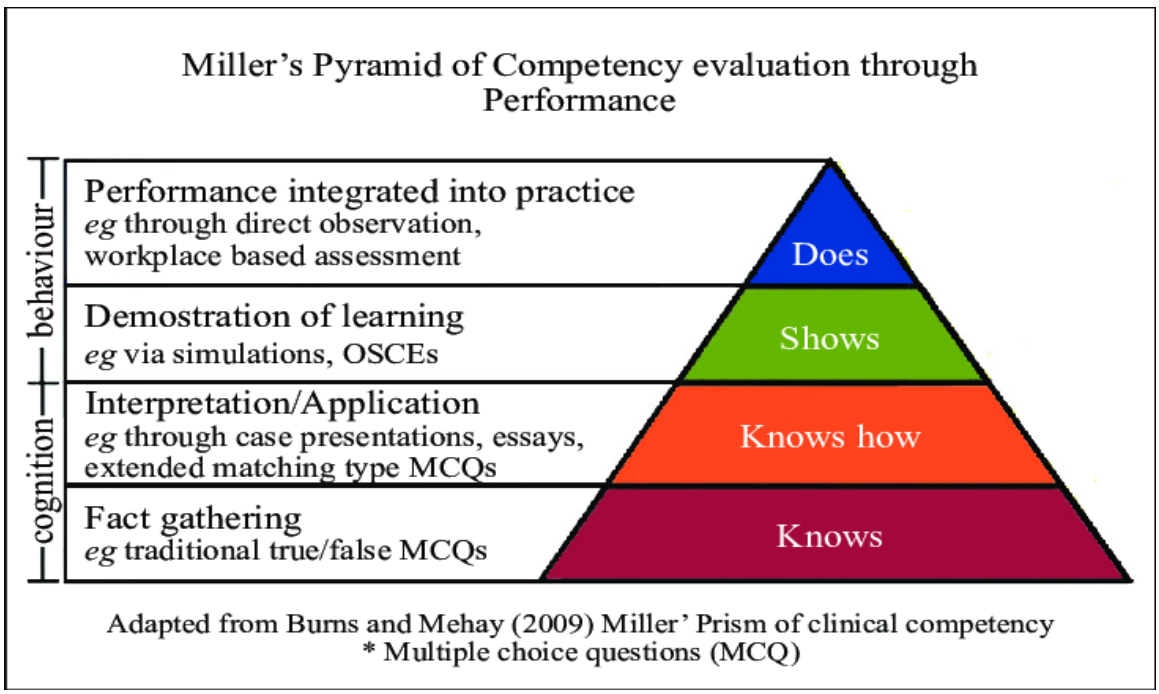
OSCE INVOLVES

The OSCE is made up of six distinct stations using replicated patients in a clinical setting. Four stations are considered to test the candidate's knowledge and understanding of assessment, planning, implementation and evaluation of care. The remaining two stations test clinical skills. Typical skills which we could be tested on, within a nursing scenario comprise but are not limited to:

- ❖ Vital Signs
- ❖ Peak Expiratory Flow Rate
- ❖ Wound care
- ❖ Safe Disposal of Sharps
- ❖ Medication Administration
- ❖ Urinary Catheterisation
- ❖ Hand Hygiene
- ❖ Calculating Drug Dosages
- ❖ Intramuscular and Subcutaneous Injections
- ❖ BLS

COMPONENTS OF OSCE

- ❖ The examination coordinating committee
- ❖ The examiners examination site
- ❖ The examination coordinator
- ❖ Lists of skills, behaviours and attitudes to be assessed
- ❖ Criteria for scoring the assessment



Adapted from Burns and Mehay (2009) Miller' Prism of clinical competency
* Multiple choice questions (MCQ)

❖ Examination stations
- Time and time allocation between stations
- Anatomic models for repetitive examinations
- Couplet station
- Examination questions
- Examination station circuit
- Patient(real/simulated)
- Time keeper/Time clock and time signal
- Contingency plans
- Environment of exam station
- Assessment of the performance of the OSCE
- Viva-Voce or Oral examination

FREQUENCY OF OSCE

We can take a supreme of three OSCE attempts as part of our NMC application. We will need to wait at least 10 days between to each sitting.

If we're not able to pass our OSCE on the third attempt but the application will close and the contestant will need to start a new application. But the contestant needs to wait at least six months before you can sit the OSCE again.[3]

STUDENT GROUNDWORK FOR OSCE

Preparation is vital and increases students' self-confidence in performing skills during the OSCE and in clinical areas (Street and Hamilton, 2010). Determinative or mock OSCEs also increase poise and competence (Alinier, 2003). Students concocting for an OSCE should:

- Be emotionally prepared,
- Be conversant with how equipment works,
- Develop skills on clinical placement,
- Revise the underpinning theory of skills,
- Be accustomed with checklist/design criteria,
- Rehearse skills,
- Know the timing of the OSCE,
- Use response from mock or formative OSCEs,
- Know which procedures or guidelines are to be used in the OSCE,
- Use obtainable resources such as guided study, quizzes and videos,
- Check whether the candidates should wear uniforms,
- Confirm the date, time, venue and allow enough time to get there,
- Practise responding questions verbally.

STUDENT THROUGHOUT OSCE

❖ Pay attention to verbal and written directions and clarify any queries with the assessor before the student starts

❖ Should check all the equipment we will need is present at the station

❖ Should stay tranquil and attentive

❖ Inform the assessor if we forget to do something, as we may still have time to do it

❖ Should keep an eye on the time

❖ Communicate with the patient

❖ On accomplishment, take a moment to run through in the mind what the examinee were asked to do and check that the examinee have completed the task or not.[2]

SAMPLE OF OSCE EVALUATION IN NURSING

Marking Criteria	Score
Pain Assessment	( )/4
Vital signs Assessment	( )/4
Abdominal Assessment	( )/4
Cardiac Assessment	( )/4
Respiratory Assessment	( )/4
History inquires	( )/4
Data recording with marking the abnormal signs	( )/4
Explanation for the potential causes for abnormal signs	( )/4
Reasonable and correct information used and clear explanation	( )/4

ORGANIZATION OF THE OSCE

- ❖ The OSCE examination entails of about 10-15 stations, each of which requires about 4-5 minutes. The number of stations and time consumed on each station may vary based on needs of evaluation.
- ❖ All stations should be proficient of being completed in the same time.
- ❖ The students are rotated through all stations and have to move to the next station at the signal.
- ❖ As the stations are generally sovereign, students can start at any procedure stations and complete the cycle.
- ❖ Thus, using 15 stations of 4 minutes individually, 15 students can complete the examination within 1 hour.
- ❖ At some stations called procedure stations, students are given tasks to accomplish on patients or simulators. At all such stations there are onlookers with agreed upon checklists or rating scales to score the student's performance.
- ❖ At other stations called response stations, students answer to questions of the objective type or interpret data or record their findings of the preceding procedure stations.[4]

POSITIVE ASPECTS OF OSCE IN NURSING

- ➢ SIMULATED OSCE STATIONS
  - ✓ They are meticulous and safe
  - ✓ Feedback from modern sophisticated simulators can be attained
  - ✓ Simulators are readily available when mandatory
  - ✓ Scenarios that are worrying to real patients can be simulated.
  - ✓ In simulated stations, the patient adjustable in examination is uniform across trainees.
  - ✓ Simulated stations can be custom-made to the level of skill to be assessed
- ➢ REAL LIFE OBSE STATIONS
  - ✓ It provides actual competence of a person on performance because flawless 'textbook' scenarios may not mimic real-life situations
  - ✓ OSCEs allow valuation of complex skills which may not be possible at simulated stations.
  - ✓ Real-life circumstances may be more cost-effective.[5]

CHALLANGES CORRELATED TO OSCE IN NURSING

- Lack of feasibility due to time obliges
- Lack of training for use of OSCE
- Shortage of observers or examiners
- Lack of attention in examiners
- Lack of obligatory guidelines for practical examination by universities[6]

ADVANTAGES OF OSCE

- ❍ Uniform scenarios for all runners
- ❍ Obtainability
- ❍ Safety, no peril of injury to patients
- ❍ Stations can be tailored to level of skills to be evaluated
- ❍ Allows for teaching audit
- ❍ No risk of litigations
- ❍ Feedback from actors(simulators)
- ❍ Allows for reminiscence
- ❍ Allows for demonstrations of emergency skills

DISADVANTAGES OF OSCE

- ❖ Expensive
- ❖ Takes long time to paradigm a case and a scoring checklist
- ❖ Technical limitations
- ❖ Shortage of examiners
- ❖ Might be quite distressing to the students6

CONCLUSION

The OSCE style of clinical evaluation, given its obvious advantages, specifically in

terms of objectivity, standardization and resourcefulness of clinical scenarios that can be measured, shows superiority over so called clinical assessment methods. It permits evaluation of clinical students at variable levels of training within a relatively short period, over an extensive range of skills and issues. OSCE eliminates prejudice in examining students and allows all to go through the same scope and criteria for assessment. This has ended it a worthwhile method in medical practice.

LIST OF ABBREVIATIONS

- OSCE : Objective Structured Clinical Examination
- BPGs : Best Practice Guidelines
- NMC : National Medical Commission
- BLS : Basic Life Support

SOURCE OF FUNDING

Self(review aticle), No financial support was provided relevant to this article.

CONFLICT OF INTEREST: Have no conflict of interest relevant to this article

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

ETHICAL CLEARANCE: Not required

BIBLIOGRAPHY

1. Kelly MA, Mitchell ML, Henderson A, Jeffrey CA, Groves M, Nulty DD, et al. OSCE best practice guidelines—applicability for nursing simulations. Advances in Simulation 2016 1:1 [Internet]. 2016 Apr 2 [cited 2022 May 3];1(1):1–10. Available from: https://advancesinsimulation.biomedcentral.com/articles/10.1186/s41077-016-0014-1
2. The objective structured clinical examination | Nursing Times [Internet]. [cited 2022 May 3]. Available from: https://www.nursingtimes.net/roles/nurse-educators/the-objective-structured-clinical-examination-22-08-2014/
3. OSCE for Oversea Nurses | Global Nurse Force [Internet]. [cited 2022 May 3]. Available from: https://globalnurseforce.com/blogs/everything-you-need-to-know-about-nmcs-osce-for-overseas-nurses/
4. Abdalla A, Mohammed K. The Objective Structured Clinical Exam (OSCE): A Qualitative Study evaluating Nursing Student"s Experience. International Journal of Science and Research [Internet]. 2013 [cited 2022 May 8];5:2319–7064. Available from: www.ijsr.net
5. Majumder MAA, Kumar A, Krishnamurthy K, Ojeh N, Adams OP, Sa B. An evaluative study of objective structured clinical examination (OSCE): students and examiners perspectives . Advances in Medical Education and Practice [Internet]. 2019 Jun 5 [cited 2022 May 8];10:387–97. Available from: https://www.dovepress.com/an-evaluative-study-of-objective-structured-clinical-examination-osce--peer-reviewed-fulltext-article-AMEP
6. Ataro G, Worku S, Asaminew T. Experience and Challenges of Objective Structured Clinical Examination (OSCE): Perspective of Students and Examiners in a Clinical Department of Ethiopian University. Ethiopian Journal of Health Sciences [Internet]. 2020 May 1 [cited 2022 May 8];30(3):417. Available from: /pmc/articles/PMC7445939/
7. Zayyan M. Objective Structured Clinical Examination: The Assessment of Choice. Oman Medical Journal [Internet]. 2011 Jul [cited 2022 May 8];26(4):219. Available from: /pmc/articles/PMC3191703/

International Journal of Nursing Education
Volume 14 No. 4, October-December 2022
https://doi.org/10.37506/ijone.v14i4.18679

The Relationship Between Patient Characteristics Diabetes Self-Care Management with Diabetic Peripheral Neuropathy in Type 2 DM Patients in Regional General Hospital in Indonesia

Aulia Akmal[1], Hilman Syarif[2*], Cut Husna[2]

[1]Master of nursing student, Faculty of Nursing, Universitas Syiah Kuala, [2]Faculty of Nursing, Universitas Syiah Kuala, Jalan Tengku Tanoh Abee Darussalam Banda Aceh-IndonesiaAdichunchanagiri College of Nursing, Adichunchanagiri University, B.G. Nagara, Mandya, Karnataka, India

How to cite this article: Akmal A, Syarif H, Husna C. The Relationship Between Patient Characteristics Diabetes Self-Care Management with Diabetic Peripheral Neuropathy in Type 2 DM Patients in Regional General Hospital in Indonesia. 2022;14(4):31-37.

ABSTRACT

One of the microvascular complications is loss of sensation in the leg area (peripheral neuropathy) which causes foot ulcers and the risk of amputation. The purpose of this study was to determine the relationship between patient characteristics and Diabetes Self-Care Management (DSCM) with Diabetic Peripheral Neuropathy (DPN) in type 2 diabetes mellitus patients in a regional public hospital in one of the provinces in Indonesia. This study used a correlative design with a cross-sectional approach to 154 patients with type 2 diabetes mellitus who were selected using a proportionate stratified random sampling technique. The data were obtained using a *Summary of* Diabetes Self-Care Activities and the Michigan Diabetic Neuropathy Score and analyzed using the Chi-square test and logistic regression. The results showed that age and duration of diabetes were the sub-variables of patient characteristics that were most associated with neuropathy in diabetic patients. Patients are expected to be able to do diabetes management regularly so that no more diabetes patients are injured due to a lack of self-management. Hospitals are expected to routinely carry out training and counseling for diabetic patients to prevent serious complications caused by peripheral neuropathy.

Keywords*:* Characteristics patient, Diabetes self-care management, Diabetic peripheral neuropathy.

INTRODUCTION

Diabetes Mellitus (DM) is a metabolic disease with characteristic hyperglycemia that occurs due to abnormalities in insulin secretion and insulin action. The World Health Organization (WHO) reports that the increase in the number of people with DM is one of the global health threats[1]. The International Diabetes Federation (IDF) divides diabetes into 3 types, namely type 1 diabetes, type 2 diabetes, and gestational diabetes. The most common DM experienced by patients is type 2 DM with a percentage of 90% of all DM cases[2] a disease no longer associated with affluence, is on the rise across the globe as reported in this 8th edition of the are significant: millions of people are being destroyed IDF Diabet by the current diabetes pandemic which substantiates es Atlas 2017. The indicators IDF's mission and rigorous

Corresponding author: Hilman Syarif, Faculty of Nursing, Universitas Syiah Kuala

Email: hilmansyarif@unsyiah.ac.id

efforts to provide solutions to this worldwide health crisis. Already for some time, diabetes and other noncommunicable diseases (NCDs**.** The number of people with DM in Indonesia in 2015 was 10 million people and in 2017 it increased to 10.3 million people, and it is predicted that this number will continue to increase to 16.7 million people in 2045[2]a disease no longer associated with affluence, is on the rise across the globe as reported in this 8th edition of the are significant: millions of people are being destroyed IDF Diabet by the current diabetes pandemic which substantiates es Atlas 2017. The indicators IDF's mission and rigorous efforts to provide solutions to this worldwide health crisis. Already for some time, diabetes and other noncommunicable diseases (NCDs. This high incidence rate makes Indonesia the sixth country with the highest number of DM sufferers after China, India, the USA, Brazil, and Mexico with an age range of DM sufferers between the ages of 20-79 years[2]a disease no longer associated with affluence, is on the rise across the globe as reported in this 8th edition of the are significant: millions of people are being destroyed IDF Diabet by the current diabetes pandemic which substantiates es Atlas 2017. The indicators IDF's mission and rigorous efforts to provide solutions to this worldwide health crisis. Already for some time, diabetes and other noncommunicable diseases (NCDs.

The most common diabetic neuropathy in DM patients is peripheral neuropathy. This damage affects the peripheral nerves, which are usually located in the lower limbs, namely the feet and lower legs[21]. The occurrence of diabetic neuropathy in DM patients is a symptom caused by dysfunctional peripheral nerves[3].

According to the International Diabetes Federation (IDF), the prevalence of DPN in DM patients ranges from 16-66%[3]. Research on the prevalence of risk factors for peripheral neuropathy conducted in India with a sample of 273 people, showed that more than 40% of DM patients had DPN based on the diabetic neuropathy symptoms (DNS) score[4].

The prevalence of DPN in African countries is 46% with the highest prevalence in West Africa and the lowest being in Central Africa[5]. Other studies also show that higher rates of neuropathy can be found in Southeast Asian countries, namely Malaysia (54.3%), the Philippines (58.0%), and Indonesia (58.0%)[6].

DSCM can control the patient's blood sugar levels to remain stable or normal. Good self-management in DM patients can reduce other complications due to DM. Good self-care can reduce morbidity and mortality caused by DM[7]. By carrying out the DSCM program independently and routinely by patients at home, it is possible to avoid complications, especially peripheral neuropathy which is the most complained of[8].

Existing literature review shows that research on the relationship between patient characteristics and diabetes self-care management has not been done much and indicates that it still needs to be done in Indonesia. This study aims to identify the relationship between patient characteristics and diabetes self-care management on diabetic peripheral neuropathy in type 2 diabetes mellitus patients in regional public hospitals in Indonesia.

METHOD

This quantitative research uses a correlative design with a cross-sectional approach. This research was conducted in one of the Regional General Hospitals in one of the westernmost provinces in Indonesia. The total number of respondents who were involved was 154 patients with type 2 diabetes mellitus who visited the outpatient polyclinic which was selected using a proportionate stratified random sampling technique.

Data were collected using three instruments, namely a demographic questionnaire, self-care management and diabetic peripheral neuropathy adapted from the Summary of Diabetes Self Care Activities-Revised (SDSCA) and Michigan Neuropathy Screening Instrument (MNSI) and a questionnaire (Michigan Diabetic Neuropathy Score

(MDNS) questionnaire. Before being used, the instrument was tested for content validity and then construct validity. The instrument used had a good level of reliability. Self-care management questions had a Cronbach alpha score of 0.96, and a neuropathy examination with a Cronbach alpha score of 0.70.

Questionnaires were distributed and answered directly by the respondent when the respondent was receiving treatment and then a physical examination was carried out by the researcher. The data that has been collected is then checked for completeness, processed, and analyzed using univariate, bivariate, and multivariate analysis.

Respondent involvement is voluntary. All respondents involved were explained about the research including the pros and cons of their involvement and asked to give written consent for their involvement in the research. A research ethics permit was obtained from the Ethics Committee of the Faculty of Nursing, Syiah Kuala University, Banda Aceh with Registration Number: 112004150722.

RESEARCH RESULT

Univariate analysis

Univariate Analysis Characteristics of research respondents can be seen in Table 1.

Table 1 shows that the average age of type 2 diabetes mellitus patients is > 65 years (55.8%), male (67.5%), long-suffering from DM (59.1%), has a history of disease comorbidities (79.9%), abnormal HBA1c values (80.5%).

Diabetes self-care management (DSCM)

Diabetes self-care management of research respondents can be seen in Table 2 below.

Table 2 shows that the diabetes self-care management surveyed on average had high self-care (87.0%), and as many as (13.0%) of diabetic patients had moderate results.

Diabetic Peripheral neuropathy (DPN)

Diabetes peripheral neuropathy of research respondents can be seen in Table 3..

Table 3 shows that the average Diabetic Peripheral neuropathy surveyed had moderate neuropathy (64.3%), and as many as (35.7%) of diabetic patients had low results.

The relationship between characteristics of patients and Diabetes Self-Care Management with Diabetic Peripheral Neuropathy

The relationship between characteristics of patients and diabetes self-care management with diabetic peripheral neuropathy can be seen in Table 4.

Table 1: Demographic Characteristics of Respondents

No.	*Patient Characteristics*	*f*	*%*
1.	Age		
	Young Adults	11	7,1
	Middle Adult	57	37,0
	Older Adults	86	55,8
2.	Gender		
	Male	104	67,5
	Female	50	32,5
3.	Long Suffering DM	13	8,4
	<1 year	50	32,5
	1 - 5 years	91	59,1
	>5 years		
4.	History of co-morbidities		
	Yes	123	79,9
	No	31	20,1
5.	HBA1c		
	Normal	30	19,5
	Abnormal	124	80,5

Tabel 2: Diabetes self-care management (DSCM)

No	*DSCM*	*f*	*%*
1.	Moderate	20	13,0
2.	Highw	134	87,0
Results		154	100,0

Tabel 3: Diabetic Peripheral Neuropathy (DPN)

No	*DPN*	*f*	*%*
1	Low	55	35,7
2	Moderate	99	64,3
Results		154	100,0

Table 4: Relationship between characteristics of patients and Diabetes Self-Care Management with Diabetic Peripheral Neuropathy

Variables	*DPN*				*Result*		
	Low		*Moderate*				
f		*%*	*f*	*%*	*f*	*%*	*p-value*
Age							
Young Adults	10	90,9	1	9,1	11	100,0	0,001
Middle Adult	40	70,2	17	29,8	57	100,0	
Older Adults	5	5,8	81	94,2	86	100,0	
Long Suffering DM							
<1 year	13	100,0	0	0	13	100,0	0,001
1-5 years	34	68,0	16	32,0	50	100,0	
>5 years	8	8,8	83	91,2	91	100,0	
History of co-morbidities							
Yes	28	22,8	95	77,2	123	100,0	0,001
No	27	87,1	4	12,9	31	100,0	
HBA1c							
Normal	26	86,7	4	13,3	30	100,0	0,001
Abnormal	29	23,4	95	64,3	124	100,0	

Table 4 shows that there is a significant relationship between age (p=0.001), duration of diabetes mellitus (p=0.001), history of comorbidities (p=0.001), and HBA1c (p=0.001) with diabetic peripheral neuropathy in type 2 diabetes mellitus patients in the hospital.

Multivariate analysis

Based on multivariate analysis with a logistic regression test, it was found that age was the most dominant sub-variable associated with DPN in type 2 DM patients with Odds Ratio (OR: 7,198)

DISCUSSION

Age is one index to describe the development of each individual[9]. The higher the age, the greater the possibility of neuropathy. Age 45 years is at risk for neuropathy. At the age of 45 years, body functions physiologically decline, this is due to a decrease in insulin secretion or resistance so that the ability of the body's functions to control high blood glucose is less than optimal[10]. Research by Hutapea[11] states that almost all ages who experience neuropathy the most are 45-65 years[12]. Other researchers also stated that the age range that experienced diabetic neuropathy was the most in the age range of 51 - 59 years by 52,7% [12].

Judging from the age that DPN usually occurs, namely in people with old age [13]. The results showed that from 154 elderly patients, 86 elderly patients had moderate DPN levels. The results of the analysis in this study indicate that there is a relationship between age and DPN in Type 2 DM patients at the Internal Medicine Polyclinic of Meuraxa Hospital, Banda Aceh City.

The results of this study are in line with research conducted by Amour[14]which frequently leads to amputation and/or disability and death. Data is scanty on the burden of diabetic peripheral neuropathy in Tanzania. The aim of this study was to assess the burden of peripheral neuropathy, its severity, and the associated factors. Methods. The study was a cross-sectional hospital-based study and was carried out from October 2017 to March 2018 among adolescent and adult patients attending Kilimanjaro Christian Medical Center (KCMC, which stated that the severity of neuropathy was associated with increasing age with a *p-value* <0.001. Most DM

patients with peripheral neuropathy are in the age group >60 years, namely 84.8%[14].

If it is reviewed in the field, the most experienced DPN is the elderly. Based on inspection[13] Based on the examination it is known that age over 60 years is associated with diabetic neuropathy. serious neuropathy only appears in the older age group. Similarly, the study of Popescu[15] stated that age is fundamentally closely related and turns into an autonomic component in the seriousness of neuropathy in DM patients. Age >60 years has the most serious risk for peripheral neuropathy. Increasing age affects the movement of peripheral neuropathy in patients with type 2 diabetes.

The duration of the disease can increase the risk of complications. The longer a person has DM, the greater the risk that will occur. A study stated that as many as 35-40% of DM patients had neuropathy with a duration of DM for more than 3 years and 70% in DM patients with a duration of 5 years[16]posing a major medical and economical threat. Identifying the extent of this problem and its risk factors will enable health providers to set up better prevention programs. Saudi National Diabetes Registry (SNDR.

Judging from the length of suffering from DM, DPN usually occurs in people with DM duration > 5 years [10]posing a major medical and economical threat. Identifying the extent of this problem and its risk factors will enable health providers to set up better prevention programs. Saudi National Diabetes Registry (SNDR. The results showed that of 154 patients who had suffered from DM > 5 years, 91 people (59.1 %) patients with DM > 5 years had moderate DPN levels. The results of the analysis in this study indicate that there is a relationship between the duration of suffering from DM and DPN in Type 2 DM patients at the Internal Medicine Polyclinic of Meuraxa Hospital, Banda Aceh City.

This result is relevant to a previous study by Trisnawati[17] which states that 64.6% of patients with long-term diabetic neuropathy have had diabetes for 5 years. The duration of experiencing DM is 5 years has the risk of developing diabetic neuropathy is 3.95 times higher than DM patients with DM duration <5 years. a study was also conducted by Tamer [18]to evaluate the role of history, neurological examination and the electrodiagnostic methods in the diagnosis of DSP, and to determine the association between electromyography-supported neuropathy (ESN in Turkey which examined the prevalence and risk factors for neuropathy in 191 DM patients and found a significant relationship between the duration of diabetes mellitus and diabetic neuropathy (OR = 1.010, 95% CI (1.004-1.015).

Based on the results of this study, the authors argue that the duration of suffering from DM > 5 years is one of the risk factors for neuropathy. The data from the study show that there is a relationship between an increase in the length of diabetes mellitus and the incidence of this neuropathy because chronic hyperglycemia makes a person have a high risk of complications, the longer a person suffers from DM with high blood glucose levels can weaken and damage the blood vessel walls resulting in damage and ultimately the patient did not realize that he had suffered trauma to the foot that caused the injury.

This is following the opinion of Ariani[19] adding that the prevalence of neuropathy increases along with increasing age and duration of the disease, so the researchers conclude that the longer a person is diagnosed with DM, the more at risk of complications so that if DM is not controlled properly, then the possibility of developing diabetes will increase. Complications such as diabetic foot ulcers can occur.

Based on the results of research that has been done, it is known that 99 patients (64.3%) had neuropathy in the moderate category and 55 patients (35.7%) had neuropathy in the mild category. Good self-care can reduce morbidity and mortality caused by DM[7]. By carrying out the DSCM program independently and

routinely by patients at home, it is possible to avoid complications, especially peripheral neuropathy which is the most complained of[8].

Based on the results of the study from the results of statistical tests, the most related factors obtained a p-value <0.05, namely age (p = 0.002) and duration of suffering from DM (p = 0.005) which means that there is a significant relationship between patient characteristics and diabetes self-care management. with diabetic peripheral neuropathy with values (OR = 7.198) and (OR = 5.298). The results of the analysis were then calculated using k=logistic regression with SPSS software, the results showed that age affected the incidence of neuropathy in DM patients as much as 7.198 times or 7 times.

CONCLUSION

Increasing age affects the incidence of neuropathy due to reduced sensitivity of the nerves in the legs resulting in a decrease in body function so that the control of high blood glucose is less than optimal and it will damage the nerves, especially in the peripheral nerves. Recognizing this problem, good self-management in diabetic patients is the most important thing in prevention efforts to minimize the risk of serious complications caused by neuropathy. Good family and health support to motivate patients to avoid the risk of complications can be in the form of readiness of officers to provide education and the availability of a special room for adequate consultation of diabetic patients as well as providing special training in early detection of neuropathy events can prevent the incidence from increasing.

Acknowledgment: Researchers would like to express their deepest gratitude to all respondents who have provided information and data to complete this article.

Ethical Clearance: The Ethical Clearance was obtained from the Research Ethics Committee of the Faculty of Nursing, Universitas Syiah Kuala, with research code 112004150722.

Limitations of the Research: This study only identified some characteristics of respondents such as age, gender, duration of suffering from DM, history of comorbidities, and the patient's HbA1c level. Other characteristics such as education, occupation, body mass index, and education were not analyzed.

Source of funding: This research was financed by the researcher's funds.

Conflict Of Interest: Nill

REFERENCES

1. World Health Organization. Guidelines on second- and third-line medicines and type of insulin for the control of blood glucose levels in non-pregnant adults with diabetes mellitus. 2018.
2. International Diabetes Federation. Eighth Edition 2017 [Internet]. IDF Diabetes Atlas, 8th edition. 2017. 1–150 p. Available from: https://www.idf.org/aboutdiabetes/type-2-diabetes.html
3. Sri andriani. faktor risiko dpn pada pasien dm. Pap Knowl Towar a Media Hist Doc. 2022;5:698–707.
4. Gogia S, Rao CR. Prevalence and pattern of dyslipidemia in type 2 diabetes mellitus patients at a tertiary care hospital. J Endocrinol Metab Diabetes South Africa. 2017;22(3):31–5.
5. Shiferaw WS, Akalu TY, Work Y, Aynalem YA. Prevalence of diabetic peripheral neuropathy in Africa: A systematic review and meta-analysis. BMC Endocr Disord. 2020;20(1):1–9.
6. Malik RA, And-Silva A, Dejthevaporn C, Hakim M, Koh JS, Pinzon R, et al. Diagnosing peripheral neuropathy in South-East Asia: A focus on diabetic neuropathy. J Diabetes Investig. 2020;11(5):1097–103.
7. Perkeni. Pedoman pengelolaan dan pencegahan diabetes melitus tipe 2 di Indonesia. 2015. 133 p.
8. Indriani S, Amalia IN, Hamidah H. Hubungan Antara Self Care Dengan Insidensi Neuropaty Perifer Pada Pasien Diabetes Mellitus Tipe II RSUD Cibabat Cimahi 2018. J Ilmu Kesehat Bhakti Husada Heal Sci J. 2019;10(1):54–67.
9. Hakim. Urgensi Revisi Undang-Undang tentang Kesejahteraan Lanjut Usia. Aspir J Masal Sos. 2020;11(1):43–55.
10. Rosyidah K. Gambaran Neuropati Perifer Pada Diabetisi Di Wilayah Kerja Puskesmas Kedungmundu Semarang. Univ Diponegoro. 2016;122.
11. Hutapea FS, Kembuan MAHN, P.S. JM. Gambaran klinis neuropati pada pasien diabetes melitus di

Poliklinik Neurologi RSUP Prof. Dr. R. D. Kandou periode Juli 2014 – Juni 2015. e-CliniC. 2016;4(1).

12. Rahmawati A, Hargono A. Dominant Factor of Diabetic Neuropathy on Diabetes Mellitus Type 2 Patients. J Berk Epidemiol. 2018;6(1):60.
13. Kisozi T, Mutebi E, Kisekka M, Lhatoo S, Sajatovic M, Kaddumukasa M, et al. Prevalence, severity and factors associated with peripheral neuropathy among newly diagnosed diabetic patients attending Mulago hospital: A cross-sectional study. Afr Health Sci. 2017;17(2):463–73.
14. Amour AA, Chamba N, Kayandabila J, Lyaruu IA, Marieke D, Shao ER, et al. Prevalence, Patterns, and Factors Associated with Peripheral Neuropathies among Diabetic Patients at Tertiary Hospital in the Kilimanjaro Region: Descriptive Cross-Sectional Study from North-Eastern Tanzania. Int J Endocrinol. 2019;2019.
15. Popescu S, Timar B, Baderca F, Simu M, Diaconu L, Velea I, et al. Age as an independent factor for the development of neuropathy in diabetic patients. Clin Interv Aging. 2016;11:313–8.
16. Al-Rubeaan K, Al Derwish M, Ouizi S, Youssef AM, Subhani SN, Ibrahim HM, et al. Diabetic foot complications and their risk factors from a large retrospective cohort study. PLoS One. 2015;10(5): 1–17.
17. Trisnawati SY. Diabetes Melitus Tipe 2 dengan Kadar HbA1C Tinggi Sebagai Faktor Risiko Neuropati Diabetik Perifer Di Rumah Sakit Umum Pusat Sanglah Denpasar. Tesis. 2014.
18. Tamer A, Yildiz S, Yildiz N, Kanat M, Gunduz H, Tahtaci M, et al. The prevalence of neuropathy and relationship with risk factors in diabetic patients: A single-center experience. Med Princ Pract. 2006;15(3):190–4.
19. Ariani Y, Sitorus R, Gayatri D. Motivasi dan Efikasi Diri Pasien Diabetes Melitus Tipe 2. J Keperawatan Indones. 2012;
20. Brunner & Suddarth. 2018. Buku Ajar Keperawatan Medikal Bedah Edisi 8. Jakarta: EGC.
21. Tandra, H. (2017) Segala Sesuatu yang Harus Anda Ketahui Tentang Diabetes.
22. 2nd edn. Jakarta: PT Gramedia Pustaka Utama.

International Journal of Nursing Education
Volume 14 No. 4, October-December 2022
https://doi.org/10.37506/ijone.v14i4.18680

Relationship between NYHA degrees and Self-efficacy with Quality of Life in Heart Failure Patients: A Cross-Sectional Study

Halfiah [1] , Marlina [2] , Cut Husna [3]

[1]Master Program of Nursing Science, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh-Indonesia, [2,3]Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh-Indonesia

How to cite this article: Halfiah, Marlina, Husna C. Relationship between NYHA degrees and Self-efficacy with Quality of Life in Heart Failure Patients: A Cross-Sectional Study. 2022;14(4):38-43 .

ABSTRACT

Heart failure causes functional limitations that result in fatigue and dyspnea, thereby reducing the quality of life. Various factors related to the quality of life of heart failure patients include NYHA degree and self-efficacy. An increase in the number of heart failure patients treated at the Aceh Government Hospital occurred in 2021, patients also often experienced repeated hospitalizations. This study aims to determine the relationship between patient NYHA degree and self-efficacy with the quality of life of patients with heart failure. This type of research is quantitative with a cross-sectional study on 154 heart failure patients. Instruments to measure self-efficacy using Cardiac Self-Efficacy (CSE) and quality of life with the Minnesota Living with Heart Failure (MLHF) questionnaire. Bivariate analysis using chi-square and multivariate analysis with logistic regression. The results showed a significant relationship between NYHA degree and self-efficacy with quality of life ($p<0.05$). The results of the multivariate analysis found that the degree of NYHA was the most dominant factor associated with the quality of life of heart failure patients with an Odds Ratio (OR) of 17.438. The quality of life of heart failure patients is strongly influenced by the degree of NYHA, lowering the degree of NYHA is the best step to prevent a decrease in the quality of life of patients with heart failure.

Keywords*:* Degree of NYHA, Heart failure, Quality of life, Self-efficacy.

INTRODUCTION

In general, the global incidence of heart failure ranges from 100 to 900 cases per 100,000 people each year. It is estimated that 915,000 new cases of heart failure occurred in the United States in 2012 [1]. Heart failure is still a health problem in the world due to high rates of mortality, morbidity, hospitalization, and disability [2].

Heart failure causes a mortality burden and an unabated hospitalization rate although significant sustained efforts to treat and manage cardiac failure have been made.[3] Heart failure is a complex clinical symptom that occurs due to functional or structural disorders of the heart, causing a decrease in the ability of the ventricles to fill and pump blood throughout the body. This condition will cause the main symptoms of the patient including fluid retention which can lead to pulmonary congestion or peripheral edema as well as dyspnea and fatigue which causes limitations in activity [4, 5] States that Heart failure causes a significant decrease in the physical and psychological abilities of the patient, causing the patient's quality of life to decrease.

Corresponding author: Dr. Marlina, Faculty of Nursing, Universitas Syiah Kuala

Email: nersmarlina@unsyiah.ac.id

The quality of life of heart failure is influenced by the functional degree of heart failure according to the New York Heart Association (NYHA) [6,7]. In addition, self-efficacy is a predictor of the quality of life of heart failure patients [8]. Data on heart failure patients treated at the Aceh Government Hospital are still high, heart failure patient also often experiences repeated hospitalizations.

Based on this description, the researchers wanted to see the relationship between the degree of NYHA and self-efficacy with the quality of life of patients with heart failure.

MATERIALS AND METHODS

Design

This type of quantitative research with a cross-sectional approach is a study that aims to see the relationship between the degree of NYHA, self-efficacy, and quality of life of heart failure patients.

Participants

This research was conducted at the Zainoel Abidin Hospital in Banda Aceh, Indonesia. A total of 154 heart failure patients who went to Polyclinic participated in this study. The sampling criteria included: (1) patients with a diagnosis of heart failure for more than 1 month, (2) stable condition (not in a state of shortness of breath), and (3) NYHA I, NYHA II, and NYHA III patients.

Data Collections

Data collection was carried out from July 14 to July 31, 2022. The instruments used were the Cardiac Self-Efficacy (CSE) and the Minnesota Living with Heart Failure (MLHF) questionnaire.

CSE is a research questionnaire developed by [9] to assess the self-efficacy of patients with heart disease. The questionnaire used to measure Self-efficacy (CSE) in this study is the CSE questionnaire which has been modified by [10] with a Cronbach alpha of 0.926. While the MLHF is a questionnaire developed by [11] to measure the quality of life of patients with heart failure. The MLHFQ questionnaire consists of two domains, namely the physical domain and the emotional domain, which is designed to describe two aspects of quality of life. The MLHFQ questionnaire is a standard questionnaire that has been tested for validity and reliability by the Rector, with the Cronbach alpha coefficient between 0.87 to 0.95 [12].

The following is the NYHA form used to assess the NYHA degrees of patients to be sampled for research, these NYHA guidelines are created by adapting the NYHA classification mentioned by [4]. This NYHA guideline form is filled out before the patient is given the CSE and MLHF questionnaires, by marking the checklist in the "Yes" column on the NYHA degree that best suits the patient's condition and complaints. If the patient is included as having a functional degree of NYHA I, II, and III then the patient is included in the study sample, while NYHA IV is not included in the study sample because the patient with NYHA IV is in a condition of shortness of breath so it is not suitable to be involved in the study, NYHA IV patients are also rarely found to be treated at the Polyclinic.

To overcome the belief the researcher set inclusion criteria, made a detailed description of the research setting and used a standardized questionnaire that had been tested for validity and reliability.

Ethical Considerations

The ethical license was obtained from the Ethics Committee of the Zainoel Abidin hospital in Banda Aceh, Indonesia.

Data Analysis

The data that has been collected was analyzed using univariate analysis, bivariate analysis, and multivariate analysis. Univariate analysis in this study was conducted to obtain the results of the frequency distribution of each independent variable, namely the degree of NYHA and self-efficacy, and to see

Tabel 1. Form of New York Heart Association (NYHA) degree Trustworthiness

NYHA	*Patient complaints*	*Yes*	*No*
I	The absence of limited physical activity, daily physical activity does not give rise to symptoms of shortness of breath, fatigue and palpitations.		
II	Limitation of physical activity is mild, symptoms do not appear at rest, but in physical activity it causes shortness of breath, fatigue and palpitations, such as climbing stairs		
III	Meaningful activity restrictions were found, there were no complaints at rest, but complaints of shortness of breath, palpitations and fatigue appeared when doing light physical activity, such as walking a few meters		
IV	Unable to carry out physical activity without complaints, at rest complaints are found, such complaints increase when performing activities.		
Notes: Give a checklist in the column that corresponds to the patient's NYHA			

the frequency distribution of the dependent variable, namely the quality of life. Bivariate analysis using the Chi-square test to see the relationship between the independent variable and the dependent variable. While the multivariate test uses logistic regression to see the independent variables that are most related to the quality of life of patients with heart failure.

RESULT

The results of the data analysis in the study can be seen in the table 2:

Univariate Analysis Result

Table 2. Characteristics of patients

	Characteristics of Respondents	*Frequency*	*Percentage*
1	Age		
	26-35	4	2.6
	36-45	17	11.0
	46-55	38	24.7
	56-65	52	33.8
	>65	43	27.9
2	Gender		
	Male	103	66.9
	Female	51	33.1
3	Level of education		
	Basic education	40	26.0
	Middle education	50	32.5
	Higher education	64	41.6
4	Occupation		
	Working	98	63.6
	Unemployed	56	36.4
5	Marital Status		
	Marry	128	83.1
	Unmarried	1	0.6
	Widow/Widower	25	16.2
6	NYHA degrees		
	NYHA I	20	13.0
	NYHA II	85	55.2
	NYHA III	49	31.8

Table 3. Self-efficacy of Heart Failure Patients

Self-efficacy	*Frequency*	*Percentage*
High	88	57.1
Middle	36	23.4
Low	30	19.5

Table 4. Quality of Life of Heart Failure Patients

Quality of Life	*Frequency*	*Percentage*
Good	103	66.9
Poor	51	33.1

Table 3 shows that out of 154 heart failure patients who went to the hospital, 88 people (57,1%) have high self-efficacy.

Table 4 shows that out of 154 heart failure patients who went to the hospital, 103 patients (66, 9 %) have a good quality of life, while the quality of life is less than as many as 51 patients (33.1%).

Bivariate Analysis Result

Table 5. Relationship of NYHA Degree with Quality of Life of Heart Failure Patients

No	NYHA degrees	Quality of Life				Total		a	p-value
		Good		Poor					
		f	%	F	%	f	%		
1	NYHA I	20	100	0	0	20	100	0,05	<0,001
2	NYHA II	76	89,4	9	10,6	85	100		
3	NYHA III	7	14,3	42	85,7	49	100		
Total		103	66,9	51	33.1	154	100		

Table 6. Relationship between Self-Efficacy and Quality of Life in Heart Failure Patients

No	Self-efficacy	Quality of Life				Total		a	p-value
		Good		Poor					
		f	%	f	%	f	%		
1	High	74	84.1	14	15.9	88	100	0.05	<0.001
2	Middle	22	61.1	14	38.9	36	100		
3	Low	7	23.3	23	76.7	30	100		
	Total	103	66.9	51	33.1	154	100		

Table 5 shows that the p-value is < 0.001, these results indicate a significance value of <0.05, so there is a relationship between the degree of NYHA and the quality of life of heart failure patients.

Table 6 show the *p-value* **< 0.00 1, these results indicate a significance value of <0.05. So that there is a relationship between self-efficacy** and the quality of life of heart failure patients.

Multivariate Analysis Results

Based on multivariate analysis with a logistic regression test, it was found that the degree of NYHA was the most dominant predictor related to the quality of life of heart failure patients with Odds Ratio (OR: 17.438).

DISCUSSION

NYHA's Degree of Relationship with Quality of Life of Heart Failure Patients

The study shows that among patients with NYHA III degree of which 42 people (85.7%) experienced a decrease in their quality of life. This study is in line with what was stated by 13 stated that in addition to age, the degree of NYHA also greatly affects the quality of life of heart failure patients. NYHA II has the highest percentage of 55.8% compared to NYHA I. This study is also following the opinion conveyed by 14 in stating that heart failure patients will experience a decrease in quality of life caused by the worsening NYHA functional class, the worse the NYHA class or the NYHA degree of heart failure patients, the better the quality of life. The patient's life will also decrease. This opinion is following the results found in this study that the quality of life of heart failure patients decreased with increasing NYHA.

Another supportive study [15] stated there was a significant relationship between the functional class of NYHA and the quality of life of heart failure patients. The degree of NYHA was assessed as a predictor that affected the quality of life. The worse the degree of NYHA patients, the patient's quality of life will also decrease.

Patients high degree of NYHA often complain of weakness and tiredness easily, especially when doing activities outside the home, causing the patient to have difficulty carrying out daily activities and social

activities. Heart failure patients who seek treatment at the Zainoel Abidin Hospital is generally accompanied by their family, especially patients with NYHA III degree. Reducing the patient's NYHA degree is the best step to prevent a decrease in quality of life in heart failure patients.

Relationship of Self-efficacy with Quality of Life of Heart Failure Patients

The results of data analysis in this study indicate the relationship between self-efficacy and the quality of life of heart failure patients. The higher the self-efficacy of the heart failure patient, the better the patient's quality of life, and vice versa, the lower the self-efficacy of the heart failure patient, the lower the patient's quality of life. Previous research stated that a lower level *of* self-efficacy can predict a poor quality of life, thus health care facilities must pay attention to factors related to self-efficacy when improving the patient's quality of life. [16]

Self-efficacy has positive and negative impacts, high self-efficacy affects a better quality of life, when self-efficacy is low it will be a barrier to self-care, so it will affect the patient's quality of life [17.]

Another study also wrote that self-efficacy is a predictor of quality of life, low self-efficacy and depression experienced by patients will worsen the quality of life of patients with heart failure, and a high level of self-efficacy can predict the better quality of life. These results indicate that the perceived confidence in managing symptoms and maintaining function is a better indicator of improving the quality of life of heart failure patients [8].

This study shows that heart failure patients have high self-efficacy. This finding can be influenced because of the strong culture and spirituality of the Acehnese people, the Acehnese are famous for their adherence to religion and highly uphold their culture and customs. This condition can also be influenced by coping mechanisms and patients can accept the disease, patients also have the ability and confidence in themselves that patients must seek treatment according to a predetermined visit schedule.

These findings indicate that patients with low self-efficacy are unable to control their disease, especially in a state of chest pain and shortness of breath. This situation can be influenced by the severity of the symptoms of the disease. Severe clinical symptoms felt by the patient will cause the patient to be unable to carry out social activities as usual and do light exercise to improve heart function. Meanwhile, patients with high self-efficacy can control the disease so that their quality of life does not decrease.

RESEARCH LIMITATIONS

This study was limited to heart failure patients with NYHA I, NYHA II, and NYHA III.

CONCLUSION

This study found a significant relationship between the degree of NYHA, self-efficacy, and quality of life of patients with heart failure. The degree of NYHA is the predictor that most influences the quality of life of patients with heart failure. The quality of life can be improved by reducing the patient's NYHA degree and increasing the self-efficacy of heart failure patients.

Source of funding

There is no financial support for this research project.

Conflict of interest

There is no competing interest carried out by the author.

REFERENCES

1. Ziaeian B, Fonarow GC. Epidemiology and aetiology of heart failure. Nat Rev Cardiol. 2016;13(6):368–78.
2. Philip A.Ades M, Steven J. Keteyian P, Gary J Balady M, Nancy Houston-Miller B, Dalane W. Kitzman M, Donna M. Mancini M, et al. Card Rehab Exercise and Self Care for Chronic Heart failure. Elsevier [Internet]. 2014;23. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3624763/pdf/nihms412728.pdf

3. Roger VL. Epidemiology of Heart Failure: A Contemporary Perspective. Circ Res. 2021;1421–34.

4. Yancy CW, Jessup M, Bozkurt B, Butler J, Casey DE, Drazner MH, et al. 2013 ACCF/AHA guideline for the management of heart failure: A report of the american college of cardiology foundation/ american heart association task force on practice guidelines. Circulation. 2013;128(16).

5. Fotos., Giakoumidakis K, Kollia Z, Galanis P, Copanitsanou P, Pananoudaki E, et al. Health-related quality of life of patients with severe heart failure: A cross-sectional multicentre study. Scand J Caring Sci. 2012;27(3):686–94.

6. Akhmad AN. Kualitas hidup pasien Gagal Jantung Kongestif (GJK) Berdasarkan karakteristik Demografi. J Keperawatan Soedirman. 2018;11(1):27.

7. Saida S, Haryati, Rangki. Kualitas Hidup Penderita Gagal Jantung Kongestif Berdasarkan Derajat Kemampuan Fisik dan Durasi Penyakit. Faletehan Heal J. 2020;7(02):70–6.

8. Loo DWY, Jiang Y, Koh KWL, Lim FP, Wang W. Self-efficacy and depression predicting the health-related quality of life of outpatients with chronic heart failure in Singapore. Appl Nurs Res [Internet]. 2016;32:148–55. Available from: http://dx.doi.org/10.1016/j.apnr.2016.07.007

9. Sullivan, Lacroix AZ, Russo J, Katon WJ. Self-efficacy and self-reported functional status in coronary heart disease: A six-month prospective study. Psychosom Med. 1998;60(4):473–8.

10. Zhang X, Zhan Y, Liu J, Chai S, Xu L, Lei M, et al. Chinese translation and psychometric testing of the cardiac self-efficacy scale in patients with coronary heart disease in mainland China. Health Qual Life Outcomes. 2018;16(1):1–8.

11. Rector TS, Cohn JN. Assessment of patient outcome with the Minnesota Living with Heart Failure questionnaire: Reliability and validity during a randomized, double-blind, placebo-controlled trial of pimobendan. Am Heart J. 1992;124(4):1017–25.

12. Mogle J, Buck H, Zambroski C, Alvaro R, Vellone E. Cross-Validation of the Minnesota Living With Heart Failure Questionnaire. J Nurs Scholarsh. 2017;49(5):513–20.

13. Yeh HF, Shao JH. Quality of Life and Associated Factors in Older Adults With Heart Failure. J Nurs Res. 2021;29(5):e166.

14. Scottish Intercollegiate Guidelines Network (SIGN). Management of chronic heart failure. Vol. 16, Edinburgh: SIGN. 2016. 17–41 p.

15. Comín-Colet J, Anguita M, Formiga F, Almenar L, Crespo-Leiro MG, Manzano L, et al. Health-related Quality of Life of Patients With Chronic Systolic Heart Failure in Spain: Results of the VIDA-IC Study. Rev Española Cardiol (English Ed. 2015;69(3):256–71.

16. Barham A, Ibraheem R, Zyoud SH. Cardiac self-efficacy and quality of life in patients with coronary heart disease: A cross-sectional study from Palestine. BMC Cardiovasc Disord. 2019;19(1):1–12.

17. Buck HG, Dickson VV, Fida R, Riegel B, D'Agostino F, Alvaro R, et al. Predictors of hospitalization and quality of life in heart failure: A model of comorbidity, self-efficacy and self-care. Int J Nurs Stud [Internet]. 2015;52(11):1714–22. Available from: http://dx.doi.org/10.1016/j.ijnurstu.2015.06.018

International Journal of Nursing Education
Volume 14 No. 4, October-December 2022
https://doi.org/10.37506/ijone.v14i4.18681

Family Support in Controlling Hypertension among the Elderly in Lhokseumawe City: A Descriptive Phenomenological Study

Linur S. Harkensia[1], Suryane S. Susanti[2], Teuku Tahlil[3]

[1]Postgraduate Student, Faculty of Nursing, Universitas Syiah Kuala, [2]Faculty of Nursing, Universitas Indonesia, [3]Faculty of Nursing, Universitas Syiah Kuala

How to cite this article: Harkensia LS, Susanti SS, Tahlil T. Family Support in Controlling Hypertension among the Elderly in Lhokseumawe City: A Descriptive Phenomenological Study. 2022;14(4):44-49 .

ABSTRACT

Family is the main support system in caring for its members, including the elderly with hypertension. Treatment of the disease in old people is through help from a spouse, child, or close relatives because they often live with their families. Therefore, this study aims to determine the form of family support in controlling hypertension among the elderly, including physiological, psychological, socio-cultural, and spiritual supports. The qualitative method was used with a descriptive phenomenological approach. The respondents consist of eight family members who cared for the elderly with uncomplicated hypertension during the past year. The themes found include responding to hypertension with traditional ingredients, the existence of quality time with the elderly, being free to select the activities they like, and prioritizing themselves to worship a lot. Based on the results, efforts are needed from community nurses to provide health promotion education on the importance of family support in controlling hypertension amond people.

Keywords: Elderly, Family Support, Hypertension Control

INTRODUCTION

Globally, there is a continuous increase in the proportion of the elderly population. In 2020, a total of 727 million people in the world were aged ≥60, and this figure is expected to rise by 16% before 2050[1]. Based on data from the Central Statistics Agency (BPS) in 2020, Indonesia is entering an aging population period, with an increase in life expectancy and the number of elderly people. Furthermore, the country had a total of 16 million aged people in 2020, which account for 5.95% of the total population, namely 270.2 million. This number is expected to increase to 48.2 million in 2035, namely 15.77% of the total population[2].

The population of the elderly increases along with the number of households occupied by them. The percentage of households with aged people in 2020 was 28.48%, of which 62.28% were headed by them. This has become a major concern, specifically the availability of economic and social support ideally provided by the family[2]. Furthermore, families make a significant contribution to the lives of the old members because the continuation of their social life mostly occurs and is provided within the family scope[3].

The health of the elderly is an important aspect of their quality of life and social life. They often experience changes in psychosocial, cultural, spiritual, and physical aspects,

Corresponding Author: Linur S. Harkensia, Postgraduate Student, Faculty of Nursing, Universitas Syiah Kuala

Email: linursteffi87@gmail.com

which can affect their body, including the cardiovascular system[4]. Health problems caused by aging and degenerative process are very common in this system, such as hypertension[5]. Treatment of hypertension in the elderly is often through help from the family, including partner, child, or close relatives because they often live with their families[6].

Bisnu (2017) reported that family has a major influence on the physical health of the members. Dysfunction can cause several health problems, specifically for relatives undergoing treatment therapy and this cannot be separated from support provided by other members[7]. Measurement of the effectiveness of family support for the health of the elderly was developed in Thailand using the Thai Family Support Scale for Elderly Parents (TFSS-EP). This instrument assesses the help rendered to the elderly living with their families and in orphanages. The specified domains were financial, emotional, instrumental, and friendship supports. The results showed that there are 3 dominant domain factors including instrumental (22%), financial (17.6%), and emotional (17.3%) supports. They were considered relevant for improving the health of the elderly living in Thai culture[8].

Another important factor that can control hypertension is spiritual factors. Spiritual beliefs can affect the level of health and behavior of the elderly as well as their families, which serve as a source of support, strength, and healing. Furthermore, there is a significant relationship between spirituality level and blood pressure, the higher the spiritual level, the more the elderly can control their blood pressure[9].

In controlling hypertension, families and aged people need a process of adapting to the approach, namely accepting changes in body functions, avoiding stress, and requiring treatment assistance[10]. The nursing theory proposed by Betty Neuman stated that adaptation is a process of a system that works in the client's scope. The client in this case is the family, which is a system related to physiological, psychological, growth and development, socio-cultural, and spiritual variables[11]. The purpose of the Neuman model system is to maintain the stability of a system. One of the roles and functions of the family in the model theory is providing care for sick members. They are expected to provide care in the form of support needed by the elderly in controlling hypertension as well as comfort during therapy[12].

METHOD

This study was carried out in the working area of the Mon Geudong Public Health Center, Lhokseumawe City. The data collection process began on January 3 to 30, 2022. Furthermore, this is a qualitative study with a phenomenological approach, which was carried out to determine the effect of the type of family support in controlling hypertension in the elderly. Family was considered a client system, which is related to physiological, psychological, growth and development, socio-cultural, and spiritual factors.

The participants used were family members who lived with the elderly aged 55-65 years with uncomplicated hypertension in the last 1 year and provided primary care. A purposive sampling method was used, where they were recruited and identified using data on old people's visits to the Mon Geudong Health Center in the chronic disease management program (Prolanis). Data saturation was achieved from the 8th participant.

Data was collected through in-depth interviews using a voice recorder and field notes. During the process, an interview guide was used, where questions have been prepared based on the concept. The data collected was analyzed with the Colaizzi method, which involves the use of participants to validate the results[13].

RESULT

The themes found include responding to hypertension with traditional health services, the existence of family time with the elderly,

freedom to select the activities they like, and prioritizing themselves to worship.

Responding to hypertension with traditional health services

This theme was formed from the family sub-theme using traditional elements as the first treatment for hypertension. The responses are represented in the following statement:

- "*They are given fruit to eat... namely cucumber..*" *(Participant 2)*
- "*First I buy jipang pumpkin in which the fruit is small…. By boiling it, the effect will be apparent fast…" (Participant 8)*
- *"Honey water… and… ginger with sencang wood…" (Participant 6)*
- *"I give ginger water added with honey" (Participant 2)*

Another response that emerged was that the family restricted the elderly from consuming fatty, sweet, and salty foods. This was represented in the following statement:

- *"I limited him on sweet foods, even fatty foods with coconut milk is not consumed anymore." (Participant 5)*
- *"I reduced the use of salt when cooking.." (Participant 8)*

Existence of family time with the elderly

This theme explains the existence of family time with the elderly. In this case, the support provided was in the form of family presence accompanying the elderly. This theme was formed from a sub-theme that the elderly have quality time with their other members. It was stated as follows:

- "*We take him for recreation to make him happy, hence, he does not feel alone and bored. Furthermore, the most important thing is to worship together." (Participant 1)*

Some families realized that their presence around the elderly helps them realize the assistance that can be used either as a helper when sick or as a friend to talk to when they want to convey the complaints felt. This was observed from the participants' responses as follows:

- *"[...] he is expecting someone who is taking care of him, is close to him, and hears his complaints....." (Participant 3)*
- *"If he needs some help, we are here…" (Participant 5)*

Another response that formed this theme was giving positive affirmations as an encouragement to the elderly. The respondents understood that at certain times, they experience a decrease in enthusiasm to go through the day. Therefore, the family provides support by providing affirmation words that are expected to make them happy and improve their overall health. The responses are presented in the following participant statements:

- *"Yes, we provide basic affirmation words to make them happy [...]" (Participant 1)*
- *"To make Dad happy in his old age, we make him happy." (Participant 2)*

Elderly are free to select the activities they like

This theme explains family support through various routine activities. The respondent revealed that the elderly's participation in these activities can help them to stay active and avoid boredom at home. Therefore, the family agrees and supports the elderly to participate in every activity they love. This was represented by the statement as follows:

- *"[...] because mom has always been active, hence, even if there is no such activity, we are afraid that mom will get bored. Mom also likes to participate in such activities. She does not like it when she is at home all the time.." (Participant 4)*
- *"If mom wants to join, we provide her to make decisions…" (Participant 7)*
- *"[...] We just follow mom's word, no prohibition, and coercion. It is up to mom.." (Participant 6)*

Although the elderly have the desire to continue to be active and participate in every religious and community activity, their health condition remains the main priority for family members. When their condition supports

activities, they are allowed to participate. This was clarified from the results of participant interviews as follows:

- *"[...] if he really can go, we go. if he is not in good health, and he does not want to go, then we do not go.." (Participant 3)*

The elderly prioritize themselves to worship a lot

This theme explains that the elderly prioritize religious activities or activities that can improve their relationship with God Almighty. Furthermore, it was formed from the sub-theme, namely the priority of participating in religious activities, such as recitation events that are often carried out outside the home together with the local community. However, religious activities are also carried out by the elderly when they are at home, such as listening to lectures on television or videos on *youtube* channels that can be accessed with mobile phones. This was stated in the following response:

- *"Sometimes, we play da'wah, and recitation at home .." (Participant 1)*
- *"This religious knowledge can be a reminder... hence, he remembers the affairs of the hereafter more, and the worship is more powerful…" (Participant 7)*

Some family members stated that in an attempt to get closer to God, the elderly want these activities to be accomplished solemnly and quietly. Therefore, they prefer to limit their participation in activities outside the home and engage in more worship at home. This was presented in the following statement as follows:

- *"[...] Now, he is more concerned about worship" (Participant 1)*
- *"Not anymore (not taking part in the wirid/ recitation) [...] he is often sick such this..[...]" (Participant 5)*

DISCUSSION

Family support in controlling hypertension among the elderly produced a theme, which describes the dynamics of change in the family. The use of traditional health services in Indonesian society is an alternative medicine involving the use of local ingredients, herbs, or plants that are believed to have efficacy in curing several diseases, including hypertension. However, the use of these alternatives must be supervised and the users need to be aware of its potential side effects[14].

The results showed that traditional herbs are used as the first treatment to lower blood pressure, as well as prevent and overcome the symptoms experienced by the elderly due to increased levels. Some herbal plants, such as ginger are often used to reduce the symptoms of dizziness caused by increased blood pressure. The ginger is boiled, mixed with honey, and then consumed one or two times a day or until the symptoms disappear.

One of the responsive reactions by family members to control hypertension in the elderly is to change the diet by limiting the consumption of foods with high fat, sugar, and salt. Ismuningsih (2013) stated that some foods have a significant role in increasing blood pressure, such as excessive intake of sodium, carbohydrates, protein, and fat[15].

Aristi et al., (2020) in Jember Regency reported that the frequent consumption of biscuits, salted fish, milk, coffee, tea, and food seasonings (MSG) was associated with the incidence of hypertension by 33.1%. The type of chips and fish often consumed have a high-sodium, which can lead to the occurrence of the disease[16]. This is in line with a study carried out in the coastal area, where the main occupation of the residents was fishing. One participant stated that consuming salted fish is very common among people in the community. Therefore, the family members in this study admitted that salty foods, such as salted fish are very limited and must be removed from the elderly's diet.

Family is the closest relatives who are always around aged people, and their presence is beneficial when the elderly have difficulties and need friends to exchange stories. The

respondents revealed that the aged members love to enjoy their old age with the family, be close, and do many activities together. This is a form of psychological support, which makes them feel close to their family and not lonely. Loneliness is the most common psychological problem, such as feeling isolated, excluded, and separated from others due to the feeling of being different[17]. Efforts to avoid this feeling include taking them on vacation together, performing worship activities together, asking about their condition frequently, caring for them when they are sick, taking time to gather with family, playing with grandchildren, and listening to their advice or complaints.

Another psychological support provided by families is giving positive affirmations, which can serve as motivation. Positive statements can enhance better health behavior, motivate the elderly to remain enthusiastic about aging, be ready when facing health problems, and give a feeling of happiness[18]. Harris et al., (2017) stated that self-affirmation has a positive effect on cognitive behavioral change. Positive thinking can replace negative thoughts, which help people to make decisions, achieve realistic goals, and have control over their powerlessness by controlling situations that can still be accomplished[19].

The results showed that the elderly can still carry out their daily activities independently, such as cleaning the house, cooking, shopping, or basic self-care. Aged people with high independence have a good quality of life[20]. This can be influenced by social interactions experienced, such as relationship with the environment and surrounding community. This association is often established through participation in every activity in the community, including religious activities. The family understands this need, hence, they do not prohibit or limit the elderly from participating in any activity.

The spiritual changes experienced by the family are expressed in how they provide care to the aged members based on their beliefs and how the elderly perceive hypertension. Furthermore, these changes can affect the health of all members, and they respond to this situation by believing that caring for the elderly is an obligation or the child's responsibility to parents. They take care of themselves with sincerity, expecting for rewards, and the children can feel how parents take care of the family. Acceptance of this condition cannot be separated from spiritual influence. A good spiritual level makes people more prepared to face problems by surrendering to God. Spirituality is also an inner motivation, which helps to give meaning to life, interpret life goals broadly, and serve as a source of strength[21].

Based on the result, the best form of family support is to prioritize the elderly's religious activities, such as attending recitations, playing videos or broadcasts of lectures at home, and listening to *murottal/* audio recitation of the Qur'an. This is expected to strengthen the motivation of all members to control hypertension, as well as provide peace and steadfastness in the family and for the elderly themselves when they are sick.

CONCLUSION

Family support in controlling hypertension among the elderly includes responding to hypertension with traditional health services, spending time with them, allowing the elderly to freely select the activities they like, and prioritizing worship activities.

Efforts are needed from community nurses to provide education on the importance of families in managing the disease. This can carried out as an activity in the health promotion program at the Public Health Center, which is integrated with the Prolanis program. Furthermore, it is necessary to increase the skills of health workers in conducting training on the prevention and control of hypertension in old people through assistance during Prolanis. Provision, installation, and dissemination of health promotion media in the form of banners, posters, and booklets about managing the disease with family support can be provided at health centers and

distributed to public places. This is expected to increase the knowledge of the community, specifically families who care for the elderly with hypertension.

Ethical Clearance: Ethical approval was obtained from the Research Ethics Committee of the Faculty of Nursing, Universitas Syiah Kuala, with research code 112014291221.

Sources of Funding: This is a self-funded study.

Conflict of Interest: Nil

REFERENCES

1. Rafalimanana H. World Population Ageing [Internet]. Economic and Social Affairs United Nations. 2020. 1–47 p. Available from: http://link.springer.com/chapter/10.1007/978-94-007-5204-7_6
2. Avenzora A. Statistik Penduduk Lanjut Usia 2020 [Internet]. Susilo D, Sinang R, Rachmawati Y, Santoso B, editors. Jakarta: Badan Pusat Statistik; 2020. Available from: https://www.bps.go.id/publication/2020/12/21/0fc023221965624a644c1111/statistik-penduduk-lanjut-usia-2020.html
3. Uddin MA, Bhuiyan AJ. Development of the family support scale (FSS) for elderly people. 2019;4(1):17–20.
4. Amarya S, Singh K, Sabharwal M. Ageing Process and Physiological Changes. In: Gerontology [Internet]. InTech; 2018. Available from: http://www.intechopen.com/books/gerontology/ageing-process-and-physiological-changes
5. Oliveros E, Patel H, Kyung S, Fugar S, Goldberg A, Madan N, et al. Hypertension in older adults: Assessment, management, and challenges. Clin Cardiol. 2020;43(2):99–107.
6. Yenni. Hubungan dukungan keluarga dan karakteristik lansia dengan kejadian stroke pada lansia hipertensi di wilayah kerja Puskesmas Perkotaan Bukittinggi. 2011;111.
7. Bisnu M, Kepel B, Mulyadi N. Hubungan Dukungan Keluarga Dengan Derajat Hipertensi Pada Pasien Hipertensi Di Puskesmas Ranamuut Kota Manado. J Keperawatan UNSRAT. 2017;5(1):108807.
8. Komjakraphan P, Islamalai S, Boonyassopun U SJ. Development of the thai Family Support Scale for the Elderly Patient. Thai J Nurs Res. 2009;13(2):118–32.
9. Kirnawati A, Susumaningrum LA, Rasni H, Susanto T, Kholida D. Hubungan Tingkat Spiritual dan Religiusitas dengan Tekanan Darah pada Lansia Hipertensi. Jkep. 2021;6(1):26–39.
10. Baroroh DB& NI. Peran Keluarga Sebagai Care Giver Terhadap Pengelolaan Aktifitas Pada Lansia Dengan Pendekatan NIC (Nursing Intervention Classification) Dan NOC (Nursing Outcome Classification). J Keperawatan. 2012;3(2):141–51.
11. Alligood MR. Nursing Theorists and Their Work. 8th ed. st. Louis, Missouri; 2014.
12. Lawrence E. The Impact of chronic illness on the family. Tex State J Med. 2012;52(5):20–5.
13. Wirihana L, Welch A, Williamson M, Christensen M, Bakon S, Craft J. Using Colaizzi's method of data analysis to explore the experiences of nurse academics teaching on satellite campuses. Nurse Res. 2018;25(4):30–4.
14. Othman CN, Farooqui M. Traditional and Complementary Medicine. Procedia - Soc Behav Sci [Internet]. 2015;170:262–71. Available from: http://dx.doi.org/10.1016/j.sbspro.2015.01.036
15. Ismuningsih R. Pengaruh Konsumsi Lemak Terhadap Tekanan Darah Penderita Hipertensi Rawat Jalan Di Rumah Sakit PKU Muhammadiyah Surakarta. Fak Ilmu Kesehatan; Progr Stud D3 Gizi. 2013;1–8
16. Aristi DLA, Rasni H, Susumaningrum LA, Susanto T, Siswoyo S. Hubungan Konsumsi Makanan Tinggi Natrium dengan Kejadian Hipertensi pada Buruh Tani di Wilayah Kerja Puskesmas Panti Kabupaten Jember. Bul Penelit Sist Kesehat. 2020;23(1):53–60.
17. Ikasi A, Hasanah O. Hubungan Dukungan Keluarga Terhadap Kesepian (Lonelinnes) Pada Lansia. Jom Psik Vol 1 No 2 Oktober 2014. 2019;1–7.
18. Epton T, Harris PR, Kane R, van Koningsbruggen GM, Sheeran P. The impact of self-affirmation on health-behavior change: A meta-analysis. Heal Psychol. 2015;34(3):187–96.
19. Harris PS, Harris PR, Miles E. Self-affirmation improves performance on tasks related to executive functioning. J Exp Soc Psychol [Internet]. 2017;70:281–5. Available from: http://dx.doi.org/10.1016/j.jesp.2016.11.011
20. Supraba NP, Permata TR. Hubungan Tingkat Kemandirian dengan Kualitas Hidup Lanjut Usia di Wilayah Kerja Puskesmas Kelapa Kabupaten Bangka Barat. J Kesehat Poltekkes Kemenkes RI Pangkalpinang. 2021;9(1):42–9.
21. Gómez Palencia IP, Banquett DC, Quintana MC, Villamizar AL, Mendoza YV. Spirituality and religiosity in elderly adults with chronic disease. Investig y Educ en Enferm. 2016;34(2):235–42.

International Journal of Nursing Education
Volume 14 No. 4, October-December 2022
https://doi.org/10.37506/ijone.v14i4.18682

A Study to Evaluate the Effectiveness of Structured Cognitive Stimulation on Cognitive Functioning Among Women with Early Symptoms of Dementia in Selected Areas of Panipat, Haryana

Manpreet Kaur[1*], Monika Gautam[2]

[1]Senior nursing tutor, [2]Assistant Professor, Ved nursing college, Panipat

How to cite this article: Kaur M, Gautam M. A Study to Evaluate the Effectiveness of Structured Cognitive Stimulation on Cognitive Functioning Among Women with Early Symptoms of Dementia in Selected Areas of Panipat, Haryana. 2022;14(4):50-54 .

ABSTRACT

Background of the study: The stressful life of women is gaining more attention and has come into limelight as a prominent cause of dementia. Dementia is a concern for many women. The women in menopausal transition also seem to be most fearful of developing breast cancer, closely followed by Alzheimer's dementia. Dementia is one of the leading problems faced by the people worldwide now a days and a matter of worry too.

Objective of the Study: To evaluate the effectiveness of structured cognitive stimulation on cognitive functioning among women.

Research Methodology: True experimental research design was used in this study; sampling size was 60 mothers. Sampling technique used was simple random sampling method. Data were collected in Babarpur and Dadlana Villages in Panipat District. Haryana. Mini Mental Status Examination were used for data collection. Structured Cognitive Stimulation Program were given for 14 days to the mothers in experimental group. For the mothers in control group no special programs were administered. Data collected were analysed through descriptive and inferential statistics.

Results: In experimental group the post-test mean and standard deviation dementia score was 24.47 + 2.389. the control group post-test mean and standard deviation dementia score was 18.00 + 3.129. the mean difference value was 6.47 Paired 't' test score was 8.997 for the degree of freedom 58. The 'P' value was 0.000, it was statistically significant at the level of significance < than 0.05.

Conclusion: This research demonstrated the cognitive function score on cognitive functioning. However, the subjects with moderately cognitive score were positively benefitted and shifted towards questionably significant level of cognition. This provides a set of baseline data that can be cited for further studies. The Structured Cognitive Stimulation could be incorporated into pre-services or in-service education program in order to evaluate its effectiveness in different populations and settings.

Keywords: Effectiveness, Cognitive Stimulation, Cognitive Functioning, Women and Mini – Mental Status Examination

INTRODUCTION

"Middle age can be emotionally the mutinous transition period characterized by inner struggle before one becomes resolved to having left the Pepsi generation forever."

— Gelein and Heiple

Corresponding Author: Manpreet Kaur, 1Senior nursing tutor, Ved nursing college, Panipat

Email: manpreetkaurbal2015@gmail.com

Dementia is a term that describes a variety of symptoms affecting a person's cognitive functioning, including their ability to think, remember, and reason. It tends to get worse over time, so there are a few key early warning signs. Dementia occurs when nerve cells in a person's brain stop working. Although it typically happens in older people, it is not an inevitable part of ageing. The brain's natural deterioration happens to everyone as they grow older, but it occurs more quickly in people with dementia. The early symptoms of dementia are functional changes include language disturbances, difficulty carrying out motor activities, failure to recognize objects and disruptions in executive functioning. The early stages of dementia include difficulty learning, decreased ability to form new memories and significantly impaired episodic memory (personally relevant events), whereas other types of memory such as semantic memory (factual knowledge) and procedural memory (performing routines or previously acquired skills) may remain relatively intact or mildly affected. Psychomotor or behavioural functional changes are common in the moderate stages of dementia. Such changes include wandering, agitation, resisting caregiver support, decreased emotional or behavioural control, disorientation, confusion and communication difficulties.

Need for the study

The prevalence of dementia and age-related cognitive impairment is rising due to an aging population worldwide. There is currently no effective pharmacological treatment, but cognitive activity programs could contribute to prevention and risk reduction. However, the results of intervention studies are inconclusive, which may be related to methodological issues. For example, the inconsistent use of umbrella categories to describe cognitive intervention strategies, such as cognitive training or cognitive rehabilitation, has led to confusion regarding their respective contents and efficacies.[9] The interventions studied so far draw on a pool of common basic ingredients. Therefore, rather than focusing on a few high- level categories, it might be beneficial to examine the efficacy of more basic cognitive intervention ingredients, which form the building blocks of complex multi-strand cognitive intervention strategies. Here we suggested a novel format of collating basic cognitive intervention ingredients. Using a representative sample of review articles and treatment studies, we attempted to inventory the most commonly encountered ingredients. Finally, we discuss their suitability for individualized and group-based approaches, as well as the possibility for computerization.

Statement of problem

"A study to evaluate the effectiveness of structured cognitive stimulation on cognitive functioning among women with early symptoms of dementia in selected areas of Panipat, Haryana□

OBJECTIVES

1. To assess the level of cognitive functioning before and after structured cognitive stimulation in selected area of Panipat.
2. To evaluate the effectiveness of structured cognitive stimulation among women in experimental group.
3. To determine the association between level of cognitive functioning with selected demographic variable of women.

Hypotheses

All the Hypotheses will be tested at < 0.05 Level of Significance.

- H1: There will be a significant difference in cognitive functions before and after structured cognitive stimulation among women in experimental group.
- H2: There will be a significant difference in cognitive function among women in experimental group and control group.
- H3: There will be a significant association between post-test levels of cognitive functions will selected demographic variables in experimental and control group.

Conceptual framework

The researcher adopts modified Imogene King's goal attainment theory (1981) based on the personal &interpersonal systems including interaction, perception, judgement, communication and transaction.

The investigator adopted goal attainment as a basic theory for conceptual framework, which is aimed to effectiveness of structured cognitive stimulation on cognitive functioning. This involves interaction between the researcher and the mothers.

RESEARCH METHODOLOGY

- **Research Approach:** Quantitative research approach
- **Research Design:** True Experimental Research Design

Research Setting of the Study: Data were collected from two villages namely Babarpur and Dadlana.

Sample Technique and Sample Size

- Sampling technique: Simple random sampling technique .
- Sample size: 60 women (30- Experimental Group and 30- Control Group)

Tools for Data Collection

Researcher used Mini Mental Status Examination to measure the cognitive impairment in old aged women. Mini Mental Status Examination was used to assess cognitive skills in women with suspected dementia. It consists of 12 questions which examine orientation, memory and attention as well as the ability to name objects, follow verbal and written commands, and write a sentence spontaneously and a copy of complex shape

Procedure for Data Collection

Researcher administered structured cognitive stimulation programme for 15 days to the participants in experimental group.

Data Analysis

Descriptive and inferential statistics (SPSS-version-25.0)

Data Analysis and Interpretation

The table 1 shows the following: With regard to pre – test level of dementia among subjects during pre-test in experimental group. An overwhelming majority of the subjects 19 (63.3 %) had severe dementia, similarly in

Table 1: Frequency and Percentage Distribution of Subjects According to Pre-test Level of Dementia in Experimental Group and Control Group

(N = 60)

Pre-Test Level of Dementia	*Scores*	*Experimental Group*		*Control Group*	
		Frequency	*Percentage*	*Frequency*	*Percentage*
Normal	25 - 30	0	0.0	0	0.0
Mild / Early Dementia	21 - 24	2	6.7	22	73.3
Moderate Dementia	11 – 20	9	60.0	8	26.7
Severe Dementia	0 - 10	19	63.3	0	0.0

Table 2: Frequency and Percentage Distribution of Subjects According to Post-test Level of Dementia in Experimental Group and Control Group

(N = 60)

Post-Test Level of Dementia	*Scores*	*Experimental Group*		*Control Group*	
		Frequency	*Percentage*	*Frequency*	*Percentage*
Normal	25 - 30	2	6.7	0	0.0
Mild / Early Dementia	21 - 24	11	36.7	25	83.3
Moderate Dementia	11 – 20	17	56.6	5	16.7
Severe Dementia	0 - 10	0	0.0	0	0.0

Table 3: Effectiveness of structured cognitive stimulation programme on cognitive functioning among women with early symptoms of dementia in experimental and control group.

(N = 60)

Post-Test	*Mean*	*Mean Difference*	*Standard Deviation*	*Paired 't' test*	*'P' value*
Experimental Group	24.47	6.47	2.389	8.997 (df = 58)	0.000*
Control Group	18.00		3.129		Significant

(*) Significant at 'P' value < than 0.05

control group 22 (73.3 %) had mild / early dementia. Very few subject in experimental group 9 (60.0%) had moderate dementia and 8(26.7%) had moderate dementia in control group. None of the subject were with normal level in both the groups,

Table 2: The post – test assessment reveals majority of the subjects 17 (56.6 %) had moderate dementia. Those who were with mild / early dementia are 11 (36.7 %). Very little subjects 2 (6.7 %) were normal. And none of the subjects were with severe dementia.

In control group the post – test assessment reveals majority of the subjects 25 (83.3 %) had moderate dementia. Those who were with mild / early dementia are 5 (16.7 %). None of the subjects were having severe dementia and normal.

From the table 3 we interpret the mean post- test scene in experimental group was 24.47 whereas in control group it was 18.00. The standard deviation value was 2.389 in experimental group and 3.129 in control group. Paired 't' test value was 8.997 for df 58.which was statistically significant at 'P' value < than 0.05. This shows the effectiveness of structured cognitive stimulation programme.

DISCUSSION

Current study findings were discussed according to the objectives. The findings of the present study were supported by the following studies.

In pre – test, an overwhelming majority of the subjects 19 (63.3 %) had severe dementia, similarly in control group 22 (73.3 %) had mild / early dementia. Very few subject in experimental group 9 (60.0%) had moderate dementia and 8(26.7%) had moderate dementia in control group. None of the subject were with normal level in both the groups,

In the present study the mean post-test scene in experimental group was 24.47 whereas in control group it was 18.00. The standard deviation value was 2.389 in experimental group and 3.129 in control group. Paired 't' test value was 8.997 for df 58.which was statistically significant at 'P' value < than 0.05. This shows the effectiveness of structured cognitive stimulation programme. The results obtained are supported by the study conducted by Peter Shailla et al. (2016) where statistically significant improvement was observed in cognitive functioning regarding impact on dementia (t = 22.09, p = 0.001).

CONCLUSION

This research demonstrated the cognitive function score on cognitive functioning. However, the subjects with moderately cognitive score were positively benefitted and shifted towards questionably significant level of cognition. This provides a set of baseline data that can be cited for further studies. The Structured Cognitive Stimulation could be incorporated into pre- services or in-service education program in order to evaluate its effectiveness in different populations and settings.

Conflict of interest: No

Source of funding: Self

Ethical Clearance: Obtained from the ethical committee of Ved Nursing College. Panipat

REFERENCES

1. Peter S. The efficacy of structured cognitive stimulation on cognitive functioning among middle aged women having early symptoms of dementia in selected areas of Jammu. Indian Journal of Psychiatric Nursing. 2016 Jan 1;11(1):15.
2. American Psychiatric Association, Diagnostic and Statistical manual of Mental Disorders DSM IV. Washington DC. 4th edition. 1994
3. Alzheimer's disease International. Impact on well-being of young people with dementia. World Alzheimer Report. Retrieved from http// www. alz.co.uk. 2009
4. Alzheimer Europe Association. Report retrieved from Alzheimer Europe http// www.alzheimer association. 2011
5. World health Organization. Active aging: A policy framework health report. Geneva. Available from http// www. who.org/report. 2002.
6. Rajkumar S, Kumar S, Thara R. Prevalence of dementia in a rural setting: A report from India. International Journal of geriatric Psychiatry. 1997. 702-707.
7. The British Psychological Society and royal College of Psychiatrists Dementia: A NICE-SCIE Guideline on Supporting People with Dementia and carers in Health and Social Care. British Psychological Society. 2007
8. Shaji KS, Sivakumar PT, Rao GP, Paul N. Clinical practice guidelines for management of dementia. Indian J Psychiatry 2018;60:S312-28.
9. Keogh F, Mountain G, Joddrell P, Lord K. Psychosocial interventions for community- dwelling people following diagnosis of mild to moderate dementia: Findings of a systematic scoping review. Am J Geriatr Psychiatry 2019; 27:641-51.
10. Zucchella C, Sinforiani E, Tamburin S, Federico A, Mantovani E, Bernini S, et al. The Multidisciplinary approach to Alzheimer's disease and dementia.
11. A narrative review of non-pharmacological treatment. Front Neurol2018; 9:1058.
12. Ying J, WangY, Zhang M, WangS, ShiY, Li H, et al. Effect of multicomponent interventions on competence of family caregivers of people with dementia: A systematic review. J Clin Nurs 2018; 27:1744-58.
13. 13.Whitlatch CJ, Orsulic-Jeras S. Meeting the informational, educational, and psychosocial support needs of persons living with dementia and their family caregivers. Gerontologist 2018;58: S58-73.

International Journal of Nursing Education
Volume 14 No. 4, October-December 2022
https://doi.org/10.37506/ijone.v14i4.18683

A Study to Assess Knowledge Regarding Triage Among the Nursing Students at Selected Colleges of Ambala, Haryana

Priyanka Yadav[1], Diksha Thakur[2]

[1,2]M.Sc. Nursing, Nursing Tutor, Department of Medical – Surgical Nursing, M.M. Institute of Nursing, Maharishi Markandeshwar Deemed to be University, Mullana – Ambala, Haryana, India

How to cite this article: Yadav P, Thakur D. A Study to Assess Knowledge Regarding Triage Among the Nursing Students at Selected Colleges of Ambala, Haryana. 2022;14(4):55-59 .

ABSTRACT

Nurses function in a challenging environment where they are required to utilize various methods of learning to process, integrate, and dissimilate information when appropriate. It is important for the nursing personnel to have good knowledge and skills regarding triage system.

Aims and Objectives: The aim of the study was assess the knowledge regarding triage among nursing students**.**

Methodology: The research includes quantitative approach and design was non- experimental descriptive survey design. The study was conducted at MM College of Nursing Mullana, Ambala, Haryana. The setting was selected by purposive method. A sample of 190 nursing students was recruited as study participants by purposive sampling. The tool used for the study consisted of socio- demographic profile, structured knowledge questionnaire. The data collection was done during the period of May 2021. Structured knowledge questionnaire was administered to participants to assess their level of knowledge. Descriptive and inferential statistics were used to analyze the data by SPSS 20 version.

Results: The mean score of knowledge was 15.97 and there was no significant association of knowledge scores of nursing students with their demographic variables.

Conclusion: Findings of this study concluded that the nursing students were having less knowledge regarding triage.

Keywords: Nursing students, Triage, Knowledge, selected colleges

INTRODUCTION

Triage is the process of determining the priority of patient's treatment by the severity of their condition or likelihood of recovery with and without treatment. The rations patient treatment efficiently when resources are insufficient for all to be treated immediately, influencing the order and priority of emergency treatment, emergency transport, or transport destination for the patient. Emergency department (ED) generally provides immediate care for 24 hour every day. The erratic numbers of patients coming to ED suffer from various

Corresponding Author: Priyanka Yadav, M.Sc. Nursing, Nursing Tutor, Department of Medical – Surgical Nursing, M.M. Institute of Nursing, Maharishi Markandeshwar Deemed to be University, Mullana – Ambala, Haryana, India.

Email: 19priyankayadav001@gmail.com

conditions with unknown severity, urgency, and definite diagnosis. The patients who are suffering from life threatening conditions, such as cardiac arrest, airway obstruction, and shock should be prioritized to provide them an early immediate care to save their lives. Nerveless, the crowding of patients visiting to ED can have an impact on the quality of care by diversifying the resources intended for patients, which are in need of emergency care compared to the individuals who have potentially less urgent needs.[1]

Triage is putting the patient in the right place at the right time to receive the right level of care and the allocation of appropriate resources to meet the patient's medical needs'. This place of the hospital allows for assignment of the care taker to suitable assessment and treatment place.[2]

Various studies have investigated the nursing student's knowledge regarding the triage system; and most of studies have shown that nurses do not have enough knowledge about triage as they are involved in the triaging process up to some extent only. The result of the continuous increase in the number of patients admitted to the emergency department and lack of medical facilities, it is important to enhance nursing student's knowledge regarding triage. Therefore, it is essential to examine nursing student's triage knowledge including other related factors. Also there have been few studies and there is little information focusing on nurse's knowledge about triage. Moreover, the researcher has also experienced and observed the lack of knowledge among nursing student in selected colleges of Ambala.[3]

Thus, this study is aimed at assessing knowledge regarding triage among nursing students studying at selected colleges of Ambala, Haryana.

AIM

"A study to assess knowledge regarding Triage among the Nursing students at selected Colleges of Ambala, Haryana".

MATERIAL & METHODS

The present study is conducted in 2021 and it is a quantitative (non experimental) research approach and descriptive survey design. The population of the study included nursing students who study at M.M College of Nursing and M.M Institute of Nursing Mullana, Ambala Haryana. The sample of 190 nursing students was selected using the purposive sampling method. All participants signed informed consent. Inclusion criteria was Nursing students willingness and availability to participate in the study. And those who were not available during data collection were excluded.

Ethical Consideration

Ethical approval was obtained from the ethical committee of M.M.I.M.S.R & Hospital Mullana, Ambala to conduct the final study. Research participants were enrolled in the study after written informed consent and they were assured about the confidentiality of their response.

Data Collection

Formal Administrative approval was obtained from the principal of college of nursing to conduct the study on the sample subjects of Ambala, Haryana. Self Introduction and introduction, nature and purpose of the study were explained to the study subjects. The confidentiality of their responses was assured and verbal consent from the participants was taken prior to the study. Nursing Students were selected as sample. The data collection of the final study was done on May 18/05/21- 22/05/21. Demographic data was taken to collect the baseline data of nursing students. Structured knowledge questionnaire was used to assess the knowledge of nursing students regarding triage.

Content validity of tool was established by nine experts for its accuracy and relevancy and also to obtain their opinion and suggestions. Furthermore, the reliability of the structured

knowledge questionnaire was determined with KUDER RICHARDSON-20 and found to be 0.76.

Data Analysis

To analyze data, descriptive tests, including frequency, percentage, mean, and standard deviation (SD) and analytical tests were used.

RESULTS & DISCUSSION

In the present study, maximum of the nursing students were females (74.7%) and majority were from age group of 22-24 years. This finding was consistent with the result of study conducted by **Bereket Duko et al. (2019)**[4] which showed that maximum number of female stuents (142)[29] The finding was also similar with the study conducted by **Jina Kim et al. (2019)** in which majority of the subject belonged to 19-21 years age group and 25.5% of them were males.[5]

In this study, most of the nursing student i.e.24 (12.6%) had not attended any training program regarding triage. The result was contradictory with the finding of study conducted Ayele Tilahun et al. (2018).[6]

The result was consistent with the study conducted by **Nosrat Bahrami et al. (2013)** which showed that the majority of nursing students were having below average level of knowledge regarding triage.[7] The result was also consistent with the finding of study conducted **by Samira Delnavazet al. (2018)** which showed that majority of nursing students were having below average level of knowledge regarding triage ($p<0.05$).[47]

Table 1: Frequency and Percentage Distribution in terms of level of Knowledge among Nursing Students regarding triage

N= 190

Level of knowledge	*Range of scores*	*f (%)*
Very Good	>25	9(4.7)
Good	20-25	21(11.1)
Average	17-19	70(36.8)
Below average	<17	90(47.4)

Minimum score= 0 Maximum score= 32

Table 2 Range, Mean, Median and Standard Deviation of knowledge Scores among Nursing Students

N= 190

Test	Range	Mean ± SD	Median
Knowledge	5-13	15.97 ± 5.733	16.00

Minimum score= 0 Maximum score= 32

Table 3: T Test Showing Association between Mean Score of Knowledgeof Nursing students regarding triage

N=190

Demographic variable	*Very Good*	*Good*	*Average*	*Below Average*	*df*	*P value*	*T value*
1. Age (in years)							
1.1 19- 21	3	6	36	42	3	3.18	0.29NS
1.2 22- 24	7	14	37	44			
2. Gender							
2.1 Male	1	7	13	27	3	3.18	0.10NS
2.2 Female	9	13	60	59			
3. Attended any training program							
3.1 Yes	6	17	65	77	3	3.18	0.60NS
3.2 No	4	3	8	9			
4. Source of knowledge							
4.1 Book	3	11	42	56	6	2.45	0.30NS
4.2 Internet	5	6	16	20			
4.3 Lecture	2	3	15	10			

*Significant ($p\leq0.05$) $t_{0.05}$ (3) =3.18, $t_{0.05}(6)$ =2.45

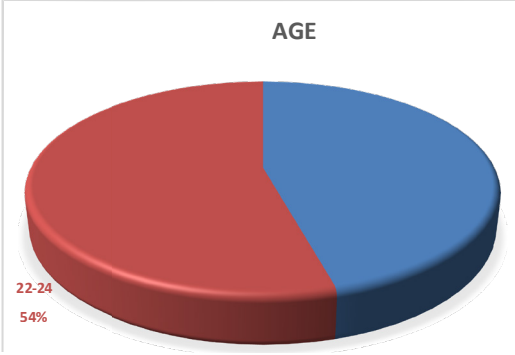


Fig. 1. Showing the frequency and percentage distribution in terms of age in years

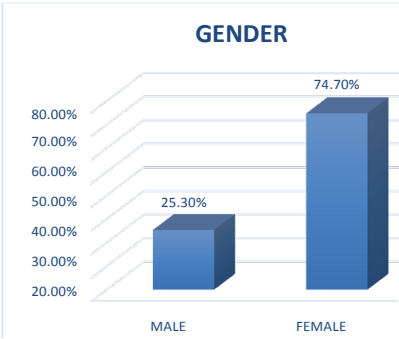


Fig. 2: Showing the frequency and percentage distribution kin terms of gender i.e. male and female

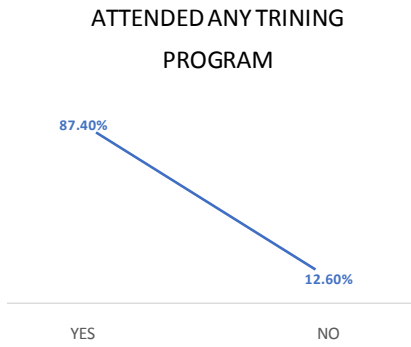


Fig. 3: Showing the frequency and percentage distribution regarding attended any training program i.e. yes and no

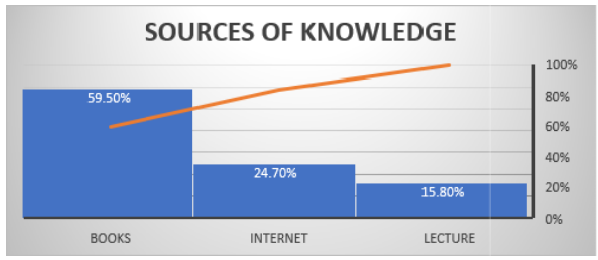


Fig. 4: Showing the frequency and percentage distribution according to the sources of knowledge i.e. in terms of books, internet and lecture

The result was also similar with the finding of study conducted by **Ladan Arhagi et al. (2019)** which showed that majority of nursing students were having below average level of knowledge regarding triage.[8]

The result was inconsistent with the finding of the study conducted by **Bereket Duko et al. (2019)** which showed that there was significant association between knowledge scores with their selected variables.[9] The result was also inconsistent with finding of the study conducted by Bereket Duko et al. (2019) which showed that there was no significant association between knowledge score regarding triage.[10]

CONCLUSION

The following conclusion were drawn from the findings of study

Maximum of student were having average knowledge regarding triage. There was no significant association of knowledge scores of nursing students with selected variables (source of knowledge and attended any training program). Hence, it can be recommended that interventions may be planned for Nursing personnel regarding knowledge and skills regarding Triage system.

Financial support and sponsorship Nil.

Conflicts of interest There are no conflicts of interest.

REFERENCES

1. Delnavaz S, Hassankhani H, Roshangar F, Dadashzadeh A, Sarbakhsh P, Ghafourifard M, et al. Comparison of scenario based triage education by lecture and role playing on knowledge and practice of nursing students. Nurse Educ Today [Internet]. 2018;70:54–9. Available from : https://doi.org/10.1016/j.nedt.2018.08.006
2. Christ M, Grossmann F, Winter D, Bingisser R, Platz E. M E D I C I N E Modern Triage in the Emergency Department. [cited 2019 Apr 19]; Available from: www.caep.ca
3. Sprivulis pc,daSlivaJa,jacobsig ,FrazJeelink Ga. The between hospital overcrowding and mortality among patients admitted via western Australian

emergency department.Med j August 2006; 184 ;208-12.PBMED

4. Kelly AM, Richardson D. Training for the role of triage in Australasia. Emerg Med. 2001;13(2):230–2.
5. Mallett J, Woolwich C. Triage in accident and emergency departments. Adv Nurs. 1990;15(12):144
6. Pozner CN, Bayleygne TM, Davis MA, et al. Emergency medical services capacities in the developing world: preliminary evaluation and training in Addis Ababa. Ethiopia. Pre hosp Emerg Care. 2003;7(3):392–6
7. Considine J, LeVasseur SA, Villanueva E. The Australasian Triage Scale: examining emergency department nurses' performance using computer and paper scenarios. Ann Emerg Med. 2004;44(5):516–23.
8. Al MA, Rn K, Dnsc EB, Emeritus C, Alasad JA. Jordanian nurses ' perceptions of their preparedness for disaster management. Int Emerg Nurs [Internet]. 2012;20(1):14–23. Available from: http://dx.doi.org/10.1016/j.ienj.2011.01.001
9. Chan JN. Chau J. patient satisfaction with triage nursing care in hongkong J Adv nurs 2005 [crited 2007 aug15] pp 498- 507 .
10. Subhas F, Dunn MC Nichol B, Marlow J. Team Triage improve emergency department efficiency emg.med j.2004 sep [cited 2007 jul 6] pp 542- 547 http\www.pubmed.com.

International Journal of Nursing Education
Volume 14 No. 4, October-December 2022
https://doi.org/10.37506/ijone.v14i4.18684

A Study to Assess the Impact of E- Teaching Learning Method on the School Going Children During Pandemic in the Selected Area of U.S. Nagar, Uttarakhand

Sukhpreet Kaur

Associate professor at SAPKM College of nursing, U.S. Nagar, Uttarakhand

How to cite this article: Kaur S. A Study to Assess the Impact of E- Teaching Learning Method on the School Going Children During Pandemic in the Selected Area of U.S. Nagar, Uttarakhand. 2022;14(4):60-63 .

ABSTRACT

Introduction: E-Teaching learning method is a new mode of distance learning, is applied via the internet technologies and involves the educational activities, which do not require the presence of teacher and the learner at the same place. In order to contain the contagion, many countries have implemented restrictive measures to reduce gathering and formation of crowds. Schools are affected and close their classes. Almost 1.6 billion, children in 195 countries worldwide could not use their classroom. The novel corona virus disease (COVID-19) first appeared in Wuhan city of China at the end of 2019. Around 320 million learners are affected in India, of which about 34 million belonged to the tertiary level of education.

Method: A quantitative research approach was used. The research adopted for the present study was non-experimental descriptive design. The target population for the study was school going children, selected area of U.S. Nagar, Uttarakhand. Sample size was 250 Students selected by convenient sampling. The structured knowledge questionnaire was prepared to assess the impact of E- teaching learning method. Data analysis was done by both descriptive and inferential statistics on the basis of objectives and hypothesis of study.

Result: The result shows that most students are facing network issues during online classes out of 100, 80.4% students are facing it. As per the collected data there are only 4.4% students who do not have any health problems due to online classes whereas 20% are suffering from headache, 6.4% suffer from back pain, while eye strain has affected 31.6% students and all this condition affected total 37.6% students.

Conclusion: The conclusion of this study stated that the E- teaching learning method has a negative impact on health of school going children.

Keywords: Impact of E- teaching learning method, School going children, pandemic.

INTRODUCTION

Learning is a process of achieving knowledge, skill, and performance. An online class is a course conducted over the internet. They are generally conducted through a learning management system, in which students can view their course syllabus and academic progress as well as communicate with fellow students and their course instructor. Children should become aware of positive influence healthy lifestyle and mood. This affect would give them better results in studying by using Smartphone. E- Learning is any learning method delivered via internet. The number

Corresponding Author: Sukhpreet Kaur, Associate professor at SAPKM College of nursing, U.S. Nagar, Uttarakhand.

Email: Preet001sekhon@gmail.com

of users enrolled for various online courses is estimated to be 1.6 million in 2016, which is expected to grow about 9.6 million by the end of 2021.E- Learning education only requires a Smartphone or a laptop with a good internet connection, student can learn anywhere at any time. While countries are at different points in their COVID - 19 infection rates, worldwide there are currently more than 1.2 billion children in 186 countries. Some research shows that average, students retain 25-60% more material when learning online compared to only 8-10% in a classroom. This is mostly due to the students being able to learn faster online; e-learning requires 40-60% less time to learn than in traditional classroom settings because the students can learn at their own pace, going back and re reading, skipping, or accelerating through concepts as they choose. E-learning is playing a crucial role to improve performance of the academia. It incorporates a variety of events: from supported education to blended education as well as online education.

OBJECTIVES

- To assess the impact of E- teaching learning method on school going children.
- To find out the association between the E- Teaching learning method on school going children with their selected Demographic variables.

MATERIAL AND METHOD

A quantitative research approach was used. The research adopted for the present study was non- experimental Descriptive design. The target population for the study was school going children selected area of U.S. Nagar, Uttarakhand. Sample size was 250 Students selected by convenient sampling. The structured knowledge questionnaire was prepared (Test re-test reliability of the tool was r= 0.90) to assess the impact of E-teaching learning method. Content validity of the tool established by the experts from the field of medical surgical nursing. Data analysis was done by both descriptive and inferential statistics on the basis of objectives and hypothesis of study. Impact of E-teaching learning method was calculated by frequency, percentage and chi square test was used to determine the association between E- Teaching learning method on school going children with their selected demographic variables.

FINDINGS

SECTION A

IMPACT OF E- TEACHING LEARNING METHOD

According to data finding almost students are facing network issues during online classes out of 100, 80.4% students are facing it.

Table 1. Chi Square Test

S.No.	Selected Demographic Variable	χ^2	p-Value	DF	Inference
1.	Age	6.91	15.51	8	NS
2.	Class	1.85	15.51	8	NS
3.	Gender	1.115	3.84	1	NS
4.	Father Qualification	1.994	14.07	7	NS
5.	Father Occupation	5.063	7.82	3	NS
6.	Mother Qualification	2.4	12.59	6	NS
7.	Mother Occupation	8.1	7.82	3	NS
8.	School Board	3.134	5.99	2	NS
9.	What students use	1.514	5.99	2	NS
10.	Student Interested Atmosphere	3.565	3.84	1	NS
11.	Mode of Online class	3.485	9.49	4	NS

Table value of X2 at 5% level NS= Not significant S=Significant

As per the collected data there is only 4.4% students who do not have any health problems due to online classes whereas 20% are suffering from headache, 6.4% suffer from back pain, while eye strain has affected 31.6% students and all this condition affected total 37.6% students.

SECTION B

Association between the E- Teaching learning method on school going children with their selected demographic variables.

Table 1: Indicates Association between the E- Teaching learning method on school going children with their selected demographic variables. There was no significant association between the E- Teaching learning method on school going children with their selected demographic variables.

DISCUSSION

This study was undertaken to assess the impact of E- teaching learning method on the school going children during pandemic in the selected area of U.S. Nagar. Descriptive research design was adopted for the study. The results and discussion of the study was based on finding obtain from the statistical analysis.

The finding of the study shows that there is the Negative impact of the online classes on the students during this pandemic, which are as follows –

- According to data finding almost students are facing network issues during online classes out of 100, 80.4% students are facing it.
- As per the collected data there is only 4.4% students who does not have any health problems due to online classes whereas 20% are suffering from headache, 6.4% suffer from Back pain, while eye strain has affected 31.6% students and all this condition affected total 37.6% students.
- According to data finding 53.2% students suffer from distraction by their family.
- According to data finding overall 75.6% feel lazy all the day.
- As per the collected data 95.6% students miss their school activities during the lockdown period.
- As per the data collected 38% students find problem in handling technical gadgets during online classes.
- According to the collected data almost 49.6% students get proper attention in taking online classes.
- Collected data shows that only 38.4% get enough time to play while 61.6% students didn't get enough time to play outdoor games.
- Collected finding shows that 52.8% students didn't gain weight while 32% students gain less than 2kg weight and 7.6% students gain 5kg weight as well as 7.6% students gain more than 5kg weight.

CONCLUSION

The conclusion of this study stated that there was a negative impact of E-learning in the school going children during pandemic,

Conflict of interest: No such conflict of interest exists.

Source of finding: It s a self funded study.

Ethical clearance: No such ethical issue exists.

REFERENCES

1. Johnson. LR, Ravichandran. M. et al, Adolescents health (ARSH), Indian Journal of Academic Medical, (2014) 7-14
2. Kibret. M Knowledge attitude and practice on electronic devices consumption among high school students. Behir Dar. (2003) 39-45.
3. Tuan Nguyen, the Effectiveness of Online Learning: Beyond No Significant Difference and Future Horizons. MERLOT Journal of Online Learning and Teaching. (2014) 309 – 317
4. Nahid Khalil Elfaki, Itedal Abdulraheem and Rashida Abdulrahim, Impact of E – Learning vs. Traditional Learning on Student's Performance and Attitude. International Journal of Medical Research & Health Sciences, (2019), 76 – 82

5. Arfan Shahzad, Rohail Hassan, Arsalan Hussain, Effects of COVID 19 in E – Learning on higher education institution students. A. Shahzad et.al. (2020)
6. Jinyoung Kim, Learning and Teaching Online During Covid – 19: Experiences of Student Teachers in an Early Childhood Education Practicum. International Journal of Early Childhood (2020) 52: 145 – 158.
7. Polit. Nursing Research Principles and Methods. Philadelphia: Lippincott Williams and Wikins Company. (2004).
8. Polit. D.FNursing Research Generating and assessing evidence for nursing practice. New Delhi : Wolters Kluwer India Pvt limited. (2008).
9. Sharma ,S.K. Nursing Research and Statistics. New Delhi: Elsevier. (2011).
10. SundarRao. An introduction to Biostatistics. New Delhi: Prentice- Hall of India Private Ltd. (2004).
11. Susan Rowen James. Nursing care of Children. New Delhi: Elsevier Publishers. (2007).
12. Suraj Gupta. Short Text Book of Paediatrics. New Delhi: CBS Publishers. (2009).
13. Vasantha Singarayan . Essentials of Growth and Development. Emmess Medical Publishers. (2007).
14. Wesley. Nursing Theories and Models. Pennsylvania: Spring House Publication. . (1992)

International Journal of Nursing Education
Volume 14 No. 4, October-December 2022
https://doi.org/10.37506/ijone.v14i4.18685

A Quasi Experimental Study to Evaluate the Effectiveness Of Pursed Lip Breathing Exercise on Reduction of Dyspnea Among Chronic Obstructive Pulmonary Disease Patients in Selected Hospital in Panipat, Haryana

Rachna Singh

M.Sc. Nursing, Ved Nursing College, Baroli, Panipat.

How to cite this article: Singh R. A Quasi Experimental Study to Evaluate the Effectiveness Of Pursed Lip Breathing Exercise on Reduction of Dyspnea Among Chronic Obstructive Pulmonary Disease Patients in Selected Hospital in Panipat, Haryana. 2022;14(4):64-71 .

ABSTRACT

Chronic Obstructive Pulmonary Disease (COPD) is a progressiveinflammatory disease characterized by chronic obstruction in the peripheral bronchus and pulmonary emphysema. The disease is disabling with symptoms such as chronic cough, phlegm, wheezing, shortness of breath and increased infections of the respiratory passage. Changes in the lungs result in mucus hyper secretion, dysfunction of the cilia, airflow limitation and hyper inflation of the lungs, gas exchange abnormalities, pulmonary hypertension and cor pulmonale. Persons with COPD are greatly under estimated because the disease is usually not diagnosed until it is moderately advanced .Patients usually seek medical help when they have an acute respiratory infection, with dyspnea being the main concern. Dyspnea is often progressive, and initially occurs with exertion, gradually interferes with daily activities and in late stages dyspnea may be present at rest also. The person becomes more of a chest breather, relying on the intercostals and accessory muscles rather than effective abdominal breathing.

The objective of the study was, to assess the breathing pattern before and after pursed Lip breathing exercise among chronic obstructive pulmonary disease patients in control and experimental group. To evaluate the effectiveness of Pursed lip breathing exercise on the reduction of Dsypnea among chronic obstructive pulmonary disease patients in experimental group. To find out the association between the breathing pattern with selected demographic variables in thecontrol and experimental group.

Keywords: Evaluate, Effectiveness, Pursed-lip breathing exercise, Dyspnea, COPD .

INTRODUCTION

In the history of medicine there have always been periods when one diseases or group of related disease presented an unusually grave threat to the health of the individual and to the community. In the particular period in which we live, we concerned by the growing number of men disabled by chronic respiratory disease and by the disruption. Such illness are causing in the life of the individual. "When you can□t breathe, nothing else matters", is the mantra of the American Lung Association. Chronic obstructive pulmonary disease results from increased resistance to airflow because of airway obstruction or airway narrowing.[1]

The most common cause of COPD in high-income countries is tobacco smoking; other risk

Corresponding Author: Rachna Singh M.Sc. Nursing,Ved Nursing College,Baroli, Panipat.

Email: rachnarajeev@ymail.com

factors include indoor outdoor pollution and genetics. In developing countries, common sources of household air pollution are the use of biomass fuels such as wood and dry dung fuel for cooking and heating. Most people living in European cities are exposed to damaging levels of air pollution. A number of occupations and associated substances including cadmium dust or fumes, and dust from grains that promote respiratory symptoms has been published in the UK. Long-term exposure to any of these irritants causes an inflammatory response in the lungs, resulting in narrowing of the small airways and breakdown of lung tissue. The diagnosis is based on poor airflow as measured by spirometry.[2] Most cases of COPD can be prevented by reducing exposure to risk factors including smoking and indoor and outdoor pollutants. While treatment can slow worsening, there is no conclusive evidence that any medications can change the long-term decline in lung function. COPD treatments include smoking cessation, vaccinations, pulmonary rehabilitation, inhaled bronchodilators, and corticosteroids. Some people may benefit from long-term oxygen therapy, lung volume reduction (surgical) or (bronchoscopic), and lung transplantation. In those who have periods of acute worsening, increased use of medications, antibiotics, corticosteroids, and hospitalization may be needed.[3] As of 2019, COPD affected about 174.5 million people (2.4% of the global population) It typically occurs in males and females over the age of 35–40.In 2019 it caused 3.2 million deaths, 80% occurring in lower and middle income countries, up from 2.4 million deaths in 2020. The number of deaths is projected to increase further because of continued exposure to risk factors and an aging population. In the US in 2010 the economic cost was put at 32.1 billion US dollars, and projected to rise to 49 billion dollars in 2020.[23] In the UK this cost is estimated at £3.8 billion annually.[4]

NEED FOR THE STUDY

The World Health Organization (WHO) (2018) estimated 300 million people suffer from COPD and 2, 55,000 people diedof copd (WHO). The copd statistics in India in 2004 details 57.5 estimated total deaths and 5.1 estimated deaths per 1 lakh population.And 277 disability adjusted life year (DALYs) per 1 lakh and 268 age standardized disability adjusted life year (DALYs) per 1 lakh. The global statistics of asthma (WHO2004) details 2, 87,000 (0.5%) of total global deaths. In this 1, 51,000 men, 1,36,000 women and DALYs includes 8,856,000 for men 7,461,000 women and 1.8 standardizeddeath per 1lakh and 19.4 million disability and constitutes 6.6 million YLD among menand 1.8 million YLD in high income countries.[15] **Globally as of (2019)** COPD is estimated to result in economic costs of $ 2.1 trillion,half of which occurring in the developing world .the 6th commonest cause of death., males had a higher prevalence of COPD 11.1 percentage compared to females 4.5 percentage.

Statistics shows that chronic obstructive pulmonary disease is a leading cause of death and disability in the United States. Data from a national health survey suggests that at least 24 million Americans were affected by the disease in 2000.Global prevalence of 10.7%cofidence interval 7.3-14% in the age group the number of copd cases increased to 3.84 million in 2018. this increased of 68.9 %was mainly driven by global demographic changes .across the who regions the highest prevalence was estimated in the American 13.3% in 1990 and 15.2%2010 and lowest in south east.[16]

PROBLEM STATEMENT

"A Quasi experimental study to assess the effectiveness of Pursed lip breathing exercise on reduction of dyspnea among patients with chronic obstructive pulmonary disease who are aged between 41-60 years years in selected hospital at panipat district"

OBJECTIVES OF THE STUDY

- To assess the breathing difficulty before and after breathing exercise among chronic obstructive pulmonary disease patients in control and experimental group.

- To evaluate the effectiveness of Pursed lip breathing exercise among chronic obstructive pulmonary disease patients in experimental group.
- To find out the association between the pretest level of breathing difficulty with selected demographic variables in control and experimental group

OPERATIONAL DEFINITIONS

EVALUATE

To judge or determine the significance, worth, quality or form an idea. In this study, evaluate is to determine the resultof pursed lip breathing exercise to reduce dyspnea among patients with Chronic Obstructive Pulmonary Disease.

EFFECTIVENESS

The ability to produce specific result or to exert a specific measurable influence. In this study, effectiveness is the usefulness of pursed lip breathing exercise to reduce dyspnea among chronic obstructive pulmonary disease.

PURSED-LIP BREATHING EXERCISE

It is a respiration characterized by deep inspirations followed by prolonged expiration through pursed lips. It is done to increase expiratory airway pressure, improve oxygenation and help to prevent early airway closure. In this study, pursed lip breathing exercise is a technique in which breathe in slowly through nose for two counts and breathe out slowly and gently through pursed lips while counting to four for 4-5 times a day to reduce dyspnea.

DYSPNEA

It is a difficult or laboured breathing. In this study, dyspnea refers patient with shortness of breath.

COPD

It refers to a group of lung diseases that block airflow and make breathing difficult. Emphysema and chronic bronchitis are two most common conditions of Chronic Obstructive Pulmonary Disease. In this study, it refers obstruction of lung airflow results breathing difficulty

ASSUMPTIONS

The study assumes that:

- Chronic obstructive pulmonary disease can affect person above 40 years of age.
- The pursed lip breathing exercise reduces dyspnea among chronic obstructive pulmonary disease patients.
- There is no adverse effect in pursed-lip breathing exercise

DELIMITATIONS

The study will be delimited to:

- Period of four weeks.
- Sample of 30 in each experimental and control group.
- Those who will clinically diagnosed to have chronic obstructive pulmonary disease.
- Age group between 41-60 years.
- Those who will be willing to participate.

RESEARCH METHODOLOGY

RESEACH APPROACH

Quantitative approach adopted by the researcher for the accomplishment of the present study.

RESEARCH DESIGN :

Quasi Experimental Pre Post test Design

SETTINGS OF THE RESEACH

The present study research was conducted at selected hospitals in Panipat district.(Civil hospital, panipat and Dr.Prem hospital, Panipat.)

POPULATION:

- In this study, the target population consisted COPD patients at selected hospitals in Panipat district.

SAMPLE

The sample in this study includes COPD patients.

SAMPLE SIZE

In the present study, the sample size comprised of 60 COPD patients.

SAMPLING TECHNIQUE

The sample for this study was drawn by non-probability purposive sampling technique.

PLAN FOR DATA ANALYSIS

- Descriptive and inferential statistics was used to analyze the data.
- Frequency and percentage would be computed to describe demographic data.

ORGANIZATION OF FINDINGS

The analysis of data from study is presented under the following headings:

❖ SECTION A

Data on the Frequency and percentage distribution of chronic obstructive pulmonary patients according to their Demographic variables.

❖ SECTION B

Data on the Pursed lip breathing exercise among chronic obstructive pulmonary disease patients inexperimental and control group.

❖ SECTION C

Data on effectiveness of Pursed lip breathing exercise among chronic obstructive pulmonary diseasepatients

❖ SECTION D

Data on compare the pretest and posttest level of breathing difficulty between the control andexperimental group.

❖ SECTION E

Data on association between the pretest breathing pattern in control group and their demographic variables.

❖ SECTION F

Data on association between the pretest level of breathing difficulty in experimental group and theirdemographic variables..

CONTROL GROUP

The above table shows that among 30samples, with regards to **age** majority belonged to 51--60years 10(33.3%) and with regards to **gender** male 14(46.7%), and female 16 (53.3%).Regarding **educational** status literate 14(46.7%) of them had primary education, 6(20%) of them had high school education 7(23.3), and uneducated 9(30%) With regards to **homemaker** 8(26,7%) of them are private employee,7(23.3%) of them are in government employee,6(20%) of them are in self employee 9(30%).Regarding the **family history** of chronic obstructed pulmonary disease yes 6(20%) of them were no and 24(80%).About **duration if illness** <1year 9(30%) and 2-5 year 9(30%), 6 year 12(40%) samples. Regarding the **treatment** of chronic obstructive pulmonary disease 14(46.7%) samples are in regular 16(53.3%) samples are in irregular. About income of the **family monthly,** 12(40%) samples of them <5000,9(30%) samples of them 5000-10000 and 9(30%) samples of them >10000.In regarding to **smoking habits** 12(40%) of the samples belonged to yes and 18(60%) of the samples belonged to no.Regarding **continuous breathing** difficulty presented at wake up 5(16.7%) of the samples belonged to and walking 4(13.3)of the samples of the sample belonged to,sleeping at night time 5(16.7%)samples of the belonged to, exercise 16(53.3)samples.

EXPERIMENTAL GROUP

The table Section B shows that among 30samples,with regards to majority age samples belonged to above 60 years where as 4(13.3%) of the sample belonged to the age group above 20-30years. Regarding gender 14(13.3%) male and 16(20%)female . Regarding educational status majority 7 (23.3%) of them had illerate, 4(13.3%) of them had primary school education, and 9(30%) of them had high school

education and 6(20%) of uneducated.With regards to homemaker 7(.233%) of them are illrate, where as 4(13.3%) of the sample belongs to primary school.Regarding the family history of chronic obstructed pulmonary disease yes 12(40%) of them were no and 18(60%). About duration if illness

<1year 10(33.3%) and 2-5 year 10(33.3%) ,6 year 10(33.3%) samples. Regarding the treatment of chronic obstructive pulmonary disease 16(53.3%) samples are in regular 10(46.7%) samples are in irregular.About income of the family monthly, 10(33.3%) samples of them <5000, 10(33.3%) samples of them 5000-10000 and 10(33.3%) samples of them >10000.In regarding to smoking habits 24(80%) of the samples belonged to yes and 6(20%) of the samples belonged to no.Regarding continuous breathing difficulty presented at wake up6(20%)of thesamples belonged to and walking 7(23.3)of the samples of the sample belonged to,sleeping at night time 6(20%) samples of the belonged to, exercise 11(36.7) samples .

❖ **SECTION B:**

Data on the Pursed lip breathing exercise among chronic obstructive pulmonary disease patients in experimental and control group (Table 1).

The table 1 shows that in control group the per test scores on the level of breathing pattern very severe were 4(13.3%)had very very severe,8(26.7%) had maximum, 6(20%) had almost maximum12(40%). whereas in post test scores on the level of moderate breathing were 6(20%) had very severe breath,4(13.3%) had very very severe breath, 8(26.7%) had maximum 12(40%)respectively. In experimental group the pre test scores on the level of breathing pattern moderate were 2(6.7%) had somewhat severe,3(10%) had moderate very very severe,5(16.7%) had maximum breathing pattern 9(30%) had almost maximum 11(36.7). whereas in post test scores on the level of very very slight were 12(40%) had slight breath 10(33.3%) had moderate breathing pattern 6(20%)had severe breathing pattern and no one maximum breathing pattern respectively.This finding reveals that in experimental group after the deep breathing exercise administration among chronic obstructive pulmonary disease were as decreased in post test than pretest.

❖ **SECTION C:**

Data on effectiveness of Pursed lip breathing exercise among chronic obstructive pulmonary diseasepatients (Table 2).

❖ **SECTION D:**

Data on compare the pretest and posttest level of breathing difficulty between the control andexperimental group.

	Control group				*Experimental group*			
	Pre test		*Post test*		*Pre test*		*Post test*	
Level of Breathing pattern	*f*	*%*	*f*	*%*	*f*	*%*	*f*	*%*
No breathlessness	-	-	-	-	-	-	-	-
Very very slight	-	-	-	-	-	-	12	40
Slight breath	-	-	-	-	-	-	10	33.3
Moderate	-	-	6	20	2	6.7	2	6.7
Somewhat severe	-	-	-	-	3	10	6	20
Severe breath	-	-	-	-	-	-	-	-
Very severe	4	13.3	4	13.3	-	-	-	-
Very very severe	8	26.7	8	26.7	5	16.7	-	-
Maximum	6	20	12	40	9	30	-	-
Almost maximum	12	40	-	-	11	36.7	-	-
Total	30	100	30	100	30	100	30	100

Group	Pre test		Post test		Mean difference	't-value'
	Mean	SD	Mean	SD		
Control group	8.43	1.43	5.9	1.49	2.53	2.07

(*- P<0.05, significant and ** -P<0.01 & *** -P<0.001, Highly significant)The table 2 shows that the calculated t value' in the control group was which was not significantly at P<0.05 level. It can be concluded that there is nomuch difference in pretest and post test in control group.

Group	Pre test		Post test		Mean difference	't' value
	Mean	SD	Mean	SD		
Experimental group	8.36	1.83	2.43	1.60	5.93	2.64*
(*- P<0.05, significant and ** -P<0.01 & *** -P<0.001, Highly significant)						

The table 3 shows that the calculated "t" value in the experimental group was 2.64 which was statistically significant at P<0.05 level. Hence H1 is accepted. It can be concluded that pursed lip breathingexercise was effective in reducing the dyspnea among chronic obstructive pulmonary disease patients.

❖ **SECTION E:**

Data on association between the pretest breathing pattern in control group and their demographic variables.

Dyspnea among copd patients	Control post test		Experimental posttest		Mean difference	't' value
	Mean	SD	Mean	SD		
	5.9	1.49	2.43	1.60	3.47	4.51*
(* -P<0.05, significant and ** -P<0.01 & ***-P<0.001, highly significant)						

The table 4 shows that the obtained 't' value between control and experimental group is 4.51 which was significant at p<0.05 level. Hence H1 is accepted. It can be concluded that the pursed lip breathing exercise was effective in reducing the dyspnea in experimental group among chronic obstructive pulmonary disease patients thancontrol group.

	Group	Pre test		Post test		Mean difference	't' value
		Mean	SD	Mean	SD		
Breathing pattern	Experimental group	8.36	1.83	2.43	1.60	5.93	2.64*
	Control group	8.43	1.43	5.9	1.49	2.53	2.07
(*- P<0.05, significant and ** -P<0.01 & ***-P<0.001, Highly significant							

❖ **SECTION F:**

Data on association between the pretest level of breathing difficulty in experimental group and their demographicvariables..

Experimental group

The table 5 shows that the calculated "t" value in the experimental group was 2.64 which was statistically significant at P<0.05 level. Hence H2 is accepted. It can be concluded that pursed lip breathing exercise was effective in reducing the dyspnea among chronic obstructive pulmonary disease patients

Control group

The table 5 shows that the calculated 't value' in the control group was 2.07which was not significantly atP<0.05 level. It can be

concluded that there is no much difference in pretest and posttest in control group.

NURSING IMPLICATIONS

The findings of the study have several implications in following field. It canbe discussed in four areas namely nursing practice, Nursing administration, Nursing education and Nursing research.

Nursing practice

- Complimentary therapies can provide effective economical, non-invasive, non-pharmacologicalcomplements to medical care.
- Pursed lip Breathing exercise is one of touch therapy, which in this study has proved effective in reducing and improving the breathing pattern among patientschronic obstructive pulmonary disease.
- Nurses can adopt simple interventions like Pursed lip breathing exercise while providing care for the chronicobstructive pulmonary disease patients.
- Pursed lip Breathing exercise used in this study can be applied in the practice set up; there by increasing the nursing practice based on evidence.

Nursing administration

- Nurse administrators can arrange seminars and workshops to educate learners and staff nurses regarding breathing pattern among chronic obstructive pulmonary disease.
- The findings of this study will help nurse administrator to plan and organize various in service programmes like in-service education and workshop on breathing pattern and its effects on chronic obstructive pulmonary patients.
- It helps to provide critical thinking regarding pain management in orthopedic surgical unit.
- The nurse administrator can take part in developing protocols related to breathing pattern.

Nursing education

- Several implications can be drawn from the present study for nursing education
- The curriculum incorporating the recent trends and demands of the changing society needed for the progressof nursing education.
- Practical hours for complementary and alternative medicine including yoga, massage and reflexology can beincluded in the nursing curriculum which will help the students to improve their skills.

Nursing research

- This study motivates nursing personnel to do further studies related to this field.
- Research can be conducted to find out the effectiveness of various non-pharmacological methods in pain management of patients who have chronic obstructive pulmonary disease.

ETHICAL CLEARANCE:

- Ethical clearance was obtained from the ethical committee:
- Formal permission was obtained from the concerned authorities in the hospital.
- Informed written consent was obtained from the sample enrolled for the study.
- All the information collected were kept confidential and used solely for the purpose of research study.

Source of Funding: Self.

Conflict of Interest: NIL

REFERENCES

1. **Bare & Smeltzerc.s**, textbook of medical surgical nursing: 9th ed. Philadelphia: Lippincott; 2001; vo.1:446-465.
2. **Basavanthappa B.T**. Nursing research; 3rd ed. New Delhi: jaypee brothers; 2007; 180-189.
3. **Bernadette & Denise pie**. Nursing research, principles and methods; 5th ed.Philadelphia: Lippincott; 1999; 184-198.
4. **Black m.j Hawks h.j.&keen A,** Medical Surgical Nursing; 6th ed. Philadelphia :w.b Saunders; 2001; vol. 2 :1143-1150.

5. **Barbara him,** Statistical methods, health care research; 3rd ed. Philadelphia: Lippincott; 1997; 62-78.

6. **Collier, Lewis, & Heitkemper**, Medical Surgical Nursing 6th ed.; Philadelphia: Mosby; 2004; vol.1; 683-702.

7. **Duncan .G & white,** Medical Surgical Nursing, an integrated approach : 9th ed.; London: Delmar; 1998; 330-339

8. **Erb, cozier ,barman ,& burke**.fundamentals of nursing; 6th ed.;California: Pearson education ; 2000; 239-493.

9. **Finkelmeier, B.A,** Cardiothoracic Nursing; 2nd ed.; Philadelphia: Lippincott; 2000; 398 -493.

10. **George B.J,** Nursing theories , the base for professional nursing practice; 4th ed.; Newberys

11. : Appleton and longer; 1990; 215 -230.

12. **Harkness & dincher, Medical** Surgical Nursing, total patient care; 9th ed.; Boston Mosby; 1996; 568-577.

13. **Jacqueline young**, breathing for health, a complete self-care manual; Missouri: torsions; 2001; 2-10.

14. **Kasper, d, braunwald, Hauser's long d & jamson**.j, harrison's principles of internal medicine ;16th ed; new york McGraw hill; 2006; 1182-1196.

15. Hall jc, tarala, tappier and hall j l, prevention of Respiratory disorders; British medical journal; UK London; 2001; 312(70):148-52.

16. 15 Chatham K, Baldwin J, Oliver W, Summer L and Friffiths H., incremental Respiratory muscle training: a pilot study and physiotherapy, New York USA; 1996; 82(7); 422-6.

17. Prasanna kumari, the study to find out the effect of programmed breathing exercise. On pulmonary function in the and post-operative periods in patients undergoing mitral valvotomy, national medical journal8 (7)133- 7.

18. Stephen c. Changes in pulmonary function after naturally acquired respiratory infection in normal persons. American review of respiratory diseases USA New York; 1999; 20. 1057-93.

19. Craven JL, Evans GA, Davenport PJ, William RHP,The evaluation of incentive spirometry in the management of post-operative pulmonary complication.Br j surge 1974; 61:793-797.

20. Pets TJ.Physiologic effect of IPPB, Blow bottles and incentive spirometry .Cure rev respire; 1979; 110:567-583.

21. Pam grout "jump starts your metabolism: how to loose weight by changing the way you breathe"Fireside; 1998; 30-34.

22. Jerkins and Souter C, a survey into the use of incentives spirometry following CABG survey, physio theory pract.; London UK; 1990; 6,117-126.

23. Mackay MR. Ellis E, john stone c. Randomized clinical trial of physiotherapy after open abdominal surgery in the high risk patients. Aust J Physiotherapy; Sydney Australia; 2005; 51(3), 151-9.

24. Chatterjee S, chattopaadhay BP and saga D, pulmonary function of different categories of chronic obstructive pulmonary disease in railway workers of eastern India, 1995; 17(3) 173-189.

International Journal of Nursing Education
Volume 14 No. 4, October-December 2022
https://doi.org/10.37506/ijone.v14i4.18687

The Professional Experience of Caregivers in Implementing Interprofessional Collaboration at Regional General Hospitals in Aceh Province: A Qualitative Study

Rita Zahara [1], Teuku Tahlil [2], Darmawati [3]

[1]Postgraduate Student, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh, [2]Associate Professor, Department of Community Health Nursing, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh, [3]Associate Professor, Department of Maternity Nursing, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh

How to cite this article: Zahara R, Tahlil T, Darmawati. The Professional Experience of Caregivers in Implementing Interprofessional Collaboration at Regional General Hospitals in Aceh Province: A Qualitative Study. 2022;14(4):72-77 .

ABSTRACT

Background: Interprofessional collaboration is considered important and often carried out in an inpatient setting. Therefore, the common perception amongst professional care providers is needed to ensure the implementation of the Interprofessional collaboration in hospitals. However, there are still obstacles that cause limitations in the implementation of Interprofessional collaboration in practices.

Objectives: The purpose of the study was to explore professional experience of care givers in the implementation of interprofessional collaboration at one of general public hospitals in the capital of Aceh Province, Indonesia.

Methods: This qualitative research used phenomenological study design. Data were collected using in-depth interviews with five participants in one inpatient room of the selected general public hospital. The Collaizi method was used to analyze the data.

Results: The study identified four themes: (1) The implementation of Interprofessional collaboration was perceived as integrated care; (2) Application of values, ethics and professionalism in Interprofessional collaboration are important; (3) Collaboration as a responsibility between caregiver profesionals, and; (4) Lack of communication and teamwork can be as barriers to Interprofessional collaboration implementation. Based on the findings, hospital managers are recommended to consider the existance of obstacles in the implementation of interprofessional colaboration and to develop standard operating procedures on interprofessional colaboration.

Keyword: Interprofessional collaboration, professional care givers, hospital.

INTRODUCTION

The World Health Organization (WHO) has articulated the importance of collaboration in meeting the goals of Primary Health Care (PHC) and has provided support for interprofessional education as a means to achieve collaborative teamwork among health professionals since its inception in 1973.[1] To improve the quality of health services requires a strong team so that they can work together in synergy. One study suggests that an effective teamwork is required for

Corresponding Author: Teuku Tahlil, PhD, Department of Community Health Nursing, Faculty of Nursing, Universitas Syiah Kuala

Email: ttahlil@unsyiah.ac.id; Telp/Fax: +62 651 7555249

optimal patient care and data show lacks understanding of the interactions between doctors and nurses.[2] Junior doctors and nurses recognized the importance of working together and strived to achieve better patient care, but they struggled to cope due to heavy clinical workloads, organizational constraints and different power relationships. Nurses should take more responsibility in the patient care decision-making process to encourage effective interprofessional collaboration.[3]

There are four competency domains in the Expert Panel, namely values/ethics for interprofessional practices, responsibilities/ roles, interprofessional communication, teams and teamwork.[4] Potential barriers to collaboration can occur given that the core elements of collaboration come from different cultures and authorities. Interprofessional Collaboration (IPC) is basically a melting pot of professions, and each profession has its own unique cultural history, attitudes, values, customs, and beliefs.[5]

In Indonesia, the Patient/Person Centered Care (PCC) concept is part of patient care management, where hospitals carry out patient care by implementing a patient-focused service pattern, which is under the umbrella of the World Health Organization (WHO) as the Conceptual framework for integrated people-centered health services.[6] Hospital care is part of an integrated service system with caregiver profesional and service levels that will build a continuity of service, starting with screening patients quickly and identifying patient needs. It is expected that this integrated service will align the needs of patient care with existing services in the hospital.[7] The purpose of this study was to explore professional experience of care givers in the implementation of interprofessional collaboration in hospitals.

METHODS

The research used a phenomenological descriptive study design and was conducted in the Aceh Province, Indonesia. Five participants, including one doctor, one nurse, one pharmacist, one dietetician, and one physiotherapy; aged between 27 to 45 years from a general public hospital in Aceh were conveniently selected for this study. The Sampling criteria were having a practice permit at hospital; having signed the details of clinical authority; having worked for over 2 years at the hospital; willing to be a study participant; not being in self-isolation due to COVOD-19 infection, and; not being in annual or maternity leave.

Data were collected using in-depth interviews, lasted between 20 to 30 minutes, recorded, and transcribed verbatim. The interview questions stem from the research objectives and are open-ended. Once data saturation had been achieved, data collection was stopped. The Colaizzi's seven-step phenomenological approach was used to examine the data obtained in the study. Participants were allowed to view the analyzed data and study findings. Participants' participation were voluntary. All participants provided their written consent for participation in the study.

RESULTS

Perceiption about the implementation of IPC as an integrated patient care

Professional care providers' perceived that interprofessional collaboration is the same as an integrated patient care, and a patient-centered:

> "So that the care given to the patient is more integrated and more comprehensive, not only does he need treatment from a doctor, for example he gives medical therapies, but we also take care of it, later from the part of his diet, nutrition, physiotherapy, because when he returns home Are you able to go home, the pharmacy also has a problem with the drugs, is the medicine really suitable for the patient, yes, fellow caregiver profesionals must collaborate with each other so that the care provided is maximized." (Participant 1, 45 yo, female)

> "What is it called, integrated patient care." (Participant 3, 23 yo, female)

Professional care providers involved patients and families in providing care:

> "At the time of the division, it involved the patient, because it was done in the patient's bed". (Participant 1, 45 yo, female)

> "Yes, involves patient and family." (Participant 2, 32 yo, female)

> "We involve families and patients." (Participant 3, 23 yo, female)

Application of values, ethics and professionalism in Interprofessional collaboration are important

Caregiver profesionals stressed the application of values and ethics, such as maintaining patient privacy, fostering a trusting relationship and put patients first. They also pay attention to and maintain patient privacy:

> "Privacy is a curtain, right, a curtain between patients." (Participant 1, 45 yo, female)

> "Patient privacy does not tell anything that should not be told." (Participant 3, 23 yo, female)

> "Patient privacy, if in our room, we have a changing room, if we train our patients there is a palnning during the first interview, we teach the patient to dress in the position he is exercising, wear sports clothes, if the woman is wearing comfortable sports clothes, it's not allowed to be closed, like using sports outside the area, if we have a patient with treadmill, for men, the work is done by male officers." (Participant 5, 35 yo, male)

Caregiver profesionals also explain the importance of building a trusting relationship, such as by introducing oneself, explaining goals:

> "Yes, introduce ourself, explain the purpose of the action." (Participant 1, 45 yo, female)

> " The first thing we did, for example, was when we went home for drug education, sis, first greeting, then introducing ourselves, then later we will open two-way communication there, then the patient will also looks more active asking or telling stories even about his condition, like that." (Participant 2, 32 yo, female)

Also, Caregiver profesional places the interests of patients more important:

> " Yes, if we are professionals, we must continue to put the patient first, sis, if it's not an emergency, that's a personal matter." (Participant 4, 30 yo, female)

> "We still prioritize the patient's needs first." (Participant 3, 23 yo, female)

Collaboration as part of the responsibility between caregiver profesional

There is collaboration between fellow caregiver profesionals such as doctors, nurses, pharmacists, dietitians, and physiotherapy in the implementation of interprofessional collaboration. Collaboration can help caregiver profesionals complement each other and to achieve better results. Caregiver profesional conducts discussions and collaborations during the implementation of patient care:

> "We ask the opinion of another caregiver profesional, for example, we ask the one who is more senior, right, like we are the implementing nurses, we ask the team leader or head nurse if there is a difference, then if the leader of the caregiver profesional is a doctor, we ask the opinion of the doctor as well." (Participant 1, 45 yo, female)

> "….when we are reviewing or reviewing a patient's medication, if we find a patient's prescription, we will discuss with the medical doctor specialist education program students, then they will convey it to the doctor in charge of service as well as nutrition. ….we collaborate with ordinary nurses in the section on setting the schedule for drug use, especially for drugs that have interactions such as…" (Participant 2, 32 yo, female)

Caregiver professionals view interprofessional collaboration as a forum for discussion

and collaboration, which is part of the responsibility between caregiver profesionals:

> "Well, that's good, Sis, and here, … we are pharmacists and nurses as well as doctors, …., so we as pharmacists, for example, are reviewing the patient's medication, the patient's prescription if we find problems we will discuss with medical doctor specialist education program students, …, then with ordinary nurses we collaborate in the management section drug use schedule." (Participant 2, 32 yo, female)

Barriers to the implementation of inter-professional Collaboration

Caregiver profesional experiences several obstacles in implementing interprofessional collaboration including the short of time service time makes it difficult between caregiver profesionals in carrying out optimal collaboration, this is also caused by the lack of team members in each installation:

> "Actually no, Sis, but because there are not enough pharmacists, it has to be like that (not enough time)." (Participant 2, 32 yo, female)

> "One 8-hour shift, from 8.00 to 14.00, I think it's lacking, because maybe with 28 patients, because class 1 is quite fast, the patient changes are fast, the patient crosses, the patient puts on the ring, at least 2 days of treatment go home and then enter a new patient again, the patient from the ICCU, we still have to go to the doctor in charge of service doctor's visit and then assess the patient again." (Participant 3, 23 yo, female)

The difficulty of coordinating with other caregiver profesionals and the occurrence of misperceptions between fellow caregiver profesionals in the implementation of interprofessional collaboration were also reported and considered as obstacles in the implementation of interprofessional collaboration:

> "Thank God it's been going well so far, but it's for example pharmacists with nurses, nurses with nutrition, I myself with nutrition, but maybe with doctor in charge of service it's a bit difficult, because doctor in charge of service isn't always there, at least it's time to visit." (Participant 2, 32 yo, female)

> "I feel that the contribution from my friends has not been maximized, maybe because they are reluctant or something." (Participant 5, 35 yo, male)

> "In general, there are no obstacles, but there are examples when we do some collaborations, there is something wrong, wrong perception when doing therapists." (Participant 4, 30 yo, female)

DISCUSSIONS

This study was intended to describe caregiver profesional's experience in implementing interprofessional collaboration in general public hospitals. Findings of this study highlighted several information about healthcare professionals' perceiptions about interprofessional collaboration, its' implementation, and barriers.

It has been reported that more studies are requested to explore the collaboration between nurses and other professionals from different health organizations.[8] It is aknowledged that the better caregiver profesional' perception about the implementation of interprofessional collaboration, the greater the opportunity to achieve the objectives of interprofessional collaboration implemention.

In this study, the caregivers stressed the need of collaboration in providing healthcare services that focuses on patient needs, including the involvement of patient and families. Other health professionals should be involved in assessing patient needs as well as being involved in care that supports the functional needs of adults who are older people as part of their recovery from acute illness.[9]

Integrated care is a dynamic and continuous process of patient care or services that involves many health care practitioners and various work units or services. Based on caregiver profesionals' experience, the actions taken by caregiver profesional

while running interprofessional collaboration received positive support from their leaders and have become their rules in daily work even without supervision from their leaders/ managers. Leaders/managers can facilitate a support process that provides opportunities for professionals to discuss their roles and the best way to do this is to work together. This can enhance interprofessional collaboration on patient-centred care.[9]

The advantages of interprofessional collaboration implementation include improving health caregiver professional knowledge about team members and maximizing therapy for patients. Healthcare professionals collaboration allowed for the provision of more comprehensive care to patients, improved health care, reduced incidence of medical malpractice, shortened hospitalizations, and lowered mortality rates.[10]

The caregiver profesionals in this study suggest that the integration of services between caregiver profesionals had been implemented. Participants had started to ask for opinions and recommendations from each others related to health services to patients, such as diet management, drug interactions and etc.

It is not uncommon for differences of opinion to occur in daily interactions between caregiver profesionals, but this can be resolved by mutual respect, complementarity, mutual assistance and regular discussions so that good alternatives can be found that have been mutually agreed upon. In order for the implementation of interprofessional collaboration between caregiver profesionals to run well, support from managers/leaders is needed. Consistent and strong leadership, as well as clear support from leaders, can contribute to the development of new roles in collaboration and to make personnel feel secure in this regard. It will also foster a better understanding of communality in a professional environment and develop new relationships and ways of working.[11]

Findings of this study highlighted the importance of values and ethics in the implementation of interprofessional collaboration. It has been reported that interprofessional collaboration has implications for the dual obligation of beneficence, the obligation to act for the benefit of the care recipient (patient) and the obligation to act for the benefit of others.[12]

Two obstacles were metioned by participants in this study when implementing interprofessional collaboration, the lact of time and stafts or team members. A previous report also identified barriers for interprofessional collaboration include lack of time and medical staff in addition to previous negative experiences.[10] Teamwork is a practice that is collective and facilitated by individual initiative in the areas of labor and management, despite the presence of structural, ideological, organizational, and relational barriers.[7]

CONCLUSION

Interprofessional collaboration is perceived positively by caregiver professionals. Important aspects of Interprofessional Collaboration include values, ethics and professionalism along with collaboration among caregivers. Lack of communication and teamwork could be as barriers to the success of interprofessional collaboration implementation. It is recommended that hospital managers need to consider the existence of obsctacles and develop standard operating procedures on the interprofessional collaboration.

Ethical Clearance: Ethical approval was obtained from the Research Ethics Committee of the General Hospital of dr. Zainoel Abidin Banda Aceh, Indonesia.

Source of Funding: This is a self-funded study.

Conflict of Interest: No conflict of interest to disclose.

REFERENCES

1. Engel J, Prentice D. The ethics of interprofessional collaboration. Nurse Ethics. 2013;20(4):426–35.

2. Muller-Juge V, Cullati S, Blondon KS, Hudelson P, Maître F, Vu NV, Savoldelli GL, Nendaz MR. Interprofessional collaboration between residents and nurses in general internal medicine: a qualitative study on behaviours enhancing teamwork quality. PLoS One. 2014 Apr 25;9(4):e96160. doi: 10.1371/journal.pone.0096160.

3. Tang CJ, Zhou WT, Chan SWC, Liaw SY. Interprofessional collaboration between junior doctors and nurses in the general ward setting: A qualitative exploratory study. J Nurs Manag. 2018;26(1):11–8.

4. Interprofessional Education Collaborative Expert Panel. Core Competencies for Interprofessional Collaborative Practice: Report of an Expert Panel. Washington DC: Interprofessional Educ Collab. 2011;(May):1351.

5. Green BN, Johnson CD. Interprofessional collaboration in research, education, and clinical practice: working together for a better future. J Chiropr Educ. 2015;29(1):1–10.

6. Dahlke S, Hunter KF, Reshef Kalogirou M, Negrin K, Fox M, Wagg A. Perspectives on Interprofessional Collaboration and Patient-Centred Care. Can J Aging. 2020;39(3):443–55. doi: 10.1017/S0714980819000539.

7. Sangaleti C, Schveitzer MC, Peduzzi M, Zoboli ELCP, Soares CB. Experiences and shared meaning of teamwork and interprofessional collaboration among health care professionals in primary health care settings: a systematic review. JBI database Syst Rev Implement reports. 2017;15(11):2723–88.

8. Karam M, Brault I, Van Durme T, Macq J. Comparing interprofessional and interorganizational collaboration in healthcare: A systematic review of the qualitative research. Int J Nurs Stud. 2018;79:70–83. doi.org/10.1016/j.ijnurstu.2017.11.002

2. 9. Dahlke S, Hunter KF, Reshef Kalogirou M, Negrin K, Fox M, Wagg A. Perspectives about Interprofessional Collaboration and Patient-Centred Care. Can J Aging. 2020;39(3):443–55.

10. Zielińska-Tomczak Ł, Cerbin-Koczorowska M, Przymuszała P, Marciniak R. How to effectively promote interprofessional collaboration? – a qualitative study on physicians' and pharmacists' perspectives driven by the theory of planned behavior. BMC Health Serv Res. 2021;21(1): 1–13.

11. Folkman AK, Tveit B, Sverdrup S. Leadership in interprofessional collaboration in health care. J Multidiscip Healthc. 2019;12:97–107.

12. Ewashen C, Mcinnis-Perry G, Murphy N. Interprofessional collaboration-in-practice: the contested place of ethics. Nurs Ethics. 2013 May;20(3),325–335. doi:10.1177/0969733012462048

International Journal of Nursing Education
Volume 14 No. 4, October-December 2022
https://doi.org/10.37506/ijone.v14i4.18688

A Descriptive Study to Assess the Knowledge of Staff Nurses Regarding Potassium Imbalance Among Children in Child Health Care Areas of Selected Hospital, Ludhiana, Punjab

S. Kanika[1], P. Premlata[2], H. Justin Richa[3]

[1]Assistant Professor, Santosh Medical College Ghaziabad U.P, [2]Professor, HOD, Child Health Nursing, College of nursing Christan Medical College and Hospital, Ludhiana, Punja, [3]Assistant Professor, Child Health Nursing, College of nursing Christan Medical College and Hospital, Ludhiana, Punjab.

How to cite this article: Kanika S, Premlata P, Richa HJ. A Descriptive Study to Assess the Knowledge of Staff Nurses Regarding Potassium Imbalance Among Children in Child Health Care Areas of Selected Hospital, Ludhiana, Punjab. 2022;14(4):78-83 .

ABSTRACT

Potassium imbalance is frequently encountered in children. Specially, mortality rates are significantly higher in hypokalemia in wide range of disorders in children. India accounts for 25% of global child death, in that 18% of children die due to electrolyte imbalance, mainly including potassium and sodium imbalance. In Punjab, under five mortality rate due to potassium imbalance is 23%. A descriptive study was conducted to assess the knowledge of staff nurses regarding potassium imbalance among children in child health care areas of selected hospital, Ludhiana, Punjab. Aim of the study was to assess knowledge of staff nurses regarding potassium imbalance among children. The objectives were to assess the level of knowledge of staff nurses regarding potassium imbalance among children, to assess the relationship of knowledge of staff nurses with selected variables, to identify the deficits in the areas of knowledge of staff nurses regarding potassium imbalance and conduct teaching for staff nurses. Conceptual framework was based on Three Phase Learning Theory by Paul Fitts and Michael Posner, 1967. A quantitative research approach and non- experimental descriptive design was adopted for the study. Study was conducted in child health care areas of CMC & Hospital, Ludhiana. Data was collected by structured knowledge questionnaire tool which was tested to be reliable (r=0.87). The collected data from 100 staff nurses was organized, analyzed, tabulated and interpreted using descriptive and inferential statistics. According to level of knowledge of staff nurses, maximum staff nurses (45%) had an average level of knowledge and only 4% staff nurses had excellent level of knowledge. Professional qualification and current area of work had an impact on the level of knowledge of staff nurses (at $p<0.05$). It was inferred that staff nurses had maximum deficits were in the introduction related to potassium and its imbalance and minimum was in hypokalemia. The overall mean knowledge score was less than the expected level, therefore, the researcher planned & conducted a teaching for staff nurses working in child health care areas of Christian Medical College & Hospital, Ludhiana, Punjab.

Keywords: Knowledge, Staff nurses, Potassium Imbalance, Child Health Care Areas.

INTRODUCTION

Potassium is the most abundant intracellular cation electrolyte in the body with only approximately 2% of total body stores present in the extracellular space. Potassium is necessary for maintaining a normal charge difference

Corresponding Author: Assistant Professor, Santosh Medical College Ghaziabad U.P.

Email: skanika841@gmail.com

between intracellular and extracellular environments. Derangements of potassium regulation may lead to neuromuscular, GI, and cardiac conduction abnormalities. The high incidence of abnormalities in serum potassium concentration reflects both physiologic and developmental abnormalities that are common in critically ill children. **(Dutta AK, Sachdeva A, 2012)**[1]. Potassium imbalance is much more common in newborn babies and children. It includes excess of potassium in blood called hyperkalemia that is serum potassium >5.4 mEq/L and decreased level of potassium in blood called hypokalemia that is serum potassium <3.5mEq/L. The change in serum potassium concentration associated with changes in serum pH will always be in the direction opposite the changes in Ph. **(Hazinski Fran M, 2013)**[2]**.** In a hospital report, more than 1 million cases of hypokalemia is reported each year in children. All over the world more than 6 million children are dying each year due to neglect of nurses or overdose of potassium chloride. **(Neville N 2010)**[3]. India accounts for 25% of global child death, in that 18% of children dies due to electrolyte imbalance, mainly including potassium and sodium imbalance. In Punjab, under five mortality rate due to potassium imbalance is 23%. **(IAP, 2010)**[4]. Health department of England published a hospitalization statistics of diarrhea among children that occurred between the year 2015-2016. During this period, 1084 children admitted in the University hospital of England. 84% of children with diarrhea have hypokalemia and required hospital admission. They were put on potassium therapy during hospitalization. **(Kenagy JW, Clausen TG 2015)**[5]. A study was conducted in Ontario to determine the knowledge level of nurses about high-risk medications, and 31.8% did not know that 15% potassium chloride solution should never be administered as intravenous bolus. Deaths concerning administration errors of intravenous potassium are highly debated in case studies on the subject, since medications with similar-sounding names, shaping, color of the ampule etc. can be confused with potassium. **(Mevin, 2013)**[6].

MATERIAL AND METHODS

For the present study, non-experimental research design and quantitative research approach was used. The study was conducted on staff nurses working in child health care areas of Christian Medical College and Hospital, Ludhiana, Punjab. The sample was collected from 100 registered staff nurses working in pediatric medical ward, pediatric surgical ward, PICU, neuro-surgery ward, neuro surgery ward, pediatric OPD, trauma unit and BMT unit in Christian Medical College and Hospital, Ludhiana, Punjab. The sample was selected by non probability purposive sampling technique. Confidentiality was maintained along with informed consent. Male and female staff nurses available at the time of data collection and willing to participate in the study were included whereas who were not willing and not present at the time of data collection were excluded.

DATA COLLECTION

For data collection, the researcher developed a structured questionnaire for knowledge assessment of staff nurses. An intensive review of the literature, experts' opinion, suggestions of the research panel, researchers' professional experience provided basis for the construction of knowledge questionnaire. Structured knowledge questionnaire consisted of two parts: part I demographic data which consisted 7 items that is age, gender, professional qualification, professional experience in pediatric area, current working area, training institute and source of information related to potassium imbalance. Part II comprised of knowledge related questions on potassium imbalance. The structured questionnaire consisted of 48 multiple choice items. Each item consisted of one correct answer among the four choices. Content validity of tool was established by the expert's opinion on the relevance of items. The tool was circulated among 10 experts, five professors(from Pediatric nursing, Medical Surgical nursing, Obstetrics and Gynaecological nursing), three

associate professors(from Medical Surgical Nursing and Pediatric nursing), one assistant professor(from Pediatric nursing) and two doctors(from Pediatric medical and surgical units). Reliability was tested and confirmed by split half method using Karl Spearman's Brown Prophecy formula of reliability. It was computed by using Karl Pearson's coefficient of correlation. The reliability of knowledge questionnaire was **r=0.87.** Hence the tool was found to be reliable. After getting approval from research committee, permission was taken from Nursing Sperintendent. The data was collected by researcher in each shift. The time taken to collect data was 60 minutes from each staff nurse.

DATA ANALYSIS

The data was analyzed by using descriptive statistics (mean, mean percentage, standard deviation) and inferential statistics (ANOVA test, Z test. t test). The tables were used to present the data. Pie and bar diagrams were used to depicts the findings. The level of significance chosen was $p<0.05$. The SPSS software was used.

FINDINGS

A total of 100 staff nurses were included in the study. Findings related to demographic variables were maximum number of staff nurses having knowledge were in the age group more than 38years (32%), 77% were females, 53% did GNM, 33% had >9 years of total professional experience in pediatric areas, 33% were working in pediatric ward, 75% had studied in College of nursing, Christian Medical College and Hospital, Ludhiana, Punjab and 51% got information related to potassium imbalance among children through classroom/ward teachings. Findings related to knowledge of staff nurses regarding potassium imbalance among children were maximum staff nurses (45%) had an average level of knowledge and only 4% had excellent level of knowledge. Findings related to relationship of knowledge of staff nurses with selected variables that the mean knowledge score was highest (27.28) in staff nurses in between age group of 32-37 years and least (25.24) in age group of 21-27 years. The mean knowledge score was highest (26.43) in females and least (26.13) in males. Nurses who did Post Basic B.Sc nursing had highest (29.09) knowledge score and least (23.88) in staff nurses who had done Basic B.Sc nursing. The difference in the mean knowledge score was found to be statistically significant at $p<0.05$ level of significance. The score was highest (27.15) among staff nursing who were having experience>9years and least (24.46) among staff nurses with experience 2-5 years. The mean score was highest (32.08) among the staff nurses working in trauma unit and least (22.57) among staff nurses who were working in BMT unit. The difference in the mean knowledge score was found to be statistically significant at $p<0.05$ level of significance. The mean knowledge score was highest (28.25) in staff nurses who got information from mass media/internet and least (25.53) from nursing journals/magazines. The areas of knowledge were divided into Introduction, Hyperkalemia, Hypokalemia & nursing responsibilities related to potassium imbalance in children. The maximum number of deficit in Introduction was (76%) and minimum deficit was 7%. The maximum number of deficit in Hyperkalemia was management of hyperkalemia (66%) and minimum deficit was 23%. The maximum number of deficit in Hypokalemia was (69%) and minimum deficit was 21%. The maximum number of deficit in nursing responsibilities was (70%)

Table 1: Frequency & Percentage Distribution of Staff nurses according to level of knowledge regarding Potassium Imbalance among Children

N=100

		Staff nurses	
Level of knowledge	*Score*	*n*	*%*
Excellent	>38	04	04
Good	32-38	13	13
Average	25-31	45	45
Below average	<25	38	38

Maximum Score=48 Minimum score=0

Table 2: Analysis of Variance of knowledge score of staff nurses regarding potassium imbalance among children according to professional qualification

N=100

Professional qualification	*n*	*Knowledge Score*		
		Mean	*SD*	
GNM	53	26.15		5.10
Basic B.Sc nursing	24	23.88		6.19
Post basic B.Sc Nursing	23	29.09		6.78
Sources of variables	*df*	*Sum of square*	*Mean sum of squares*	*F*
Between groups	02	320.92	160.46	4.8*
Within groups	97	3245.24	33.46	
Total	99	3566.16		

Maximum Score= 48 *Significant at p<0.05 level Minimum Score=00

Table 3: Mean, Standard Deviation and 't' test of Knowledge score of staff nurses regarding potassium imbalance among children according to professional qualification N=100

Professional qualification	*n*	*Knowledge Score*	
		Mean	*SD*
GNM	53	26.15	5.10
Basic B.Sc nursing	24	23.88	6.19
Post basic B.Sc Nursing	23	29.09	6.78
		df	*t*
	(a & b)	75	**1.69**^{NS}
	(a & c)	74	**2.08***
	(b & c)	45	**2.76***

Maximum Score= 48 NS= Non Significant at p<0.05 level

Minimum Score=00 *Significant at p<0.05 level

Table 4: Analysis of Variance of knowledge score of staff nurses regarding potassium imbalance among children according to current working area N=100

Current Working Area	*n*	*Knowledge Score*		
		Mean		*SD*
a. Pediatric ward (medical/surgical)	53	24.33		5.41
b. NICU/PICU	24	29.96		6.16
c. Trauma unit	23	32.08		20.99
d. BMT unit	07	22.57		5.16
e. Other units	19	25.42		5.00
Sources of variables Between groups	*df*	*Sum of square of*	*Mean sum squares*	***F***
Within groups	04	1000.43	250.11	3.02*
Total	95	7863.57	82.77	
	99	8864.00		

Maximum Score= 48 *Significant at p<0.05 level Minimum Score=00

Table 5: Mean, Standard Deviation and 't' test of Knowledge score of staff nurses regarding potassium imbalance among children according to current working area N=100

		Knowledge Score	
Professional qualification	*n*	*Mean*	*SD*
Pediatric ward (medical/surgical)	53	24.33	5.41
NICU/PICU			
Trauma unit	24	29.96	6.16
BMT unit	23	32.08	20.99
Other units	07	22.57	5.16
	19	25.42	5.00
		df	*t*
	(a & b)	59	3.77*
	(a & c)	44	**1.02**NS
	(a & d)	38	**0.79**NS
	(a & e)	50	**0.69**NS
	(b & c)	39	**1.95**NS
	(b & d)	33	**2.91***
	(b & e)	45	**2.67***
	(c & d)	18	**1.50**NS
	(c & e)	30	**0.41**NS
	(d & e)	24	**1.28**NS

Maximum Score= 48 NS= Non Significant at p<0.05 level
Minimum Score=00 *Significant at p<0.05 level

and minimum deficit was 5%. It was inferred that overall minimum deficit were in the area of introduction and maximum deficits were in the area of hypokalemia From above major findings it was concluded that majority of staff nurses lack expected level of knowledge regarding potassium imbalance. The findings also supports the need to conduct teaching regarding potassium imbalance.

DISCUSSION

The data analysis revealed that maximum staff nurses (45%) had an average level of knowledge and only 4% had excellent level of knowledge regarding potassium imbalance in children. these findings were supported by Athulya A. (2011)7 who reported that 93.3% of samples had average level of knowledge regarding hyperkalemia and its management. In another study conducted by Hsaio et al (2010)8 it was found that 31.8% of participating nurses did not know that they should not never administer potassium chloride as intravenous bolus. According to professional qualification, the mean knowledge was highest (29.09) in staff nurses who did Post Basic B.Sc nursing, followed by 26.15 among staff nurses who had done GNM and least (23.88) in Basic B.Sc nursing. The difference in mean interpretation score was found statistically significant, so further 't' value was calculated. The significant difference was found among staff nurses who did GNM and Post Basic B.Sc nursing. Hence it can be inferred that professional qualification had an impact on the knowledge of staff nurses. These interpretations were contradictory with the study by Gunes A. Celik SS (2014)9 who stated that there was no statistically significant relation between practices scores and level of education. According to current working area, the mean knowledge score was highest (32.08) among staff nurses working in trauma unit followed by 29.96 working in NICU/PICU,

25.42 in other units, 24.33 in pediatric ward and least (22.57) among BMT staff nurses. The difference in mean knowledge was found statistically significant, so further 't' value was calculated. The significant difference was found significant among staff nurses of pediatric wards & NICU/PICU, followed by staff nurses from NICU/PICU & BMT and staff nurses in NICU/PICU & other units. Hence it can be inferred that current area of work had an impact on the knowledge of staff nurses regarding potassium imbalances among children. these findings were contradicted by Vijayan A (2011)10 who revealed that there was no significant relation between the area of work and the knowledge of the samples. According to deficit areas of knowledge, the maximum deficit in introduction related to potassium and potassium imbalance was (76%), in hyperkalemia the maximum deficit was (66%), in hypokalemia the maximum deficit was (69%) and in areas of nursing responsibilities related to potassium imbalance was (70%). These findings were supported by Bahta S, Haile B (2014)11 who conducted a study to assess nurses knowledge on potassium loss. The findings demonstrated that GI unit nurses were able to identify the problem but could not name it. So the study recommended that practice teaching to enhance their knowledge.

CONCLUSION

On the basis of research findings it can be concluded that most of the staff nurses working in various child health care areas of CMC & Hospital, Ludhiana had an average level of knowledge regarding potassium imbalance in children. There was statistically significant impact of professional qualification and current area of work on the knowledge of staff nurses. The overall mean knowledge score was less than the expected level, which call for the attention of nursing administrators or educators for conducting teaching programme for staff nurses. Therefore, investigator decided to plan teaching for nurses posted in child health care areas.

CONFLICT OF INTEREST: there were no conflicts of interest

SOURCE OF FUNDING: This study is self funded

ETHICAL CLEARANCE: Prior to data collection, formal written permission was taken from research and ethical committee, college of nursing, Christian Medical & Hospital, Ludhiana Punjab. After that, permission was taken from NS of Christian Medical & Hospital. Anonymity of the subjects and confidentiality of information was maintained. They were assured that their responses would be kept confidential and used only for research purpose.

REFERENCES

1. Dutta AK, Sachdeva A. Advances in Pediatrrics. 2nd ed. New Delhi: Jaypee bros; 2008. 854-56.
2. Hazinski Fran M. Nursing Care of Critically ill Child. 3rd ed. St. Louis, Missouri: Elevier Mosby; 2013.688-689.
3. Neville N. The Lippincott manual of nursing practice. 6th ed: New Delhi; Wolters Kluwer; 2010.610-14
4. Indian Academy of Pediatrics March 2010; 22(4); 105-7
5. Kenagy JW, Clausen TG. Hospitalization and diarrheal disease. University Department of health England December 2015; 15(4): 16-19
6. Mevin. Clinical review: Medication errors in critical care. Journal of Critical Care Feb 2013;12(2):208-214.
7. Athulya A. A study to assess the knowledge regarding hypokalemia among nurses working in NSICU in SCTIMST, Trivandrum. Unpublished Dissertation of Master of Science in Nursing, RGUHS, 2011.
8. Hsaio M, Harrington JT, Isner JM, Kassirer JP. Nurses' knowledge of high-alert medications: Instrument development and validation. Journal of Advanced Nursing Sept 2010; 66(1): 177-190.
9. Gunes a, Celik SS. Knowledge and practices of nurses concerning intravenous potassium administration in a Turkish hospital. Australian Journal of Advanced Nursing March 2014; 32(1): 16-22.
10. Vijayan A. A study to assess the knowledge and practices of staff nurses regarding potassium administration in post operative surgical PICU, SCTIMST, Karnataka. Unpublished dissertation of Master of science in nursing, RGUHS, 2011.
11. Bahta S, Haile B. Knowledge of staff nurses on potassium loss in colon surgeries. E. Medicina Sept 2014; 42(3): 208-214.

International Journal of Nursing Education
Volume 14 No. 4, October-December 2022
https://doi.org/10.37506/ijone.v14i4.18689

Faculty Perception on Simulation Based Learning

Saraswathy. K[1], Susila.C[2], Latha Venkatesan[2], VIjiyalakshmi. K[3], Sasikala. D[3], Merlin. A[4]

[1]Ph.D Scholar, Apollo College of Nursing, Chennai,[2]Principal, Billroth College of Nursing, Chennai, [2]Principal, College of Nursing, AIIMS, New Delhi, [3]Professor, [4] Reader, Apollo College of Nursing, Chennai.

How to cite this article: Saraswathy K, Susila C, Venkatesan L, VIjiyalakshmi K, Sasikala D, Merlin A. Faculty Perception on Simulation Based Learning . 2022;14(4):84-89 .

ABSTRACT

Introduction: Simulation is an active teaching learning method performed in a controlled, protected and safe environment. The study was aimed to assess the the perception of simulation-based learning among Nursing faculties. **Methodology**: A descriptive study was conducted at selected college of nursing, Chennai among 63 nursing faculties selected through purposive sampling technique. Data was collected through Google forms using background variables Proforma and rating scale on perception of simulation-based learning through online mode. **Results:** Around half of the faculties (44.4%) were aged between 36 to 45 years, Post graduates (55.6%) and 49.2% had more than 10 years of teaching experience. Most of them (86%) had positive perception whereas 14% had neutral perception regarding simulation learning, with the domain wise mean score of Clinical skills & Experience (27.1$\pm$9.2), communication and patient safety (21.5$\pm$7.4), Curriculum Replacement (11.1$\pm$2.5), Confidence and Satisfaction of Students (13.5$\pm$3.1). **Conclusion:** Implementation of SBL in Nursing education has been perceived favorably by a large number of Faculties. Faculty development Programme is needed to strengthen the nursing faculties in implementing simulation in a nursing education curriculum.

Keywords: Confidence, Faculty, Perception and Simulation Based Learning.

INTRODUCTION

Simulation is rapidly penetrating the terrain of health care education and has gained growing acceptance as an educational method and patient safety tool. The training of a competent health care professional is a complex multidimensional process, as in any learning process, educational activities must address objectives in the cognitive, affective, and psychomotor domains.

Nursing education is skill-based profession. COVID pandemic has challenged nursing education to rewire the teaching strategies, in order to facilitate clinical education. Simulation is one of the best teaching strategies that bridge gap between theory and practice. It is a technique for replacing or completing real life experiences with guided experiences with faithful imitation of the real world in a fully interactive way [1].

Simulation is an instructional process that substitutes real patient encounters with artificial models created by screenbased

Corresponding Author: Saraswathy.K, Ph D Scholar, Apollo College of Nursing, Chennai, Tamil Nadu-600095.

Email: contactsaras@gmail.com

computer simulations, partialtask simulators and high-fidelity whole body mannequins. Simulators replicate patient care scenarios in a realistic environment and also have the benefit of enabling repetition of the same scenario in a controlled environment. This allows practice without risk to the patient thereby minimizing chances of medical error. Furthermore, the recording and feedback options in modern simulators make them a useful tool for student assessment[4].Simulation provides platform for the nursing students to learn and acquire clinical skills through trial and error that enhances their clinical performance and patient safety by reexamining and reflecting their performance.

A cross sectional observational study to evaluate the perception of medical teachers towards integration of simulation based medical education in undergraduate curriculum. Teachers think that simulation should be part of the curriculum and not stand-alone one-time activity. Lack of teachers' training, time, resources and the need to integrate in medical curriculum are major perceived barriers for effective SBME[2].

According to the National Council of State board of Nursing (NCSBN) national simulation study: "A longitudinal, randomized, controlled study replacing clinical hours with simulation in pre-licensure nursing education," "up to 50 percent of clinical hours in a pre-licensure RN program may be replaced by simulated experiences without negative impacts on learning outcomes.[3]" According to Indian Nursing Council Revised B.Sc. Nursing Curriculum 2021 has included simulation as a part of clinical teaching method along with skill lab procedures, which intended the researcher to conduct this study to identify the perception of nursing faculties on Simulation based learning.

Statement of Problem

A descriptive correlational study to assess the perception of simulation-based learning among Nursing faculties at Selected college of Nursing, Chennai.

OBJECTIVES

1. To assess the perception of Simulation based learning among Nursing Faculties.
2. To find out the association between the background variables and perception of Simulation-based learning among Nursing faculties.

Null Hypothesis

- **H01:** There will be no significant association between the background variables and perception of Simulation-based learning among Nursing faculties.

MATERIALS AND METHODS

A descriptive study was conducted at selected college of nursing, Chennai among 63 nursing faculties selected through purposive sampling technique. Ethical clearance was obtained from IEC, Apollo College of Nursing. Predetermined and pretested tools were shared to the participants through Google forms along with informed consent and brief description of study. Data was collected using background variable proforma that includes age, education, designation, years of experience and Previous knowledge on simulation and Rating scale to assess the perception of simulation-based learning. Rating scale consists of 4 components like clinical skills and experience, communication and patient safety, curriculum replacement and confidence and satisfaction of students with 30 items in 5-point rating scale (Strongly Disagree, Disagree, Neutral, Agree and strongly Agree). The collected data was analyzed in SPSS-21 and presented in tables and diagrams.

RESULTS

The percentage distribution of the background variables denotes 44.4% of the faculties were aged between 36-45 years, 55.6%were post graduates, 60.8% were working as tutors, 49.2 % had more than 10 years of teaching experience and 79.4% had previous knowledge on simulation.

The perception of simulation-based learning (SBL) implicates that most of them considered SBL support development of clinical skills (82%), helps to manage rarest cases (80%), improves student performance by repeated practice (81.5%). SBL can be integrated into nursing curriculum (80.9%), increases confidence (79%), critical thinking and decision-making skills (75.5%).

Most of them noted that SBL can replace live patients (64.4%), minimize the role of teacher (53.9%), empathy of staff nurses (66%), feedback provided by SBL at the end is better than that of bedside teaching (68.5), time consuming for preparation, prebriefing and debriefing (73%)

Table 1 denotes the global mean score of perception of simulation (M=110.66 $\pm$ 1.41) and its components like clinical skills and Experience (M=34.57$\pm$ 3.98), Communication & Patient Safety (M=21.96$\pm$ 3.37), curriculum replacement (M=21.96$\pm$ 3.37) and confidence and satisfaction of students (M=18.88$\pm$ 2.3). Percentage distribution on level of perception shows that, 86% of the faculties had positive perception and 14% had neutral Perception on simulation-based learning.

Table 2 depicts that, no association between background variables like age, education status, designation, years of experience with the level of perception on simulation-based learning. Hence Null hypothesis "There

Table 1. Mean & Standard Deviation of Perception on simulation learning among Nursing Faculties

(N=63)

Components	*Obtainable Score*	*Obtained Score*		*Mean*	*Mean %*	*SD*
		Min	*Max*			
Clinical Skills & Experience	9-45	19	41	34.57	76.82	3.98
Communication and patient safety	7-35	9	27	21.96	62.74	3.37
Curriculum Replacement	10-50	9	27	21.96	43.92	3.37
Confidence and Satisfaction of Students	5-25	14	24	18.88	75.52	2.3
Global Score	150	79	135	110.66	73.77	11.41

Table 2. Association between background variables and level of Perception of Simulation among faculties

(N=63)

Background Variables	*Levels of Perception*		*χ2 and P value*
	Up to Mean	*Above Mean*	
Age in years			
<35	13	15	0.71
> 35	20	15	0.39
Educational status			
B.Sc	9	9	1.48
M.Sc	17	18	0.47
PhD	7	3	
Designation			
Tutor	16	16	
Lecturer & Asst. Professor	6	7	0.82
Reader & Professor	11	7	0.66
Year of Experience			
< 5 years	8	12	
5 to 10 years	9	3	3.69
>10 years	16	15	0.157

will be no Significant association between the background variables and perception of Simulation-based learning among Nursing faculties" was retained.

DISCUSSION

Result of the study explored the perception of faculties on simulation-based learning that most of them considered SBL support development of clinical skills (82%), helps to manage rarest cases (80%), improves student performance by repeated practice (81.5%). SBL can be integrated into nursing curriculum (80.9%), increases confidence (79%), critical thinking and decision-making skills (75.5%).

Similar study emphasized that SBE contributes to the learning of health care–profession students and clinicians in areas of clinical decision-making, interprofessional communication, communication with patients, teamwork, and clinical and procedural skills. They elucidated that learning experience with a real patient is fundamental for acquiring clinical expertise, but simulation provides an opportunity for practice in minimizing chances of error. They further clarified that SBE ensures a high degree of confidence and competence among students before they are exposed to real patients. SBE requires curriculum integration, adequate infrastructure, and trained faculty clearly explaining it[5]. Validity of evaluation is the invaluable in influencing quality of education[6].A study aligns with our results said that simulation is going to be increasingly used for assessment[7].

Most of them noted that SBL can replace live patients (64.4%), minimize the role of teacher (53.9%), empathy of staff nurses (66%), feedback provided by SBL at the end is better than that of bedside teaching (68.5), time consuming for preparation, prebriefing and debriefing (73%). The study results are concurrent with a study were all students (90.7%) agreed that simulation supports the development of clinical skills and 29.6% agreed that real patients might be replaced with simulated patients in practical examinations[8]. Simulation based learning has demonstrated the positive impact in enhancing self-confidence, critical thinking and decision-making ability. As the students acquire their clinical experience and skills in a controlled, reproducible and reliable environment in simulation with an advantage of patient safety from possibility of mistakes and repeating the actions many times without harm to patients until they achieve confidence and skills. Faculties underlined their valuable perception of integrating simulation in Nursing curriculum even if they consider it as time consuming process that has leeway of reflective practice through feedback at the end of simulation.

Figure 1 shows that, 86% of the faculties had positive perception on simulation-based learning. Similar findings are in line with the study where faculties considered simulation an effective tool in health care program and maintain that the main obstacle faced by them is logistical demand[9]. Another study highlighted the positive perception and attitude of medical teachers towards

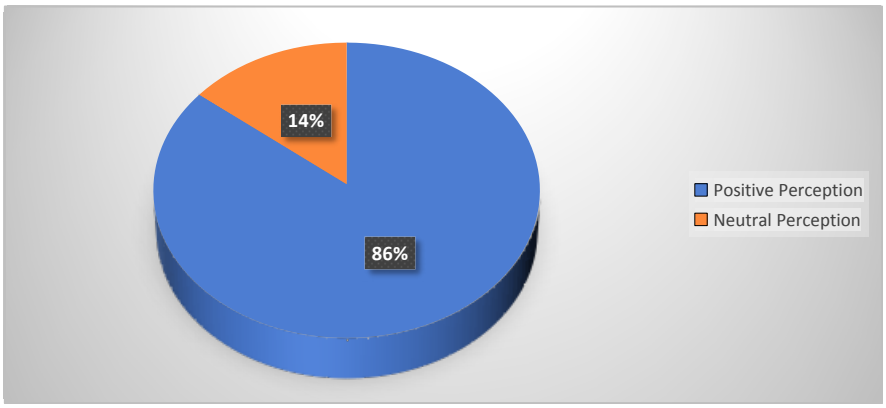


Fig. 1: Percentage Distribution of Level of Perception on Simulation-Based Learning

integration of simulation based medical education in undergraduate curriculum[2]. Thus, the nursing faculties Perceived brighter aspect of the simulation-based learning as it could be helpful in improving clinical skills and experience, ensures the patient safety and communication skill of students along with these it boost the confidence and satisfaction of students in clinicals. However, few faculties had neutral perception as it needs simulation resources, time consuming process and integration into nursing curriculum.

Implication for Nursing Education

- Educators can create their own simulation scenario with the help of simulators, to teach students skill, confidence and critical thinking.
- Educators can customize the simulation learning in par with the level of the students.

Implication for Nursing Practice

- Nurse Administrators can assess competency of novice nurses through simulation.
- Nurse educators in hospital can plan for simulation training for interprofessional team training and Drills.

CONCLUSION

Simulation based learning also can be used as tele simulation, gamificial online learning allow for the combination of hands -on training as well as self-directed, knowledge based learning[10]. Health care Simulation based education was introduced in India around 2010, whereas many Nursing institution felt its necessity with the Indian Nursing council with revised B.Sc Curriculum. The training of simulation instructors is still in preliminary stages. Indeed, most of the nursing faculties were post graduates exposed to simulation but formal hands- on learning simulation activities with expert's feedback to help faculties in enhancing competencies required for simulation teaching.

RECOMMENDATION

- A descriptive study to assess the perceived benefits and barriers in simulation-based learning
- A descriptive study to assess the simulation and skill training facilities.
- A Study to assess the future of simulation in Nursing.
- A Study to evaluate the utilization of simulation methods

LIMITATION

- The study had a relatively limited number of participants, and the targeted population were from selected college of Nursing thus preventing from generalization of findings.

Conflict of Interest: The authors had no conflict of interest regarding the study.

Funding: Nil

REFERENCES

1. Gaba DM. The future vision of simulation in health care. *Quality & Safety in Health Care*. 2004 Oct; 13 (Suppl 1): i2-10 .DOI: 10.1136/qhc.13.suppl_1.i2.
2. Ahmed S, Al-Mously N, Al-Senani F, Zafar M, Ahmed M. (2016) Medical teachers' perception towards simulation-based medical education: A multicenter study in Saudi Arabia. *Medical Teaching*. ;38 Suppl 1:S37-44.
3. DOI: 10.3109/0142159X.2016.1142513. PMID: 26984032.
4. INACSL Standards Committee. INACSL standards of best practice: simulation - debriefing. *Clinical Simulation Nursing*. 2016 Dec; 12 (S): S21-S25.
5. DOI: http://dx.doi.org/10.1016/j.ecns.2016.09.008.
6. Okuda Y, Quinones J. The use of simulation in the education of emergency care providers for cardiac emergencies. *International Journal of Emergency Medicine* 2008;1:737.
7. Weller JM, Nestel D, Marshall SD, Brooks PM, Conn JJ. Simulation in clinical teaching and learning. *Medical Journal of Australia*. 2012;196(9):594. doi:10.5694/mja10.11474.
8. K Vijayalakshmi, S Revathi, L Venkatesan., Validity of objective structured clinical examination (OSCE) in psychiatric nursing. *The Journal of Nursing Trendz*, 2016., volume 7., Issue 1. Pg No 16-20

9. Sørensen JL, Østergaard D, LeBlanc V, et al. Design of simulation-based medical education and advantages and disadvantages of in situ simulation versus off-site simulation. BMC Med Educ. 2017;17:20. doi:10.1186/s12909-016-0838-3.

10. Joseph N, Nelliyanil M, Jindal S, Utkarsha, Abraham AE, Alok Y, Srivastava N, Lankeshwar S. Perception of Simulation-based Learning among Medical Students in South India. *Ann Med Health Sci Res*. 2015 Jul-Aug;5(4):247-52.

11. DOI :10.4103/2141-9248.160186. PMID: 26229712; PMCID: PMC4512116.

12. Quilici, Ana P et al. "Faculty perceptions of simulation programs in healthcare education." *International journal of medical education* vol. 6 166-71. 22 Nov. 2015, doi:10.5116/ijme.5641.0dc7

13. Kalaimathi Ani Grace; Venkatesan Latha; Vijayalakshmi .K. Faculty Perceived Benefits and Barriers of Online Teaching among Nursing Faculty in Tamil Nadu., *International Journal of Nursing Education*. Oct-Dec2020, Vol. 12 Issue 4, p148-154.

International Journal of Nursing Education
Volume 14 No. 4, October-December 2022
https://doi.org/10.37506/ijone.v14i4.18690

Personality Style and Its Relation With Level of Anxiety

[1]Simarjeet Kaur, [2] Babita Kumari, [3] Ranjana Thakur, [4]Muthukumaran T

[1,2,4]Assistant Professor, [3]Clinical Instructor, Akal College of Nursing, Eternal University, Baru Sahib, Himachal Pradesh

How to cite this article: Kaur S, Kumari B, Thakur R, Muthukumaran T. Personality Style and Its Relation With Level of Anxiety. 2022;14(4):90-94

ABSTRACT

Background: Personality traits and anxiety disorders are dynamically interrelated. Personality refers to the long-established traits and patterns that propel individuals to consistently think, feel, and behave in certain ways. The aim of this study was to assess the Personality style and its relation with anxiety among young adults studying in selected Institutions of North India. **Methods:** A quantitative cross sectional study conducted among 211 young adults (18-24yrs) who were studying in selected Institutions of Northern India using convenience sampling technique. The data were collected by using Eysenck Personality Questionnaire to assess the type of personality and Beck Anxiety Inventory (BAI) to assess the level of anxiety. **Results:** The results revealed that among 211 young adults, 42.2% had Moderate Neuroticism personality, 59.2% had moderate Extraversion Personality, 49.8% of them had Mild Lie personality and 49.8% had Moderate Psychoticism Personality. 39.4% of them had Minimum Level of Anxiety and 37.4% had Mild level of Anxiety. Moreover, There was a significant correlation of anxiety with Neuroticism and lie as $p<0.05$ level of significance.

Keywords: Anxiety, Lie, Extraversion, Neuroticism, Personality, Psychoticism.

INTRODUCTION

Mental health is the normal functioning of the mind in the appropriate social context.[1] Personality is the composition of mental and physical health of an individual.[2] Personality traits and anxiety disorders are dynamically related. People with certain personality traits are more likely to have anxiety.[3], [4]

Anxiety is body's inborn response to stress. An Important aspect in the development of anxiety is Control.[5] Individual might feel out of control, like there's a disconnect between your mind and body.[6] Anxiety disorders can be as diverse as the people they affect. Personality is strongly intertwined with the diagnosis of social anxiety disorder, also called social phobia.[7] An anxiety attack is a feeling of overwhelming apprehension, agonize, pain or fear.[8] However; a person's personality might influence how anxiety feels to them as well as how they deal with it. It may worsen as a stressful event approaches.[9]

NEED OF THE STUDY

Human personality is what makes a human unique individual.[3] Although documented theories about personality types reach back more than 2000 years, and stereotypes for describing human personality are also widely used in everyday psychology i.e. the description

Corresponding Author: Simarjeet Kaur, Assistant Professor, Akal College of Nursing, Eternal University, Baru Sahib, Himachal Pradesh

Email: simarjeet3011@gmail.com

of personality on five or six trait domains, has nowadays consolidated its position in modern personality psychology.[10, 11]

Anxiety level among the young adults is already a public health trouble. In fact, several previous researches have examined students' anxiety, depression, and stress and have discussed factors that might affect students' mental health.[12] Research shows that 20% level of anxiety among college students and 14.3% of secondary school students experience anxiety. During COVID-19 situation, most of the colleges and schools switch to virtual learning are unprecedented and unexpected experiences. It can be expected such circumstances to be associated with major psychological challenges in adults.[13]

During the time of the pandemic COVID-19, lockdown has been implemented by the government bodies to control the spread of the virus. But according to some studies this period leads to some sort of anxiety and affecting personality which may lead to poor academic performance among young adults. In this study the researchers aimed to understand how different types of personality and its relationship with anxiety.

STATEMENT OF THE PROBLEM

A study to assess the personality style and its relation with anxiety among young adults studying in selected Institutions of North India.

OBJECTIVES

1. To assess the personality style and level of anxiety among young adults
2. To determine the correlation between personality style and level of anxiety among young adults.

MATERIAL AND METHODS

This was a multicentre, cross sectional descriptive online survey planned to find out the styles of personality and anxiety level among young adults studying in selected institutions of Northern India. Original data were collected by using standardized tools of Eysenck Personality questionnaire and Beck Anxiety Inventory through Google form in order to assess types of personality and anxiety level among young adults respectively, during the month of November 2021.Study population included undergraduate and postgraduate young adults studying in selected Institutions of Northern India. We enrolled all (224) the students who were willing to participate and understand English. But only 211 were selected as per the inclusion and exclusion criteria through convenience sampling technique. Data were collected through Google forms till calculated sample size met.

Formal permission was taken from Institutional Review Board of concerned institution. Electronic informed consent was taken from all the participants to participate in the study. Participants were assured for their anonymity and confidentiality.

The tool included three sections i.e. Section A: Self-structured socio-demographic characteristics which comprised age, gender, religion, area of residence, type of family, Family Income, Education Status. Section B: Modified EPI scale consisted of 24 items to assess styles of personality such as neuroticism, psychoticism, and extraversion and lie. Section: C- it has included total of 21 symptoms and they had to mark for each symptom whether they felt anything like that in the past week on the range of Not at all, Mildly, Moderately and Severely.

The overall content validity of the tool was assessed before administering in the survey, by sending the tool for seven experts. As participants were instructed to fill the form completely so there were no missing data and we received complete data sheet. Received data were analysed by using descriptive and inferential statistics with Statistical product and service solutions (SPSS version 23) as per our study objective stated earlier. Categorical variables were depicted in frequencies and percentage and correlation coefficient was used to find out the correlation between styles of personality and level of anxiety Statistical significance (p-value) was set at 0.05 for the tests involved

RESULTS

Objective:1- To assess the personality style and level of anxiety among young adults

The results revealed that among 211 young adults, 42.2% had Moderate Neuroticism personality, 59.2% had moderate Extraversion Personality, 49.8% of them had Mild Lie personality and 49.8% had Moderate Psychoticism Personality. (Fig No.1)

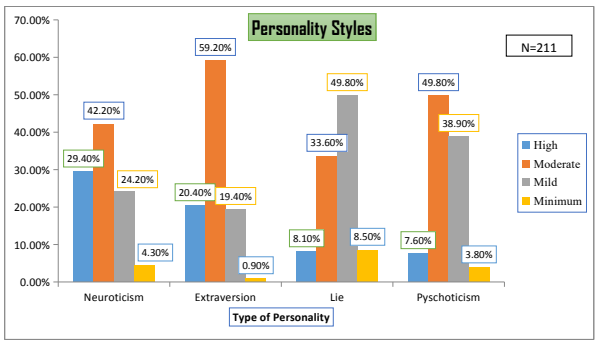


Fig 1: Perscentage distribution of Types of Personality style

Table:1 -Frequency and Percentage Distribution of levels of anxiety among young adults
N= 211

Level of Anxiety	*Frequency (n)*	*Percentage (%)*
Severe (48 – 63)	05	2.4%
Moderate (32 – 47)	44	20.8%
Mild (15 – 31)	79	37.4%
Minimum (≤14)	83	39.4%

Maximum score- 63 Minimum score -0

Table 1 showing the data related to level of anxiety among young adults studying at Northern India has revealed that 83(39.4%) has minimal level of anxiety followed by 79(37.4%) has mild level of anxiety, 34(16.1%) has moderated level of anxiety and 15(7.1%) has severe level of anxiety respectively.

Objective 2: To determine the correlation between Types of Personality and Anxiety among Young Adults.

DISCUSSION

Personality refers to individual difference in characteristics pattern of thinking, feeling and behaving. In broad perspective, there are two different types of personalities which include introvert and extrovert. Extrovert people are energized by social interactions, outspoken, outgoing and concerned with what's going on with the outer world where as introverts are quiet, reflective and focused on inner world.[14] Dopamine is more active in the brains of extrovert than in the brains of introvert. Anxiety is a health condition that causes the feelings of worry, fear or tension in an individual. These responses can be triggered by some non-threatening sources like excessive caffeine or public performance stress, whereas some worrisome factors like excessive stress, certain medications Financial concerns could also be trigger for anxiety. The symptoms for anxiety are- uncontrollable worry, fear, muscle tension, fast heartbeat, restlessness, tingling and so on.[15]

Table 2: To determine the correlation between Types of Personality and Anxiety among Young Adults
(N=211)

Correlations						
Types of Personality		*Neuroticism*	*Extraversion*	*Lie*	*Psychoticism*	*Anxiety*
Neuroticism	Pearson Correlation	--	.179	.141	.342	.327
	Sig. (2-tailed)		.009	.041	.000	.000*
Extraversion	Pearson Correlation	.179	--	-.002	.160	.023
	Sig. (2-tailed)	.009		.981	.020	.745
Lie	Pearson Correlation	.141	-.002	--	.127	.207
	Sig. (2-tailed)	.041	.981		.066	.003*
Psychoticism	Pearson Correlation	.342	.160	.127	--	.132
	Sig. (2-tailed)	.000	.020	.066		.056

The type of personality may have an effect on the level of anxiety. The results revealed that among 211 young adults, 42.2% had Moderate Neuroticism personality, 59.2% had moderate Extraversion Personality, 49.8% of them had Mild Lie personality and 49.8% had Moderate Psychoticism Personality. 39.4% of them had Minimum Level of Anxiety and 37.4% had Mild level of Anxiety. Moreover, There was a significant correlation of anxiety with Neuroticism and lie as $p<0.05$ level of significance. Studies have shown that research on how normal personality and personality disorders traits may relate to anxiety disorders as predisposing factors, complications etc. Extroverts are out-going individuals, hence when they are stressed, they act out. They tend to get difficult and at times obnoxious but this is their way of handling anxiety. When introverts are stressed out they withdraw. They do this to recharge themselves, and not to avoid a situation. This creates a loop in his/her thinking and hence might trigger anxiety.[16]

CONCLUSION

This study results has revealed that personality style (Neuroticism and Lie) has significant correlation with level of anxiety of young adults. Hence, personality styles plays important role in the anxiety level of individual. Personality style is major factor to consider while studying the level of anxiety among individual. However this study cannot be applied for clinical examination of an individual. To take this study further one could use clinically approved scales for the exact identification of anxiety level in an individual rather than finding a range. There should be counselling services regarding coping strategies to manage anxiety level among young adults in order to promote their mental health and well-being.

Conflict of Interest: Authors declare no conflict of interest.

Source of Funding: Nil

Ethical Clearance: Formal permission was taken from Institutional Review Board of concerned institution.

REFERENCES

1. Pareek Bharat, Arya Sandeep. Textbook of Mental Health and Psychiatric Nursing. 2nd ed. Kharar : Vision Health sciences publisher;2020. p.134-67.
2. Sreevani R. A guide to Mental Health & Psychiatric nursing. 4Th ed. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd.2016.p.46.
3. *Jashaliyak*.Personality; *economicsdiscussion.net. (Citedon18. Jun.2021). https://www. economics discussion .net/management/personality/personality-introduction/32465*
4. *Hollan Kimerlyb* .Everything You Need to Know About Anxiety; 2020 September 3 (cited 202018 July). *https://www.healthline.com/health/anxiety*
5. Uppsala University. Personality traits of patients with social anxiety disorder. Science Daily. 29 April 2020.(cited 2021.18 july). Www. sciencedaily.com/ releases/2020/04/200429144925.htm.
6. William Meek.Generalized Anxiety Disorder (GAD) and Personality Style ;2020 Sep 29 (cited 2021 jun 22).https://www.verywellmind.com/ anxiety-and-personality-style-1392978
7. Donelson R. Forsyth."Introduction to Psychology"; (cited 2021 jul 16). *https://courses.lumenlearning. com/waymaker-psychology/chapter/discussion-social-psychology/*
8. *Philip S Holzman*. Personality; (cited 2021 jul 16). https://www.britannica.com/ topic/ personality
9. William jason peters. The relationship between anxiety,personality characteristics, and working memory performance; August 2015 (cited 2021 jul 16). https://libres .uncg .edu/ir/wcu/f/ peters2015.pdf
10. André Kerber et. al. Personality types revisited–a literature-informed and data-driven approach to an integration of prototypical and dimensional constructs of personality description; January 7, 2021. (cited on 2021 jul 16)
11. K. Sneha Sabu. Personality Types, Anxiety and Stress among Young Adults; 28-07-2020 (cited on 2021 jul 16). https://www.researchgate.net /publication/344675033_Personality _Types_ Anxiety _and_Stress_among_Young_Adults
12. J. Timothy. Legg. Everything you need to know about anxiety; Sep 3 2020 (cited on 2021 jul 16). https://www.healthline.com.
13. Heba Bakr Khoshaim. Areej Alsukayt et.al. Anxiety Level of University Students During COVID-19 in Saudi Arabia ; 11 December 2020 (cited on 2021 jul 16) | https://doi.org/10.3389/fpsyt.2020.579750

14. Joseph Bienvenu, Murray B. Stein. Personality and Anxiety Disorders: A Review. Journal of Personality Disorders: 2005; 17: 139-151.
15. Brandes, Bienvenu. Personality and anxiety disorders. Current Psychiatry Reports 2006; 8: 263–9.
16. T Chatterjee, Kacker P. Personality style and its relation with level of anxiety. IJHSSI: March2020; 9(3):12-15. Available from: https://www.researchgate.net/publication/339999086_Personality_Style_and_its_relation_with_level_of_Anxiety

International Journal of Nursing Education
Volume 14 No. 4, October-December 2022
https://doi.org/10.37506/ijone.v14i4.18691

Assess the Knowledge Regarding Human Breast Milk Banking Among Women in Selected Rural Area of District Mohali Punjab, With A View to Develop Information Booklet

Sunaina Sharma[1*] , Ragini Sharma[2]

[1,2]Assistant Professor, Silver oaks college of nursing, Mohali, Punjab, India

How to cite this article: Sharma S. Assess the Knowledge Regarding Human Breast Milk Banking Among Women in Selected Rural Area of District Mohali Punjab, With A View to Develop Information Booklet. 2022;14(4):95-98

ABSTRACT

Background: Mother's milk is the best food for growth and development of an infant. Every mother should breastfeed her infant. However, if, under certain circumstances, she is unable to feed her infant directly, her breast milk should be expressed and fed to the infant, particularly in preterm and other high-risk infants. **Aim**: To assess the knowledge regarding human breast milk banking among women in selected rural area of district Mohali Punjab, with a view to develop information booklet. **Material and Methods**: A quantitative study "descriptive design." Used in present study. **Results:** The sample of 60 married women were selected by using non probability purposive sampling technique. Self -structured knowledge questionnaire was used to assess the knowledge regarding infant rearing practices. The study revealed that maximum women (22%) had excellent level of knowledge followed by (18%) had good level of knowledge, (45%) had average level of knowledge and (15%) had poor level of knowledge.

Keywords: knowledge, Breast Feeding, Breast Milk Banking, Women

INTRODUCTION

The breast milk is the most important source of nutrition for the infants. It is the optimal exclusive first source of nutrition. Infants who were not fed human breast milk had severe infections; high frequency of diarrhea, more necrotizing entercolitis, more colonization by pathogenic organisms and it also increases the incidence of chronic illness like obesity, hypertension, diabetes, allergic diseases in adulthood. The majority of mothers is encouraged to breastfeed their babies. The developing countries like India are having high infant mortality rate.

The novel concept of human breast milk is absolutely important to solve such grave problems. The problem with breastfeeding arise when the mother is dead or is having any maternal illness, insufficient supply, baby is sick or is admitted to the hospital, particularly in the cases of premature infant.

A human milk bank or breast milk bank is a service attached to hospitals or nursing homes where breast milk is collected, screened, processed, and dispensed as prescript which is donated by nursing mothers who are not biologically related to the recipient infant. (1)

The American Academy of Pediatrics endorses that human milk is species precise and the banked human milk is an appropriate ancillary to optimal nutrition for infants.(2)

Corresponding Author: Sunaina Sharma, Assistant Professor, Silver oaks college of nursing, Mohali, Punjab, India

Email:sunainasharma1089@gmail.com

Today, there are around 517 breast milk banks all over the world. [3] In 1909, Escherich opened the first human milk bank. The first milk bank in Asia under the name of Sneha, founded by Dr. Armeda Fernandez, was started in Dharavi, Mumbai on November 27, 1989. [4] Currently, the number of human milk banks (HMB) has grown to nearly 50 all over India. [5]

OBJECTIVES

To assess the knowledge regarding human breast milk banking among women in selected rural area.

To find out the association between knowledge score of women regarding human breast milk banking with selected demographic variables.

To develop and distribute the information booklet regarding human breast milk banking among women in selected rural area.

OPERATIONAL DEFINITION

Knowledge - In this study it refers to correct responses given by women to the given items in a structured knowledge questionnaire regarding human breast milk banking elicited by the investigator.

Human milk banking - A service which collects, screens and processes human milk donated by nursing mothers who are not biologically related to the recipient infant.

Women – In this study it refers to those female who are married.

Literature Survey

A retrospective study on the influence of donor milk supplementation on duration of parenteral nutrition in preterm infants conducted by Chinea Bibiana Jimenez. The study sample comprised of 248 newborns less than ≤ 32 weeks and was selected by convenience sampling technique. The newborns were divided into 2 groups and each group include 142 newborns. The results revealed that the duration of parenteral feeding was same before and after: 12 (8.23) and 11 (7.19) days (p = .822). The z scores for weight and height of newborns was lower in Group 2. [6]

A quasi experimental study conducted by Ghuge S, Aghamkar J and Salvi R to assess knowledge and attitude of postnatal mothers regarding donation of milk to human milk bank in Bhosari hospital PCMC. The sample composed of 60 postnatal mothers and was selected by non -probability convenience sampling technique. The study results revealed that 78.33% of the sample is excellent level of knowledge score followed by 21.67% had good level of knowledge score 53.33% of the sample had good level of attitude score and 46.67% had excellent level of attitude score [7].

A descriptive study on attitude towards donor breast milk in an inner city population at Kings County Hospital in Brooklyn, New York conducted by Pal A. The study sample was comprised of 174 postpartum women and was selected by convenient sampling technique. The results revealed that 34% were aware of the use donor breast milk banks and 66% were unaware about donor breast milk banks, 62% of the mothers preferred the use of formula compared to donor breast milk. [8]

MATERIALS AND METHOD

Research Approach

A Quantitative research approach was adopted to accomplish the objectives of the study to assess the knowledge regarding Breastmilk Banking among women in selected rural area of district Mohali Punjab.

Research Design

A descriptive research design is adopted to assess the knowledge of human breast milk banking of women in Kubbaheri village, distt. Mohali.

Research Setting

The research study was conducted in Kubbaheri village, district Mohali. The criterion for selecting this setting was:

- Familiarity with the setting.
- Availability of the subjects.
- Feasibility of conducting the study.

Target Population

The target population for the present study consists of 60 married women of Kubbaheri village, district, Mohali.

Sample and Sampling Technique

The present study was conducted on a sample consists of 60 married women of Kubbaheri village, district, Mohali. The sample was selected by using non probability purposive sampling technique.

Development of Research Tool

The tool was developed after thorough review of literature and in consultation with experts in the field of Research and Nursing.

Description of Tool

The tool comprised of 2 sections:

PART A

Socio- Demographic data

It comprises of 7 items related to demographic profile of women of Kubbaheri village, district, Mohali such as age, religion, family type, education, occupation, family monthly income, source of information.

PART B

Self- Structured knowledge questionnaire

It consisted of 20 knowledge questions regarding human breast milk banking.

Criterion Measure

The child rearing practices of each area was assessed by frequency percentage method.

Reliability of tool

Reliability of tools was calculated by using split half method and the reliability of tool was 0.7 which indicates tool was reliable.

Data Collection Procedure

The data was collected after obtaining permission in the last week of February 2020. The investigators explained the purpose of the study to each respondent. Written permission was taken and they were assured that their responses would be kept confidential and used for research purpose only. Time taken by each respondent to fill the questionnaire for data collection was 30-40 minutes. Paper pencil method was used to collect the data. So, in all together the researchers spend an average of total time 40-45 minutes to collect the data.

Plan of data analysis

The collected data was planned to be organized, tabulated and analyzed based on the objectives of the study by using descriptive statistics i.e. percentage and inferential statistics i.e. Chi square. The Chi square test would be used to find out the association between level of knowledge score of women with selected demographic variables. The findings of the study would be presented in the form of tables and figures

FINDING

Table 1 depicted the level of knowledge score of women, maximum women (22%) had excellent level of knowledge followed by (18%) had good level of knowledge, (45%) had average level of knowledge and (15%) had poor level of knowledge.

Table 1: Knowledge score of women of selected rural area

(N=60)

Level of Knowledge	*Frequency (F)*	*Percentage (%)*
Poor (1-5)	09	15
Average (6-10)	27	45
Good (11-15)	11	18
Excellent (16-20)	13	22

Maximum Knowledge Score: 1
Minimum Knowledge Score: 0

DISCUSSION

The aim of study is to assess the knowledge regarding Human Breast Milk Bank among women in selected rural area of district Mohali, Punjab with a view to develop an information booklet. The findings of the study have been discussed as per objectives along with findings of other studies

The 1st objective was to assess the knowledge regarding human breast milk banking among women in selected rural area. It showed that women of rural area (22%) had excellent level of knowledge followed by (18%) had good level of knowledge, (45%) had average knowledge and (15%) had poor level of knowledge. The findings of the study were consistent with a study conducted by Kaur M, Raghuvanshi S, Kang HK to assess the knowledge and attitude of parous women toward human milk bank in rural and urban community health centres of Patiala district, Punjab. The study was carried out on 200 parous women selected by purposive sampling technique. The study results revealed that 56.5% had inadequate knowledge and only 43.5% of respondents had adequate knowledge. [9]

CONCLUSION

Women must know about human breast milk banking. It was concluded that that women of rural area had average knowledge.

Conflict of interest: Nil

Source of Funding: Self

Ethical clearance: Taken

REFERENCES

1. Human Milk Bank, Available from URL: https:\\en.m.wikipedia.org\wiki\Human-milk-bank
2. Katie Woo. The American Maternal\Child Nursing, Available from URL:https:\\www.researchgate.net\publication\6351313-Human-Milk-Donation-What-do-you-Know-about-it\amp
3. Yadav S, Rawal G. Human Breast Milk Bank. International Journal of Health Sciences and Research. 2015 Jun 1; 5:592–7.
4. Human milk bank - Wikipedia [Internet]. Available from: https://en.wikipedia.org/wiki/Human_milk_bank
5. Nangia S, Sachdeva RC, Sabharwal V. Human Milk Banking: An Indian Experience. NeoReviews [Internet]. 2018 Apr ;19(4):e201–10. Available from: https://doi.org/10.1542/neo.19-4-e201
6. Chinea Jiménez B, Cabrera Lafuente M, Couce ML, Madero R, Vento M, Villarino Marín A, et al. The Influence of Donor Milk Supplementation on Duration of Parenteral Nutrition in Preterm Infants. J Hum Lact. 2020 May;36(2):245–53.
7. Roshani M, Mahadalkar P. A Study to Assess The Knowledge And Attitude Regarding Human Milk Donation Among Postnatal Mother In Selected Hospitals Of Pune City. European Journal of Translational and Clinical Medicine. 2020 Jan 1; 7:6165–76.
8. Pal A, Soontarapornchai K, Noble L, Hand I. Attitudes towards Donor Breast Milk in an Inner City Population. International Journal of Pediatrics [Internet]. 2019;3847283. Available from: https://www.hindawi.com/journals/ijpedi/2019/3847283/
9. Kaur M, Raghuvanshi S, Kang HK. Knowledge and Attitude of Indian Parous Women toward Human Milk Banking. Indian J Community Med [Internet]. 2019 ;44(2):175–6. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6625253/

International Journal of Nursing Education
Volume 14 No. 4, October-December 2022
https://doi.org/10.37506/ijone.v14i4.18692

Effectiveness of Zone therapy on Pain among Post Caesarean Mothers

Swetha Anil[1], Hemalatha. G[2]

[1]Lecturer, Department of Obstetrics and Gynaecological Nursing, Lourde College Of Nursing, Taliparamba, Kannur, Kerala, India, [2]HOD-Dept.of Obstetrics and Gynaecological Nursing, Athena College of Nursing, Mangaluru, India.

How to cite this article: Anil S, Hemalatha G. Effectiveness of Zone therapy on Pain among Post Caesarean Mothers . 2022;14(4):99-104

ABSTRACT

AIM: A study to assess the effectiveness of Zone therapy on pain among post caesarean mothers in selected hospital at Mangaluru.

OBJECTIVES:

- To determine the pain among post caesarean mothers using Numerical Pain Rating Scale in experimental and control group.
- To find the effectiveness of Zone therapy on pain among post caesarean mothers in experimental group.
- To find the association between post-test score among experimental group and selected demographic variables.

METHODOLOGY: Quantitative research method with Quasi -experimental design was used for this study. A total of (40) sample are assigned as experimental (20) and control(20) group were selected using non probability purposive sampling technique. Data collection was done using Demographic Performa and Numeric Pain rating scale. Formal written permission was obtained from the authorities prior to the data collection process. The data was analyzed by using both descriptive and inferential statistics on the basis of objectives and hypothesis of the study.

RESULT: The mean post-test pain score (2.95±0.825) were less than that of mean pre- test pain score (8.55±0.604) in the experimental group. The findings revealed that the calculated 't' value (15.41) was greater than the table value (t_{19}=2.09) at 0.05 level of significance. In experimental group the mean post-test pain score (2.95±0.825) was less than that of the control group (4.6±0.97). Unpaired 't' test was used ,the findings revealed that the calculated unpaired 't' value (7.5) was greater than the table value (t_{38}=2.02) at 0.05 level of significance. Hence, the researcher concludes that Zone therapy is effective in reducing the post caesarean pain.

Keywords: Zone therapy, Post Caesarean Mothers.

INTRODUCTION/BACKGROUND

"The pains of child birth were all together different from the enveloping effects of other kinds of pain. These were pains one could follow with one's mind"

- Margaret Mead

Corresponding Author: Swetha Anil, Lecturer, Department of Obstetrics and Gynaecological Nursing, Lourde College Of Nursing, Taliparamba, Kannur, Kerala, India,

E-mail id: shwethaanil84@gmail.com, swethuomkar123@gmail.com, Phone no: 9074527080

Caesarean section (C.S) is the birth of foetus through a trans-abdominal incision in the uterus. It is one of most common surgical procedure worldwide. It has played a major role in lowering both maternal and perinatal morbidity and mortality rates during the past century. The initial purpose of the operation was to preserve the life of the mother with obstructed labor and her newborn [2].

A recent study from the National Family Health Survey 2014-15 (NFHS-4) reveals that at the all India level the rate of CS have doubled over the last decade, while in last 20 years, it has risen six times. Some states like Telangana, Tripura, West Bengal, Kerala, Karnataka, Goa, Andhra Pradesh and Tamil Nadu it has been increased. However, the increasing influence of non-medical factors for performing CS is a growingconcern[3].

Moreover, post caesarean section incision pain is defined as an unpleasant sensory and emotional experiencing arising from actual or potential tissue damage. Pain includes not only the perception of an uncomfortable stimulus but also the response to that perception [7].

Additionally, pain management post caesarean section is necessary for mothers and medical reasons. Good pain relief improves mobility and woman's ability to breastfeed and care for her infant. Opioid drugs are routinely administered for post caesarean section pain but it has the common side effects of dizziness, drowsiness, headache, nausea, insomnia, vomiting and weakness. And there is concern for opioid transmission to the neonate through breastfeeding, so the reduction of opioid use is desirable [9]

Massaging can stimulate large nerve fibers and dermatome layers which are tactile and pressure receptors. The receptors subsequently transmit the nerve impulse to the central nervous system. The gate control system of brain in the dorsal horn is activated through the inhibitory interneurons, thus closing the gate. Subsequently, the brain does not receive the pain message.

Zone therapy appears to be effective inexpensive, low risk, flexible and easily applied strategy for post operative pain management. Its also been recognized as a non-drug treatment for postoperative pain[1]. It has been shown importance to reduce stress, improve blood circulation, decrease pain, enhance sleep, reduce swelling, promote relaxation, decrease doses of analgesics and increase oxygen capacity of the blood.

MATERIALS AND METHODS

Hypothesis

The hypothesis will be tested at 0.05 level of significance:

- **$H_1$1:** There will a significant difference between pre and post test score among post caesarean mothers in the experimental and control group.
- **$H_1$2:** There will be a significant difference in the post-test scores between experimental and control group.
- **$H_1$3:** There will be significant association between post-test score among experimental group with selected baseline variables.

Research Approach: Evaluative research approach

Research Design: Quasi –experimental research design, Time-series design

Variables

Independent variables: In this study, Zone therapy as a intervention is administered to post cesarean mothers is the independent variable.

Dependent variables: In this study dependent variable is the pain among post cesarean mothers.

Settings: The study was conducted at Government Lady Goshen Hospital, Mangaluru.

Sample and sample size: 40 post caesarean mothers, (20) experimental group and (20) control group from selected hospital in Mangaluru.

Sample technique: Non-probability sampling

Inclusion criteria

Postnatal mothers:

- who can understand Kannada and English.
- Who are in 2nd or 3rd postoperative day.
- Willing to participate in study
- Who are available during the time of data collection

Exclusion criteria

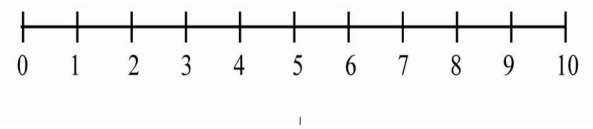
Postnatal mothers:

- Already exposed to zone therapy.
- Suffering from any complication like heavy blood loss, vomiting, confusion, drowsiness, severe constipation and deep vein thrombosis.

Data collection technique and tools

Part A: Demographic variables as age, religion, educational status, occupational status, types of family, parity, history of previous caesarean section, previous knowledge on zone therapy.

Part B: Numerical Pain Rating Scale



Numeric pain rating scale

Score interpretations

- 0 indicate no pain
- 1 to 3 indicates mild pain
- 4 to 6 indicates moderate pain
- 7 to 10 severe pain

Data collection procedure

- PHASE 1: Pre-test phase: It was conducted by collecting baseline data followed by administration of Numeric pain rating scale for the experimental and control group.
- PHASE 2: Intervention phase: The investigator administered Zone therapy to the experimental group for 20 minutes each day, before 2hrs prior to the administration of analgesics, for five consecutive days.
- PHASE 3: Post-test phase: Post test of experimental group was done each day after 30 minutes of the episode of Zone therapy for 5 consecutive days by using Numerical pain rating scale. In control group the post-test was done each day for 5 consecutive days by using Numeric pain rating scale.

FINDINGS

The data were analyzed under the following headings

- **Part I**: Description of demographic characteristics of sample.
- **Part II**: Assessment of pre-test score among post caesarean mothers in experimental and control group.
- **Part III**: Effectiveness of Zone therapy.
- **Section A**: Comparison of pre-test and post-test score of experimental group.
- **Section B**: Comparison of pre-test and post-test score of control group.
- **Section C**: Comparison of post-test score of experimental and control group.
- **Part IV**: Association between post-test score among experimental group with selected demographic variables.

Part I: Description of demographic characteristics of sample.

Findings shows that majority (45%) of the participants were in the age group of 26-30yrs, Majority (60%) of the sample belonged to Hindu religion, among participants most (40%) had went till primary schooling, (60%) of the participants are daily wage workers, highest percentage (40%) participants belongs to nuclear family. Majority (62.5%) mothers are multipara, (40%) of participants had previous history of caesarean section and none were having the knowledge regarding Zone therapy.

Part II: Assessment of pre-test score among post caesarean mothers in experimental and control group

Table 1: Frequency and percentage distribution of pain among post caesarean mothers in E.G and C.G

Level of pain	*Range of score*	*E.G*		*C.G*	
		F	*%*	*f*	*%*
No pain	0	-	-	-	-
Mild pain	1-3	-	-	-	-
Moderate pain	4-6	-	-	-	-
Severe pain	7-10	20	100%	20	100%

N=20

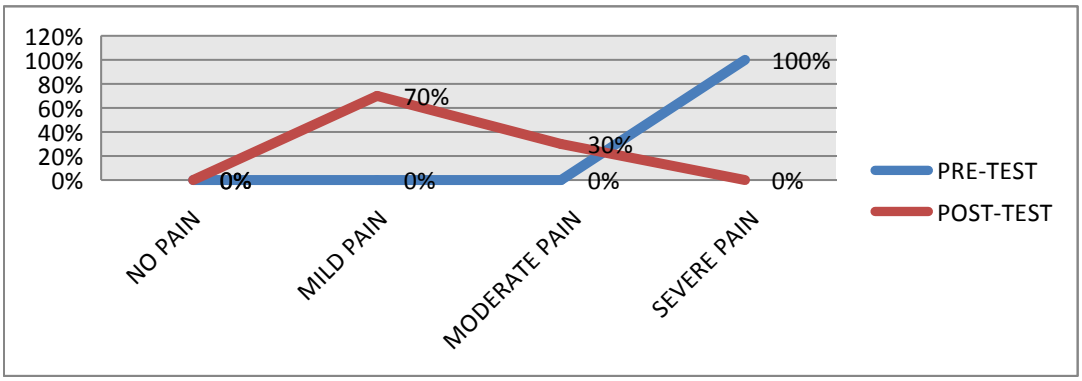


Fig. 1: Line with markers diagram showing pre-test and post-test pain in experimental group

Table 2: Mean, Median and SD of pre-test and post-test pain score in experimental group

n=20

Test	*Mean*	*Median*	*S.D*
Pre-test	8.55	9	0.604
Post-test	2.95	3	0.825

Data in the table 1 shows that after the survey highest percentage (100%) of post caesarean mothers in both the group had severe pain.

Part III: Effectiveness of Zone therapy.

Section A: Comparison of pre-test and post-test score of experimental group.

Data in the figure 1 shows that in the experimental group all (100%) of post caesarean mothers had severe pain in the pre-test whereas in the post-test (70%) of them had mild pain and (30%) of them had moderate pain.

Here the data shows that in experimental group the mean post-test score(2.95±0.825) was less than that of pre-test score(8.55±0.604).

To compare the pre-test and post-test pain paired "t" test was used. In order to test

Table 3: Mean, S.D, mean difference and "t" value of pre-test and post-test pain score in experimental group

N=40

Test	*Mean score*	*S.D*	*Mean difference*	*t-value*
Pre-test	8.55	0.604	5.6	15.41
Post-test	2.95	0.825		

the statistical significance the following null hypothesis was stated.

- **$H_0$1:** There is no significant difference between pre-test and post-test pain score among post caesarean mothers in the experimental group.

Data in the table 3 shows that the mean post-test pain (2.95±0.825) was lower than mean pre-test pain (8.55±0.604). The calculated t-value (15.41) was greater than table value (t_{19}=2.09) at 0.05 level of significance. Hence the null hypothesis was rejected and research hypothesis is accepted.

Section B: Comparison of pre-test and post-test score of control group.

Data in the table 4 shows that all (100%) of post caesearan mothers had severe pain in

Table 4: Frequency and percentage distribution of sample according to the pain in control group.

n=20

Level of pain	*Range*	*Pre-test*		*Post-test*	
		f	%	f	%
No pain	0	-	-	-	-
Mild pain	1-3	-	-	8	40%
Moderate pain	4-6	-	-	12	60%
Severe pain	7-10	20	100%	-	-

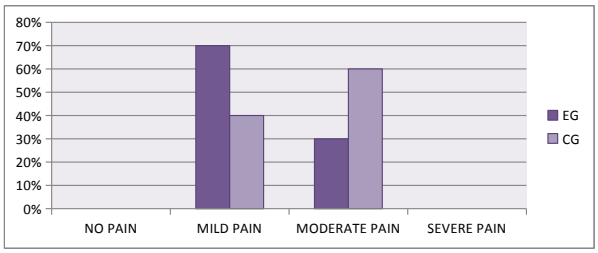


Figure 2: Clustered cylinder showing the post-test score of pain in experimental group and control group

pre-test and in post-test (40%) had mild pain and (60%) had moderate pain.

The data in table 5 shows that in control group the mean post-test score (4.6±0.97) was less than pre-test score (8.55±0.51)

Section C: Comparison of post-test score of experimental and control group.

Data in figure2 shows that in the experimental group 70% had mild pain and 30% had moderate pain in post-test, where as in control group 40% had mild pain and 60% of them had moderate pain.

The result shows that mean score of post-test pain (2.95) in experimental group after Zone therapy session was lower than the mean score of post-test pain (4.6) in control group. The calculated "t" value is (7.5) is greater than the table value (t_{38} = 2.02) at 0.05 level of significance. Hence the null hypothesis was rejected and research hypothesis was accepted. This shows that Zone therapy was effective in reducing the post caesearan pain.

Table 5: Mean, Median and S.D of pre-test pain score in control group

n=20

Test	*Mean*	*Median*	*S.D*
Pre-test	8.55	9	0.51
Post-test	4.6	4	0.97

Part IV: Association between post-test score among experimental group with selected demographic variables.

The result reveals that there is significant association between the post- test pain score among experimental group with demographic variables (i.e, age and previous knowledge regarding Zone therapy). Hence the null hypothesis is rejected and research hypothesis is partially accepted.

CONCLUSION

The pre-test reveals that all post caesarean mothers in both the group had severe pain. The post test findings reveals that the pain were lower than those of pre-test score in experimental group where as in control group there were slight reduction. The mean percentage of pain reduction supported that zone therapy were effective in reducing post-caesarean pain.

LIMITATIONS OF THE STUDY

- No attempt was made to assess the improvement in practice of zone therapy by post caesarean mothers.
- The duration of the study was limited to one month
- The study was confined to only 30 subjects in experimental and control group.
- The study was limited only to selected maternity hospital.

RECOMMENDATIONS

- A similar study can be carried out in a large scale with different demographic
- Variables to generalise the findings.
- A survey can be conducted to assess the prevalence of post caesarean pain among mothers.

- A comparative study can be conducted by comparing the Zone therapy and other alternative methods.
- A study can be performed to assess the effectiveness of foot reflexology on sleep and comfort on post caesarean mothers.

ACKNOWLEDGEMENT

The author acknowledged all participants for taking part in this survey.

SOURCE OF FUNDING: Self -funded project

CONFLICT OF INTEREST

The author declared no conflict of interest.

ETHICAL CLEARENCE

The ethical clearance of this study was obtained from institutional Ethical Committee (IEC).

REFERENCES

1. Klaus M H, Kennel JH. Human maternal behaviour at the first contact with her young one. International journal of obstetrics and research. 2015 march;5(9):354. Available at http://pain. Obstetrics/answer.com_op_pain/html.
2. Gibbs, R. S, Karlan,B, Haney.A. F. Danforths Obstetrics and Gynecology. Lippincott Williams & Wilkins. 2008:8(2): 491-503.
3. Khawaja, M, Jurdi. R, Khasholian, T. K. Rising trends in cesarean section rates in Egypt. Birth, Am fam physician journal. Oct 2017; 31 (1),12-6.
4. Nabhan, A. F. long-term outcomes of two different surgical techniques for cesarean. International journal of Gynecology & Obstetrics, July 2008: 100 (1).pp 69-75
5. White L., Duncan, G. and Banumle, W. Foundations of Maternal & Pediatric Nursing Cengage Learning, 2011. Pp 92.
6. Reynolds, F.Labour analgesia and the baby. International Journal of Obstetric Analgesia, Nov 2011;pp 38-50.
7. Moustafa R.R, Abd-Allah F.International Association for the study of pain (IASP): PAIN Terminology.International journal of nursing education and research 2013. Available at http:// www.iasp-pain.org.
8. Andres. J, Fischer.H. J, Ivani. G, Luker. P, Salem M, Ayyad M ,et al. Postoperative pain management. Good Clinical practice General recommendations and principles for successful pain management. 2013 July; pp 231-23.
9. Abdellah. F.G, Levine E. Better patient care through nursing research. New York: Macmillan Publishing Company; 1999. pp. 78-81

International Journal of Nursing Education
Volume 14 No. 4, October-December 2022
https://doi.org/10.37506/ijone.v14i4.18693

Effectiveness of Assertiveness Training Programme on Improving Self- Esteem Among Early Adolescents

V. Sahaya Sheeba[1], C. Babitha Christobel[2], F. Malchijah[3], Santhi Appavu[4]

[1]M.Sc,Nursing student in child health Nursing, [2]Associate Professor in Child health Nursing,[3]Professor in Child health Nursing,[4]Principal,Christian College of nursing, Neyyoor.

How to cite this article: Sheeba VS, Christobel CB, Malchijah F, Appavu S. Effectiveness of Assertiveness Training Programme on Improving Self- Esteem Among Early Adolescents. 2022;14(4):105-107

ABSTRACT

The Study was conducted to evaluate the effectiveness of assertiveness training programme on improving self-esteem among early adolescents. Pre experimental one group pre-test, post-test design was utilized to perform the study with simple random sampling technique. Data were collected from the early adolescents between the age group of 11 to 13 years who fulfilled the inclusion criteria through Rosenberg self esteem Scale. The findings revealed that the paired't' test value for Self -esteem score was 28.09 which was significant at $p \leq 0.05$ and was highly significant at $p \leq 0.01$, $p \leq 0.001$. It showed that assertiveness training programme was effective on improving self- esteem among the early adolescents.

Keywords: Effectiveness,Assertiveness training programme,Self- esteem, Early Adolescents

INTRODUCTION

Globally more young people than ever before of the 7.2 billion people worldwide, over 3 billion are younger than 25 years, making up 42 percentage of the world population. Around 1.2 billion of these young people are adolescents aged between 10 and 19 years, this indicates that roughly one in every six persons is an adolescent.

The major factors that affect self - esteem of adolescents were depression, social support, body image, problematic behavior, school adjustment, and family harmony, which explained 54.7 percentage of self-esteem, so their assertive behaviour and self esteem should be shaped.[9]

Many studies found that one-third to one-half of adolescents struggles with low Self-esteem, particularly in early adolescence. The results of low self-esteem may be temporary, but in serious cases lead to various problems including anxiety, depression, anorexia nervosa, delinquency, self-inflicted injuries, fear and even suicide. Self-esteem is connected with school performance and delinquency. Adolescents with low self-esteem are almost to do poorly in school.[8]

The Investigator personally felt that, while working in the clinical area many adolescent boys having problems in self-esteem. For this reason, student researcher conducts this study among early adolescents and implement assertiveness training programme for improving knowledge regarding self-esteem and assertive behaviour to improve their self-esteem.[5,8]

Corresponding Author: V. Sahaya Sheeba, M.Sc Nursing Student,Christian College of Nursing, Kanyakumari, Tamilnadu, India.

E-mail id: Sahaya3005@gmail.com, Phone: 6379067047

STATEMENT OF THE PROBLEM

A study to evaluate the effectiveness of assertiveness training programme on improving self- esteem among early adolescents in selected schools at Kanyakumari district.

OBJECTIVES

- To assess the pre and post- test level of self- esteem among early adolescents.
- To evaluate the effectiveness of assertiveness training programme on self- esteem among early adolescents .
- To find the association between the pre- test level of self-esteem among early adolescents and selected socio demographic variables.

HYPOTHESES

- **H1:** There will be a significant difference between the pre-test and post- test level of self-esteem among early adolescents in selected schools at Kanyakumari district.
- **H2:** There will be a significant association between the pre- test level of self- esteem among early adolescents in selected schools at Kanyakumari district with their selected socio demographic variables.

RESEARCH METHODOLOGY

The researcher utilized quantitative research approach with Pre experimental one group pre-test, post-test design. Simple random sampling technique was adopted for the study. The study was conducted at a School in Kanyakumari District for early adolescents between the age group of 11-13 years. Totally 60 early adolescents were selected for this study.

The tool used in this study was Rosenberg self-esteem rating scale. The tool consists of 10 item questionnaires. Scores are calculated by summing the scores for the given items. The scores of the each respondent over the scales are then evaluated as per the severity rating index:

Level of self- esteem	*Scores*
Low	0-14
Average	15-25
High self- esteem	26-30

PROCEDURES FOR DATA COLLECTION

Before conducting the study, a brief self introduction and explanation regarding the nature and purpose of the intervention was given to the students. Written and verbal consent was obtained from the parents of all the Samples. 10 samples were selected per week. Pre- test was conducted by using Rosenberg self esteem scale to assess the level of improving self- esteem among early adolescents on day1. Assertiveness training given with 8 components (like situation, respecting others, self appreciation, appreciation of others, mirror talking, mirror acting exercise, self enhancement exercise, and storytelling) was given from on the day of pre- test to till the day of post- test. The session lasts for 1 hour 30 minutes daily in the morning for each individual 15minutes once a day for six consecutive days. Post- test level of self- esteem was assessed on seventh day by using the same scale.

Interventions for assertiveness training

- Day 1: Situation and respecting others
- Day 2: Self appreciation and appreciation of others
- Day 3: Mirror talking and mirror acting exercise
- Day4 : Self enhancement
- Day 5: Story telling

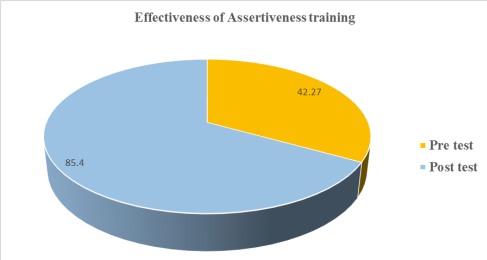
DISCUSSION

The study was undertaken to evaluate the effectiveness of assertiveness training programme on improving self- esteem among early adolescents in selected schools at Kanyakumari district. A total number of 60 early adolescents who were undergoing assertiveness training programme selected for the study. The level of self- esteem was

RESULT

Table 1: Assess the effectiveness of assertiveness training programme on improving self- esteem among the early adolescents in pre-test and post- test using Paired 't' Test

Test	*Mean*	*SD*	*Mean Difference*	*Paired 't' Test*	*df*	*Level of significance*
Pre- test	12.68	3.01	12.94	30.42	59	.000 High significance
Post- test	5.62	1.96				



observed by using Rosenberg self- esteem scale. The pre- test, the mean level of Self -esteem score was 12.68 with standard deviation 3.01. The post- test, the mean level of Self -esteem score was 25.62 with standard deviation 1.96. The estimated paired't' test value was 20.42*** which was highly significant at p≤0.01, p≤0.001.

CONCLUSION

The study concluded that assertiveness training programme improve the level of self-esteem among early adolescents. Therefore the investigator felt that the assertiveness training programme for early adolescents is was effective in improving the level of self- esteem.

Conflict Interest: Nil

Source of Fund: Self

Ethical Clearance: The proposed study was conducted after the approval of the ethical committee of Christian College of Nursing, neyyoor. Formal permission was obtained from St. Paula montal CBSE school, kanyakumari. Written consent was obtained from each participant and their parents before starting the data collection. Assurance was given to the study participants regarding the confidentiality of the data collection.

REFERENCES

1. Ahuja Niraj.Ashort text book of Psychiatry.1st ed . New Delhi: Jaypee;2002.
2. Amy, Roth Beatrice: A model for Assertive training : Integration of feelings and behavior; Clinical Social work Journal;1978.Vol.6 (4), 274.
3. BolaO.Makinde, Akin Jonathan Akinteye et.al: Effects of Mentoring and Assertiveness Training on adolescents self-esteem in lagos State Secondary schools ; International Journal of Social Science Studies . 2014; Vol.2 (3):342- 350.
4. Cecen -Erogal, A. Rezen : The effectiveness of an assertiveness training programme on Adolescents assertiveness level,Academic journal; 2009. Vol.8 (2):485
5. Dong,Y.L, Hallbeng E.T :Effects of assertion training on aggressive behaviour of adolescents;Journal of counselling Psychology;2009.(citedby) DOI.10.1037/0009-0167.25.5.459
6. Jayne E. Stake, Cathy J. Deville, Christine Pennell,et.al : The effects of assertive training on the performance self-esteem of Adolescent girls; Journal of Youth and Adolescents;2015.12 (5) : 435-442.
7. Kimberly .A,Eduardo salas and David P. Basker ,et. al: Training team performance-related assertiveness ; journal of personnel psychology;2006.Vol.49 (4), 909-936.
8. Savin-williams,Demo.D: Situational and Transituational determinants of Adolescent self feelings; Journal of personality and social psychology;1983.Vol.44,824-833.
9. Shebeer. P. Basheer S. Yaseen Khan et.al . A Concise Text Book of Advanced Nursing Practice. 1sted, Bangalore: EMMESS ,2013.Available at https:// www.ncbi.nlm.nib (cited 191).
10. Yen-Ru Lin,et,al: Evaluation of an assertiveness training program on nursing and medical students assertiveness, self-esteem , and interpersonal communication satisfaction; Nurse education today;2004.Vol.24 (8) 656-665.

International Journal of Nursing Education
Volume 14 No. 4, October-December 2022
https://doi.org/10.37506/ijone.v14i4.18694

Development of a Virtual Reality Nursing Assistance System to Positively Enhance Rectal Medication Adherence in Children

Wei Kai Liou[1] , Pao Ju Chen[2]*

[1]Assistant Professor, College of Management and Design, Ming-Chi University of Technology, 84 Gungjuan Rd., Taishan Dist., New Taipei City 243303, Taiwan (R.O.C), [2]Assistant Professor, Department of Nursing, Asia Eastern University of Science and Technology, 58, Sec.2, Sihchuan Rd., Banciao Dist., New Taipei City 220303, Taiwan (R.O.C)

How to cite this article: Liou WK, Chen PJ. Development of a Virtual Reality Nursing Assistance System to Positively Enhance Rectal Medication Adherence in Children. 2022;14(4):108-115

ABSTRACT

Children may feel uneasy, anxious and fearful when faced with an invasive procedure because they cannot understand the reason for their illness and they fear the destruction of the integrity of their bodies. In rectal drug delivery (the use of anal suppositories), children often move their hips and cry during the procedure, which may cause the suppository to inadvertently break, slip out, or be misplaced in the vagina. In order to find to a solution to the clinical issue, this study focuses on the application of virtual reality in developing a VR nursing assistance system that can be used in clinical practice with only ordinary cell phones and simple VR headsets, called "Little Hero Saves the Earth". This system allows children to immerse themselves in the plot of a story through a first-person perspective (as the "little hero"). When the little hero needs to have the superpower rocket fitted (what the child perceives in the first-person perspective), the nurse places the child in a side-lying position before inserting the suppository (superpower rocket) in sync with the plot. This serves to reduce the child's fear of invasive procedures, encourage the child to think of anal suppositories in a positive way, and lead to a sense of autonomy and accomplishment in the child, thus creating a positive, successful experience.

Keywords: virtual reality, nursing assistance system, rectal drug delivery, anal suppository, anxiety, fear.

INTRODUCTION

Being treated for an illness can be a deeply traumatic and stressful event for children of all ages, and it can easily result in negative reactions and may even affect children's personality development[1]. When a child is stressed, it can make procedures extremely difficult for the health care provider and also affect the child's physical and mental development; for example, the child may cry, refuse treatment, hit, push, or engage in other aggressive behaviors when the child sees the health care provider again[2]. Children are resistant to and fearful of invasive procedures, and rectal drug delivery (anal suppositories) is an invasive procedure that often causes great physical and psychological stress and trauma due to their limited cognitive development and stress management skills[3]. Minimizing stress and fear is a key consideration for health care providers. However, sick children often require rectal medication to relieve symptoms such as fever, vomiting, and

Corresponding Author: Pao Ju Chen, PhD, Department of Nursing, Asia Eastern University of Science and Technology, 58, Sec.2, Sihchuan Rd., Banciao Dist., New Taipei City 220303, Taiwan (R.O.C)

E-mail id: Email: fk036@mail.aeust.edu.tw, Tel: 886-2-7738-8000 ext. 6123,

coughing, yet they cry, become restless, and are extremely reluctant to cooperate every time health care providers administer anal suppositories, resulting in poor quality of care and treatment. Children under the age of 12 mostly communicate in nonverbal forms[4], thus various skills in games are needed to guide children in expressing their fears, anxieties, and conflicts naturally and spontaneously in a non-stressful situation and to help them relieve the stress they are under during the treatment process[5, 6], so as to increase their sense of self-control, improve their understanding of treatment and reality, reduce their fears and stresses toward treatment, and even enhance their adherence to treatment[6].

Virtual reality (VR) is a way of using computer graphics to simulate the real world. The human-computer interaction is achieved through the use of multiple senses, allowing children to explore a virtual environment through seeing, hearing, touching, and even smelling; VR is immersive, which allows users to be completely absorbed or enveloped in the virtual environment by using cognitive strategies to shift their attention[7]. The literature suggests that when children with burns continue to cry during and after dressing changes, interventions with VR can reduce pain and anxiety by diverting the child's attention and lowering the incoming signals of pain[8]. Immersing in-hospital patients aged 6 to 12 years in intravenous injection scenarios in VR while they are receiving the injections and VR games after the injections were effective in reducing the sensation of pain, fear, and the time required for the injections[9]. VR has also been used to reduce anxiety and distract patients from pain in pediatric dental treatments[10], as well as to distract adolescent cancer patients from their pain while they are undergoing lumbar puncture[11]. All of the aforementioned studies have shown that VR is indeed effective in the physical and psychological treatment of children and adolescents. Therefore, this study focuses on the application of VR technology and the development of a VR nursing assistance system called "Little Hero Saves the Earth", which takes children into a scenario with a story and allows them to forget their fear of reality by distracting them from the invasive procedure. The children are immersed in the plot in the first-person perspective (the main character of the story is named Little Hero), and the plot of the story is that the superhero Rocketman and Little Hero need to be fitted with superpower rockets (anal suppositories) in turns; this is so that children can understand the process of being treated with an anal suppository and be relieved of their restlessness, anxiety and fear, which not only enhances the effect of the treatment but also the connection that children make between anal suppositories and positivity.

SYSTEM DEVELOPMENT AND APPLICATION

1. Production team

The VR system utilized in this study was jointly developed by the AR & VR Lab of the Department of Nursing at the Asia Eastern University of Science and Technology and the Virtual Space Lab of the College of Management and Design at Ming-Chi University of Science and Technology.

2. Production background

In clinical settings, children may cry or feel anxious and fearful when faced with invasive procedures, such as rectal drug delivery (anal suppositories), and often move their hips and cry during the procedure, which may cause the suppository to inadvertently break, slip out, or be misplaced in the vagina. In order to come up with a solution to this clinical problem, this study brought together licensed and clinically-experienced nurses, 3D animation designers and VR system engineers to jointly develop a VR nursing assistance system called "Little Hero Saves the Earth", which can be used in clinical practice. By immersing children in VR scenarios and storylines, the VR system will help to reduce children's fear of invasive procedures, enhance the positive impression they have of such procedures, attain treatment results, and improve the nurse-patient relationship.

3. Story and character design

(1) **Plot**

The Doctor explains to the child that Earth is currently under attack by the Germ Man, and that Earth needs the help of the Little Hero (the child). Next, the two enter the Superpower Laboratory, where the doctor explains that Little Hero (the child) must be fitted with a superpower rocket in order to travel to Earth with Rocketman and defeat Germ Man. Then Rocketman demonstrates the installation procedure for the superpower rocket, allowing the child to think of the anal suppository in a positive way first, and guides the child in making movements and using postures that are needed during treatment. The child then begins to install the superpower rocket, and that is when the nurse simultaneously inserts the anal suppository to complete the treatment. Because of the plot, the child thinks of anal suppositories in a positive way, continues to be immersed in the role of Little Hero, who helps Rocketman defeat Germ Man and restore peace to Earth, and ultimately gains a sense of accomplishment and satisfaction.

(2) Character and medical purpose

(a) Main purpose: Having children receive treatment through rectal drug delivery (anal suppositories)

(b) Characters: Little Hero, Rocketman, Dr. Teddy, Germ Man, Germ Army

(c) Target: Children aged 4-12 years

(d) Medical purpose and method: When Little Hero (the child) is having the superpower rocket fitted, the nurse places the child in a side-lying position before inserting the suppository (superpower rocket) into the body in sync with the plot; once the rocket fills with energy, Little Hero will fly to Earth at a speed that is faster than light, save the planet, and restore peace. In this manner, children will learn to think of the invasive anal suppository in a positive way, which will enhance their autonomy and sense of accomplishment.

4. VR 3D animation production

The VR 3D animation of "Little Hero Saves the Earth" was designed for the invasive procedure of placing anal suppositories, and includes character selection, plot arrangement, voiceover, music, background image illustration and modification. The VR 3D animation of the system is based on the needs and story ideas of nurses with actual clinical experience; therefore, this study used iClone, a 3D animation software with better visualization and a lower production threshold, to construct and produce a 3D virtual environment and animation for the virtual characters. The program was chosen to reduce communication barriers between animation producers and nurses, and to enable nurses who do not have basic 3D animation skills to quickly and effectively construct the characters and scenarios needed for the plot from the software's database of 3D materials after receiving a few weeks of basic animation training, and then export the finished 3D animation in a format that can uploaded into VR programs and the system. This study's success in producing VR 3D animation means that the ability to produce VR 3D animation is no longer limited to professional animators. In the future, nurses will be able to produce VR 3D animation for various nursing assistance systems in accordance with clinical needs, and also create VR nursing assistance systems that meet clinical needs more efficiently based on their own nursing expertise, such as nursing assistance systems for having children ingest medication, intravenous injections, dressing changes, and more.

5. VR system development

After considering various factors such as the convenience in clinical use, the cost and time of producing VR digital content, the cost of equipment and the ease with which equipment

could be set up, this study developed a model that used a VR program for cell phones and a low-cost and simple VR headset. The overall development cost was low, and the result was an innovative and interactive nursing assistance VR system. After integrating the aforementioned VR 3D animation with Unity through a VR SDK, the functions of the VR system were programmed, the coding was done for interactive portion of the program, the app was packaged and tested, and, finally, the integrated system was exported to a VR app that can be run on a generic cell phone. This VR system platform is low-cost, effective, easy-to-operate, and highly reliable, which makes it suitable for use by clinical nursing staff when nursing assistance is required.

6. The operation of the system and nursing assistance procedures

- **Step 1:** Enter the "Little Hero Saves the Earth" app; nurses can switch to the VR animation scenario on their phone at any moment, and they can monitor the child's VR screen at any time through the big screen's synchronization function (Figure 1).
- **Step 2:** Under the guidance of the nurses, the child puts on the VR headset and becomes immersed in the plot as a character (Little Hero) in the first-person perspective.
- **Step 3:** In the VR scenario, Dr. Teddy explains to the child that Earth is currently under attack by Germ Man, and that Earth needs the help of Little Hero (the child) (Figure 2).
- **Step 4:** Dr. Teddy explains to the child that a superpower rocket must be fitted in the child's body first for the child to go and save Earth.
- **Step 5:** The child watches Rocketman being fitted with a superpower rocket (an anal suppository in reality) to understand the procedure and to relieve their restlessness, anxiety and fear.
- **Step 6:** Next, it is Little Hero's turn to be fitted with a superpower rocket. During this step, the nurse places the child in a side-lying position and inserts the anal suppository into the body in sync with the VR scenario on the screen, thus increasing the child's positive impression of the anal suppository (Figure 3).
- **Step 7:** Allow the child to continue to play the role of Little Hero, work with Rocketman to defeat Germ Man, and help restore peace to the Earth, thus enhancing the child's autonomy and sense of accomplishment as well as giving them a positive, successful experience (Figure 4).

Fig. 1: Nurses can monitor the child's VR screen at any time through the big screen's synchronization function.

Fig. 2: The VR scenario shows that Earth is currently under attack by Germ Man and that Earth needs the help of Little Hero (the child).

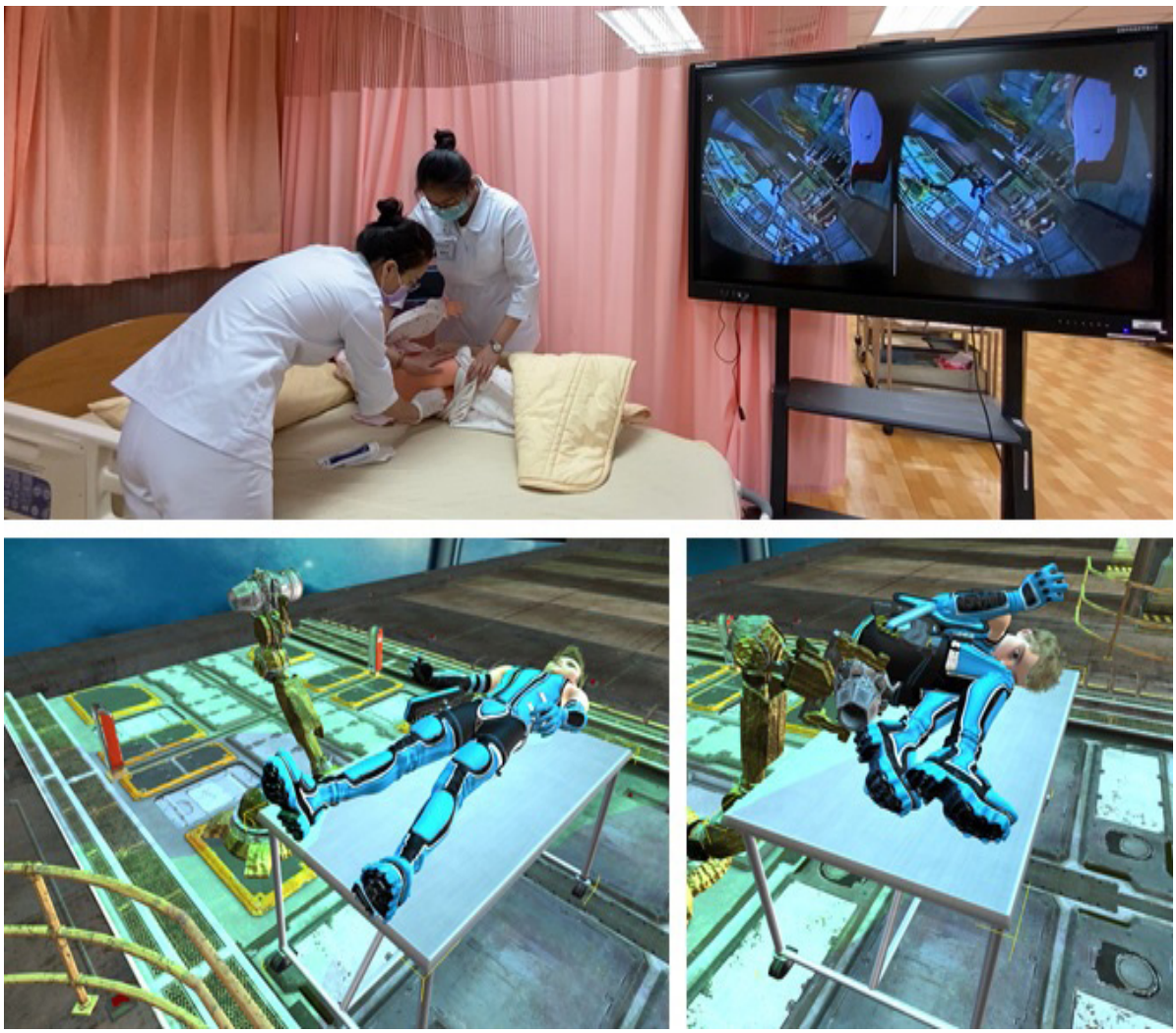


Fig. 3: The nurse places the child in a side-lying position and inserts the anal suppository into the body in sync with the VR scenario on the screen.

Fig. 4: The child continues to play the role of Little Hero, and defeats Germ Man together with Rocketman to help restore peace to Earth

RESULTS AND DISCUSSION

he main purpose of the VR animation game developed in this study is to provide children with positive enhancement in their adherence to rectal drug delivery. Previous studies have shown that the use of VR sensory stimulation distracts children from invasive procedures and reduces pain, anxiety, and fear during medical procedures[9, 12, 13]. However, after passively receiving treatment, children still did not understand the reason behind the procedure and continued to feel anxious and fearful the next time they faced an invasive procedure. Therefore, our VR system integrates virtual and real environments to immerse children in a story and a role, and have them participate through the first-person perspective for three important purposes: first, to allow the child to understand the process of using an anal suppository, which in turn alleviates anxiety and fear; second, having the nurse place the child in a side-lying position before inserting the suppository (superpower rocket) in sync with the plot enhances the child's positive impression of rectal drug delivery; third, the story of saving Earth and resolving a crisis is used to ease the children into the process, and leads to a positive experience of success. In this way, not only will the child's physical and mental development be enhanced, but the parents' stress will be reduced because the child will no longer be afraid of invasive procedures. Virtual reality is a non-pharmacological intervention that is an empirically supported, feasible, and cost-effective solution for managing pain and anxiety during routine

invasive procedures in a pediatric setting; it reduces adverse and traumatic reactions to medical procedures, and improves patient and patient family satisfaction with the care that was provided. This study is currently at the stage in which the development of VR tools is complete. VR is very easy to use, and its future use is recommended for pediatric wards and outpatient clinics, which can benefit more families with children as well as lessen the burden of health care providers.

CONCLUSION

Adults often think that just holding down a child would make the process of inserting an anal suppository quicker, but children will cry and become more fearful the next time once they have had an unpleasant experience. Invasive procedures that cause pain and anxiety can be psychologically traumatic for children, making the treatment process more difficult and the relationship between the children's family and the health care provider worse. In addition, the stress brought on by various invasive procedures can cause children to lose their sense of autonomy and control. According to Erikson's theory of psychosocial development, feelings of guilt, low self-esteem and helplessness can occur when children are often frustrated. The fun, flexibility and controllability of virtual reality games help children forget the pain and fear of reality. The study's immersive virtual reality system is a contextualized projection that allows children to not only divert their attention from unpleasant feelings brought about by the invasive procedure, but also enhance positive connections with rectal drug delivery, demonstrate self-confidence, build positive experiences of success, and avoid feeling a loss of autonomy and control. Further developments in VR equipment and study processes are also needed.

Conflict of Interest Statement: The authors declare that they have no conflicts of interest.

Source of Funding: None.

Statement of Human Rights: We did not submit a human trial review to the Research Ethics Review Committee. As it is a regular teaching activity, we have only used the developed teaching aids as a precursor test.

Acknowledgment: The authors would like to thank the nursing student participants in this study for their time and patience.

REFERENCES

1. Salmela M, Salanterä S, Aronen ET. Coping with hospital-related fears: Experiences of pre-school-aged children. Journal of Advanced Nursing. 2010;66(6):1222-1231.
2. Hockenberry MJ, Wilson D, Rentfro AR, McCampbell L. Study Guide for Wong's Nursing Care of Infants and Children – E-Book. Elsevier Health Sciences. 2019.
3. Crowley MA, Storer A, Heaton K, Naccarato MK, Proehl JA, Moretz JD, Li S. Emergency nursing resource: needle-related procedural pain in pediatric patients in the emergency department. Journal of Emergency Nursing. 2011;37(3):246-251.
4. Piaget J. Play, dreams, and imitation in childhood. New York: Norton. 1962.
5. Koukourikos K, Tzeha L, Pantelidou P, Tsaloglidou A. The importance of play during hospitalization of children. Materia Socio-Medica. 2015;27(6): 438-441.
6. Pontes JED, Tabet E, Folkmann MÁDS, Cunha MLDR, Almeida FDA. Therapeutic play: Preparing the child for the vaccine. Einstein. 2015;13(2):238.
7. Isdale J. 1993, October 8. In what is virtual reality? A homebrew introduction and information resource list. Retrieved June 22, 2022 from http://www.isx.com.
8. Lien SY, Chuang WY, Yang JY, Chan A, Chung WY, Wong KS. An exploration of virtual reality for the relief of pediatric burn pain. Chang Gung Nursing. 2007;18(2):294-306.
9. Hsu MF, Whu YW, Lin IC, Liu CY, Lai FC, Liu PC, Chen CW. Effectiveness of virtual reality interactive play for children during intravenous placement: A randomized controlled trial. Asian Nursing Research. 2022;16(2):87-93.
10. Sullivan C, Schneider PE, Musselman RJ, Dummett Jr CO, Gardiner D. Behavior: The effect of virtual reality during dental treatment on child anxiety and behavior. Journal of Dentistry for Children. 2000;67(3):193- 196.
11. Wint SS, Eshelman D, Steele J, Guzzetta, LE. Effects of distraction using virtual reality glasses during lumbar punctures in adolescents with cancer. Oncology Nursing Form. 2002; 29(1):33-36.

12. Ali S, Rajagopal M, Stinson J, Ma K, Vandermeer B, Felkar B, Schreiner K, Proctor A, Plume J, Hartling L. Virtual reality-based distraction for intravenous insertion-related distress in children: A study protocol for a randomised controlled trial. BMJ open. 2022;12(3):e057892.

13. Olbrecht VA, O'Conor KT, Williams SE, Boehmer CO, Marchant GW, Glynn SM, Geisler KJ, Ding L, Yang G, King CD. Guided relaxation–based virtual reality for acute postoperative pain and anxiety in a pediatric population: Pilot observational study. Journal of Medical Internet Research. 2021;23(7):e26328.

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 Pvt Ltd

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

Journal Title	Print Only
Indian Journal of Nursing Education	INR 10,000

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 Pvt Ltd

Logix Office Tower, Unit No. 1704, Logix City Centre Mall,
Sector- 32, Noida - 201 301 (Uttar Pradesh) Ph. No: +91 120 429 4015,
E-mail: editor.ijone@gmail.com, Website: www.ijone.org

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) Ph. No: +91 120- 429 4015