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

Volume 6 Number 1 January-June, 2014

International Journal of Nursing Education

www.ijone.org

International Journal of Nursing Education

EDITOR

Prof. R K Sharma
Dean (R&D), Saraswathi Institute of Medical Sciences, Hapur, UP, India
Formerly at All India Institute of Medical Sciences, New Delhi
E-mail: editor.ijphrd@gmail.com

INTERNATIONAL EDITORIAL ADVISORY BOARD

1. **Leodoro Jabien Labrague** *(Associate Dean)* Samar State University,College of Nursing and Health Sciences, Philippines
2. **Dr. Arnel Banaga Salgado** *(Asst. Professor)* Psychology and Psychiatric Nursing, Center for Educational Development and Research (CEDAR) member, Coordinator, RAKCON Student Affairs Committee,RAK Medical and Health Sciences University, Ras Al Khaimah, United Arab Emirates
3. **Elissa Ladd** *(Associate Professor)* MGH Institute of Health Professions Boston, USA
4. **Roymons H. Simamora** *(Vice Dean Academic)* Jember University Nursing School, PSIK Universitas Jember, Jalan Kalimantan No 37. Jember, Jawa Timur, Indonesia
5. **Saleema Allana** *(Senior instructor)* AKUSONAM, The Aga Khan University Hospital, School of Nursing and Midwifery, Stadium Road, Karachi Pakistan
6. **Ms.Priyalatha** *(Senior lecturer)* RAK Medical & Health Sciences University,Ras Al Khaimah, UAE
7. **Mrs. Olonisakin Bolatito Toyin** *(Senior Nurse Tutor)* School of Nursing, University College Hospital, Ibadan, Oyo State, Nigeria
8. **Mr. Fatona Emmanuel Adedayo** *(Nurse Tutor)* School of Nursing, Sacred Heart Hospital, Lantoro,Abeokuta, Ogun State, Nigeria
9. **Prof Budi Anna Keliat**, Department of Mental Health Nursing University of Indonesia
10. **Dr. Abeer Eswi** *(Associate Prof and Head of Maternal and Newborn) Health Nursing)* Faculty of Nursing, Cairo University, Egypt
11. **Jayasree. R** *(Senior Teacher, Instructor H)* Salalah Nursing Institute, Oman
12. **Dr. Khurshid Zulfiqar Ali Khowaja** *(Associate Professor)* Aga Khan University School of Nursing, Karachi, Pakistan
13. **Mrs. Ashalata Devi** *(Assist. Prof.)* MCOMS (Nursing Programme), Pokhara, Nepal
14. **Sedigheh Iranmanesh** *(PhD)* Razi Faculty of Nursing and Midwifery, Kerman Medical University, Kerman, Iran
15. **Billie M. Severtsen** *(PhD, Associate Professor)* Washington State University College of Nursing, USA

NATIONAL EDITORIAL ADVISORY BOARD

1. **Dr.G.Radhakrishnan** *(PhD, Principal)* PD Bharatesh College of Nursing, Halaga, Belgaum, karnataka, India-590003
2. **Dr Manju Vatsa** *(Principal, College of Nursing)* AIIMS, New Delhi.
3. **Dr Sandhya Gupta** *(Lecturer)* College of Nursing, AIIMS, New Delhi

NATIONAL EDITORIAL ADVISORY BOARD

4. **Fatima D'Silva** *(Principal)* Nitte Usha Institute of nursing sciences, Karnataka
5. **G.Malarvizhi Ravichandran** PSG College of Nursing, Coimbatore, Tamil Nadu
6. **S. Baby** *(Professor)* (PSG College of Nursing, Coimbatore, Tamil Nadu, Ministry of Health, New Delhi
7. **Dr. Elsa Sanatombi Devi** *(Professor and Head)* Meidcal Surgical Nursing, Manipal Collge of nursing, Manipal
8. **Dr. Baljit Kaur** *(Prof. and Principal)* Kular College of Nursing, Ludhiana, Punjab
9. **Mrs. Josephine Jacquline Mary.N.I** *(Professor Cum Principal)* Si-Met College of Nursing, Udma, Kerala
10. **Dr. Sukhpal Kaur** *(Lecturer)* National Institute of Nursing Education, PGIMER, Chandigarh
11. **Dr. L. Eilean Victoria** *(Professor)* Dept. of Medical Surgical Nursing at Sri Ramachandra College of Nursing, Chennai, Tamil Nadu
12. **Dr. Mary Mathews N** *(Professor and Principal)* Mahatma Gandhi Mission College of Nursing,Kamothe,Navi Mumbai, PIN-410209,Cell No.: 09821294166
13. **Dr. Mala Thayumanavan** *(Dean)* Manipal College of Nursing, Bangalore
14. **Dr. Ratna Prakash** *(Professor)* Himalayan College of Nursing, HIHT University, Dehradun Uttarakhand
15. **Pramilaa R** *(Professor and Principal)* Josco College of Nursing, Bangalore
16. **Babu D** *(Associate Professor/HOD)* Yenepoya Nursing College, Yenepoya University, Mangalore
17. **Dr. Theresa Leonilda Mendonca** *(Professor and Vice Principal)* Laxmi Memorial college of Nursing, A. J. Towers, Balmatta, Mangalore, Karnataka
18. **Madhavi Verma** *(Professor)* Amity College of Nursing, Amity University Haryana
19. **LathaSrikanth** *(Vice Principal)* Indirani College of Nursing,Ariyur,Puducherry
20. **Rupa Verma** *(Principal)* MKSSS college of nursing for women, Nagpur
21. **Sangeeta N. Kharde** *(Professor)* Dept. of OBG Nursing KLES's Institute of Nursing Sciences, Belgaum
22. **Dr. Suresh K. Sharma** *(Professor)* (Nursing) College of Nursing, All India Institute of Medical Sciences, Rishikesh (UK) 249201
23. **Sudha Annasaheb Raddi** *(Principal & Professor)* Dept of OBG Nursing, KLEU's Institute of Nursing Sciences, Belgaum

International Journal of Nursing Education

NATIONAL EDITORIAL ADVISORY BOARD

24. **Rentala Sreevani** *(Professor & HOD)*
Dept. of Psychiatric Nursing,Sri.Devaraj Urs College of Nursing, Kolar, Karnataka
25. **Accamma Oommen** *(Associate Professor and Head)*
Department, Child Health Nursing, Sree Gokulam Nursing College, Trivandrum, Kerala, India
26. **Shinde Mahadeo Bhimrao** *(Professor)*
Krishna Institute Of Nursing Sciences Karad Tal-Karad Dist Satara Mahashtra State
27. **Dr. Judith A Noronha** *(Professor and HOD)*
Department of Obstetrics and Gynaecological Nursing,Manipal University
28. **Prof.Balasubramanian N** *(Head)*
Psychiatric Nursing, Shree Devi College of Nursing,Mangalore
29. **Mrs. Harmeet Kaur** *(Principal)*
Chitkara School of Health Sciences, Chitkara University, Punjab.
30. **Mrs. Chinnadevi M** *(Principal)*
Kamakshi Institute of Nursing, Bassa wazira, Bhugnara Post, The Nurpur, Dist Kangra, HP,
31. **Dr.Linu Sara George** *(Professor and Head)*
Department of Fundamentals of Nursing, Manipal College of Nursing Manipal
32. **Juliet Sylvia** *(Professor and H.O.D)*
Community Health Nursing, Sacred Heart Nursing College, Madurai
33. **Dr. (Prof). Raja A** *(Professor & HOD)*
Department of Medical Surgical Nursing,Sahyadri College of Nursing,Mangalore-575007
34. **Beena Chako** *(Professor)*
PSG College of Nursing, Coimbatore. Tamil Nadu 35. Anitha C Rao, Professor and Principal, Canara College of Nursing, Kundapur, Karnataka
35. **Dr.N.Gayathripriya** *(Professor)*
Obstetrics and Gynaecological Nursing, Sri Ramachandra University, Chennai

SCIENTIFIC COMMITTEE

1. **Padmavathi Nagarajan** *(Lecturer)*
College of nursing, JIPMER, Pudhucherry
2. **Mrs. Rosamma Tomy** *(Associate Professor)*
MGM College of Nursing, Kamothe, Navi Mumbai
3. **T. Sivabalan** *(Associate Professor)*
Pravara Institute of Medical Sciences (DU), College of Nursing, Loni, Maharashtra
4. **Ms Daisy J Lobo** *(Associate Professor)*
MCON, Manipal, Karnataka
5. **Sanjay Gupta** *(Assistant Professor)*
M.M. College of Nursing, Mullana (Haryana)
6. **Prashanth PV** *(Nursing Supervisor)* M.O.S.C Medical College Hospital, Kerala
7. **V. Sathish** *(Academic Officer)*
Allied Health Sciences, National Institute of Open Schooling Ministry of Human Resource Development,Government of India
8. **Dr. Suman Bala Sharma** *(Senior Clinical Instructor)*
National Institute of Nursing Education, PGIMER, Chandigarh.
9. **Smriti Arora** *(Assistant Professor)*
Rufaida College of Nursing, Faculty of Nursing, Hamdard University,New Delhi-110062
10. **Rajesh Kumar** *(Asst. Professor)*
SGRD CON(SGRDISMR),Vallah Amritsar Punjab
11. **Baskaran. M** *(Assistant Professor)*
PSG College of Nursing, Coimbatore, Tamil Nadu,
12. **Mr. Kishanth** *(Olive.Sister Tutor)*
Department of psychiatric Nursing,College of Nursing, JIPMER, Pondicherry - 06
13. **Mr. Mahendra Kumar** *(Associate Professor)*
Savitribai phule college of nursing, Kolhapur
14. **Bivin Jose** *(Lecturer)*
Psychiatric Nursing, Mar Baselios college of Nursing, Kothamangalam, Kerala
15. **Poonam Sharma** *(Assistant Professor)*
INE, Guru Teg Bahadur Sahib (C) Hospital, Ludhiana,Punjab.
16. **Kapil Sharma** *(Associate Professor)*
INE,G.T.B.S.(C) Hospital, Ludhiana (Punjab)

Print-ISSN: 0974-9349, Electronic - ISSN: 0974-9357, Frequency: Half yearly (Two issues per volume).

www.ijone.org

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

© All Rights reserved The views and opinions expressed are of the authors and not of the **International Journal of Nursing Education.** The Journal does not guarantee directly or indirectly the quality or efficacy of any products or service featured in the advertisement in the journal, which are purely commercial.

Editor

Dr. R.K. Sharma
Institute of Medico-legal Publications
4th Floor, Statesman House Building, Barakhamba Road,
Connaught Place, New Delhi-110 001

Printed, Published and owned by

Dr. R.K. Sharma
Institute of Medico-legal Publications
4th Floor, Statesman House Building, Barakhamba Road,
Connaught Place, New Delhi-110 001

Design & Printed at

M/s Vineeta Graphics, Mobile: 9999464913, 9990005734

Published at

Institute of Medico-legal Publications
4th Floor, Statesman House Building, Barakhamba Road,
Connaught Place, New Delhi-110 001

International Journal of Nursing Education

www.ijone.org

Contents

Volume 06 Number 01 January-June 2014

1. Perceptions and Experiences of Written Feedback of Nursing Students 01
Amina Aijaz Khowaja, Raisa B Gul, Amina Aijaz Khowaja

2. Administration of Insulin to Type 1 Diabetes-Current Nursing Practice 06
Anjuladevi Kamaraj, M Gandhimathi, C Rameshc

3. Lived Experiences of Failure on the National Council Licensure Examination - Registered Nurse (NCLEX-RN): Perceptions of Registered Nurses 10
Mc Farquhar Claudette

4. The effect of Problem Solving Training on Decision Making Skill in Nursing Students 15
Heidari M, Shahbazi S

5. Registered Nurses Perception of Medication Errors: A Cross Sectional Study in Southeast of Iran 19
Zahra Esmaeli Abdar, Haleh Tajaddini, Azam Bazrafshan, Hadi Khoshab, Asghar Tavan, Giti Afsharpoor, RN Masoud Amiri, Hossein Rafiei, Mohammad Esmaeili Abdar

6. Education to Nursing Personnel on Hospital Waste Management 24
Abdul Jaleel, R Jeyadeepa

7. Two Teaching Strategies in Subcutaneous Injection: A Comparative Study 30
Khadijah C Bautista, Nazik M A Zakari

8. Effectiveness of Behavioral Modification Therapy in Coping with Adjustmental Problems among Juvenile Delinquents 36
Kishanth Olive, Sheeba

9. Objective Structured Clinical Examination - Emerging Trend in Nursing Profession 43
G Muthamilselvi, P Vadivukkarasi Ramanadin

10. Empowering Children and Adolescents on Prevention of Coronary Artery Disease 48
Ramya K R, Kiran Batra R

11. Pediatric Baccalaureate Nursing Curriculum in Pakistan: Strengths, Limitations and Recommendations 54
Shela Akbar Ali Hirani, Jacqueline Maria Dias

12. Knowledge, Attitude and Practices of Adolescents Related to HIV/AIDS in Selected Schools of Delhi 59
Smriti Arora, Jyoti Sarin

13. Mothers Knowledge on Domains of Child Development 65
Miby Baby, Sangeetha Priyadarshini, Sheela Sheety

14. Effectiveness of Information Education Communication (IEC) Package on Life Style Practices of Adolescents - A Pilot Study 69
L Mendonca

15. An Exploratory Study to Identify Factors Associated with Noncompliance of Medications and Recommended Lifestyle Behavior after Renal Transplantation- A Pilot Study 73
Uma Rani Adhikari, Abhijit Taraphder, Tapas Das, Avijit Hazra

16. Intimate Partner Violence an Evil of Society with Integration of Ecological Model a New Perspective 78
Yasmin Mithani RM, Zahra Shaheen Premani, Zohra Kurji

17. Are Health Care Resources Allocated Equitably in Pakistan? 82
Zahra Shaheen, Zohra Kurji, Yasmin Mithani

18. Effectiveness of an Empowering Programme on Student Nurses' Understanding and Beliefs about HIV/AIDS 88
Smriti Arora, Sarin Jyoti, Sujana Chakravarty

19. A Study to assess the Knowledge and Involvement in Child Rearing Practices among Fathers of Hospitalised Children of 1-6 Years of Age, in Kasturba Hospital, Manipal 93
Sreeram A, D' Souza A, Margaret B E

20. Identify Risk Factors for Postnatal Depression among Antenatal Mothers - A Hospital Based Study 100
Alma Juliet Lakra, Salomi Thomas

21. Accessing Community through a Nursing Course: Evidence Based Practice 104
Amina Aijaz Khowaja, Lubna Ghazal, Fatima Jawad, Naveeda Haq

22. The Threat of Domestic Violence: an Analysis through 'ology' Perspectives 108
Zahra Shaheen, Yasmin Mithani, Zohra Kurji

23. Comparison of Maternal Comfort between two Breastfeeding Positions 112
Bency G, Maria P, Anusuya V P

24. Patterns of Auditory Verbal Hallucination among Patients Diagnosed with Chronic Schizophrenia 117
Bivin J B, Sailaxmi Gandhi, John P John

25. Health Risk Behaviour and Depression among Adolescents 122
Dayananda B C, Meera K Pillai

26. An Experimental Study to assess the effectiveness of the Structured Teaching Programme on Knowledge of Traffic Safety among School Children at Selected Urban Schools in Ludhiana, Punjab 127
Gaurav Kohli

27. A Study to Determine the effectiveness of Therapeutic Back Massage on Quality of Sleep among Elderly in Selected old Age Homes at Mangalore 132
Gayathri J Nair, Swapna Dennis, Babu Dharmarajan

28. Malnutrition among Underfive Children and Factors Influencing it 135
Hepsi Bai J, Anumod S, Aparna S V, Ggayathri Devi A S, Julie I S, Lydia Ferry, Shilpa Santhan

29. A Study to Compare the Nutritional Status Assessed by CAN Score and Ponderal Index against WHO Intrauterine Growth Curves among Newborns at Birth in Selected Hospital of Ambala, Haryana 141
Herbaksh Kaur, Yogesh Kumar, Jyoti Sarin

30. Randomized Control Trial to Evaluate the effectiveness of Helping Babies Breathe Programme on Knowledge and Skills Regarding Neonatal Resuscitation among Auxiliary Nurse Midwives Students 146
Jagadeesh G Hubballi, Sumitra L A, Sudha A Raddi

31. A Study to assess the effectiveness of Laughter Therapy on Depression among Elderly People in Selected Old Age Homes at Mangalore 152
Jaya Rani George, Vineetha Jacob

32. Knowledge and Practice of Housewives on Domestic Plastic Waste Management 155
Jince V John, Sarita T Fernandes, Sujith Kuriakose

33. Effectiveness of SIM Versus PIM on Neonatal Developmental Supportive Care in Terms of Knowledge among Nursing Students 161
Kuldeep Kaur, Jyoti Sarin, Gurneet Kaur

34. Impact of Students-Teacher Relationship on Student's Learning: A Review of Literature 167
Yusra Sulaiman Al Nasseri, Lakshmi Renganathan, Fadhila Al Nasseri, Ahmed Al Balushi

35. Lessons from the Field: Using the Work of a Department Research Committee to Facilitate Nursing Faculty Research and Scholarship 173
Lori S Lauver

36. Awareness of Mothers of under Five Year Children Regarding Round Worm Infestation, its Prevention and Management: A Descriptive Analysis 179
Mamatha G, Munirathnamma K

37. A Comparative Study on Level of Job Satisfaction among Nurses in Government and Private Hospitals of Andhra Pradesh, India 183
Gupta M K, Reddy S, Prabha C, Chandna M

38. Effectiveness of Occupational Therapy on Symptoms of Schizophrenia 189
Minnu Prasad, Nalini M

39. A Comparative Study to assess the Effectiveness of Video Recorded Instruction and Pamphlet Regarding Prevention of Swine FLU among High School Children, in Selected Schools of Belgaum City 195
Moreshwar S A, Yumnam M, Shivaswamy M S

40. Nurses' Compliance at Reporting Patient's Pain: Shift Handover Observations from a Tertiary Care Hospital in Karachi, Pakistan 200
Nazbano Ahmedali, Fauziya Ali, Nasreen Sulaiman, Rozina Roshan, Zohra S Lassi

41. Assessment of effectiveness of a Structured Teaching Programme on Knowledge of Staff Nurses Regarding Risk Factors and Prevention of Deep Vein Thrombosis in a Selected Hospital, Ludhiana, Punjab 205
Nidhi Kumar

42. A Comparative Study to Assess the Perception of Doctors, Nurses, Faculty of Nursing and Nursing Students on Ideal Clinical Learning Environment 208
Preethy J, Erna J R, Mariamma V G

43. Study to assess the Depression and Ideation of Suicide among Terminally Ill Patients, in Selected Hospitals, Ludhiana, Punjab 213
Ramanpreet Kaur

44. A Cross-Cultural Comparison of a Clinical Nurse Competency Path Model 216
Susan B Sportsman, Patti Hamilton, Randall E Schumacker

45. Identify the Impact of Tuberculosis on Health Status and Coping Strategies Adopted by Tuberculosis Patients 222
Rashmi, Shobha Prasad, Sulakshna Chand

46. Effectiveness of Music Therapy vs Foot Reflexology on Pain among Postoperative Patients in Selected Hospitals at Mangalore 226
Reena Baby, Babu D

47. Nurses' Practice Related to Prevention of Pressure Ulcer among Patients and Factors Inhibiting and Promoting these Practices 229
Rishu Anand, Vinay kumari, Rathish Nair

48. Effectiveness of Planned Teaching Programme on Prevention of Anaemia among School Going Adolescent Girls 234
Moreshwar S A, Naik VA, Chrostina B C

49. Perception and Experience of Teachers and Postgraduate Nursing Students on Microteaching as an effective Teaching Strategy 238
Shanthi Ramasubramaniam, Lakshmi Renganathan

50. A Study to assess the Stressors of the Intensive Care Unit Patients' and to Compare these with the Nurses' Perception in Selected Hospitals of Karnataka State 244
Tsering Paldon, Elsa Sanatombi Devi, Flavia Castelino

51. The Lived Experience of Associate Degree Nursing Students Intending to Pursue the RN-BSN 249
Unn Hidle

52. Mixed Methods Research: A New Approach 254
Vathsala Sadan

53. Nursing Industry: Where Rescuers become the Victims 261
Vijayta Doshi

54. Effectiveness of Planned Teaching Programme on Prevention of High Risk Pregnancy among College Girls 266
Wansuklang Lyngdoh, Rev Angeline (Sr. Aileen) Mathias

55. Colostomy Care: Management beyond Hospitalization Case Report 269
Zulekha Saleem, Lubna Ghazal

56. Morbidity and Health Seeking Behaviour of Families for Childhood Illnesses - Experiences from Coastal Kerala 272
Accamma Oommen, Manju Vatsa

57. Impact of Sensitization on Knowledge and Attitude of Nurses in Tuberculosis 277
Anita Rani Kansal, Rajinder Mahal, D Behera, Neeta Singla

58. A Study on Awareness of ASHA Workers of Delhi State on MCH Care & Services 281
Bhargavi C N, Asha Sharma

DOI Number: 10.5958/j.0974-9357.6.1.001

Perceptions and Experiences of Written Feedback of Nursing Students

Amina Aijaz Khowaja[1], **Raisa B Gul**[2]

[1]*Assistant Professor,* [2]*Associate Professor, School of Nursing and Midwifery, Aga Khan University, Stadium Road, P.O. Box 3500, Karachi-74800, Pakistan*

ABSTRACT

Background: Written feedback is known to enhance students' learning. However, the effectiveness of feedback is determined by the quality of feedback and the students' receptivity towards written feedback. This study aimed to explore students' experiences of written feedback in the nursing degree programmes in Karachi Pakistan.

Method: A descriptive exploratory design was used in the study. The study comprised of 379 nursing students from nine nursing institutions. Students filled out the questionnaire that had open ended questions regarding the current practices of written feedback. They also provided suggestions for improving these practices in their institutions. Nearly 93% of the students responded to the open ended questions. The information was than manually analyzed for categories and subcategories.

Findings: Student shared numerous experiences and suggestions regarding written feedback. Five categories were extracted from students' narratives. These included: merit of verbal and written feedback; quantity and quality of the feedback including need for personalized feed-forward; care for students' self- esteem; teachers' competence for written feedback; and consistency in feedback practices.

Conclusion: The findings of this study have implications for teachers, students and institutions similar to the context of this study. Teachers need to be aware of the role and impact of written feedback on students' learning and develop competence for giving effective feedback. Polices need to be developed to enhance the effectiveness of written feedback practices.

Keywords: *Written Feedback, Teachers Accountability, Students' Assessment, Students' Perceptions*

INTRODUCTION

The term feedback is frequently used in the field of education. In education, feedback is referred to the role of assessment as a stimulus for further learning. Moreover, feedback is considered as an interactive process between the teacher and student that helps to bridge the gap between the students current and expected level of performance. [1] Several studies emphasize its usefulness, if it is given as feed forward. [2, 3] Feed- forward is proactive direction that enables students to move forward by working on the suggestions during the progress of the work or written assignment. [4] Feedback may not be found helpful by the students if, it is written in negative tone; the comments are in illegible handwriting, and its quantity is too little or too much. Moreover, lack of opportunities to clarify the teachers' comments can make it difficult for the students to understand and utilize the feedback. [5]

Existing literature regarding the usefulness of written feedback from students' perspectives provided stimulus to explore the phenomenon in Pakistani context. Although the phenomenon of written feedback such as its provision, quality, usefulness and its benefits has been widely explored by several researchers in the developed countries; this topic is limitedly explored in the developing countries such as Pakistan. Moreover, no studies were found in this topic in nursing education in Pakistan .Therefore, this study was undertaken to identify students' experiences on written feedback in the nursing degree programmes in Karachi. This article describes findings of the

qualitative section from a lager study which involved 379 nursing students from nine public and private nursing institutions in Karachi.

MATERIAL AND METHOD

A descriptive exploratory study was undertaken to gain an in-depth understanding of students' experiences on the written feedback and their recommendation to improve practices of written feedback in their nursing institutions in Karachi. These institutions were offering BScN or MScN degree programmes, were recognized by Pakistan Nursing Council, and had the policy to return written assignments to their students and provided access to their students were included in the study. Students from second year were selected to ensure that they would have received written feedback in their assignments. The data was collected via an open-ended questionnaire, was typed in a word document and then was manually analyzed for patterns of similarities and differences in the practices of written feedback.

FINDINGS

Demographics of the Participants. Out of 379 students, nearly 56% of the participants were females and 44% were males between the ages of 21-25. With regard to the participants' educational background, majority of them (75%) had academic qualification of intermediate. Although, 41.2% of the students shared that they spoke Urdu, rest of the (58.8%) students spoke local languages such as Pushto, Sindhi, and Punjabi, in their homes. With regard to the medium of instruction during their schooling (before nursing), approximately, 53% of the students had studied in English medium schools. Nearly 47 % students had mixed instructions i.e. they were mostly taught in Urdu or in their local language with one English course. However, in their nursing schools, all the students (100%) were expected to write their assignments in the English language.

Students' Views and Recommendations for Improving the Practices of Written Feedback

Of the 379 students, 353 students responded to the open ended questions and many of them offered multiple comments (612 comments in total). The comments included students' views as well as suggestions to improve the practices of written feedback at their institutions. All the comments were organized into five categories and associated sub categories (see Table 1). The categories include merit of verbal and written feedback; quantity and quality of feedback; care for students' self-esteem; teachers' competence for written feedback; and consistency in feedback practices.

Table 1: Students' Views and Recommendations

Themes from the open ended questions			**Number of comments = 612**	**(%)**
1.	**Merit of verbal and written feedback**			
	1.1	Significance of written feedback	144	%23.5
	1.2	Opportunities to discuss feedback	76	68
2.	**Quantity and Quality of the feedback**			
	2.1	Attention to promptness, clarity, thoroughness	221	%36
	2.2	Need for personalized Feed-forward	110	30
3	**Care for students' self- esteem**		76	%12.4
4	**Teachers' competence for written feedback**			
	4.1	Teachers' abilities and skills	101	%16.5
	4.2	Teachers' values and attitudes	45	56
5	**Consistency in feedback practices**		70	%11.4
	5.1	Provision of assignment guidelines	52	
	5.2	Format of feedback		
	5.3	Institutional policies on written feedback	6	12
	Total		612	%100

Merit of Verbal and Written Feedback

Out of 612 comments, about 144 (23.5 %) comments were on the merit of verbal and written feedback. Students highlighted that both verbal and written feedback were helpful. However, some of them received only written feedback and some received only verbal feedback.

Significance of written feedback. Students highlighted several advantages of written feedback. They stated that written feedback improved the quality of their assignments by engaging them in the learning process. Some students verbalized that due to academic stress, they could not often remember verbal comments; with written feedback they could refer to the teachers' comments before submitting the next assignment. A few students mentioned that written feedback was helpful to see their progress in acquiring academic writing skills. Students commented that teacher written comments; whether positive or negative, leave a long-lasting learning experience for students. They proposed that the written feedback practices should be encouraged in academic settings, which is rare phenomenon in their nursing institutions.

Opportunities to discuss feedback. Besides acknowledging the several benefits of written feedback, students expressed that there should be an opportunity to discuss the feedback with the teacher. They thought that verbal feedback is complementary to written feedback as it was easier in understanding their problems and solutions in academic writing compared to the teachers' written comments alone.

Quantity, Timing and Quality of Feedback

Out of 612 comments, about 221 (36%) comments were on the quantity and quality of feedback. Two sub-categories emerged which include the promptness, clarity, and thoroughness of the feedback and provision of formative and personalized feedback.

Attention to promptness, clarity, and thoroughness. Many students identified that delayed feedback was a major reason for not incorporating it into their next assignment. Many students also felt that the number of assessments per term or semester was high and students often had to work on multiple assessments such as exams, presentations, and assignments of other courses, thus, they miss the opportunities of learning from the feedback. They thought with fewer assignments, faculty will also have more time to provide effective feedback and also enable the students to incorporate the feedback in an effective manner.

Several students reported the issue of lack of clarity in teachers' written feedback. They suggested that feedback should be written clearly using simple language that matches the level of the students' understanding. Moreover, they suggested that feedback should be written in legible handwriting or should be typed for the clarity. One student wrote, "Feedback should focus on few issues and provide suggestions on those. Moreover, teachers should be watchful of number of issues she wants to address to students at a time. Once those issues are resolved, other can be addressed later. In this way, a teacher can help a student understand and absorb feedback".

Need for formative and personalized feed-forward. Many students commented on the provision of formative feedback on outlines and drafts before the final submission and grading on their final assignments. One student wrote "feedback on drafts makes "graded work a reward and not a punishment". Moreover, students felt that formative feedback helped decrease students' anxiety of failing in the assignments and also improved their writing skills. Some students expressed that they are given feedback on their assignments at the end of their courses or semester, which is useless. Besides the importance of formative feedback, a few students commented on the importance of personalized feedback. They verbalized that general feedback in the class by teachers on written assignment does not meet the students individual learning needs.

Care for Students' Self-Esteem

Out of 612, around 76 (12.4 %) comments were about the effects of feedback on the students' self-esteem. Several students' expressed that negative feedback and offensive remarks in the comments given by teachers were discouraging for students. They emphasized that positive feedback should be given to increase students' interest and motivation. One student wrote, "Feedback should not be given, if it does not have the element of encouragement". They also added that teachers should be flexible, patient, and open to students' learning, as improvement in the writing skills will take time, with constructive feedback.

Teachers' Competence for Written Feedback

Out of 612 comments, approximately 101 (16.5%) students commented on the teachers' abilities, skills, values and attitudes in providing written feedback. Students' comments are further divided in two subcategories; i.e. is teachers' abilities and skills and teachers values, and attitudes. Both sub-categories highlight that because of teachers' lack of appropriate training in providing feedback, they received unfair feedback.

Teachers' abilities and skills. Several students highlighted that the quality of feedback greatly differed from faculty to faculty. Many students expressed that there was no congruency between written feedback, marks, and assignment criteria. As one student said "teachers do praise in the comments but it is not shown in the marks" and complained that when teachers are asked to elaborate on the allocated marks, they do not have a clear justification for marks deduction. A few students thought that most teachers tended to check assignments superficially, which is in their view shows that the faculty members lacked training in feedback provision.

Teachers' value and attitude. Many students expressed that teachers gave marks on the basis of personal relations or students' personality or ethnicity, but not on the students' quality of assignments. They expressed that feedback and marks given by teachers also reflected their personal grudges, discrimination and prejudice with specific students. Some students suggested using code numbers on students' assignments instead of names to avoid teachers' biasness in marking. A few students recommended that if there are two faculty members teaching the same course, and both are involved in students' assessment, all students should be equally exposed to their marking. In other words, they should divide the assignment checking in such a way that one assignment of all students is marked by the same teacher.

Consistency in Feedback Practices

Out of 612, seventy comments were on the needs for consistency in feedback practices. Three subcategories emerged in this category, which include: provision of clear guidelines on assignments, format of feedback; and the importance of institutional policies with respect to written feedback.

Provision of clear guidelines Students verbalized that in the absence of clear guidelines, they faced ambiguity in attempting the assignments, and as a result, they could not meet the teachers' expectations. Furthermore, due to lack of clear guidelines, teachers were inconsistent in marking the assignment. They proposed that the assignment guidelines should be provided in written.

Format of Feedback Some students suggested having set criteria for marking the assignments [Rubric]. They suggested that they should receive anecdotes throughout the entire paper and not a generalized summery or only mark at the end of the paper. They added that feedback should consist of strengths and area of improvement. Some students added that advanced computerized feedback methods (email, track changes) can be used as these are quick and efficient method of feedback.

Institutional policies on the written feedback. Few students expressed that it was unfortunate that their institution did not have the system of either verbal or written feedback on written assignments. Policies of not sharing assessment marks with students or not returning their assignments resulted in frustration, as then students have no way of knowing where they stand and where they need to work hard. As one students wrote "if the school policy does not require teachers to provide feedback, it leads to biased results and favoritisms". They also said that it should be made mandatory for the teachers to provide feedback. They added that if students are not satisfied with the feedback, there must be a policy for reviewing their assignments again. Two students verbalized that only English language teachers provide them with feedback and felt that feedback should be provided by all teachers in all the courses.

DISCUSSION

Findings of this study indicated that majority of the students wished best written feedback practices in their nursing institutions. Most students expressed that they received insufficient feedback or no feedback on their written assignments. Individual discussion with teachers also confirmed that there were no policies regarding assignments feedback in any of the nursing schools enrolled in this study.

The study findings revealed that many students wished to receive personalized feed- forward on drafts

or outlines before the final submission. The usefulness of written formative feedback or feed-forward is well established in the literature. [6, 7] However, to the researchers' knowledge, formative feed-forward on graded assignments is not a common practice in nursing institutions in Pakistan. Knowing the advantages of formative feedback, the faculty may restructure their assessment practices and make more use of the formative feedback. Consistent with the literature [2, 3, 5] this study highlighted the importance of provision of clear guidelines for assignments as it facilitates the educators in making professional judgments about the quality of students' work and learning outcomes against set standards.

Students raised the concern that their teachers lacked accountability in providing feedback. Wormeli [8] emphasizes that accountability is not only implies to students, teachers also are accountable to students and they should practice professional ethics and adherence to sound pedagogies while dealing with student including assignment checking, giving appropriate written and verbal feedback and grading them. Several issues highlighted by the students in this study such as, timely provision of feedback, feedback written with legible handwriting, impact of negative feedback on students' self-esteem, and balancing feedback with criticism and suggestions are also consistent with existing literature. [2, 3, 7, 9]

CONCLUSION

The findings of this study have implications for teachers, students and institutions similar to the context of this study. Teachers need to be aware of the role and impact of written feedback on students' learning and develop competence for giving effective feedback. For better utilization of the feedback, teachers and students should have shared understanding about the goal, and processes of written feedback. Moreover, there should be institutional commitment to introduce policies to promote practices of effective written feedback.

ACKNOWLEDGEMENTS

We acknowledge the thesis committee members, heads of all the nursing institutions for providing access to their students, and the students of all the nursing institutions who participated in this study.

Conflict of Interest : We do not have any conflict of interest

Source of Support: Funding of this project was supported by Aga Khan University School of Nursing and Midwifery

Ethical Clearance: The study had an approval from the University Ethical Review Committee (ERC).

REFERENCES

1. Clynes MP, Raftery SE. Feedback: An essential element of student learning in clinical practice. Nurse Education in Practice 2008; 8: 405-411.
2. Carless D. Differing perceptions in the feedback process. Studies in Higher Education 2006; 31(2): 219-233.
3. Gibbs G, Simpson C. Does your assessment support your students' learning? Learning and Teaching in Higher Education 2004-2005; 1(1): 3-31.
4. Conaghan P. Lockey A. Feedback to feed forward: A positive approach to improving candidate success. Leitthemia. Springer Suppl 2. 2009; 12: 45- 48.
5. Weaver MR. 'Do students value feedback? Student perceptions of tutors' written responses. Assessment & Evaluation in Higher Education 2006; 3(3):379- 394.
6. Murtagh L, Baker N. Feedback to Feed Forward: student response to tutors' written comments on assignments Practitioner Research in Higher Education 2009; 3(1): 20-28.
7. Koen M, Bitzer EM, Beets PAD. Feedback or Feed-forward? A case in one higher education classroom. Journal of social sciences 2012; 20(1): 68-87.
8. Wormeli, R (2006), Accountability: Teaching through Assessment and feedback, not grading. American secondary education 34(3), 14-27.
9. Young P. 'I Might as Well Give Up': Self-esteem and mature students' feelings about feedback on assignments. Journal of Further and Higher Education 2000; 24(3):409-418.

DOI Number: 10.5958/j.0974-9357.6.1.002

Administration of Insulin to Type 1 Diabetes-Current Nursing Practice

Anjuladevi Kamaraj[1], M Gandhimathi[2], C Ramesh[3]
[1]Research Scholar, Annamalai University, Annamalai Nagar, [2]Professor, Rani Meyyammai College of Nursing, Annamalai University, Annamalai Nagar, [3]Director of Juvenile Diabetes Projects,Voluntary Health Services, Chennai

ABSTRACT

The International Diabetes Federation's (IDF) diabetes atlas 2011 shows that 366 million people have diabetes worldwide and by 2030, this will have risen to 552 million. At the same time, 183 million people (50%) with diabetes are undiagnosed1. Current estimates suggest that two thirds of those affected by diabetes live in low and middle income countries (LMIC). By 2025, the number of diabetes cases will increase by 170% in low and middle income countries, compared to a 41% increase in developed countries2. The total child population (0-14 years) was 1.9 billion worldwide. Some 78,000 children under 15 years are estimated to develop type 1 diabetes annually worldwide. About 49,000 children were affected with type 1 diabetes with 24% from European region and 23% from South East Asian region1. Insulin is an important hormone concerned with regulation of carbohydrate, protein and fat metabolism and blood glucose level. Insulin has been identified as one of the top 10 high risk medicines in treating type 1 diabetes3.

Keywords: *Insulin, Type 1 Diabetes, Insulin Therapy, Insulin Administration, Insulin Delivery*

INTRODUCTION

Diabetes is very much a universal and growing problem with serious health related and socio-economic impacts on individuals and society[4]. Hence, the enhancement of knowledge on management of diabetes could help in reducing these impacts enormously. Insulin is a protein hormone secreted from the β cells of islets of langerhans of pancreas. Type 1 diabetes children depend on external insulin for their survival since their hormone is no longer produced internally by β cells of islets of langerhans[5]. Even though diabetes is considered to be a chronic illness, the children's knowledge on administration of insulin is not reinforced by the health personnel periodically. Insulin is secreted directly into the portal circulation, therefore the liver which is the major site of glucose disposal, receives the largest concentration of insulin[6]. Conventionally insulin has been administered subcutaneously using insulin or tuberculin syringes with 26 gauze needles. To promote compliance, alternative methods of administering insulin are available in the market.

Insulin was discovered from acid ethanol extracts of pancreas at the University of Torondo in 1921 by Frederick Banting, Charles Best, JJR Macleod and James Collip. The name insulin was coined by JJR Macleod who is a Professor of Physiology. The first patient to receive insulin was Leonard Thompson for whom the treatment began on 11th January, 1922. About 50 units of insulin are required per day per individual[7]. The human pancreas store about 250 units. The insulin is a polypeptide with a molecular weight of 5808. It has two amino acid chains called á and β chains which are linked by disulphide bridges. The á chains of insulin contain 21 amino acids and β chains contain 30 amino acids. The human pancreas contains about 1-2 million islets. The islets of langerhans consist of 4 types of cells namely A or á cells which secrete glucagon, B or β cells which secrete insulin, D or ã cells which secrete somatostain and F or pp cells which secrete pancreatic polypeptide. Synthesis of insulin occurs in rough endoplasmic reticulum of β cells in islets of langerhans . It is synthesized as preproinsulin that gives rise to proinsulin. Proinsulin undergoes a series of peptic cleavages leading to the formation of

mature insulin and C peptide. C Peptide is a connecting peptide that connects á and β chains. At the time of secretion, C peptide is detached[8].

Physiologic Functions of Insulin

The physiological functions of insulin are as follows

The insulin

- Stimulates entry of glucose into cells for utilization as energy course.
- Stimulates entry of amino acids into cells, enhancing protein synthesis.
- Enhances fat storage and prevents mobilization of fat for energy (lipolysis)
- Promotes storage of glucose as a glycogen in muscles and liver cells (glycogenesis)
- Inhibits formation of glucose from non carbohydrates (glyconeogenesis)

Insulin Therapy

The goal of insulin therapy is maintaining near-normal blood glucose levels while avoiding too frequent episodes of hypoglycemia. The glycemic goals recommended currently by the American Diabetes Association (ADA)[7]are :

- pre-prandial plasma glucose level = 70 to 130 mg/dl
- postprandial plasma glucose level = < 180 mg/dl
- A_{1c} (glycosylated hemoglobin) = < 7%

Insulin regimen is a systematic plan of taking insulin in order to preserve or restore health or to attain near normal blood glucose level. The amount and type prescribed on the child's height, weight, metabolic rate, physical maturity, blood glucose level, usual diet and regular exercise. Insulin requirements usually increase as the child grows. Requirements are usually even higher during puberty due to the influence of increased growth hormone and sex hormone secretions[8] . Insulin available for routine clinical use is derived from beef (bovine), pork (procine) and human. Also mixed insulin is derived from bovine and procine. Bovine insulin differs from human insulin in three amino acids namely A8, A10 and B30. Procine insulin differs from human insulin in only one amino acid namely B30 . Thus procine insulin is less immunogenic than bovine insulin. Human insulin is pure and has the same amino acid structure as that of native insulin. They are made by genetic engineering or by transformation from procine insulin by substituting alanine with threonine in the B30 position. Mixed insulin contains a mixture of bovine and procine insulin and it is more antigenic than singly species[9].

Insulin is available in the strengths of 40 units/ml and 100 units /ml. The patient must ensure that the syringes used by him or her are compatible with the strength of the insulin used. Insulin works in a predictable way. So, it has to be injected into subcutaneous tissues only. The sites for self administration of insulin are outer thighs and abdomen because of easy access for the child. Rotation of sites is very essential to prevent local reactions of insulin administration.

Insulin absorption: Insulin absorption can be affected by many factors which result in predicted action. The factors that speed up the insulin absorption are (1) warm/hot environment, to increase the blood flow to the injection area (2) rubbing or massaging of the injection area and (3)delivery of the injection into the deeper layer of the skin. These factors may increase the risk of developing hypoglycemia. The factors that slow down the insulin absorption are (1) a cold environment to reduce the blood flow to the injection site (2) increased volume of insulin administration and (3) unhealthy injection site (scarred/bruised skin)[10].

Poor techniques and complications: Using the incorrect needle length cannot result in expected absorption of insulin. This may cause hypoglycemia or hyperglycemia. The poor injection technique will result in the development of lipohypertrophy. The site should be changed for each injection to reduce the risk of developing lipohypertrophy. Reuse of needle can lead to bruising and bleeding of skin as the needle becomes blunted by overuse. Also, infection is possible if the needles are reused or if an injection is administered through clothing[11].

Nurses' responsibility on administration of insulin: Nurses can be instrumental in helping the Type 1 children by teaching them about self care management. If the children can take care of their needs, it will reduce the expenditure towards the treatment[12].

Vials of insulin that had been opened before several weeks and the ones which crossed the expiry date

should be discarded. Extra insulin vials should be refrigerated in the temperature range 15 - 29.4 °c and not to be freezed. Insulin should always be stored in a cool place even in the absence of refrigeration facility (using ice box, mud pot containing water) and avoid exposure to direct sunlight. The insulin vial should be brought down to the body temperature by gently rubbing in between the palms before withdrawing the insulin. Otherwise, the insulin vial should be kept outside 1 hour before the time of administration. Any vials with discoloration, clumping, granules or solid deposits should be discarded. The needle should be left in the skin at least for 10 seconds after the insulin is injected. If the breakfast is delayed, the administration of rapid acting insulin should also be delayed. The ready availability of food should be ensured before administration of insulin. Intake of food should be after 10- 15 minutes of the administration of insulin. Blood glucose readings should be recorded 30 minutes before each meal and bed time. The food consumed should be noted. Injection sites should be observed and inspected every time of administration of insulin. The patient should be instructed to keep sugar candy/glucose/ID card always. Hypoglycemia and hyperglycemia symptoms should be taught to the patients so that they can inform the same to the care giver[13].

Health education to the client and family

Whenever needed, the client or the family members should visit the physician. Parents should ensure that optimum health condition is maintained by adequate sleep, rest, regular exercise, avoiding high levels of dietary cholesterol, routine examination and treatment for the child. The parents should monitor the effectiveness of the therapy by checking blood glucose level 4 times a day and glycosylated hemoglobin once in 3 months. The parents should ensure that the insulin and glucagon are stored in the proper manner. Parents should be in a position to identify the sign of hypoglycemia and hyperglycemia and to provide necessary treatment. The parents should inform the teacher, peers about possible precautions to be adopted if hypoglycemia occurs. The parents should ensure that the child is having medical identity card with them always. The child/family members should carry diabetes supplies while staying overnight away from residence or during travel. The parents should take the child for annual check up to the physician/dentist/opthalmologist. The parents should give only the prescribed medicines. The parents should follow 'sick day rules' when the child falls ill[14]. The child/parents should avoid drugs or alcohol which results in hypoglycemia/hyperglycemia. The parents should adjust positively to the disease by using professional assistance and learning in order to establish successful coping patterns and develop a social support system.

Techniques to minimize painful injections

1. Insulin should be administered always at room temperature. 2. It should be ensured that there is no air bubbles in the syringe. 3. Before administration, soapy cotton should be used to clean the skin to dry. 4. The patient should be encouraged to keep the muscle relaxed. 5. It should be ensured that the needle is sharp and quickly penetrates the skin. 6.The direction of the needle should not be changed during insertion and withdrawal. 7. Blunt or dull needles should not be reused.

Alternative modes of insulin delivery

The most common alternative ways to deliver insulin are insulin pens and insulin pumps.

Insulin pens look like pens with a cartridge. Some of these devices use replaceable cartridge of insulin. Other pens are prefilled with insulin and are totally disposable after the insulin is injected. Insulin pen users screw a short, fine, disposable needle on the tip of the pen before an injection. The users turn a dial to select the desired dose of insulin, inject the needle and press a plunger on the end to deliver the insulin just under the skin. Future advances in insulin pump therapy are likely to include closed-loop systems that can monitor glucose levels and dispense insulin automatically, mimicking insulin release from the pancreas[15].

Insulin pumps also known as continuous subcutaneous insulin infusion (CSII), pumps provide a continuous adjustable supply of insulin through a plastic tube attached to the body and eliminate the timing hassles and blood glucose fluctuation associated with injection.

Jet injectors are designed to deliver a fine stream of insulin transcutaneously at high speed and high pressure to penetrate the skin without a needle.

Emerging trends in insulin delivery systems: Several manufacturing companies are working on developing new ways of taking insulin from pills to patches to mouth spray to inhalers. The concept of delivering insulin by mouth (oral delivery) for absorption across the intestinal wall into the portal vein has long been regarded as a difficult challenge. But it

is clinically and commercially potential. Emisphere technologies are also pursuing oral route of insulin delivery taking advantage of the hepatic route of absorption, as insulin would be delivered to the liver, hence acting directly on hepatic glucose production in the same way of normal physiological state[16].

The patch non-invasive transdermal insulin delivery could provide diabetic patients with sustained physiological levels of basal insulin in a pain free manner . This could be done first by a device that would make microscopic holes in the top layer of the skin and secondly the application of patch over the skin.

Mouth spray delivers insulin through an aerosol spray and hence they differ from inhalers. In the mouth spray, the insulin is absorbed from inside of the cheeks and in the back of the mouth instead of lungs.

Insulin inhaled through Insulin inhalers by humans is more rapidly absorbed than that from subcutaneous injection. However, the efficiency of inhaled insulin is lower than that of subcutaneous injection. Because, pulmonary delivery of insulin involves some loss of drug within the inhaler or mouth during inhalation[17].

CONCLUSION

The conventional method of administering insulin may be replaced by alternative modes involving insulin pens and pumps as these are cost effective and time saving and avoid pains. The diabetic nurse educator can be made available in the diabetic
OPDs so that protocol on management of the diabetes could be taken care of and required training could be availed periodically by the diabetic children. The health care delivery system could ensure that the psychological issues of the diabetic children are dealt with by psychologists.

ACKNOWLEDGEMENT

One of the authors Mrs. Anjuladevi Kamaraj thanks Dr.Vijayalakshmi, Principal, Rani Meyyammai College of Nursing and Dr. C.V. Krishnaswami, Professor and Head, Juvenile Diabetes Research Center, VHS for their encouragement and support.

Conflict of Interest, Source of Funding and Ethical Clearance: No conflicts of interest exist in this paper. The work is self funded. This article does not require ethical clearance.

REFERENCES

1. International Diabetes Federation, Diabetes atlas, 5th Edition(2011)
2. Mohammed K. Ali, Mary Beth Weber[2], K. M. Venkat Narayan ,The Global Burden of Diabetes, The Textbook of Diabetes, Fourth Edition, Wiley Black well publications, UK (2010)
3. Tara Lamont et al., Safer administration of insulin: summary of a safety report from the National patient safety agency, BMJ 2010; 341:c5269.
4. Richard I.G. holt et al., The global burden of diabetes,4th edition, Wiley Blackwell, UK (2010)
5. S.Chauhan Nitesh, Recent advances in insulin delivery systems: An update, World Applied Sciences Journal, 11(12):1552-1556 (2010)
6. Dona L Wong et al, Whaley and Wong's Nursing care of Infants and children, 6th edition, Mosby, New York (1999)
7. Robert B.Tattersall, The History of Diabetes Mellitus, Textbook of Diabetes, Fourth Edition(2010)
8. K. Sembulingam, Prema Sembulingam, Essentials of Medical Physiology,5th edition, Jaypee Medical publication (2010)
9. Dhruv K Sing and H.B.Chandalia, Pediatric oncall child health care, www.ped.oncall.com
10. Down S, Kirkland F, Injection technique in insulin therapy, Nursing times, 108:10, 18-21 (2012)
11. Jane W.Ball and Ruth C.Bindler, Pediatric nursing :caring for children, 4th edition, Dorling Kindersley India Pvt Ltd (2009)
12. Anjuladevi Kamaraj, Self care management of children with type-1 diabetes, Nightingale Nursing Times, Vol.4 Issue.1 (2008)
13. Priscilla Lemone and Karean Bruke, Medical surgical nursing,3rd edition, Pearson publications(2010)
14. Deborah Thomas-Dobersen, Sick-Day Guidelines, clinical diabetes ,vol. 18, no. 3, Summer 2000.
15. Alsaleh FM, Smith FJ, Keady S, Taylor KMG. Insulin pumps: from inception to the present and toward the future. J Clin Pharm Ther 2010; 35:127–138.
16. M. M. Al-Tabakha and A. I. Arida, Recent Challenges in Insulin Delivery Systems: A Review, Indian J Pharm Sci. 2008 May-Jun; 70(3): 278–286.
17. Quattrin T, Bélanger A, Bohannon NJ, Schwartz SL, Efficacy and safety of inhaled insulin (Exubera) compared with subcutaneous insulin therapy in patients with type 1 diabetes: results of a 6-month, randomized, comparative trial, Diabetes Care 2004; 27 : 2622-7.

DOI Number: 10.5958/j.0974-9357.6.1.003

Lived Experiences of Failure on the National Council Licensure Examination - Registered Nurse (NCLEX-RN): Perceptions of Registered Nurses

Mc Farquhar Claudette
Associate Professor, York College, City University of New York

ABSTRACT

This study was to promote a deeper understanding of the possible meanings that may be given to the lived experiences of graduate nurses who failed the NCLEX-RN as perceived by registered nurses. The data collected in this study were recalled memories of feelings, experienced when graduate nurses failed the NCLEX-RN. Qualitative phenomenological study with a constructivist approach was utilized, after conducting a pilot study. Eighteen Registered Nurses who had failed the NCLEX-RN answered the research questions. Close face-to-face, one-on-one audio-taped in-depth interviews allowed for listening more effectively to the voices of participants, while observing body language as participants recalled their lived experiences of failure. The recalled experiences emerged in underlying themes and patterns and were analyzed and organized and include: disappointment; depression; and avoidance that evolved as temporary decreased psychological and sociological well being. Knowledge seeking behavior and confidence evolved from: not knowing what to expect; distraction; poor test-taking skills; and overall, inadequate preparation. Implications are for positive change to improve NCLEX-RN test-taking outcome.

Keywords: *Anxiety, Avoidance, Confidence, Failure, Test-Taking, Test-Anxiety, Lived Experience*

INTRODUCTION

Graduate nurses are faced with the challenge of passing the National Council Licensure Examination-Registered Nurse (NCLEX-RN), which is required to practice nursing. In 2010, the National Council State Boards of Nursing (NCSBN) reported the national failure rate on the standardized examination for Associate degree nurses (ADN) as 13%. Repeat test takers had an even more significant failure rate of 45%. Failing the NCLEX-RN has not only affected the psychological and financial wellbeing of the graduate nurse (GN) but has delayed entry into nursing practice; added to the ongoing nursing shortage; and limited the number of available nurses to care for an aging population.[1]

Corresponding author:
Mc Farquhar, Claudette
Associate Professor,
York College, City University of New York
94-20 Guy R. Brewer Blvd., Science 110
Jamaica, NY 11451
E-mail: cmcfarquhar@york.cuny.edu
7182622054; 3476003586

The higher than expected failure rate, despite an average 2-3 years of rigorous nursing education and training, echoes tremendous dissatisfaction within the health care community, [1,2,3,4,5, 6, 7,16] and has drawn concern from educators, policy makers, and health care agencies, who have analyzed the situation and have concluded that there is a need to better understand and improve NCLEX-RN failure rates.[8, 2,3, 7, 15] Furthermore, personal feelings experienced by graduate nurses (GNs) who fail the NCLEX-RN demand to be addressed.

PURPOSE

The purpose of this study was to gain a deeper understanding of the possible meanings that may be given to the lived experiences of failure on the NCLEX-RN as perceived by registered nurses (RNs). On knowing the meaning given to lived experiences of failing the NCLEX-RN by GNs, the information may be used to: help influence nursing education policy and programs; enhance the profession of nursing by adding to the body of nursing knowledge; incorporate in further research; anticipate and examine the needs

of future graduate nurses who must prepare for, and take the same examination.

Limitations of the study

The generalizability of the findings from this study is limited due to: use of a purposive sampling procedure; a homogenous sample of 18 participants (sixteen African American females; one Philippino; one Hispanic); with limited cultural diversity.[9]

The limited population, however, facilitated flexibility for in-depth interviews; asking of open-ended questions; ensured participation of an adequate number of nurses enrolled within the institution who had failed the NCLEX-RN.[10] In order to avoid introducing biases into the study, participants validated their interviews after they were transcribed.

Literature review

An extensive literature search was conducted to add structure to the problem of GNs who had failed the NCLEX-RN. Literatures were examined pertaining to feelings experienced when GNs failed NCLEX-RN; methods utilized in preparing to retake the NCLEX-RN; and motivations that hindered or helped the individual.[10, 4, 12, 14] The initial search revealed discussions on NCLEX-RN outcomes, including the impact of negative NCLEX-RN outcome on the GN, nursing schools, nursing education, the health care system; and on reasoning skills and test-anxiety [2, 11, 16]

METHOD

Qualitative phenomenological methodology was chosen because it lends itself to the derivation of real meaning through intimate recollection of memories.[12, 13] Lived experiences from 18 face-to-face interviews were tape-recorded and transcribed verbatim. Participants responded to the main interview questions, and several probes. As the data was analyzed, experiences began to emerge in patterns and themes. Each participant was given a code name, P1 through P18 to aid analysis. The constructivist paradigm that embraces the concept of multiple meanings that are socially and historically constructed allowed reflection, recollection, reconstruction, and narration of individual unique stories.[12, 13]

RESULTS

A phenomenological constructive approach allowed eighteen graduate nurses to reflect, recall and reconstruct their story of failing the NCLEX-RN in response to the question: "Please describe what it was like for you after finding out that you failed the NCLEX-RN?" As stories were recalled and memories narrated, the meaning of failure emerged in themes and patterns of disappointment; depression; and avoidance, which evolved as temporary decreased psychological and sociological well being. In response to the question, "Please describe experiences that you believed contributed most to your initial failure on the exam?" Participants recalled, "not knowing what to expect; distraction; poor test-taking skills," from which, inadequate preparation, knowledge seeking behavior and confidence evolved.

Through intent listening, the rich essence of participants' memories was felt, as their experiences were brought back to life. The emerged themes and patterns were analyzed and organized with attempt of presenting the stories in similar manner.

Emerged themes and patterns: Experiences of failure

The initial question, asked in order to gain a deeper understanding of the feelings of failure experienced by GNs, was introduced in the following manner. "I want you to think back on the time when you first took the state board exam and describe that period. "Please describe what it was like for you after finding out that you failed the NCLEX-RN?" Responding spontaneously, participants went back in time, recalling and narrating lived experiences, in thick descriptions, as if the experiences had only just occurred. [13]

Participants recalled that while failing the NCLEX-RN brought feelings of disappointment, isolation, depression and sadness; new challenges emerged, demanding re-examination of prior perceptions of exams. After identifying possible reasons for failure, external resources to improve chances of success were sought. Negative feelings were brief, and were therefore considered temporary decreased psychological and sociological wellbeing.

Several participants recalled feeling disappointed in self, in the nursing institution from which they graduated, and in particular, in not knowing what to expect on the exam. Participants remembered feeling depressed, accepting failure as justification for inadequate preparation, and experiencing self-imposed social isolation, with difficulty discussing failing the exam; avoiding/hiding from others, from fear of being labeled inadequate.

The pattern, knowledge seeking behavior, emerged from confidence, as participants approached friends, NCLEX-RN preparation agencies, and institutions, to plan/retake the exam and to become RNs. Feelings of confidence were therefore transformed into approach or acceptance, as participants aspired toward goal attainment. Participants recalled persevering, not only for self-fulfillment, but to satisfy financial and social obligations.

Discussion of emerged themes: Feelings of failure

The temporary decreased psychological and sociological wellbeing in response to failure, loss and disappointment experienced by participants, is supported in the literature as adaptive mechanisms that protect individuals from perceived unfavorable outcomes of failure.[5, 7, 12] For example, after failing, GNs described experiencing mood changes – feelings of devastation, sadness, anxiety, avoidance – avoiding exam results discussion.

The expression, temporary, was added to reflect GN's un-sustained decreased psychological and sociological wellbeing. For example, all 18 participants recalled changing from sadness and avoidance to approach and acceptance; with renewed aspirations and confidence, as they began seeking ways to prepare to retake the exam. Within days, to a few months after failing, participants recalled knowing that the exam could be repeated; felt confident that they would succeed; and engaged in knowledge seeking behaviors. Information was sought from friends who had previously taken the exam; NCLEX-RN preparation agencies and institutions (Tables 1 and 2).

Discussion of emerged themes: Contributing factors

This open-ended question, "Please describe experiences that you believed contributed most to your initial failure on the exam?" was more broadly structured to further engage participants in recalling memories perceived as contributing to failing the NCLEX-RN, elicited responses about feelings, and thoughts of failing the exam. The follow-up probe, "What else should be known about factors contributing to your failing the NCLEX-RN?" interjected at a point in the interview, encouraged participants to continue their stories, from which, verbatim excerpts are presented with very little editing; allowing the reader to experience the rich thick descriptions of the stories as they were narrated to the researcher (Tables 1 and 2).[13]

Participant1. The main thing, I was not well prepared. Lack of motivation.

Participant2. My inner intuition. I knew that inside of me really, I would

say, I was not really prepared in a way, but yet still I expected. But way down, deep in side me, I felt that I'm not really ready. So that is one of the things that I should have excluded and know. But that inner feeling that you have, but you say you should go because ok, "This one went and passed, but she wasn't doing well in school, how she went and passed?" But it is you, the individual who know how you're doing.

As participants recalled not knowing what to expect, distractions, and poor test taking skills, inadequate preparation emerged. For example, participants recalled internal and external distractions that hindered success on the exam as, being overly anxious about perceived failure; having to joggle family, work and school. Participants had memories of feeling or knowing that they were not sufficiently prepared academically as well as non-academically to take the examination. For example, Participants described lacking multiple choice test-taking skills.

Discrepant cases: Experiences of failure

The stories of three participants were non-conforming in some areas. For example:

Participant 5. I was not disappointed. It really did not have any psychological effect on me. My attitude was that I will take it again. I went and did it because I did not want to lose my money. I know that I didn't fail because of lack of knowledge. I have poor test taking skills. Basically, it's some kind of stigma that I have about multiple choice questions. I never liked them.

Discussion and Conclusion

Qualitative phenomenological approach from a constructivist perspective was particularly chosen to give a voice to the nurses to recall, reconstruct and describe lived experiences of failing the NCLEX-RN. Participants recalled memories contributing to failing the NCLEX-RN as: distraction; poor test taking skills; not knowing what to expect on the examination, and overall, inadequate preparation.

Attributing failure to self, participants recalled memories of moving from a temporary decreased state

of wellbeing; to a state of approach and confidence, which was exemplified by the participant who stated, "I realized that when you fail if you stay in that failure state without moving on, then, you would be defeated. If you try and try again then you will achieve what you really want." The information gleaned from this study might benefit graduate nurses who are faced with similar challenges of taking the NCLEX-RN. Finally, the featured research may be replicated with a less homogenous sample.

Table 1: Summary: Experiences of Failure

Temporary decreased psychological and sociological wellbeing	P 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18
Disappointment	P 1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 13, 15, 17
Depression	P 3, 4, 12, 13, 18
Avoidance	P 1, 2, 3, 4, 8, 9, 11, 14, 16,17
Knowledge seeking behaviorConfidence	P 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18
Approach or acceptance	P 3, 5, 6, 7, 10, 12, 13, 15, 16, 17, 18
Aspire towards goal attainment	P 1, 2, 3, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18
Discrepant cases: I had a stigmaI deserved to failI felt they wanted money	P5P6P14

Note: N= 18; P = participant

Table 2: Themes and Responses: Experiences of Failure

Disappointment	After a while I thought it over and with the support of friends; I decided to give it another tryVery disappointed, because I believed that I had studied a great deal. After about a month, I prayed and told myself it's not the end, I will try again, and I will pass it. Distraught. My hands trembled, and I ran to the bath roomI felt very disappointed I put the negative thoughts behind me and began to think positively and told myself…
Depression	It's like something in your heart, they call it like bitterness When the results came, I had these feelings as if I was nobody. The worse part was knowing that I have to study over again. I got depressed. I was so sad and anxious.You feel sad within yourself at that moment when you get the resultI didn't feel happy about it I dropped the envelope. My mood went down. I became temporarily depressed
Avoidance or hiding out	It really did not have any psychological effect on me.My attitude was that I will take it again.I knew, but I hoped that it wasn't so, but then, deep down I knew it was going to happen. I was devastated! I felt really bad as if I had wasted my money.I didn't tell many people that I failed, only one friend.I felt terrible. I felt like they wanted more money out of me. I just threw it somewhere in a corner. It was hard letting some people know that I had failed, but some people understood. I considered taking the exam private. When I failed no one knew. When I opened that brown envelope and saw I had failed, I put it down."I had this great fear. I had this friend calling for me.
Approach or Acceptance	The anxiety did not last. I decided to do another reviewI continued to study again. A period of sadness followed by prayer and studying. I really needed my licensure to get a job I realized that I had to give it another try I depended on God. I said that He will help me. I prayed about it. You want to meet a goal, so you just go for itStudy like you're going crazy I felt ok, because I felt like if I didn't pass, it's because I wasn't ready
Aspire toward goal attainment	The day after I failed the exam, I picked up my mood and started study right away again. I didn'even wait. I said,"Well,this is a fight, and I must end it.

ACKNOWLEDGEMENTS:

I wish to acknowledge Dr Frank DiSilvestro, Dr Henry Merrill, Dr B. Folz, Dr J. Lavin & Professor Hyacinthe McKenzie to whom I am deeply indebted for their editorial input and dedication in mentoring and encouraging me. Thanks to each participant, without whom, this research would have been impossible.

Ethical Clearance

Approval for the study was gained from Medgar Evers College (CUNY) IRB.

I do not have an actual or potential conflict of interest.

This article is original and has not been submitted elsewhere for publication.

No special Funding has been obtained or is associated with this article.

REFERENCES

1. National Council of State Boards of Nursing [Electronic version]. Retrieved March 20, 2013, from http://www.ncsbn.org/1237.htm
2. Harding, M. (2010). Predictability associated with exit examinations: A literature Review. Nursing Education, (9). 493-497
3. Joint Commission. (2010). Initiative on the future of nursing [Electronic version]. Retrieved March 25, 2013, from http://www.jointcommission.org/assets1/18/RWJ_future_of_ nursing
4. Griffiths, M. J., Papastrat, K., Czekanski, K. Hagan, K. (2004). The lived Experience of NCLEX failure. Journal of Nursing Education, 322-325.
5. Poorman, S. G., Webb, C. A. (2000). Preparing to retake the NCLEX-RN: the Experience of graduates who fail. Nurse Educator, 4, 175-80.
6. Poorman, S. G., Mastorovich, M. L., Liberto, T. L. & Gerwick, M. (2010). A cognitive behavioral course for at risk senior students preparing to take the NCLEX. Nurse Educator, 18, 172-175.
7. DiBartolo, M. C., & Seldomridge, Lisa. (2008). A Review of Intervention Studies to Promote NCLEX-RN Success of Baccalaureate Students. CIN: Computers, Informatics, Nursing.26 (5) 785-835.
8. Davenport, N. C. (2007). A comprehensive approach to NCLEX-RN success. Nursing Education Perspectives, 28, 30-33
9. Polit, D. F., & Hungler, B. P. (1987). Nursing research: Principles and methods (3rd. ed.). Philadelphia: J. B. Lippincott.
10. Creswell, J. W. (2003). Research design: Qualitative, quantitative, & mixed methods. (2nd ed.). Thousand Oaks, CA: Sage Publications
11. Frith, K. H., Sewel, J. P., & Clark, D. J. (2006). Best practices in NCLEX-RN readiness preparation for Baccalaureate student success. CIN: Computers informatics, nursing & Nurse Educator, 6, 322-329
12. Moustakas, C. (1994). Phenomenological research methods. Thousand Oaks, CA: Sage Publishing.
13. Van Manen, M. (1990). Researching lived experiences: Human science for action sensitive pedagogy. London: State University of New York.
14. McQueen, L., Sheldon, P., & Zimmerman, L. (2004). A collective community approach to preparing nursing students for the NCLEX-RN examination. The ABNF Journal
15. Morrison, S., Free, K., & Newman, M. (2002). Do progression and remediation policies improve NCLEX-RN passing rates? Nurse Educator, 27, 94-96.
16. Spurlock, D. R., & Hunt, L. (2008). A study of the usefulness of the HESI Exit Exam in predicting NCLEX-RN failure. Journal of Nursing Education, 47; 157-166

DOI Number: 10.5958/j.0974-9357.6.1.004

The effect of Problem Solving Training on Decision Making Skill in Nursing Students

Heidari M[1], Shahbazi S[2]
[1]BSc, MSc, Department of Nursing, School of Nursing and Midwifery, [2]BSc, M.Sc. in Nursing, Borujen Nursing Faculty, Shahrekord University of Medical Sciences, Shahrekord, Iran

ABSTRACT

Background: Today in the areas of health care, nurses are increasingly faced with issues and situations that are complex and the technology, understanding and acumen in the social sectors, rising health culture, processes and frequent changes of complex disease traits and moral. Therefore, decision making, critical thinking is to find and extremely complex. Nurses are going to decision making and decisions are complex and constantly every choice's sensitivity is very high, so having the skills of decision making and problem solving skills, in them, is essential. Therefore the aim of this study was to determine the effect of problem solving training on decision-making skills in nursing students.

Materials and Method: This study is a quazi-experimental study that performed in 100 nursing students in 2 groups of case (50) and control (50). Then, a short problem solving course based on 8 sessions of two hours during the term, was performed for the experimental group. To determine the decision making skill the decision making questionnaire was used.

Results: The finding revealed that decision making score in nurses students is low and problem solving course, positively affected the students ' decision making skill after the program ($P<0.05$).

Discussions: In general, the finding of this study indicated the improvement of the student's decision making skill. Therefore this kind of education on problem solving in various emergency medicine domains such as: education, research and management, is recommended.

Keywords: *Problem Solving, Decision Making, Nursing Students*

INTRODUCTION

Human is always making simple or complicated decisions during his life Naturally, every selection, depending on its simplicity or sophistication, imposes us a level of stress; therefore, having efficient coping skills, being satisfied with the decision making process in an innovative manner and skill of problem solving are essential to lower the related stress.[1] So, a way to make learning meaningful is problem solving skill to remain productive and dynamic in the field of sciences.[2] Nowadays, training and education experts as well as curriculum planners teach the students in a way that they can acquire the scientific facts by themselves instead of being loaded with the facts. They believe that students should personally think, decide and judge about various issues instead of loading their mind with scientific facts.[3]

Decision-making is the most important and risky component of health profession. Therefore, being familiar with decision-making and application of helpful strategies to provide the health personnel with this skill, especially among nurses, is crucial,[4] as nursing students and nurses face specific problems in addition to their routine procedures, which are associated with their working environment. These problems include working with numerous individuals and treatment team personnel as well as the patients and their families who are struck with disasters, being in agonizing and happy moments of life and death etc. which put the personnel at risk of high stress.[5] Nurses, in their professional role should make many critical decisions associated with patients' survival in every day of their work. So, clinical decision making is a complicated process.[6]

On the other hand, the patients and their families expect emergency nurses to make the best decision in relation with their needs. Various studies have shown that emergency nursing students lack problem solving and decision making skills. Meanwhile nowadays, this shortage, especially in emergency conditions when they should be capable of solving the problems appropriately, thoroughly and quickly, seems to be a great defect.[5] This study aimed to investigate the effect of problem solving skill education on decision making ability of nursing students in Broujen.

MATERIALS AND METHOD

This is a quasi- experimental two group pretest post test study in which the effect of problem solving education (independent variable) on the ability of decision making in students of nursing (dependent variable) in two groups of education (n=50) and control (n=50) was investigated. The subjects of this study were all term six and term eight associate degree students of nursing (no=100) in nursing school of Broujen who were interested in attending the present study. Sampling method was availably with equal same size of the population studied.

The subjects were randomly assigned to case and control groups. Although the subjects had the lowest contact with each other, the students in study group were asked to keep the intervention confidential from control group during the study. Then, all subjects filled the questionnaire of demographic variables in which it was tried to consider all influencing confounding factors on decision making ability. These factors included subjects' age, marital status, residential area, past semesters average, education, parents' age and education, numbers of children, any history of mental diseases or mental drug consumption, and history of attending emotional intelligence, stress control, Yuga, problem solving and decision making classes in past six months in the both groups. There was no significant difference concerning the aforementioned factors in study and control groups.

Students' decision making skill was assessed before and after intervention with tool of decision making questionnaire. A 20 item questionnaire was designed. Each question was scored between 0.25-1 through likert scale in four levels.

The lowest score of the questionnaire was five and the highest was 20. To confirm content validity, the questionnaire was distributed among eight experts and was confirmed by them. The reliability was confirmed in a pilot study on ten students of nursing in term four in Shahrekord nursing school (Cronbach alpha= 0.87). In addition, the reliability was also calculated among 15 sophomore students of nursing in Shahrekord nursing school, and Cronbach alpha of 0.74 was obtained.

Despite these two tests, for further confirmation, the reliability of the questionnaire was checked by pretest post test method with a two week interval yielding equal students' score correlation of 0.66 in the first and second time. In order to be sure about group's homogeneity, total average and rare score of students' decision making skill were calculated and compared yielding no significant difference. Then, education program of problem solving was held in eight two hour sessions during eight weeks by presence of study group and through group discussion, brain storming and three member group discussion with conduct of the related teacher in Broujen nursing school with help of Dezorrila and Gold Fried social problem solving model.[6]

The stages of this model are as follows

Stage one: General direction

- The ability to detect the problem
- Acceptance of the problem as a natural phenomenon, potential to change
- Believing in problem solving framework efficacy when faced with the problems
- High self-efficacy expectation to conduct the model
- Having the habit of stop, think, and then struggle to solve a problem

Stage two: Defining and framing the problem

- Collecting all available data, distinguishing the facts from the hypotheses needing a research
- Problem analysis
- Defining realistic goals

Stage three: Production of alternative solution

- Defining a spectrum of possible solutions
- Possibility of selecting the best answer from all existing answers

Stage four: Decision making

- Prediction of possible outcomes for each action
- Paying attention to benefits of these outcomes

Stage five: Performing problem solving

- Conducting the selected method

Stage six: Evaluation

- Observation of the results
- Evaluation

All educational sessions were designed based on this model and in each session, one stage was conducted. Descriptive and inferential statistics (direct T-test, paired T-test and chi-square) were adopted to analyze the data through SPSS / 16.

FINDINGS

This study was conducted on 100 students of nursing. Mean age of the subjects was 23.42 ±0.52. 65% of subjects were female and 45% were male. Before intervention, in order to be sure that the groups were identical, total average and students' decision making ability were investigated in both groups. Total Average means score and standard deviation of the students in case and control groups were 15.75 ±0.52 and 15.58 ± 0.63 respectively.

Mean score and standard deviation of decision making ability in case and control groups were 14.76±3.57 and 14.59± 4.01 respectively.

T test showed no significant difference between these means. Chi-square test also showed no significant difference in case and control groups concerning variables of residential area, parents' education level, the level of being interested in studying the course, parents' age and sex and a recent crisis in the family. There was no history of attending classes of Yoga, problem solving, emotional intelligence and stress control in any of the groups.

Mean scores of decision-making skill before intervention in case and control groups were 14.76±3.57 and 14.59± 4.01 respectively.

Independent t- test showed no significant difference between these two means before intervention ($p>0.05$), but after intervention, these means increased to 16.06 ±2.85 in case group and 14.60± 3.98 in control group, and independent t- test showed a significant between these means ($t=8.72$, $p<0.05$) (table no. 1).

Table 1: Comparison of decision-making skill means scores before and after intervention between study and control groups

	Study	Control	P value	
	Mean & SD	Mean & SD		Statistics
Before	14.76±3.57	14.59± 4.01	0.496	t=1.04df=58
After	16.06 ±2.85	14.60± 3.98	0.000	t=8.72df=58

Mean difference of decision making score before and after intervention were calculated. In addition, mean score differences were compared in case and control groups and showed a significant difference ($t=9.68$, $p<0.05$).

Mean score of students' decision-making in case group increased from 14.76±3.57 to 16.06 ±2.85 after intervention. Paired t-test showed a significant difference between these two means ($t=12.97$, $p<0.05$).

In control group, mean score of decision making was 14.60±3.98 after intervention, and no significant difference was seen in mean scores before and after intervention ($p>0.05$) (table no. 2).

Table 2: Comparison of decision-making skill mean scores before and after intervention between study and control groups

	Study	Control
	Mean & SD	Mean & SD
Before	14.76±3.57	14.59± 4.01
After	16.06 ±2.85	14.60± 3.98
P value	0.000	0.369
Statistics	t= -12.97df=29	t= -1.030df=29

DISCUSSION

The results of the present study revealed an increase of decision making skill among students of nursing after education of problem solving skill. The level of decision making skill has been restrictedly studied in nursing and midwifery students. Paryad studied clinical decision making among nursing students and reported that most of the subjects were able to make useful decisions.[7]

The researcher believes the inconsistency between the results of the above study and the present study can be due to the difference in curriculum of these two courses as in nursing, education of nursing process leaves the students in decision making situations

resulting in a more effect on their level of decision making skill. Martin reported nursing students' low decision making ability, which is consistent with the findings of the present study.[8] Nekouee also reported that the level of decision-making was average among midwifery students.[9]

Gunnarsson conducted a study in Sweden and investigated the influencing factors on decision making among nurses in emergency wards and reported various factors affecting their decision-making ability such as patients related factors, environmental factors, colleagues related factors, patients' personal affairs related factors, team leader function, personnel's knowledge and ethical conflicts. He concluded that these factors make decision-making as a very difficult process for these personnel and sometimes result in unsuccessful decisions.[10] Sands investigated clinical decision-making in mental health triage in 15 personal of emergency medicine in Australia and reported that most of the decisions in these teams were made based on the subjects' previous experiences although they had not passed any specific educational programs about mental health triage. He argues that it should be noted that there is not necessarily a significant association between the correct decisions and personnel's level of experience.[11] With regard to the results of the present study and the importance of enabling the associate degree students of nursing concerning decision-making skill, although the instructors often believe that these students can make simple and complex decisions during their education based on what they have already learned, the students are weak at this skill. Therefore, to make the best decisions, the students should be provided with education of problem solving and decision making skills.

With regard to aforementioned issues, it can be concluded that application of problem solving skill education, especially in form of a group work method, plays a key role in students' cognitive, emotional and psychomotor maturation. With regard to nurses critical profession and the important role of decision-making and problem solving ability among them, it is hoped that empowerment of these two skills, which were studied in the present study, can professionally and scientifically promote nurses and put this profession in its deserved place.

ACKNOWLEDGEMENT

The results of the research project is Shahrekord University of Medical Sciences and all fees are paid by the Department of Medical Research. The authors declare no conflict of interest.

REFERENCES

1. Gary W N, Hapner P. Problem solving self appraisal, awareness and utilization of campus helping resources. Journal of Counseling Psychology 2006; 133(1) 39-44.
2. Rochester S, Kilstoff K, Scott G. Learning from success: Improving undergraduate education through understanding the capabilities of successful nurse graduates. Nurse Education Today 2008; 25(3) 181-188.
3. Moattari M, Soltani A, Mousavinasab M, Aiattollahi A. The effect of problem solving skill training on self-concept of nursing students of the Shiraz faculty of nursing & midwifery. Iranian Journal of Education in Medical Sciences 2005; 5(14) 147-155.
4. Solivan MP. Management and leadership in nursing. Translation to Persian by: Givi M. Tehran. Nnor Danesh Pub 1998; (4) 50-58.
5. Altun I. The perceived problem solving ability and values of student nurses and midwives. Nurse Education Today 2003; 23(8) 575-584.
6. D-zurilla T. Chang E. Samna L. Self-esteem and social problem solving as predictors of aggression in college students. Journal of Social and Clinical Psychology 2007; 22(4) 424-440.
7. Paryad E, Javadi N, Fadakar K, Asiri Sh. Relationship between critical thinking and clinical decision making in nursing students. Iran Journal of Nursing 2011; 24(73) 63-71.
8. Martin C. The theory of critical thinking of nursing. Nurse Education Perspective 2002; 23(5) 243-247.
9. Nekuei N, Pakgohar M, Khakbazan Z, Mahmudi M. [Assessment of clinical decision making in midwifery students]. Iranian Journal in Medical Education 2002; 2(6) 49-55.
10. Gunnarsson M, Warrén Stomberg. Factors influencing decision making among ambulance nurses in emergency care situations. International Emergency Nursing 2009; 17(2) 83-89.
11. Sands N. An Exploration of clinical decision making in mental health triage. Archives of Psychiatric Nursing 2009; 23(4) 298-308.

DOI Number: 10.5958/j.0974-9357.6.1.005

Registered Nurses Perception of Medication Errors: A Cross Sectional Study in Southeast of Iran

Zahra Esmaeli Abdar[1], Haleh Tajaddini[2], Azam Bazrafshan[1], Hadi Khoshab[3], Asghar Tavan[4], Giti Afsharpoor[5], RN Masoud Amiri[6], Hossein Rafiei[7], Mohammad Esmaeili Abdar[8]

[1]Department of Clinical Research, [2]Neuroscience Research Center, Kerman University of Medical Sciences, Kerman, Iran, [3]Department of Medical-Surgical Nursing, School of Nursing and Midwifery, Bam University of Medical Sciences, Bam, Iran, [4]Shafa Hospital, [5]Shahid Bahonar Hospital, [6]Social Health Determinants Research Center, [7]Department of Intensive and Critical Care, School of Nursing and Midwifery, Shahrekord University of Medical Sciences, Shahrekord, Iran, [8]Department of Medical- Surgical Nursing, School of Nursing and Midwifery, Kerman University of Medical Sciences, Kerman, Iran

ABSTRACT

Aim: Nurses have an important role in decreasing Medication Errors (MEs). The purpose of this study was to determine registered nurses perception of MEs.

Method: In a cross-sectional study conducted in four educational hospitals in southeast of Iran, 238 registered nurses working within these hospitals were studied. Data were collected using Iranian nurses' medication errors questionnaire.

Results: Of the 238 nurses, 93.1% were women. Factors such as lack of staff to patients ratio, nurses fatigue from hard work, having difficulty to read physician's writing on the patients file, nurses' heavy workload and work in night shift were the most common causes of MEs development which determined by nurses.

Conclusion: MEs may affect negatively on patients' health. Nursing educational systems should have more attention to nurses' perception on MEs and could consider their view in planning and education in order to decline MEs.

Keywords: *Medication Error, Nurse, Perception, Cross Sectional*

INTRODUCTION

Medication errors (MEs) are of the most important problems in all hospitalized patients [1] which can be used as an indicator for determining the level of patient's safety in hospitals [2]. The National Coordinating Council for Medication Error Reporting and Prevention (NCC MERP) defines a "medication error" as: " any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer. Such events may be related to professional practice, health care products, procedures, and systems, including prescribing; order communication; product labeling, packaging, and nomenclature; compounding; dispensing; distribution; administration; education; monitoring; and use" [3]. These errors not only may have adverse influences on patients,[4, 5] but also may negatively affect nurses and organizations [4].

Incidence of MEs of hospitals settings in developing countries is high [1, 4]. Jennane and colleagues in 2011 surveyed on the incidence of MEs in an intensive care unit (ICU) of an educational hospital in North Africa[1].

Corresponding author:
Mohammad Esmaeli Abdar
Department of Medical-Surgical Nursing, School of Nursing and Midwifery, Kerman University of Medical Sciences, Kerman, Iran
Email : Mesmaeli87@gmail.com
Phone: 989133425513

They reported that most of patients in their ICU encountered with MEs especially in time of drug ordering and transcribing [1]. They have also found that increasing use of antibiotics and anticoagulants may raise the rate of MEs in ICU [1]. In 2012, Seidi and colleagues examined pediatric nurses' perceptions on the causes of MEs and potential barriers to report them in the pediatric wards of an educational hospital in Iran [6]. Most common causes of MEs reported by Iranian pediatric nurses were being unable to check medicinal orders (73.9%) and errors in the medication administration (64%). Seidi and colleagues also reported that less than half of MEs errors occurred in pediatric wards, had been reported by Iranian pediatric nurses to their supervisor [6]. In another study, Tang and colleagues surveyed nurses' views on the factors contributing to MEs [7]. Main affecting factors on MEs rate determined by Tang were the personal neglect, heavy workload and new staff [7]. They also reported that risk of MEs occurrence is higher in some wards such as medical wards and ICU [7]. In addition, Koohestani and colleagues focused on the barriers to report the medication administration errors by nursing students [8]. They reported that nursing students usually did not report MEs to their instructors. Two main reasons for not reporting ME among nursing students were administrative barriers such as its potential negative feedback and fear of being recognized as inappropriate staff [8].

Overcrowding ward and lack of nurses' personnel as well as high volumes of activity combined with increased numbers and dosages of medication prescribed could be increase the risk of MEs by nurses [7, 9]. Despite the importance of the nurse's task in preventing MEs, [7, 10] very few studies have been performed in this regards in Iranian context. In order to plan for preventing and decreasing rate of MEs, understanding of nurse's perception of MEs could be very helpful. This study was thus designed to examine the Iranian registered nurses perception of MEs.

METHOD

In a cross-sectional study conducted from September 2012 to January 2013 in four educational hospitals in Kerman, Southeast of Iran, 239 qualified registered nurses working within these hospitals were studied. Nursing, as a general practice, can be studied in universities; however, unlike some western countries, Iran does not differentiate by rank within licensed nursing personnel, and RN is the only professionally recognized rank. On successful completion of nurse education programs, graduates are automatically granted the status of registered nurse, which is the minimum legal and educational requirement for professional nursing practice. Registered nurses must complete a four year bachelor's degree at a nursing college. The written permission was obtained from deputy of research and also the Ethics' Board of the Kerman University of Medical Sciences and written consent letters were filled in by all respondents. In addition, all participants were promised that all data would remain anonymous, kept confidential and be stored safely. Participants answered individually and returned the tests to the researcher. Data collection tool was " Iranian Nurses Medication Errors' Questionnaire" developed by Soozani . This questionnaire contains 21 question related tothe nurses' perception of MEs. Each question was scored as "none=0; low=1; moderate= 3 and high= 4". The questionnaire was divided into three categories including: 1) items related to nurses (questions number 1 to 7), 2) items related to work setting (questions number 8 to 13) and 3) items related to nurses' mangers (questions number 14 to 21) [11]. Data were presented by mean and standard deviation and SPSS software (version 18.0) were used.

RESULT

Of 238 nurses participated in this study, 93.1% (n= 213) were women. The mean age of participants was 32± 7.4 years and mean years of experience was 9.3±7.5 years. 47% (n= 112) of participants have worked in acute care setting (ICU, NICU, CCU and emergency department).

Nurses' responses to 21 questions have been shown in table 1. Nurses reported that items related to category one (items related to nurses) had more effect on MEs compared to other categories. In category 1 (items related to nurses), most common causes determined by nurses were "lack of staff to patients ratio and nurses fatigue from hard work". In category 2 (items related to work setting), most common reasons determined by nurses were "having difficulty to read physician's writing on the patients file". In category 3 (items related to nurses' mangers), most common issue determined by nurses was "nurses heavy workload".

Table 1: Nurses response to questionnaire items

Question	Without effect	Low effect	Moderate effect	High effect
1. Disappointment and indifference towards the nursing profession	50 (21%)	60 (25.2%)	59 (24.8%)	69 (30%)
2. Unfamiliarity of nurses with medication	22 (9.1%)	62 (26.1%)	60 (25.2%)	94 (39.5%)
3. Nurses financial problems	48 (20.2%)	65 (27.3%)	62 (26.1%)	63 (26.5%)
4. Nurses family problems	40 (16.8%)	63 (26.5%)	75(31.6%)	60 (25.2%)
5. Nurses psychological problems	17 (7.1%)	43 (18.1%)	75 (31.6%)	103 (43.2%)
6. lack of staff to patients ratio	5 (2.1%)	14 (5.9%)	46 (19.3%)	173 (72.7%)
7. Nurses fatigue from hard work	3 (1.3%)	13 (5.5%)	54 (22.7%)	168 (70.6%)
8. Wards environmental noise	10 (4.2%)	71 (29.8%)	96 (40.3%)	61 (25.6%)
9. Methods that used for control and supervising wards	29 (12.2%)	62 (26.1%)	102 (42.9%)	45 (18.9%)
10. Medication room environment (light, physical space, etc.)	15 (6.3%)	59 (24.8%)	106 (44.5%)	58 (24.4%)
11. Type of drugs arrangement in shelves	18 (7.6%)	54 (22.7%)	105 (44.1.8%)	61 (25.6%)
12. Routs of drugs administration (oral, intravenous, etc.)	23 (9.7%)	81 (34%)	84 (35.3%)	50 (21%)
13. Difficult to read physician's writing on the patients file	11 (4.6%)	33 (13.9%)	70 (29.4%)	124 (52.1%)
14. Difficult to read patients drugs forms	15 (6.3%)	47 (19.7%)	77 (32.4%)	99 (41.6%)
15. Lack of enough time because of workload	12 (5%)	48 (20.2%)	102 (42.9%)	76 (31.9%)
16. Nurses heavy workload	6 (2.5%)	23 (9.7%)	75 (31.5%)	134 (56.3%)
17 . Type of worked setting	36 (15.1%)	48 (20.2%)	88 (37%)	66 (27.7%)
18. Morning work shift	65 (27.3%)	90 (37.8%)	49 (20.6%)	34 (14.3%)
19. Evening work shift	66 (27.7%)	71 (29.8%)	78 (32.8%)	23 (9.7%)
20. Night work shift	35 (14.7%)	42 (17.6%)	87 (36.6%)	74 (31.1%)
21. Complicated rules of drug administration	32 (13.4%)	63 (26.5%)	90 (37.8%)	53 (22.3%)

DISCUSSION

Our results revealed that lack of staff to patients ratio, nurses' fatigue from hard work, having difficulty to read physician's writing in the patients' files, nurses heavy workload and working at night shifts were most common causes of MEs determined by Iranian registered nurses.

Medication therapy is an important nursing task of Iranian nurses [11]. It should be considered that physicians are responsible for prescribing medications and nurses are only responsible for preparing and administering medications. Having appropriate knowledge about nurses' perception on MEs may be effective for planning of decreasing incidence of this problem. Results of present study showed that items related to own characteristics of nurses had more effects on MEs. Unver and colleagues studied perspectives of newly graduated and experienced nurses about MEs in a military hospital in Turkey [12]. Similar to our findings, they used modified Gladstone's scale of MEs and found that nurse exhaustion and distraction are two most common causes of MEs [12]. For decreasing rate of MEs, they suggested that educational systems have to consider during the training process of nurses the understanding causes of MEs and related prevention methods [12]. Using the same questionnaire, Soozani and colleagues studied nurses' perception of MEs in Iran [11]. They have also reported that lack of staff to patients' ratio, nurses' fatigue from hard work and having difficulty to read physician's writing on the patients' files is most common causes of MEs [11]. They have also suggested that lack of trained nurses in medication therapy may affect negatively on patients' health and it should be considered by nursing manager [11].

Our participants have also reported that some environmental factors such as noise, light and having difficulty to read physician's writing on the patients' files may increase the risk of MEs. Mahmood and colleagues in USA examined nurses' perceptions of effects of physical environmental factors on occurrence of MEs in acute care settings [13]. Some physical environmental factors determined by nurses in Mahmood's study were inadequate space in charting and documentation area, lengthy walking distances to patient rooms, insufficient patient surveillance opportunity, lack of visibility to all parts of the nursing unit, small size of the medication room, inappropriate organization of medical supplies, high noise levels in

nursing unit, poor lighting, and lack of privacy in the nursing stations [13]. Soozani and colleagues have also mentioned environmental factors effect on rate of MEs. Most common environmental cause determined by Soozani was high level of noise [11].

With regards to the items related to the manger nurses, working shift (morning, evening and night) was a factor determined as an effective factor in increasing risk of MEs in previous studies. Our nurses reported that risk of MEs development is higher at night shifts. Similar to our finding, Soozani and colleagues reported similar findings [11]. However, in contrast to our finding, Kim and colleagues who studied on Nurses' perceptions of medication errors and their contributing factors in South Korea reported that most MEs occurred by nurses at day shifts [14]. This difference might be due to the differences in nursing systems between Iran and the South Korea hospitals; i.e., in Iran, less number of nurses allocated to work at night shifts in comparison with morning and evening shifts. In addition, in Iran, more experienced nurses usually work at day shifts (Morning and evening). Lack of nurses to patients ratio and lack of experienced nurses at night shifts in Iranian hospitals setting may be increase the risk of MEs development in this work shift. At night shifts, some environmental factors such as poor lighting could also increase the risk of MEs development in this work shift compared to morning and evening shifts.

Limitations

The respondents were predominantly female, which limits the generalisability of the results to male nurses. As this study was based on a convenience sample and participation was voluntary, there might have been a selection bias which could affect on generalizability of the results to all nurses. Furthermore, use of the self-reported questionnaires may have lead to an overestimation of some of the findings due to the variance observed in different methods.

CONCLUSION

Nursing educational systems should have more attention to nurses' perception on MEs and may consider their view during planning and education towards decreasing MEs. Lack of staff to patients' ratio, nurses' fatigue from hard work, having difficulty to read physician's writing on the patients' files, nurses' heavy workload, working at night shift, nurses' financial problems and lack of knowledge about medication therapy are the most important factors which may affect on the increasing risk of MEs development by nurses.

REFERENCES

1. Jennane N, Madani N, Oulderrkhis R, Abidi K, Khoudri I, Belayachi J, Dendane T, Zeggwagh AA, Abouqal R. Incidence of medication errors in a Moroccan medical intensive care unit. Int Arch Med 2011;4:32.
2. Cheraghi MA, Nikbakhat Nasrabadi AR, Mohammad Nejad M, Salari A. Medication Errors Among Nurses in Intensive Care Units (ICU). J Mazand Univ Med Sci 2012; 22(Supple 1): 115-119.
3. http://www.nccmerp.org/about MedErrors. html.
4. Mrayyan MT, Shishani K, Al-Faouri I. Rate, causes and reporting of medication errors in Jordan: nurses' perspectives. J Nurs Manag 2007;15(6):659-70.
5. Schelbred AB, Nord R. Nurses' experiences of drug administration errors. J Adv Nurs 2007;60(3):317-24.
6. Seidi M, Zardosht R. Survey of nurses' viewpoints on causes of medicinal errors and barriers to reporting in pediatric units in hospitals of Mashhad University of medical sciences. Journal of Fasa University of Medical Sciences 2012;3: 142-147.
7. Tang FI, Sheu SJ, Yu S, Wei IL, Chen CH. Nurses relate the contributing factors involved in medication errors. J Clin Nurs 2007;16(3):447-57.
8. Koohestani HR, Baghcheghi N. Barriers to the reporting of medication administration errors among nursing students. Aust JAN 2009; 27(1): 66-74.
9. Chang Y, Mark B. Effects of learning climate and registered nurse staffing on medication errors. J Nurs Adm 2011;41(7-8 Suppl):S6-13.
10. Mark BA, Belyea M. Nurse staffing and medication errors: cross-sectional or longitudinal relationships? Res Nurs Health 2009;32(1):18-30.

11. Soozani A, Bagheri H, Poorhydari M. Survey nurses view about factors affects medication errors in different care units of Imam Hossein hospital in Shahroud. Knowledge and Health Journal 2007; 3: 8-13.
12. Unver V, Tastan S, Akbayrak N. Medication errors: perspectives of newly graduated and experienced nurses. Int J Nurs Pract 2012;18(4):317-24.
13. Mahmood A, Chaudhury H, Valente M. Nurses' perceptions of how physical environment affects medication errors in acute care settings. Appl Nurs Res 2011;24(4):229-37.
14. Kim KS, Kwon SH, Kim JA, Cho S. Nurses' perceptions of medication errors and their contributing factors in South Korea. J Nurs Manag 2011;19(3):346-53.

DOI Number: 10.5958/j.0974-9357.6.1.006

Education to Nursing Personnel on Hospital Waste Management

Abdul Jaleel[1], R Jeyadeepa[2]
[1]Medical Supetrintendent, Karuna Medical College Hospital, Palakkad, [2]Vice Principal, Karuna College of Nursing, Palakkad

ABSTRACT

Environmental sanitation practices were very much a part of the ancient Indian Civilization but such practices were introduced in the hospital system only in the post Vedic period. Among the health team members Nurses are the one who spend most of their time in direct patient care. Segregation is the key to Hospital Waste Management and Nurses are responsible for Segregating Hospital Waste. So educating the nurses on Hospital Waste Management is the need of this hour.

Objectives:

1. Assessment of Knowledge and Practice of Nurses On Hospital Waste Management
2. Education to Nurses on Hospital Waste Management.
3. Reassessment of Knowledge and Practice of Nurses on Hospital Waste Management

Hypothesis:

1. Education improves the average knowledge of nurses on Hospital Waste Management
2. There is an association between knowledge and demographic characters of the nurses.

   This study was supported with relevant literature.

Methodology:

1. Research design: One group pretest post test design was adopted.
2. Setting: Conducted in Karuna Medical College hospital.
3. Population & Sampling: Simple random sampling
4. Tool: The questionnaire

DATA ANALYSIS: The area wise score was assessed or an average there was 46% gain in knowledge score of nurses on hospital waste management. To compare the pretest and post test knowledge scores paired't' test was used. The calculated't' value is 3.58 which is greater than the table value 0.01% level of significance. To find out the association between the demographic variables on the pretest knowledge scores Karl Pearson's co-efficient of correction was used. There was an inverse correlation between age and knowledge and positive relationship between experience and qualification on knowledge score on hospital waste management was found.

Keywords: *Education, Hospital Waste Management, Nursing Personnel, Segregation*

INTRODUCTION

Environmental sanitation practices gained very much importance from ancient Indian civilization (Indus Valley Civilization 3000 B.C). But these practices were introduced in the hospital system only in the post Vedic period (600 – 300 B.C) by Rahula sanskritiyana (son Of Buddha). Modern India witnessed the appointment of sanitary commissioners in three major provinces during the British regime in the year 1864. Bio Medical Waste was brought to focus in the west. During 1980's when the European office convened a

work group of medical specialists, hospital engineers and administrators from 19 countries at Bergen and concluded the desired need for a systemic approach to handle the biomedical waste with special emphasis on awareness, segregation and source reduction.[1,5]

All human activities inevitably produce waste and in some cases it is not only hazardous to water, air and soil but also to all living creatures existing on the earth. One of the most dangerous wastes to the environment and human beings is industrial waste; similarly biomedical waste possesses numerous health hazards.

Nurses are responsible and accountable for professional behavior which involves nursing process, co – operation with other health team members, current legislation which affects the nursing practice according to professional code of ethics, policies of the employing agency and customs and values of the society in which the nursing care is being provided. Skills and precautions in managing hospital waste which reduces the risk of hospital acquired infection infections will help the nurses to protect their own health and the public health. Hence they should be educated with the latest information and skills in managing hospital waste.[2, 3, 4, 6]

Need for the Study

In 1983, the WHO stated that the hospital wastes are dangerous threats to ecological balance and public health. Waste generated by the hospital if allowed to enter in waste stream without proper disposal would cause unimaginable loss to the society. This will lead to outbreak of communicable diseases, diarrhoeal epidemics, water contamination and radioactive fall outs.

Among the health team members nurses are the one who spend more time in direct patient care. Segregation is the key to hospital waste management. Nurses are responsible for the segregation of the waste. So educating the nurse on hospital waste management is an important task.[7, 11]

Statement of the problem:

Education to nursing personnel on hospital waste management in a selected hospital, Palakkad, Kerala.

OBJECTIVES

1. Assessment of knowledge and practice of nurses on hospital waste management.
2. Education to nurses on hospital waste management.
3. Reassessment of knowledge and practice of nurses on hospital waste management.

Hypothesis

1. Education improves the average knowledge of the nurses on hospital waste management.
2. There is a relationship between age of nurses and the pretest knowledge score on hospital waste management.
3. There is a relationship between experience of nurses and the pretest knowledge score on hospital waste management.
4. There is a relationship between qualification of nurses and the pretest knowledge score on hospital waste management.

Review of literature

A three year study carried out in Jordan revealed that 1000 odd persons involved in patient related activities, 248 health care workers had needle stick injuries of which 34.6% are staff nurses, 19% environmental workers, 15.7% interns, 11.7% residents, 8.5% practical nurses, 6% technicians. The study also revealed that needle stick and sharp injuries occur frequently in developing countries where safer disposals faciliries are required. (Paul.et.al, 1995) [12]

Right to live in a clean environment is one of the fundamental right which has been developed through biomedical waste management and handling rules, 1998 under the environmental protection act 1986. The rules regulate the disposal of biomedical wastes including human anatomical waste, blood and body fluids, medicines and glass ware, soiled liquid, biotechnology waste and animal waste. The objective is to take all steps to ensure safety of health and environment. The biomedical waste rules make the generator of the waste liable to segregate, pack, store and dispose off the hospital waste in an environmentally sound manner (Sharma et.al., 1993).[8]

A study to assess the total biomedical waste produced in Kollam district revealed that the average biomedical waste generation per bed per day is 180 grams. Dental facilities produce 650 grams of infectious waste per day. This study recommended that every bit of infectious waste should e treated and disposed

off. A properly planned project for the management and disposal of these hazardous wastes should be implemented and carried out at the earliest. Presently individual waste management facilities are not advised. The infectious waste constitutes around 30% of the total waste. All the other waste can be considered as harmless domestic waste. The treatment of infectious waste being very costly, segregation of waste at source is necessary. Proper training on this aspect of the health care workers is necessary (Nair, 2002)[13]

Cost effective suggestion to improve the hospital waste management include training to hospital staff on segregation of waste at the point of generation, use of colour bags for collection of hazardous and non hazardous waste and enactment of law inclusive of financial punishment provision and its strict application National Consultation on Bio Medical Waste Management, 2000).[10]

IMAGE a sub organization under IMA started a common treatment facility at Kanjikode, Palakkad. It gives training to the health care workers. Kerala state council for science, technology and environment, Kerala state pollution control board, Clean Kerala mission, Universities, Professional organizations, Productivity council, NGOs etc taken lead in awareness and education activities. (IMA 2003).[14]

A study to assess the effectiveness of information booklet on biomedical waste management revealed that the information booklet was found highly acceptable and useful for nurses. To comply the biomedical waste management and handling rules and to safe guard their own health nursing staff must have adequate knowledge in performing their duties that should ensure safe handling, collection, storage, treatment and disposal of biomedical waste (Ritu Singh et.al., 2002).[9]

METHODOLOGY

Research design

One group pretest post test design was adopted for this study.

Setting

The study was conducted in a 450 bedded medical college hospital in Palakkad, Kerala. The hospital has all facilities has like outpatient departments, laboratory and other investigation facilities, medical ward, surgical ward, OBG ward, paediatric ward, orthoward, ENT & Ophthalmology ward, Skin & VD ward, Psychiatry ward, Medical ICU, Coronary care unit, Surgical ICU, Gynec ICU, Neonatal ICU and Pediatric ICU.

Population and Sampling:

In the entire hospital 162 nurses are working in different units. Large number of nurses is working in medical wards, surgical wards and operation theatre. On an average there are seven nurses in each ward. All nurses are in some or other form involved in generating and handling the waste. Sample size was determined by using degree of precision method. N = 89.3.

Inclusion criteria

1. Nurses who provide direct patient care.
2. Whoever is available at the time of data collection.

Exclusion criteria

1. Nurses who are not willing to participate in the study.
2. Nurses who joined newly during the time of data collection.

Instruments and tools for data collection

The instrument used for data collection was a structured questionnaire. It consisted of 44 questions for assessing the knowledge and practice of nurses of nurse on hospital waste management.

Reliability and Validity

Tool was prepared with the help of literature review and expert guidance. The reliability and validity was tested through the pilot study.

Technique of data collection

Data were collected through the pre tested questionnaire. All the nurses who fulfill the inclusion criteria were selects as samples. After selecting the samples the questionnaire was issued to them and the data were collected. After the assessment education was given with the help of an information booklet. Each nurse was provided with an information booklet.

Reassessment was done after five days with the help of the same questionnaire.

Techniques of data analysis

Frequency table was formulated for all baseline data. The frequencies were tabulated to understand the knowledge of nurses on hospital waste management. Paired 't' test was used to analyze the significant difference in the knowledge score before and after education. Karl pearson's correlation and co efficient test was used to find out the influence of independent variable on the dependent variable.

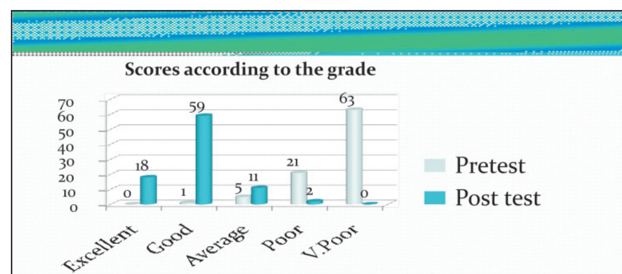
DATA ANALYSIS

Majority of the nurses were between the age group of 21 to 25 years studied General Nursing and Midwifery course and having below 5 years of experience. The knowledge of nurses was assessed through the questionnaire. The scores obtained by the nurses classified into grades like excellent, good, average, poor and very poor. Majority of the nurses were under the category of very poor and only one nurse was in the category of good during the pretest. Where as in post test 18 nurses got excellent score, 59 nurses got good score, 11 nurses got poor score and no one was under the category of very poor. Paired't' test was calculated to assess the improvement in the knowledge score. The calculated 't' value is 3.58 which is higher than the table value. Hence it can be inferred that the education has significantly improved the knowledge of nurses on hospital waste management. To find the association between the independent and dependent variable Karl Pearson's correlation and co efficient was used. The calculated r value to find the association between ages and pretest knowledge score is -0.07 which indicates inverse correlation between age and knowledge. The calculated r value to find the association between experiences and pretest knowledge score is 0.07 which shows positive correlation between the experience and knowledge. The calculated r value to find the association between qualification and knowledge is 0.09 which shows the positive correlation between qualification and knowledge.

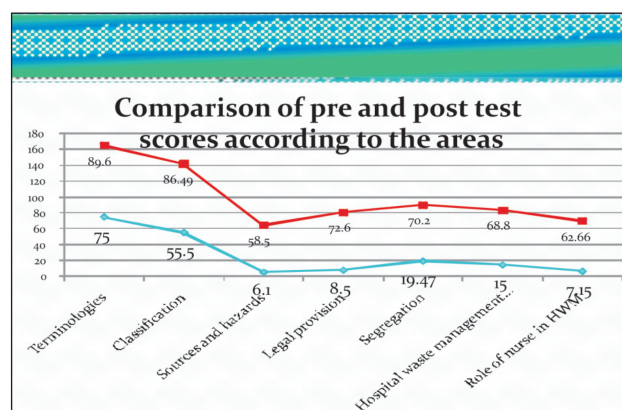
It is clearly observed in the present study that the nurses lack their knowledge in all aspects of hospital waste management. Education helped them to gain knowledge in various aspects of hospital waste management.

Table No 1. Socio Demographic statuses of Nurses

S. No	Character	No of Nurses		
		Male	Female	Total
1	**Age in Years**			
	20 – 25	12	34	46
	25 – 30	6	15	21
	30 – 35	3	9	12
	35 – 40	0	6	6
	Above 40	0	5	5
2	**Marital Status**			
	Married	15	16	31
	Unmarried	6	53	59
3	**Educational Qualification**			
	B.Sc (N)	9	20	29
	GNM	12	49	61
4	**Experience**			
	Below 5 years	13	53	66
	5 – 10 years	6	13	19
	Above 10 years	2	3	5



Graph No 1 Scores according to the grade



Graph No 2 Comparison of pretest and post test scores according to the areas

Table No 2. Mean, Mean Difference, Standard Deviation and "t" value between pre and post test knowledge scores

Group	Mean	Mean Difference	Standard Deviation	Degree of freedom	"t" value
Nurses	Pre test = 17.4 Post test = 45.18	27.01	72.08	0.01	3.38

Limitations of the study

1. This study was limited to provide education only to the staff nurses.
2. This study was aimed only to promote the knowledge level of the nurses. Practice was not assessed.
3. Attitude of the nurses towards hospital waste management was not assessed.

Major findings of the study:

1. It was found that nurses had 75% of knowledge in terminologies, after education it was improved to 89.6%.
2. The study revealed that nurses had 55.5% knowledge in classification of hospital waste, after education it has been improved to 86.49%.
3. The study showed that nurses had only 6% knowledge in sources and hazards of hospital waste but education improved their knowledge up to 58.5%.
4. The study revealed that nurses obtained only 8.5% score in legal provision but after education it was improved to 72.6%.
5. It was found that the nurses had only 19.47% knowledge in segregation after education it was improved to 70.2%.
6. Nurses had only 15% knowledge in hospital waste management plan. Education improved the knowledge to 68.8%.
7. The study showed that 7.15% score was obtained by the nurses in role of nurse in hospital waste management during the assessment but education improved the knowledge to 62.66%.

Suggestions for further study

1. Similar study can be conducted to class IV workers.
2. Similar study can be done to compare the knowledge of nurses working in Government and Private hospitals.
3. Knowledge, attitude and practice of nurses on hospital waste management can be assessed.

Recommendations

1. Ongoing in – service education to nurses on hospital waste management with periodic reinforcement can be done to enhance the knowledge of nurses on hospital waste management.
2. Education may be given to class IV workers on safe handling of hospital waste.
3. Mass media like Television, Newspaper and movies can be used to educate the health workers on hospital waste management.

CONCLUSION

This study was taken up to assess the knowledge level of nursing personnel in the hospital on hospital waste management because this is an important issue not only to the hospitals but also for the society as a whole.

The nursing personnel in the hospitals do not possess adequate knowledge on hospital waste management though it is an important issue. The hospital authorities should take necessary steps to educate all personnel working in the hospital which will not only safe guard the personnel in the hospital but also the society at large. Hence it can be concluded that education provided to nursing personnel on hospital waste management will certainly help them to improve their knowledge and practice in managing the hospital waste.

ACKNOWLEDGEMENT:

We render our humble and grateful thanks to the Heavenly Lord for having showered his blessings on us in completing the project successfully.

We express our deep sense of gratitude and respectful regards to the Management, Dean, Faculty, Staff Nurses and other staff of Karuna Medical College, Vilayodi, Chittur, Palakkad for their constant support and encouragement for the completion of this project successfully.

We proudly express our gratitude to our family members for their assistance and co operation throughout the study.

Conflict of Interest: None

Source of Funding: None

Ethical Clearance: Got ethical clearance from the Institutional Ethical Committee before the study.

REFERENCES

1. American College of Nurse Midwives," Green Birthdays",Health care without Harm, March 2001. Bano Retigua," Continuing Education in Nursing," The Nursing Journal Of India,(xxx1x) (12),sep 1990.Pp 16-20.
2. Dean. M."Continuing Education for Nursing personnel," The Nursing Journal Of India,(X1x) (9),june 1993,Pp 28-32.
3. Geethanjali Baveja et.al,"Hospital Waste Management An Overview", Hospital Today, (v) (9),September 2000,Pp 485-486.
4. Julie Price Joan Moss,"The fit fall Of PRACTICE Nursing",Nursing Times,(94) (30),july 1998,Pp 68-75.
5. Kishore Jungal,"Hospital Waste Management in India'"Indian Journal of Occupational and Envionmental Medicine, (3) (2) April-june 1999, Pp 79-84.
6. Narrender,"In service Education," The Nursing Journal Of India, (xxv), (14),November 1990,Pp 73-77.
7. Niyati.K.P, "ABC Of Waste Minimization The Indian Scenario," Health ACTION, AUGUST 2002
8. Sharma B.R,"Right To Healthy Environment Vis-à-vis Biomedical Waste", Hospital Today,(v11) (9),September 2002.
9. Ritu Singh et.al,"The role Of AN Information Booklet On Biomedical Waste Management for Nurses",The Nursing Journal O f India,(1xxxx111) (12), December 2002,Pp 271-272.
10. Sharma Madhuri, Hospital waste Management And Its Monitoring,New Delhi: Jaypee publications,1st edition ,2002.
11. Prabhakar Usha,Neelam Makhija, "Biomedical Waste Management-A study To Assess The knowledge Of Nursing Personnel",The Nursing Journal Of India,(x1v) (8), August 2004.
12. Paul et.al, Fact Sheet: Medical Waste Management, April 1999
13. Nair et.al, A study to assess the total biomedical wastes produced in kollam district, Kerala, Nov 2002
14. Nagarajan Shyma. S, Is our biomedical waste management system progressive? Pharma Biz Hospital Review, Sep 2003

DOI Number: 10.5958/j.0974-9357.6.1.007

Two Teaching Strategies in Subcutaneous Injection: A Comparative Study

Khadijah C Bautista[1], Nazik M A Zakari[2]
[1]Instructor, [2]Vice Dean, King Saud University, College of Nursing Kingdom of Saudi Arabia

ABSTRACT

The aim of this study is to compare the two different teaching strategies among nursing students of College of Nursing in giving subcutaneous injection by applying bloom's taxonomy of learning domains. Quasi-experimental design was utilized in this study. Twenty one nursing students from BSN 2nd year were recruited to participate and divided into two groups in separate nursing skills lab . A performance checklist guide has been used to experimental group who performed subcutaneous injection with pricking of the needle to a simulated low fidelity mannequin and control group without pricking of the needle. Post test was used on both groups to evaluate student's performance in subcutaneous injection with pricking of needle . Mildly to moderately difference in cognitive and psychomotor skills was existed between groups. However, there is no significant difference in both groups in affective skill. Based on study findings, it suggests that skills that have been practice with hands-on in the nursing skills lab prior to clinical performance will contribute on student's learning competency in cognitive and psychomotor domains regardless of the difficulty of skill presented and number of students performed.

Keywords: *Hands-on Practice, Learning Domains*

INTRODUCTION

A number of nurse researcher have focused their efforts on exploring psychomotor skill acquisition. While there are a number of related studies involving the development of skills in the laboratory, little is known if hands-on practice to a simulated low-fidelity mannequin is the best effective teaching strategy in giving subcutaneous injections.

Education in nursing involves learning in clinical laboratory to give opportunity to apply the theoretical concepts, rules, and propositions they have learned in the classroom. These concepts integrate the blooms taxonomy of learning domains of cognitive (knowledge) which involves knowledge and development of intellectual skills. Psychomotor (skill) which requires varying levels of well coordinated physical activity that includes physical movement, coordination, and use of motor-skill areas. And affective (attitude) includes the manner in which to deal with things emotionally; it involves willingness to listen, responding, valuing, organizing, and characterization.[1]

The learning of nursing skills in a laboratory is an essential part of the curriculum.

It is here that students are introduced to skills, concepts and procedures and get to practice to a simulated mannequin.[2] It has involved using of oranges to practice injections, learning CPR, inserting Foley catheters to a mannequin, or role playing. These are all simulations in one form or another, and what they have in common is that they are done in an artificial situation so the students are later able to practice safely on actual patient care in clinical setting.[3]

Giving subcutaneous injection is one of anxiety-producing skills that needs hands-on practice in the laboratory prior to actual clinical performance. Suling

Corresponding author:
Khadijah C Bautista
Instructor
College of Nursing, King Saud University
PO Box 69512, Riyadh, 11547
Kingdom of Saudi Arabia

Li (2007) reported that practice in laboratory setting that is more closely resemblance the clinical environment will enhance student's learning and reduces anxiety. It will allow students to critically analyze their own actions, reflect on their own skill sets and clinical reasoning.[4] Simulated experiences offer the opportunity for diverse styles of learning wherein both student and educator are actively engaged that not offered in the classroom such as laboring patients and delivery, pediatric experience, patients with cardiac issues or mental health patients by using simulated mannequins.[5] These experiences will increase student's confidence without jeopardizing patient safety.[6]

However, sometimes simulations are used for learning without "hands-on" opportunities, because the psychomotor activity is dangerous or equipment is not readily available or the student's number are too large or the instructor is not prepared to do so.[7] Nursing education is one where many cognitive and psychomotor skills need to be imparted to the students. And these restricted situations will create undesired outcomes during both in-class lectures and laboratory practices.[8] Nursing is a discipline that requires precision and practice, it requires competency and accuracy in able to practice and apply nursing skills and procedures in a safe manner during actual patient care.[9] The purpose of this study is to answer the research question; " Is there difference among experimental and control group in cognitive, affective, and psychomotor skills of learning in giving subcutaneous injection by comparing two teaching strategies?"

METHODOLOGY

Research Design and Samples

A quasi experimental design has been utilized in this study, to compare the two teaching strategies in subcutaneous injection. It was carried out in nursing laboratory at King Saud University, College of Nursing; Saudi Arabia. Twenty One nursing students second year had been selected to participate. Samples were divided randomly into two groups with separate nursing skills lab, experimental group (10 students) and control group (11 students).

Instrument and Data Collection

Participants from both groups has given a performance checklist guide (17 steps) developed by the researcher. It was corrected properly by group of nursing educators

to validate appropriateness of the items. In this study, data collection was done in two days. On first day, the checklist guide was explained and demonstrated by researcher in nursing laboratory by using a simulated low fidelity mannequin. After demonstration, participants were distributed on separate nursing lab. Both groups were given a chance by researcher to practice the skill without grading a score, experimental group with pricking of needle to a mannequin while the control group without pricking of needle . Post test was done on second day; participants from both groups had been evaluated individually by using same checklist guide as evaluation tool. All participants were requested to give subcutaneous injection with actual pricking of a needle to a mannequin. The performance rating checklist was categorized on scale ratings as 5 = 100% (excellent), 4 = 90% (very good), 3 = 80% (good), 2 = 70 % (fair), 1 = 60% (poor). The steps listed on the subcutaneous injection checklist guide with 17 items were subdivided by applying the bloom's taxonomy of learning domains.

Steps no.1,3,4, and 17 are considered in cognitive domain, to evaluate their knowledge acquisition on the skill; Steps 6,7, 8, 9, 10, 11,12,13,14, and 15 are in psychomotor domain, to evaluate their physical and motor skill coordination. And steps 2, and 16 are in affective skill, to evaluate their attitude of valuing, organizing and characterization . Table 1 illustrates the details of the checklist guide/performance rating scale during demonstration and evaluation of the researcher as categorized on domains of learning.

Table 1: Checklist Guide/Performance Rating Scale

	Steps in Subcutaneous Injection	Domains of Learning	Score				
1.	Verbalize medication rights: Right patient, medicine, dose, route, time, & recording.	Cognitive	5100	490	380	270	160
2.	Close curtain. Explain procedure to patient.	Affective					
3.	Select appropriate injection site.	Cognitive					
4.	Relocate site using anatomical land marks.	Cognitive					

Table 1: Checklist Guide/Performance Rating Scale

	Steps in Subcutaneous Injection	Domains of Learning	Score				
5.	Put on the gloves. Clean site in circumrotation outward with alcohol swab.	Psychomotor					
6.	Keep alcohol swab between fingers of non dominant hand	Psychomotor					
7.	Remove cap of needle by pull its tip-off in straight manner with one hand while other hand holding the syringe.	Psychomotor					
8.	Use thumb and forefinger and gently grasp fatty tissue on appropriate site	Psychomotor					
9.	Hold syringe between thumb and forefinger of dominant hand as if grasping dart with bevel point upward	Psychomotor					
10.	Administer injection: Prick/insert the needle at 45 or 90^{0} angle. Angles varies with amount of subcutaneous tissue, selected site, and needle length.	Psychomotor					
11.	After needle enter the site, grasp syringe with non dominant hand to avoid moving of syringe.	Psychomotor					
12 .	With dominant hand push plunger to inject the medicine slowly. No aspiration before inject of heparin or insulin.	Psychomotor					
13.	Placing antiseptic swab and apply contra-act pressure at site while withdrawing the needle.	Psychomotor					
14.	Apply gently pressure over injection site, but don't massage.	Psychomotor					
15 .	Discard uncapped needle in sharp box container. Wash hands after procedure	Psychomotor					
16.	Follow after care. Cover the patient, put the side rails up, give emotional support to patient	Affective					
17.	Record: Evaluation of patient for the effects/ side effects of the drug.	Cognitive					

The data analysis was obtained by using SPSS software package to facilitate the percentage scores and average mean; Mann Whitney U test to evaluate the difference between the groups with significance level was set as $p=0.0001<0.05$.

RESULTS

The participants of BSN second year were requested to join in this study, they considered young in age ranging from 19 to 23 yrs of old and not married (Table 2).

Table 2: Distribution of Age by the Participants

Age:	Total no. of samples n= 11	Percentage:
23 and above	0	0
21 -22	3	14.28%
19 - 20	18	85.7%

Although they varies on knowledge level of very good to excellent but no students are lower than good on GPA (Table 3).

Table 3: Distribution of General Percentage Average (GPA) by the Participants

GPA Rating out of 5.0	Total no. of samples n=11	Percentage
4.5 - 5.0 Excellent	4	19.04%
3.75 – 4.49 Very Good	12	57.14%
2.75– 3.74 Good	5	23.80%
Below 2.75	0	0

Table 4. Shows that experimental group got the excellent score in three domains of learning on post test while control group has the lowest mark on psychomotor skill (80%).

Table 4: Student's Performance in giving Subcutaneous Injection in Three Domains of Learning.

Domains of Learning	Experimental Group	Control Group
1. Cognitive Skill	92 %	87.7 %
2. Psychomotor Skill	94 %	80 %
3. Affective Skill	95 %	93.61 %

Mildly difference was noted between the groups in cognitive skill (Table 5) when verbalizing the medication rights (p= 0.081), anatomical landmark (p=0.082), and documentation of care (p=0.082).

Table 5: Mildly Difference between Experimental and Control group in Cognitive Skill

Checklist Guide Step no.	Group	No. of students	Percentage	Mean	Mann-Whitney U Test	Sig. p=0.0001 <0.05
1	Experimental	10	100%	5	51.000	*.081
	Control	11	90%	4		
3	Experimental	10	83%	3.3	48.000	0.598
	Control	11	85.45%	3.5455		
4	Experimental	10	100%	5	40.000	*.082
	Control	11	94.54%	4.4545		
17	Experimental	10	85%	3.5	52.000	*.082
	Control	11	89%	3.9091		

Table 6 revealed that moderately difference was noted between the groups in psychomotor skill when holding the syringe (p= 0.000), grasping the fatty tissue (p=0.000), holding syringe (p=0.001), pricking of needle (p=0.029), infusing medication (p=0.005), and withdrawing the needle (p=0.005)

Table 6: Moderately Difference between Experimental and Control group in Psychomotor skills.

Checklist Guide Step no.	Group	No. of students	Percentage	Mean	Mann-Whitney U	Sig.
5	Experimental	10	98%	4.8	0.602	50.5
	Control	11	96%	4.6364		
6	Experimental	10	94%	4.4	0.143	34.5
	Control	11	90%	4.0909		
7	Experimental	10	96%	4.6	**.000	2
	Control	11	70%	2		
8	Experimental	10	90%	4	**.000	4
	Control	11	70%	2		
9	Experimental	10	91%	4.1	**.001	9.5
	Control	11	71%	2.1818		
10	Experimental	10	96%	4.6	**.029	24.5
	Control	11	80%	3.0909		
11	Experimental	10	91%	4.1	**.005	17
	Control	11	75.45%	2.5455		
12	Experimental	10	91%	4.1	**.008	19
	Control	11	77.27%	2.7273		
13	Experimental	10	95%	4.1	**.002	21.5
	Control	11	79%	2.9091		
14	Experimental	10	92%	4.2	**.000	8
	Control	11	72.70%	2.2727		
15	Experimental	10	96%	4.6	0.128	44
	Control	11	100%	5		

Moreover, Table 7 revealed that no significant difference was noted between groups in affective skill when verbalizing how to respect patient's integrity by closing the curtain, explaining procedure (p=0.326), and aftercare (p=0.867).

Table 7: No Difference between Experimental and Control Group in Affective skill.

Checklist Guide Step no.	Group	No. of students	Percentage	Mean	Mann-Whitney U	Sig.
2	Experimental	10	98%	4.8	0.326	45.5
	Control	11	94.50%	4.4545		
16	Experimental	10	92%	4.2	0.867	53
	Control	11	92.72%	4.2727		

Note: *= mildly difference; **= moderately difference; ***= strongly difference

DISCUSSION

In this study, to compare the two teaching strategies in subcutaneous injection by applying learning domains; mildly difference was noted in cognitive skill, and both groups got very good on their evaluation score. Students can easily understood the skill demonstration when it was right after classroom lecture; it was reflected based on their post test scores. The control group is mildly lower than experimental group since missing hands-on practice will affect their performance . Psychomotor requisition involves physical, motor and cognitive coordination.[1]

Moderately difference was noted on both groups in psychomotor skill; while experimental group got excellent score, control group got good during post test and it's satisfactory.

This is due to the fact that groups had given a chance to practice subcutaneous injection before post test despite the control group of not pricking the needle. Also not grading a score will made the students comfortable and not pressured to practice the skill. This was reflected on Table 5; steps 5, 6 and 15, that no difference were existed (p= 0.602), however these steps are no actual hand pricking. We can say based on the results that hands-on practice by experimental group contributed an excellent score on their psychomotor performance. Indeed, the result signifies that even the students are in simulated laboratory without hands-on experience will not be as competent as those who did so. Baldwin (1991) proved that students who are new to a content area will generally benefit more from "hands-on" learning than from mediated learning within the psychomotor domain.[10] It is in clinical laboratory that many skills are perfected. Nursing education is one where many cognitive and psychomotor skills need to be imparted to the students. However, adverse conditions like the lack of clinical lab buildings, crowded classes, a dearth of expert educators, and limited materials lead to restrictions in creating the desired behavior during both in-class lectures and laboratory practice.[7] Infante (1985) on her classic study of the clinical laboratory noted that opportunity for observation and practice are essential element of clinical learning.[11] Simulated hands-on experiences offer the opportunity for diverse styles of learning that not offered in the class room environment and can result in an increase of confidence felt by the student.[12] No significant difference was noted in affective skill, both groups got excellent on their post test score. Participants understood very well the correct attitude of patient care, as it was mentioned on the checklist guide the importance of respecting patient's rights, maintaining privacy, communication skills and emotional support before and after giving a procedure.

CONCLUSION

The main conclusion drawn from this study that actual performance in all aspects of learning; hands-on skills that have been practice in a simulated nursing laboratory prior to clinical performance in the hospital has significant contribution on the competency of student's cognitive, psychomotor and affective skills. However, materials and technologies are somewhat helpful on this regard. Simulated mannequin is one of the examples wherein the students are somehow can able to use artificial setting of implementing various skills prior to actual patient care. The results of this research study address to educators the importance of hands-on practice to give more emphasis and consistency in the future regardless of the difficulty of skill presented and number of students performed.

Limitation of the study is that the evaluation phase was done in nursing laboratory.

For future study, I will recommend participants should be in the hospital setting with actual performance of giving subcutaneous injection to a real patient. I will suggest installation of high fidelity mannequins and innovative nursing equipments to

nursing laboratory in order to help educators to improve teaching strategies and learning designs.

ACKNOWLEDGEMENT

I would like to acknowledge Dr. Nagat El-Morsy, my head department for her help and support.

REFERENCES

1. Clark, DR. The Art and Science of Leadership [serial on the internet]. 2004 [cited August 1, 2011]. Available from: http://nwlink.com/~donclark/hrd/bloom.html
2. Jefferies, PR. Simulation in Nursing Education: From Conceptualization to Evaluation. New York, NY: National League for Nursing; 2007. 1-9 p.
3. Pamela G. Sanford. Simulation in Nursing Education. The Qualitative Report 2010 - nova.edu [serial on internet] 2010 [cited August, 2012] available from: http://www.nova.edu/sss/QR/QR15-4/Sanford.pdf.
4. Suling Li, The Role of Simulation in Nursing Education [serial on the internet]. 2007 [cited August 2012]. Available from https/www.ncbn.org/ The role of Simulation in Nursing Education.
5. Jefferies, PR.; Rizzolo, MA. Designing and implementing models for the innovative use of simulation to teach nursing care of ill adults and children: A national, multi-site, multi-method study. New York: National League for Nursing; 2006.
6. Kyle, RR.; Murray, WB. Clinical Simulation: Operations, Engineering and Management. Burlington, MA: Academic Press; 2008
7. Souers, C. A comparison of two teaching strategies for nursing skill acquisition. Master of science in nursing. Louisville, Kentucky: Bellarmine College; [serial on internet], 1998 [cited April 2012] available in international journal of caringsciences.org/...10.% 20 Original% 20 Paper. pd..
8. Decker S, Sportsman S, Puetz L, and Billings L. The evolution of simulation and its contribution to competency. J Contin Educ Nurs, 2008; 39(2), 74-80.
9. Deniz, O. International Journal of Caring Science September-December Vol. 5 Issue 3[serial on internet], 2012 [cited April 2012] available in internationaljournalofcaringsciences.org/.../10.%20Original%20Paper.pd..
10. Baldwin A, Hill P, Hanson G. Performance of Psychomotor skills: A Comparison of two teaching strategies; Journal of Nursing 1991; 30: 367-370.
11. Infante, MS. The Clinical laboratory in Nursing Education. 2nd edition. New York: Wiley; 1985
12. Billings, DM.; Halstead, JA. Teaching in Nursing: A Guide for Faculty. 2nd ed. Philadelphia: W.B. Saunders; 2005

DOI Number: 10.5958/j.0974-9357.6.1.008

Effectiveness of Behavioral Modification Therapy in Coping with Adjustmental Problems among Juvenile Delinquents

Kishanth Olive[1], **Sheeba**[2]

[1]*Sister Tutor, Department of Psychiatric Nursing, College of Nursing, Jawaharlal Institute of Postgraduate Medical Education & Research, Puducherry,* [2]*Head of Department, Adhiparasakthi College of Nursing, Melmaruvathur, Kancheepuram District*

ABSTRACT

Objective:

- To assess the level of adjustmental problem among juvenile delinquents.
- To evaluate the effectiveness of behavioral modification therapy in coping with adjustmental problems among juvenile delinquents.
- To correlate the effectiveness of behavioral modification therapy in coping with adjustmental problem among juvenile delinquents with the selected demographic variables.

Materials and Method This study was concluded in male juvenile delinquent with adjustmental problems of observational home and special school, Government of Puducherry, ariyakuppam, Puducherry, India. Quasi - Experimental Design (one group pre-test, post-test) was adopted. And a total of 50 juvenile delinquents was selected for the study, who met the inclusion criteria and the total time exposed was 8 to 112 hours, to assess the effectiveness of behavioral modification therapy in coping with adjustmental problems among juvenile delinquents.

Results: The first objective revealed that among 50 individuals 42(84%) had moderate level of adjustmental problems and 8(16%) had severe level of adjustmental problems on the assessment day. The second objective exposed that after giving behavioral modification therapy the overall mean was 25.98 with standard deviation of 1.37 on the evaluation day. The third objective revealed, there was a significant correlation between the behavioral modification therapies and the demographic variables such as age, type of family, marital status of parents, and residence.

Conclusion: A total number of 50 samples were selected for this study. On the first day, the level of adjustmental problems was assessed by using modified James Watson and Richard ongoing assessment of juvenile delinquents. On the last day, the evaluation was done by using the same tool. In pretest out of 50 samples 08 individuals exhibited severe adjustmental problems and 42 individuals exhibited moderate adjustmental problems. It was found that 47 individuals exhibited mild adjustmental problems and 03 individuals exhibited moderate adjustmental problems which show that the behavioral modification therapy was effective in reducing the level of adjustmental problems among juvenile delinquents.

Keywords: *Effectiveness, Behavioral Modification Therapy, Adjustmental Problem, Juvenile Delinquents*

INTRODUCTION

Delinquency is a kind of abnormality when an individual deviates from the course of normal social life. His behaviour is called 'Delinquency'. The word juvenile has been derived from a Latin term "juvenis" meaning thereby young. The term delinquency has also been derived from the Latin initiative "delinquere" means go away.[1]

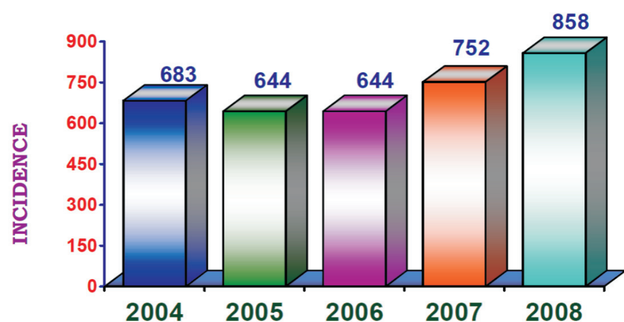
Juvenile crime is one of the nation's serious problems. Concern about it is widely shared by federal,

state, and local government officials and by the public. In recent years, this concern has grown with the dramatic rise in juvenile violence that began in the mid-1980s and peaked in the early 1990s.[2]

Juvenile delinquency laws are characterized by the denature that they prescribe many acts which are regarded as non-criminal if indulged in by elder persons like drinking, smoking, viewing adult films or reading adult literature, etc. The first legislation converning children which came in 1850 was the Apprentic Act which provided that children in the age group of 10-18 convicted by courts were intended to be provided with some vocational training which might help their rehabilitation. It was followed by Reformatory Schools Act, 1897.[3]

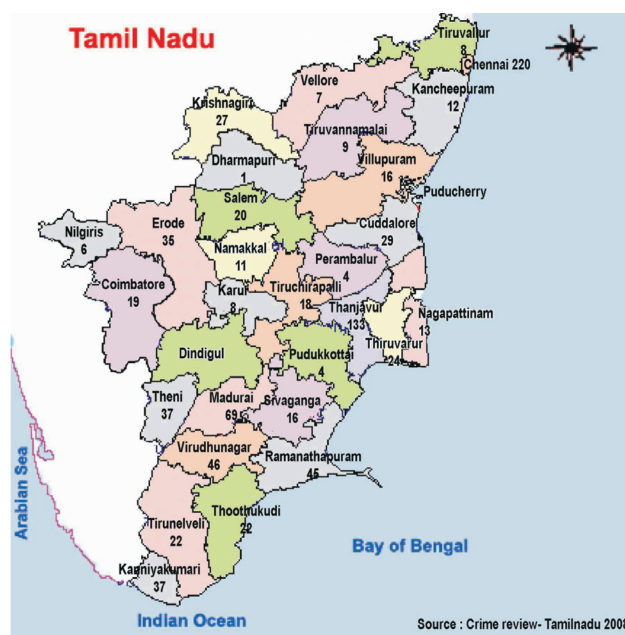
According to National governmental organizations, India says that juvenile crime has increased by 3.8% nationally (14,975 cases in 2008 from 14,423 in 2006). And about 1,327 murdered cases were reported in 2008 up from 1,304 in 2006 (an increase of 1.8%).Uttar Pradesh reported the highest number (390) accounting for 29.4% of cases was committed by juvenile delinquents.[4]

Crimes committed by juveniles show a slight increasing trend (0.41% to 0.49%) as share of total Indian penal code crimes reported in the State during 2004 to 2008. This increase can be attributed to reclassification of age limit of juvenile boys and girls to "Non-completion of eighteen years of age". Same pattern has been observed in the Juvenile Crime Rate also (1.07 to 1.30) between the years 2004 and 2008. Incidence and rate of Juvenile delinquency under INDIAN PENAL CODE during 2004 – 2008 have been increased. About 858 Indian penal code cases were registered against Juveniles during 2008, 14.1% more than 2007.[5]



Incidence of Juvenile Delinquency Under Indian Penal Code 2004 – 2008

Prevalence of Juvenile delinquency under various crime heads of Indian penal code during 2007 and 2008. Theft (410 – 47.79%) accounted for the highest incidence of juvenile delinquency cases followed by hurt (158 – 18.41%), burglary (106 – 12.35%), murder (26 – 3.03%), riots (23 – 2.68%), attempt to commit Murder (17 – 1.98%), robbery (13 – 1.52%), rape (7 – 0.82%), causing death by negligence (6 – 0.70%), molestation (5 – 0.58%), kidnapping and abduction and dacoity (each 3 – 0.35%) of 858 cases under Indian penal code registered against them during 2008. Juvenile delinquency (Indian Penal Code) district-wise states that juvenile delinquency under various crime heads of Indian penal code (district/ city wise). In Thanjavur 133 recorded the highest incidence followed by Chennai 220, Madurai 69, Virudhunagar 46, Ramanathapuram 45, Kanniyakumari 37, Theni 37, Erode 35, Cuddalore and Puducherry 29, the juvenile delinquent apprehended district/city-wise during 2008.[5]



MATERIALS AND METHOD

The data collected from the male juvenile delinquents, arriyankupam, Puducherry, who met with the inclusion criteria, by using demographic variables and tool, was entered into the coding sheet on SPSS soft for detail data analysis. The main study was conducted for juvenile delinquents with adjustmental problems who are in observation homes

and special school, Ariyankuppam, Puducherry. The individuals who met the inclusion criteria were selected by using simple random sampling method. The duration of the interview ranged from 15-20 minutes for each individual. Assessment was done with the help of standardized tool. Based on the scores, behavioral modification therapy like positive reinforcement, negative reinforcement, relaxation technique, recreational therapy, group therapy, vocational therapy was given. On the seventh day, effectiveness of behavioral modification therapy was evaluated with the help of standardized tool.

OBSERVATION & RESULTS

Organization of Data

The study findings are presented in the following sections.

Section A	:	Frequency and percentage distribution of demographic variables of juvenile delinquents with adjustmental problems.
Section B	:	Frequency and percentage distribution of assessment and evaluation scores of effectiveness of behavioral modification therapy with adjustmental problems.
Section C	:	Mean and standard deviation of assessment and evaluation scores of juvenile delinquents with adjustmental problems.
Section D	:	Mean and standard deviation of improvement score for effectiveness of behavioral modification therapy using paired't' test.
Section E	:	Correlation between effectiveness of behavioral modification therapy in coping with adjustmental problem among juvenile delinquents and with selected demographic variables and with selected demographic variables.

Table 1. Frequency and Percentage Distribution of Demographic Variables Among the Juvenile Delinquents N=50

S. No	Demographic Variables		Frequency	Percentage
1.	**Age**			
	a.	12 to 13 years	14	28
	b.	13 to 15 years	16	32
	c.	16 to 18 years	20	40
2.	**Religion**			
	a.	Hindu	32	64
	a.	Muslim	06	12
	b.	Christian	12	24
3.	**Educational status of father**			
	a.	Non – literate	08	16
	b.	Primary level	24	48
	c.	Secondary level	12	24
	d.	Graduate and above	06	12
4.	**Educational status of mother**			
	a.	Non – literate	10	20
	b.	Primary level	17	34
	c.	Secondary level	13	26
	d.	Graduate and above	10	20
5.	**Occupational status of father**			
	a.	Unemployed	06	12
	b.	Daily wager	25	50
	c.	Self employed	16	32
	d.	Professional	03	06
6.	**Occupational status of mother**			
	a.	Home maker	06	12
	e.	Daily wage	27	54
	b.	Self employed	09	18
	c.	Professional	08	16

Table 1. Frequency and Percentage Distribution of Demographic Variables Among the Juvenile Delinquents N=50 (Contd.)

S. No	Demographic Variables		Frequency	Percentage
7.	**Type of family**			
	a.	Joint family	08	16
	b.	Nuclear family	42	64
8.	**Family income per month**			
	a.	Up to Rs.1,000 /-	04	08
	b.	Rs.1,001 - Rs.3,000/	19	38
	c.	Rs.3,001 - Rs.5,000/-	19	38
	d.	Above Rs.5,001/-	08	16
9.	**Marital status of parents**			
	a.	Widow / Widower	11	22
	b.	Remarried	14	28
	c.	Divorced / Separated	25	50
10.	**Residence**			
	a.	Urban	11	22
	b.	Rural	39	78
11.	**Supportive system**			
	a.	Health personnel	30	60
	b.	Family and relatives	04	08
	c.	National governmental organizations	16	32

Table 1, it implies the distribution of respondents according to certain demographic factors like age, religion, educational status of father and mother, occupational status of father and mother, type of family, family income per month, residence, and supportive system.

Among 50 juvenile delinquents, 14(28%) were in the age group of 12 – 13yrs, 16(32%) were in the age group of 14 – 15 yrs and 20(40%) were 16 - 18 yrs. Regarding the religion, 32(64%) were Hindus, 06(12%) were Muslims, 12(24%) were Christians. The educational status of the father reveals that 08(16%) are non-literates, 24(48%) are primary level, 12(24%) are had secondary level and 06(12%) are graduate and above. The educational status of the mother reveals that 10(20%) are non-literates, 17(34%) are primary level, 13(26%) are had secondary level and 10(20%) are graduate and above. The occupational status of father shows that 06(12%) were unemployed, 25(50%) were daily wager, 16(32%) were self-employed, 03(06%) were professional.

The occupational status of mother shows that 06(12%) were homemakers, 27(54%) were daily wager, 09(18%) were self-employed, 08(16%) were professionals. In the type of family, 42(84%) belonged to nuclear family and 08(16%) belonged to joint family. Among the respondents, 04(08%) had the family income of up to Rs.1000, 19(38%) Rs.1001-3000, 19(38%) Rs.3001-5000 and 08(16%) were earning more than Rs.5000 per month. In regard to the marital status of parents, 11(22%) were widow/widower, 14(28%) were remarried and 25(50%) were divorced. About 11(22%) of the people were living in urban and 39(78%) were living in rural areas. When asking about the source of supportive system, 30 (60%) received health information from health personnel, 04(08%) received health information from family and relatives and 16(32%) received information from national governmental organizations.

Table 2. Frequency and Percentage Distribution of Assessment and Evaluation Score for Effectiveness of Behavioral Modification Therapy N = 50

Health status	Assessment		Evaluation	
	No.	%	No.	%
Mild	—	—	47	94
Moderate	42	84	03	06
Severe	08	16	—	—
Total	50	100	50	100

Table 2 Shows the comparison between assessment and evaluation score of effectiveness of behavioral modification therapy in coping with adjustmental problems of juvenile delinquents and also reveals that the frequency and percentage distribution. In this table during assessment phase 42(84%) had moderate adjustmental problems, 08(16%) were having severe adjustmental problems and during evaluation phase, after receiving behavioral modification therapy 47(94%) were having mild adjustmental problems and 03(06%) of patients were having moderate adjustmental problems.

Table 3. Mean and Standard Deviation of Assessment and Evaluation Scores of Juvenile Delinquents

S. No	Status of adjustmental problems	Mean	Standard deviation	Class Interval
1.	Assessment	37.38	3.13	36.41 – 38.35
2.	Evaluation	25.98	1.37	25.56 – 26.40

Table 3 reveals that the overall mean was 37.38 with the standard deviation of 3.13 with confidential interval of 36.41 – 38.35 on the assessment day. The mean was 25.98 with the standard deviation of 1.37 with confidential interval 25.56 – 26.40 on the evaluation day.

TAble 4. Mean Aand Standard Deviation of Improvement Score for Effectiveness of Behavioral Modification Therapy Using Paired 'T' Test N = 50

Status of adjustmental problems	Mean	Standard deviation	Paired test	Confidential interval
Improvement score	11.4	1.76	56.36	112.81 -123.84

* P < 0.01 level significant

Table 4 reveals the improvement between assessment score and evaluation score. The mean was 11.4 with standard deviation of 1.76. The calculated value (56.36) was greater than the table value (2.73). There was a significant improvement in coping with adjustmental problems of juvenile delinquents. It shows effectiveness of behavioral modification therapy was highly effective at p<0.01 level.

Table 4. Correlation between Selected Demographic Variables and effectiveness of Behavioral Modification Therapy in Coping with Adjustmental Problem among Juvenile Delinquents N=50

S. No.	DemographicVariables	Assessment		Evaluation		
		Moderate	Severe	Mild	Moderate	r
1.	**Age**					
	a. 13 to 14 years	12	02	14	-	0.9S
	b. 14 to 15 years	13	03	14	02	
	c. 16 to 18 years	17	03	19	01	
2.	**Religion**					
	a. Hindu	30	02	30	02	-0.7 NS
	b. Muslim	04	02	06	0	
	c. Christian	08	04	11	01	
3.	**Educational status of father**					
	a. Non – literate	06	02	07	01	-0.3 NS
	b. Primary level	22	03	22	02	
	c. Secondary level	10	02	12	0	
	d. Graduate and above	04	01	06	0	
4.	**Educational status of mother**					
	a. Non – literate	08	02	09	01	-0.1 NS
	b. Primary level	15	02	16	01	
	c. Secondary level	10	03	12	01	
	d. Graduate and above	09	01	10	0	
5.	**Occupational status of father**					
	a. Unemployed	05	01	06	-	0.4NS
	b. Daily wage	21	04	23	02	
	c. Self employed	14	02	15	01	
	d. Professional	02	01	03	-	

Table 4. Correlation between Selected Demographic Variables and effectiveness of Behavioral Modification Therapy in Coping with Adjustmental Problem among Juvenile Delinquents N=50

S. No.	DemographicVariables	Assessment		Evaluation		
		Moderate	Severe	Mild	Moderate	r
6.	**Occupational status of mother**					
	a. Home maker	05	01	06	0	-0.1 NS
	b. Daily wage	25	02	26	01	
	c. Self employed	06	03	08	01	
	d. Professional	06	02	07	01	
7.	**Type of family**					
	a. Joint family	06	02	07	01	0.8 S
	b. Nuclear family	36	06	14	02	
8.	**Family income per month**					
	a. Up to Rs.1,000 /-	02	02	03	01	0.2 NS
	b. Rs.1,001-Rs.3,000/	17	02	18	01	
	c. Rs.3,001-Rs.5,000/-	18	01	19	0	
	d. Above Rs.5,001/-	05	03	07	01	
9.	**Marital status of parents**					
	a. Widow/ Widower	08	03	11	-	0.9S
	b. Remarried	12	02	13	01	
	c. Divorced	22	03	23	02	
10.	**Residence**					
	a. Urban	08	03	09	02	0.9S
	b. Rural	34	05	38	01	
11.	**Supportive system**					
	a. Health personnel	26	04	28	02	-1.5 NS
	b. Family and relatives	03	01	04	0	
	c. National governmental organizations	13	03	15	01	

S - Significance, NS - No Significance, P - < 0.001

Table - 4 reveals the correlation between the demographic variables such as age, religion, educational status of father, educational status of mother, occupation status of father, occupation status of mother, type of family, marriage, residence and supportive system with the effectiveness of behavioral modification therapy. Statistically there was a significant positive correlation between the demographic variable such as age, type of family, marital status of parents and residence.

DISCUSSION

The study findings have been discussed in terms of the objectives of theoretical basis and hypothesis. A total number of 50 samples were selected for the study. The adjustmental problem level of each and every individual was assessed with the help of standardized tool. Based on the assessment the behavioral modification therapy was planned and implemented for the individual with adjustmental problems and effectiveness of behavioral modification therapy was assessed on seventh day.

The first objective was to assess the level of adjustmental problem among juvenile delinquents Table 4.2 revealed that among 50 individuals 42(84%) had moderate adjustmental problems and 8(16%) had severe adjustmental problems on the assessment day. Among 50 individual overall mean was 37.38 with standard deviation of 3.13 on the assessment day.

The second objective was to evaluate the effectiveness of behavioral modification therapy in coping with adjustmental problems among juvenile delinquents Table 4.3 and 4.4 revealed that after giving behavioral modification therapy the overall mean was 25.98 with standard deviation of 1.37 on the evaluation day. The improvement score with the assessment and evaluation showed the mean of 11.4 with the standard deviation of 1.76.

The third objective is to correlate the effectiveness of behavioral modification therapy in coping with adjustmental problem among juvenile delinquents with the selected demographic variables Table-4.5 there was a significant correlation between the behavioral modification therapy and the demographic variables such as age, type of family, marital status of parents, and residence.

ACKNOWLEDGEMENT

The author is thankful to the, Mr. Selvam, Jail Warden, Observation Home and Special School, arriyankuppam, Puducherry, Dr. N. Kokilavani., Ph.D, Principal, APCON, Dr. Debajit., MD, Associate Professor, Department of psychiatry, MAPIMS, for providing permission and guidance to carry out this work successfully.

Ethical Clearance

The titled study "Effectiveness of behavioral modification therapy in coping with adjustmental problems among juvenile delinquents" was approved by the dissertation committee on March 2010. The disseratation committee includes, Dr. N. Kokilavani, Ph.D., Principal and HOD of Research, Prof. Sheeba, M.Phil., HOD, Department of psychiatric Nursing, APCON, Melmaruvathur, and Dr. Debajit Gogoi, MD, HOD department of psychiatry, MAPIMS, Melmaruvathur.

Conflict of Interest: Nil

REFERENCES

1. Carson Robert, C. Butcher James, N (1992) "Abnormal Psychology and Modern life" 9th edition, Harper Colins publications.
2. http://www.nap.edu/openbook. php?record_id=9747&page=14
3. http://educationdewsoftoverseas.com/vakilno4/junvenileeact/introduction.htm
4. Mary C. Townsend (2006), "Psychiatric Mental Health Nursing" 5th edition, Jaypee publications, New Delhi.
5. Ponnudurai (2003) "An epidemiological study of juvenile delinquency", Indian Journal of Psychiatry, vol.74.

DOI Number: 10.5958/j.0974-9357.6.1.009

Objective Structured Clinical Examination - Emerging Trend in Nursing Profession

G Muthamilselvi[1], P Vadivukkarasi Ramanadin[2]

[1]Professor cum PrincipalVinayaka Mission's College of Nursing, Pudhucherry, [2]Asst. Professor, Dept. of OBG, Mata Sahib Kaur College of Nursing, Mohali, Punjab

ABSTRACT

Assessment of clinical competence is an essential, mandatory requirement for health care profession. But it became a tough job for nurse educator as it poses several challenges in terms of objectivity and reliability. The OSCE which is the performance based method helps to overcome these challenges. This study was undertaken with the aim of assessing the knowledge, attitude & exploring the opinion towards OSCE among the nursing faculty by using mixed method. Knowledge on OSCE was assessed by using Structured Questionnaire with 15 items & attitude was assessed by using five point Likert scale with 10 items. Unstructured Questionnaire was formulated to explore an opinion. Non - Probability, Convenient sampling technique was used to select Thirty Nursing Faculty. Study findings revealed that 40 % of the nursing faculty had excellent knowledge, 47% of them had adequate knowledge and13% of them had inadequate knowledge and also it shows that 73% of them had positive attitude & 27% of them had negative attitude towards OSCE. Correlation between Knowledge & Attitude towards OSCE found to be moderately negative. Opinion on OSCE was explored & grouped under "Opinion on OSCE", "Client Care", "Clinical Evaluation", "Utilization of Resources" & "Difference between OSCE & Traditional method of Clinical Examination". The study recommends that the Nursing Faculty should develop positive Opinion & skill in preparing the students by using OSCE.

Keywords: *Objective Structured Clinical Examination, Sequential Research Method, Qualitative Research Approach & Interview Schedule*

INTRODUCTION

Assessment plays a major role in the process of nursing education, in the lives of nursing students and in society by certifying competent practitioner who can take care of the people. The objective Structured Clinical Examination (OSCE) is an approach to students' assessment in which aspects of clinical competence are evaluated in a comprehensive, consistent and structured manner, with close attention to the objectivity of the process (Byrne & Smyth, 2007). Objective Structured Clinical Examination" (OSCE) evolved from medical education in Scotland, and has been used extensively in nursing worldwide. It is now widely accepted as a fit-for-purpose instrument for measuring clinical reasoning skills with a high degree of technical fidelity (Ahmad, Ahmad & Abu Bakar, 2009). The OSCE was introduced by Dr. Ronald M. Harden in the 1970s as ''an approach to the assessment of clinical competence in which the components of competence are assessed in a planned or structured way with the attention being paid to the objectivity of the examination[1].'' The examination consists of multiple, standard stations at which students must complete 1 to 2 specific clinical tasks, often in an interactive environment involving patient actors (ie, standardized patients) [2]. OSCE has become a common method to assess learner performance across a variety of health professions disciplines. Most notably, OSCE is a component of entry-to-practice licensing examinations, including the United States Medical Licensing Examination, the Canadian Pharmacist

Corresponding author:
P Vadivukkarasi Ramanadin
Asst. Professor
Dept. of OBG
Mata Sahib Kaur College of Nursing, Mohali, Punjab
Mobile No.: 7696732898
Mail Id: krishraghav2010@gmail.com
pvadivuram2010@yahoo.com

Qualifying Examination, and the Medical Council of Canada Qualifying Examination[3-5]. To maintain examination validity and authenticity, a representative sampling of real-world skills should be tested[6]. Consequently, use of a blueprint that defines examination domains (eg, knowledge, skills, behaviors, complexity) to guide OSCE station development along with group (rather than individual) writing of OSCE cases with peer review has been recommended[6-8].

OSCE is now an established part of the repertoire of clinical assessment skills in many nursing schools around the world. Nursing faculties in Egypt use a range of assessment techniques that are appropriate for testing students' outcome. However, in Egypt, there is no available evidence for using OSCE in nursing education. OSCE is a new issue that needs capacity building for Egyptian nursing faculties. A baseline survey in the assessment of competency resulting from medical and nursing education in Egypt (2006) reported that skills assessed are poorly performed by four learner groups (medical & nursing undergraduates, nurse intern and house officers) in both medical and nursing faculties Furthermore, clinical training as it is currently organized and implemented for the competencies assessed is inadequate for all learner groups of all regions in Egypt (Health Workforce Development, 2006) [1].

OSCE has been widely and increasingly used since it was developed. Researches have shown that it is an effective evaluation tool to assess practical skills. Currently, the ability of simulation to meet the needs of practice education remains limited (Pierre, Wierenga, Barton, Branday & Christie, 2004). In addition, (Ahmad, Ahmad & Abu Bakar, 2009) added that OSCE is developed to reduce bias in the assessment of clinical competence; it is not now without the pitfalls of other assessment methods. In particular, the need for more rigorous evaluation of OSCEs in nursing education programs has been highlighted (Brosnan, Evans, Brosnan, & Brown 2006); (Miller, 2009) as these assessments are directed towards assurances that passing students can practice safely in the clinical setting with patients. In many instances the OSCE process has been adapted to test trainees from different healthcare related disciplines. In nursing education principles of OSCE can also be used in a formative way to enhance skills acquisition through simulation (Alinier, 2009) [9].

OBJECTIVES

- To assess the knowledge regarding Objective Structured Clinical examination among the nursing faculty working in selected Nursing Institutions at Puducherry".
- To assess an attitude regarding Objective Structured Clinical examination among the nursing faculty working in selected Nursing Institutions at Puducherry".
- To correlate the knowledge & attitude regarding Objective Structured Clinical examination among the nursing faculty working in selected Nursing Institutions at Puducherry".
- To explore an opinion on OSCE among nursing faculties working in selected Nursing Institutions at Puducherry".

MATERIALS & METHOD

A Sequential research design was adopted for this Study; both Quantitative & Qualitative approach was used simultaneously. Thirty nursing faculty working in Vinayaka Mission's College of Nursing, Puducherry were selected by using Non- Probability, Convenient Sampling method. Quantitative method was used to assess the Knowledge & Attitude. Knowledge on OSCE was assessed by using Structured Knowledge Questionnaire with 15 items and four option was provided. Each correct response were scored one and wrong response was scored zero. Attitude towards OSCE was assessed by using five point Likert scale with 10 items. The scoring was ranging from -2 to +2 for strongly disagree to strongly agree. Qualitative method was used to explore an opinion on OSCE. Interview schedule was planned with Unstructured Questionnaire to explore an opinion towards OSCE. Content Validity of the tool was obtained from the experts of Nursing Profession & Statistician. Reliability of the tool was done by using Split half technique & Spearman Brown Prophecy Formula which shows 0.82 that is highly reliable. Data were analyzed by using both descriptive and inferential statistics. Correlation between Knowledge & Attitude was assessed by Karl Pearson Correlation Co-efficiency.

FINDINGS DESCRIPTION

Quantitative Analysis

Table 1. Nursing Faculty Level of Knowledge on Objective Structured Clinical Examination N = 30

S. No	Knowledge					
	Excellent		Adequate		Inadequate	
	Frequency	Mean Percentage	Frequency	Mean Percentage	Frequency	Mean Percentage
1	12	40%	14	47%	4	13%

Table No 1 shows that 40% of the Nursing Faculty had excellent knowledge, 47% of them had adequate knowledge & 13% of them had inadequate knowledge on OSCE.

Table 2. Nursing Faculty Attitude Towards Objective Structured Clinical Examination N = 30

S. No	Attitude			
	Positive		Negative	
	Frequency	Mean	Frequency	Mean Percentage
1	22	73%	8	27%

Table No 2 denotes that 73% of them had Positive attitude & 27% of them had negative attitude towards OSCE.

Table 3. Correlation between knowledge & Attitude on Objective Structured Clinical Examination among the Nursing Faculty

S. No	Knowledge		Attitude		Correlation (r)	Inferences
	Frequency	Mean Percentage	Frequency	Mean Percentage		
1	161	54%	96	16%	-0.044	Moderately negative correlation

Table: 3 depicts that there is moderately negative correlation between knowledge and attitude on OSCE.

Qualitative Analysis

Exploring Opinion on OSCE

- **Opinion on OSCE**

  Present study reveals the inner aspects of Nursing Faculty on OSCE. Study participants were expressed that "OSCE can be one of the method of clinical evaluation" to measure the clinical performance of nursing students.

- **Client care**

  Participants felt that "holistic care and direct client care may not be possible, but the student's skill may be evaluated".

- **Clinical Evaluation**

  They expressed that "OSCE may not help to evaluate the maximum number of students. But it may offer equal opportunity to all the students to perform nursing skill. Evaluation on the entire domain is questionable"

- **Utilization of Resources**

  Subjects felt that "OSCE requires more than two examiners for evaluation. It is very exhaustive procedure. It may need more time, effort for preparation, money & material".

- **Difference between OSCE & Traditional method of Clinical Examination**

  Samples felt that "Overall OSCE is a more stress full and superficial method of clinical examination. It may be very thorny for today's scenario with faculty turnover.

DISCUSSION

OSCE is one of the best method of clinical examination for the present scenario for the safe

Practice. Many of the developed countries adopted OSCE is one of the method of clinical examination. OSCE is performance-based assessment and a well established student's assessment tool for many reasons: competency- based, valid, practical and wise effective mean of assessing clinical skills that are fundamental to the practice of nursing and other health care related professions (Ainier, 2003). The study conducted in 108 US colleges and schools of pharmacy with interviews of a representative sample of 88 programs (81.5% participation rate). Thirty-two pharmacy programs reported using OSCEs; however, practices within these programs varied. Eleven of the programs consistently administered examinations of 3 or more stations, required all students to complete the same scenario(s), and had processes in place to ensure consistency of standardized patients' role portrayal. Of the 55 programs not using OSCEs, approximately half were interested in using the technique. Common barriers to OSCE implementation or expansion were cost and faculty members' workloads. The study concluded that there is wide interest in using OSCEs within pharmacy education[10].

A comparative study conducted to evaluate the effectiveness between traditional & Objective Structured Clinical Examiantion shows that the moderate correlation found between individual attainment in OSCE examinations and on traditional pharmacy practice examinations at the same level. It was concluded that OSCEs add value to traditional methods of assessment[11].

A study conducted on An Introduction of OSCE versus Traditional Method in Nursing Education: Faculty Capacity Building & Students' Perspectives shows that the 57% of faculty members knew nothing about OSCE and 98.6% of them had no experience in using OSCE; also a high statistical significant differences between OSCE and traditional assessment groups in the first and second trial ($t = 2.423$, $p= 0.016$), and ($t= 6.23$, $p= 0.000$) respectively. The students' achievements were better with OSCE. Faculty staff members indicated that, OSCE saves time (76.3%), prepares highly qualified competent students (62.5%) and improve students' performance (62.5%). It was concluded that OSCE examination offers an attractive option for assessment of students' competency. It provided particular strengths in terms of faculty staff objectivity and reliability of the assessment process for all students, especially when compared with other methods of assessing practice[9].

CONCLUSION

As we are always strive for the better way of education, this study was intended to bring out the actual knowledge, attitude & opinion of the nursing faculty towards OSCE. The present Study reveals that though knowledge is high attitude towards OSCE was slightly negative. So faculty should be imparted with enough knowledge on OSCE.

"OSCE not teach you mostly how to examine the student rather it teaches the students HOW to learn"

Conflict of Interest: There is no conflict of interest.

ACKNOWLEDGEMENT

We are thankful to all the Nursing Faculty who participated and contributed their valuable time & opinion towards the study.

Sources of Support: None

Ethical Clearance: Study objectives were explained to all the Nursing Faculty & Informed consent have been taken before the study.

REFERENCES

1. Harden RM. What is an OSCE? Med Teach. 1988;10(1):19-22.
2. McAleer S, Walker R. Objective structured clinical examination (OSCE). Occas Pap R Coll Gen Pract. 1990;46:39-42.
3. The Pharmacy Examining Board of Canada. http://www.pebc.ca. Accessed August 26, 2010.
4. The Medical Council of Canada. http://www.mcc.ca. Accessed August 25, 2010.
5. The United States Medical Licensing Examination. http://www.usmle.org. Accessed August 26, 2010
6. Barman A. Critiques on the objective structured clinical examination. Ann Acad Med Singap. 2005;34(8):478-482.
7. Austin Z, O'Byrne C, Pugsley J, Munoz LQ. Development and validation processes for an objective structured clinical examination (OSCE)

for entry-to-practice certification in pharmacy: the Canadian experience. Am J Pharm Educ. 2003; 67(3): Article 76.

8. Harden RM. Twelve tips for organizing an objective structured clinical examination (OSCE). Med Teach. 1990;12(3-4):259-264

9. Shadia A.E, Hanan A, Hanaa A, Hewida A.H, [1]Nagwa Abd El Fadil and [4]Inas H. El Shaeer. An Introduction of OSCE versus Traditional Method in Nursing Education: Faculty Capacity Building & Students' Perspectives. Journal of American Science 2010;6(12) retrieved from http://www.americanscience.org

10. Deborah A. Sturpe, PharmD. Objective Structured Clinical Examinations in Doctor of Pharmacy Programs in the United States. American Journal of Pharmaceutical Education 2010; 74 (8) Article 148.

11. Stewart Brian Kirton, Laura Kravitz, MRPharmS. Objective Structured Clinical Examinations (OSCEs) Compared With Traditional Assessment Methods. American Journal of Pharmaceutical Education 2011; 75 (6) Article 111.

DOI Number: 10.5958/j.0974-9357.6.1.010

Empowering Children and Adolescents on Prevention of Coronary Artery Disease

Ramya K R[1], Kiran Batra R[2]

[1]*Asst.Professor, Jubilee Mission College of Nursing, Thrissur, Kerala,* [2]*Principal, Silver Oaks College of Nursing, Abhipur, Punjab*

ABSTRACT

Emerging epidemiological evidence is compelling for the importance of childhood and adolescence in the development of risk for coronary artery disease (CAD).It is important in India as it has a huge adolescents and children population along with the existing economic, social, and health inequalities among the general population. The literature indicates that a lengthy time interval occurs between exposure to high risk factors and the development of disease, and that many such high risk exposures begin in young adolescence. well-documented trends on tobacco, physical activity, hypertension, diet, obesity present an immediate obstacle to achieving future reductions in CAD disease burden These findings underline the value of targeting children and adolescents for primary prevention efforts in health care and health education for the attainment of overall healthy population in our country.

Keywords: *Coronary Artery Disease, Risk Factor, Adolescents, Primary Prevention*

INTRODUCTION

Cardiovascular disease (CVD) is a leading cause of morbidity and premature mortality in women and men in most of the industrialized world, and many developing countries. In India, about 10 to 14% (more than 50 million people) of the adult population suffer from CAD. The reported prevalence of CAD in adult surveys has risen four-fold in 40 years and even in rural areas the prevalence has doubled over the past 30 years. It is estimated that by 2020, CVD will be the largest cause of disability and death in India.

Studies have demonstrated significant positive associations between modifiable CAD risk factors and the presence and extent of atherosclerotic lesions in the aorta and coronary arteries and CAD risk factors in childhood were associated with increased carotid intima-media thickness in adulthood.

Primary prevention among children & adolescents is a particularly important issue in India, due to high population numbers and wide economic, social, and health disparities among its population. The population's economic, social, cultural, and geographic disparities contribute to wide variations in nutritional health, smoking behaviours, and problems related to mental and physical stress. In Indian culture, health promotion and disease prevention are not relevant until the process interferes with life processes. Many parents do not perceive their child as obese or see it as a problem. Empowerment is frequently associated with changing health behaviors.

Significance

1. Risk behaviours, such as smoking, alcoholism, consuming a high fat diet, and drug use, are often adopted in young adolescence and extend into adulthood
2. Smoking, consuming high fat diets, sedentary lifestyle, can result in disease outcomes such as obesity, hypertension, type II diabetes leading to CAD which is the main cause of morbidity and mortality.
3. It is easier to inculcate healthy behaviours at a young age rather than to modify behaviours at later ages
4. Rapid economic growth, globalization, and aggressive marketing are all leading to a dramatic shift in the diet and living behaviours of individuals, families and communities.

5. Changes in activity patterns as a consequence of the rise of motorized transport, sedentary leisure time activities such as television watching will lead to physical inactivity.

6. High prevalence of non-conventional risk factors like hyperinsulinaemia, insulin resistance, lipoprotein A etc which probably explain the malignant, precocious nature of CAD that typically affects Indians.

7. Stressful or traumatic circumstances in childhood also appear to increase the risk of CVD later in life. There was a dose–response relationship between the number of childhood exposures to adverse experiences and the number of risk factors for chronic disease later in life.[1]

Trends in Major Determinants of Cad

Tobacco Use

In India an estimated 5500 adolescents start using tobacco every day, joining the 4 million young people under the age of 15 years who already regularly use tobacco. Gllobally, about 10 %of adolescents currently use tobacco in any form. Nearly 25 % try their first cigarette before the age of 10 years &19 % are susceptible to initiating smoking during the next year. National Youth Risk Behavior Survey revealed that 31 %of students had smoked, and passive tobacco smoke exposure levels ranged from 56–84%.

OBESITY

Among school-going children and adolescents in India aged 10–18 years, the prevalence of overweight was 1.7 % in boys and 0.8 % in girls.[2]Factors attributed this trend are increasing affluence among populations and their increasing urbanization, nutrition and physical activity transitions.

Physical Activity

Only 54.2% of high school students nationwide were enrolled in physical education classes on one or more days of an average school week, and only 33% were enrolled in daily physical education. Only 35.8% of high school students reported recommended levels of moderate-to-vigorous physical activity of at least 60 minutes per day at least five days per week[3].61.5% of children between the ages of 9 and 13 did not participate in any organized physical activity during their nonschool hours, and 22.6% did not engage in any free-time physical activity[4].

Sedentary behaviors such as television viewing are considered risk factors for obesity in children and adolescents. Current national estimates indicate that 37.2% of students watched television at least three hours per day on an average school day.

Hypertension

Systolic and diastolic blood pressures have increased substantially for all children and youths.[5] These higher blood pressures are partially due to the increased incidence of overweight. The prevalence of hypertension rises progressively with increasing body mass index and approximately 30% of overweight youths have hypertension.[6]

Cholesterol

Approximately 10% of adolescents between the ages of 12 and 19 have total cholesterol levels exceeding 200 mg/dl[7].In a Study, 75% of children aged 5 to 18 with total cholesterol levels above the 90th percentile at baseline went on to have elevated cholesterol levels (200 mg/dl or higher) at the ages of 20 to 25[8]. Roughly 70% of children with elevated total cholesterol in childhood continued to have elevated levels in young adulthood[9].

Diabetes

The prevalence of type 2 diabetes in adolescents is 4.1 in 1,000 individuals; more than double the prevalence of type 1 diabetes.This is a particular concern with regard to CAD risk, as the diabetes in adults as a CAD risk equivalent[10].

Marketing That Influence Tobacco Use and Nutrition

Adolescents, going through a physically and emotionally tiring period, might be easily swayed by advertisements focusing on issues related to identity, peer culture, emotions, and sexuality[11].Children are targeted due to their indirect influence over household food purchases, their direct spending on food and beverages, and their potential as future adult consumers. Studies have found that the amount of time spent watching TV predicts the number of times

children ask for products at the grocery store, with a majority of the products being the ones advertised on TV. Several studies have demonstrated that cigarette retail marketing increases the likelihood of youth smoking uptake.

Principles and Strategies for Empowerment

1. Simplify and tailor the prescription for behavioral change to the individual and family characteristics, needs, and resources.
2. Use of culturally specific methods and materials
3. Ask about the behavior at every contact.
4. Recognition of Rights of adolescents to health information and services.
5. Interactive teaching- learning process
6. Involve the parents/family as partners in the behavioral change process.
7. Provide information in multiple developmentally and culturally appropriate venues.
8. Specific strategies like Assess, monitor, and document patterns of behavior change at every healthcare visit.
9. Provide developmentally appropriate behavior-specific information tailored to the adolescents' and family's cultural background, needs, and resources.
10. Identify realistic goals for behaviors with the adolescent and family.
11. Include activities to assist families to monitor behaviors targeted for change.
12. Mobilize family and social support.
13. Provide self-efficacy enhancement and an atmosphere of clinical empathy.
14. Develop a health-promoting reward system for positive behavior change.

APPROACHES AND METHODS

School-Based Programs

School environment presents a particularly ideal location for health promotion interventions, because on school days, these children spend nearly half of their waking hours in school.

A school-based cluster randomized tobacco cessation trial in India of 30 public and private elementary schools showed that an intervention that included information provision, interactive classroom activities, and roundtable discussions reduced experimentation, intentions to use tobacco, and offers of tobacco among the intervention schools[12]. The Project "Mobilizing Youth for Tobacco Related Initiatives in India found that after a rigorous 2-year tobacco use prevention intervention, students in the intervention schools were significantly less likely than controls to exhibit an increase in cigarette or bidi smoking and intend to smoke or chew tobacco in the future[13].

These interventions have included components such as school self-assessment; nutrition education; nutrition policy for school meals; social marketing; student involvement and empowerment; curricular enhancements that focus on decreased television viewing, reduced consumption of soft drinks and foods high in total and saturated fat, increased fruit and vegetable intake, and increased moderate and vigorous physical activity; parent outreach; and home-based activities. Thus, there are models of programs that have been effective at changing behavioral risk factors and, in some cases, preventing or reducing overweight and obesity.

There is convincing evidence that physical education (PE)-based strategies are effective for increasing and maintaining physical activity in school children[14].In addition to PE improving playgrounds in schools, providing play equipment to schools, or incorporating activity breaks into the elementary school classroom can have positive effects on improving physical activity levels among students, but few studies have rigorously evaluated these approaches.

Tobacco Control

The government of India adopted a comprehensive legislation for controlling tobacco use known as the Cigarette and Other Tobacco Products Act in 2003. This act, along with other provisions, banned the sale of all tobacco products to youth younger than 18 years and within 100 yards of educational institutions. The World Health Organization's Tobacco Free Initiative was

launched for tobacco control through research, policy, surveillance, capacity building, and global communications. The Framework Convention for Tobacco Control is a major public health treaty that was adopted by the World Health Assembly in 2003. Among its provisions is an explicit mention of banning the sale of tobacco products to legal minors, and although it has provisions that are applicable for all ages, its principles are particularly targeted to youth, the most vulnerable group to initiate tobacco use.

The government of India launched the National Tobacco Control Program to build capacity of the states to effectively implement the tobacco control laws and also to bring about greater awareness about the ill effects of tobacco consumption. Antitobacco advertising can be effective in deterring children and preadolescents from taking up the habit in the first place. Antitobacco marketing, combined with other strategies to restrict tobacco use, can be an effective strategy in reducing the impact of tobacco promotion.

Restricting Food Marketing

Sustained and aggressive marketing restrictions, curtailing advertising of unhealthful food products such products aimed pointedly at children and adolescents in television, and the banning of in-school marketing, accompanied by the promotion of healthful foods such as fruits and vegetables, are some examples of steps that can be and have been taken to this end.

Mass Media

Adolescents are particularly susceptible to experimenting with alcohol and tobacco use, targeting campaigns focused on these risk factors of younger age groups is a rational strategy to increase awareness of, improve attitudes toward, and change intentions to increase healthful eating and physical activity in the lives of the target audience. The campaigns can adopt multiple elements to communicate its message, including television, radio, and print commercials; shopping center and shopping cart advertisements; media partnership activities; a campaign website; an information line; and distribution of other reading material.

Adolescent Driven Advocacy

Over the past decade, a number of youth-driven initiatives have targeted reduction in CVD risk factors and demonstrated the potential power in the energy and enthusiasm of young people.

Global Youth Meet (2006) on Health, engaged in awareness, advocacy, and research related to health promotion. The group aims to connect young people from around the world, forming a global alliance of national, regional, and global partnerships that can collectively promote common causes. These include advocating for tobacco control, healthful diets, regular physical activity, environmental protection, gender equality, women's health, and reduction of alcohol and drug abuse.

Framework For Nurses

Individual refers to biological, genetic, demographic, and learning history influences within any person. The individual level is nested within the family environment, which includes influences such as role modeling, feeding styles, provision and availability of foods, and other aspects of the home environment. The third level, the microenvironmental level, refers to the local environment or community in which the family and home are immediately nested. This includes local schools, playgrounds, walking areas, and shopping markets that enable or impede healthful eating behaviors. Level 4 is the macroenvironmental level. This level refers to broader economic policies, laws, and industry policies that operate at the regional, state, national, and international levels. The influence of level 4 factors can be pervasive and project down to individual choices. The model recognizes the importance of both the nesting of levels within one another and reciprocal influences among levels.

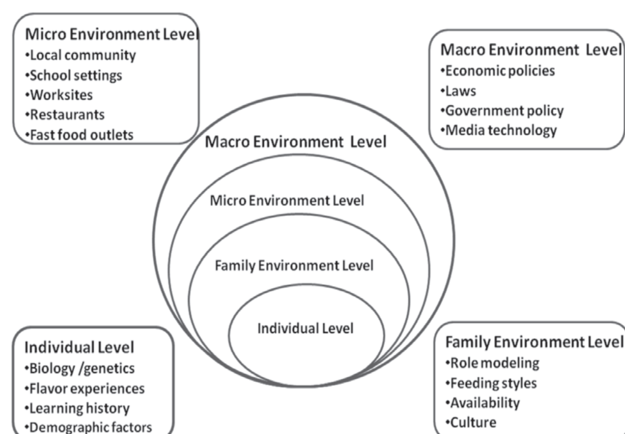


Fig. 1. Multilevel framework for identifying facilitators or barriers among adolescents

Role of Nurse: Elements for Action

Collaboration

1. Successful empowerment requires ready access and collaboration among paediatic, clinical psychology, sociology, and public health services to ensure that adolescents achieve their social and educational potential without increasing the long-term risks.
2. Disseminate information to parents and families during all contact points for help and advices.
3. Collaboration between paediatic and adult cardiac care at the stage of transition to adult care.

Research and development

1. Identify major health conditions in terms of contribution to India's disease burden
2. Estimate the incidence and prevalence levels of the diseases at present and in future
3. List the causal factors underlying the spread of the diseases
4. Suggest, based on evidence, the most cost-effective preventive and curative strategies, for reducing the disease burden, particularly among the poor
5. Indicate what interventions should be provided where and by whom
6. Collaboration between the multiple agencies sponsoring and funding research into empowerment of CAD could prevent duplication.
7. Continued development of measures of personal well-being, treatment satisfaction and other subjective aspects of risk reduction; adolescents' and cares' psychological needs; tools for measuring knowledge, skills and beliefs; strategies for motivation and empowerment

Education and training

1. Continuing education and motivation of those involved is necessary if high standards are to be maintained.
2. The high prevalence of risk factors of CAD in the population means that all those working in hospital, primary and community care will encounter adolescents with coronary artery risk factors.

CONCLUSION

Accumulation of cardiovascular risk begins early in life, and evidence on rising rates of childhood obesity and smoking as well as emerging evidence on the effects of early nutrition on later cardiovascular health support the value of empowering children & adolescents early and continuing prevention efforts throughout the life course by nurses.

Conflict of Interest: Nil

Does not exit. There is no conflicts exist in the above article since the authors have not received any direct or indirect assistance in the form of analyzing, preparing, writing the manuscript from any other individuals.

Source of Funding

This is not funded by any commercial firm, private foundation, or government.

REFERENCES

1. M Dong, WH Giles, VJ Felitti, SR Dube, JE Williams, DP Chapman, RF Anda. Insights into causal pathways for ischemic heart disease: Adverse childhood experiences study. Circu 2004;110(13):1761–6.
2. WHO Global InfoBase. Overweight & obesity (BMI) country data. Geneva: World Health Organization; 2008 www.euro.who.int/__data/assets/pdf_file/.../enhis_factsheet09_2_3.pdf
3. KD Eaton, L Kann, S Kinchen. Youth risk behavior surveillance:US,2005. MMWR Surveill Summ. 2006;55(5):1-108.
4. Centers for disease control and prevention. Physical activity levels among children aged 9–13 years: United States, 2002. MMWR Morb Mortal Wkly Rep. 2003;52(33):785–8
5. Muntner P, He J, Cutler JA, et al. Trends in blood pressure among children and adolescents. JAMA. 2004;291(17):2107–13.
6. Sorof J, Daniels S. Obesity hypertension in children: a problem of epidemic proportions. Hypertension. 2004;40(4):441–7

7. Rosamond W, Flegel K, Friday G, et al. Heart disease and stroke statistics—2007 update. Circu 2007;155:69 -71
8. RM Lauer, WR Clarke. Use of cholesterol measurements in childhood for the prediction of adult hypercholesterolemia: the Muscatine Study. JAMA. 1990;264(23):3034–8.
9. Webber LS, Srinivasan SR, Wattingney WA. Tracking of serum lipids and lipoproteins from childhood to adulthood: The Bogalusa Heart Study. Am J Epidemiol 1991;133(9):884–99
10. SR Daniels, DK Arnett, RH Eckel. Overweight in children and adolescents: pathophysiology, consequences, prevention, and treatment. Circu 2005;111(15):1999-2012
11. M Story, S French. Food advertising and marketing directed at children and adolescents in the U.S. IJBNPA 2004;1(1):3.
12. KS Reddy, M Arora, CL Perry, B Nair, A Kohli, LA Lytle, M Stigler, D Prabhakaran. Tobacco and alcohol use outcomes of a school-based intervention in New Delhi. Am J of Hea Behavior. 2002;26(3):173–81
13. CL Perry, MH Stigler, M Arora, KS Reddy. Preventing tobacco use among young people in India: Project MYTRI. Am J of Pub Hea 2009;99(5):899–06
14. PJ Naylor, HA McKay. Prevention in the first place: Schools a setting for action on physical inactivity. Brit J of Sports Med. 2009;43(1):10–3

DOI Number: 10.5958/j.0974-9357.6.1.011

Pediatric Baccalaureate Nursing Curriculum in Pakistan: Strengths, Limitations and Recommendations

Shela Akbar Ali Hirani[1], **Jacqueline Maria Dias**[1]
[1]*Assistant Professor, Aga Khan University School of Nursing and Midwifery, Stadium Road, Karachi, Pakistan*

ABSTRACT

Pakistan is a developing country that has been struggling with rising child mortality and morbidity rates since many decades which indicates that this country needs trained Pediatric nurses to promote child health. From an educationist perspective, a pressing need was viewed to appraise whether the existing Pediatric Health Nursing curriculum is coherent with the health needs of the Pakistani pediatric population. Therefore, considering the regional and international trends, the existing Pediatric Health Nursing curriculum of the Higher Education Commission (HEC)/Pakistan Nursing Council (PNC) was reviewed and analyzed. The review of the Pediatric Health Nursing curriculum revealed that all of its components are in alignment with the HEC/PNC objectives, and it gives coverage to the four main , including "integration of knowledge derived from humanities and science", "effective communication", "health promotion", and "nursing process". The analysis also showed that the course can be further improved by involving students in lab based simulation exercises, adding practice sessions for communication, utilizing community sites for students' clinical practice, and offering sessions on Pediatric medications and drug dosage calculation.

Keywords: *Baccalaureate, Curriculum, Nursing, Pakistan, Pediatric Health*

INTRODUCTION

Pakistan is a developing country that is struggling with a rising child mortality and morbidity. In 2010, under five child mortality rate in Pakistan was reported as 87 per 1000 live births[1]. In fact, achievement of Millennium Development Goal # 4 to reduce child mortality by 2015 seems unlikely as Pakistani holds limited health care professionals in the field of Child Health[2,3]. The rising morbidity and mortality rates among young children indicates that Pakistan needs trained health care professionals especially trained nurses to promote child health in society. Hence, from an educationist perspective, a pressing need was viewed to appraise whether the existing pediatric nursing curriculum is consistent with the health needs of the Pakistani pediatric population. Considering the regional and international trends, this paper appraises the strengths and limitations of the operationalized Pediatric Health Nursing curriculum in Pakistan, and explores the way forward to strengthen knowledge, skills and attitudes of future Pediatric nurses in Pakistan.

Background of Pediatric Baccalaureate Nursing Curriculum in Pakistan

In Pakistan, the Bachelor's of Science in Nursing (BScN) is a four-year professional education program which intends to prepare a safe clinical nurse who will be able to provide comprehensive care to the Pakistani population at primary, secondary and tertiary care settings[4]. In 2006, the Pakistan Nursing Council (PNC) in collaboration with Higher Education Commission (HEC) established for the first time a new national curriculum for the four-year Baccalaureate nursing programme thereby ensuring consistency in the delivery of the BScN curriculum across all the BScN accredited schools of nursing in Pakistan as well as ensuring that the curriculum respond to the rising burden of diseases in Pakistan[5,6]. Within HEC curriculum, the Pediatric health nursing curriculum was envisioned considering the health needs of pediatric population in Pakistan. The HEC proposed Pediatric Health Nursing course is of 6 credits and has both a theoretical and practical component.

Operationalized Pediatric Nursing Curriculum in Pakistan: Strengths, Limitations and Recommendations

The analyzed strengths, limitations and recommendations of the operationalized Pediatric Health Nursing curriculum are discussed below:

Sequence and Alignment: Within HEC/PNC curriculum, Pediatric Health Nursing curriculum is offered in the third year of BScN progarmme. The sequencing of Pediatric Health Nursing curriculum in the BScN programme reveals an attempt to meet the HEC/PNC objectives that intends to enable students to derive knowledge from humanities and sciences. The sequence of Pediatric curriculum further assures that before proceeding to specialty based Pediatric Health Nursing concepts, students gain familiarity with the natural sciences subjects like "Anatomy and Physiology" and "Microbiology", as well as they develop know how of basic concepts in nursing through courses like "Fundamentals of Nursing", "Nursing Ethics", "Adult Health Nursing" and "Pharmacology" that are offered during first and second year of the BScN programme. Society of Pediatric Nursing (SPN) recommendations indicates, "Required curricula in all professional nursing education programs must have readily discernable pediatric nursing content built upon theoretical and empirical knowledge of…anatomical, functional, and pathophysiologic differences between adults and children" (p. 88)[7]. In view of literature, placement of the Pediatric course after Adult Health Nursing course seems justified because this sequence enables students to develop their comfort level with the care of Adult patients before caring for pediatric patients. Also, with this sequence students could be facilitated to appreciate anatomical, physiological, pathological, and care giving differences between adult and pediatric clients which is an essential consideration. Moreover, the placement of Pediatric nursing curriculum in BScN programme seems aligned with the principle of moving from simple to complex and one course building on the other[5]. As Pediatric Health Nursing curriculum is offered parallel with other courses, including "Reproductive Health", "Tropical and Communicable Disease", "Culture Health and Society", "Teaching and learning", "Developmental Psychology", and "English", this provides opportunity to students to integrate the learnt concepts in Pediatric Health Nursing into theory and clinical component of parallel courses and vice versa.

Course and Clinical Objective: Behavioral objectives describe what the learner will be able to do at the end of a learning experience[8]. Based on this premise, the existing Pediatric health nursing curriculum has five course objectives and seven clinical objectives surrounding the theme of health promotion, communication skills, curative aspect, and rehabilitation aspect. Table 1 depicts the course and clinical objectives of the course. Keeping in mind the present national needs, objectives seem to provide accomplishment of the learning experiences of Baccalaureate nursing students.

Course Content: Analysis of course content reveals its consistency with the HEC/PNC objectives, course objectives and clinical objectives. Consistent with the literature the course gives adequate coverage to recommended concepts including: growth and development, health promotion, safety and injury prevention[7,9,10], family-centered approach[11], and disabilities[12]. Literature highlights the importance of considering context relevancy in curriculum[13]. It was noted Pediatric health nursing course gives extensive coverage to the content on the theme of child health promotion, curative aspects, and nursing process. The emphasis placed on these three aspects seems justified because the included content under these themes are essential to enable future nurses to meet the needs of Pakistani pediatric population at diverse community and hospital setups.

A limitation that was noted was that Pediatric pharmacological concepts are superficially discussed throughout the course. Also, other than in skills lab, no separate session is offered on Pediatric drug dosage calculations. Pediatric medications are more sophisticated than adults; therefore, students need prior hand preparation to practice safely at bedside. Literature shares, "…since weight-based dosing is needed for virtually all drugs in pediatrics, ordering medications typically involves more calculations than for adults" (p. 2115)[14]. Also, several other study findings support that uncommon and complex preparation and administration of Pediatric drug increases the chances of medication errors[15,16]. As the aim of the BScN programme is to prepare safe nurse who could safely work at bedside, therefore, it is recommended to devote considerable time in theory and skills lab teaching to prepare students for Pediatric medications.

As one of the core competencies outlined in the HEC/PNC curriculum is communication, it was analyzed the existing Pediatric nursing curriculum gives only two hours coverage to the content in theory class only. It was analyzed that the skills lab teaching does not give any practice session to prepare students to establish effective communication skills with pediatric patients of diverse age groups. From practical aspect it was analyzed that communicating with hospitalized children is one of the biggest challenge because children have very short attention span and sick children show more irritability if health care professionals try to communicate with them. Therefore, it was viewed that current course content on "communication" is insufficient to enable nursing students to demonstrate effective communication with children. Literature emphasizes that Pediatric nursing education must facilitate nursing students to establish effective communication with children by offering them practical experience with well children[17].

Clinical Placements: Clinical objectives and HEC core competencies suggest utilization of both hospital and community based Pediatric setups for the achievement of the clinical objectives. However, it was identified through informal conversations with other Pediatric nurse-educators in the country that only hospitals are utilized for Pediatric clinical experience. Literature suggests that overemphasis on hospital based teaching and neglect of community based setups like daycare centers, outpatient clinics, refugee/ internally displaced people's camps etc. as clinical placement is one of the drawback of undergraduate child health nursing curriculum[13]. Literature further suggests, "Helping students to become aware of the communities around them will help them to appreciate the less-than-ideal living circumstances from which some of our patients come" (p. 747)[18]. Several other literature also highlight that Pediatric Health Nursing curriculum must address health needs of sick, disabled and well children to enable students to learn and apply principles of growth and development, and community based child health promotion[9,19,20]. This indicates that along with hospital setup alternative clinical placements should be sought to provide students with sustentative clinical experience.

Teaching/Learning Strategies: Several teaching learning strategies including: discussion, demonstration, guest lecture, field trip, role play, sharing of clinical experience, group presentation, literature review, group work, and tutorials are utilized. These strategies are in alignment with the course objectives. Literature further indicates that use of teaching strategies like clinical experience, role plays, and sharing of clinical experience provide ways to instill cultural competence in curriculum[21]. Moreover, it was analyzed that the field visit is appropriately chosen as teaching learning strategies because it enables nursing students to integrate theory into practice. Literature underscores that field visits enhance community based learning opportunities for students, and help students to gain insight about community services available for children and their families[22]. Few of the strategies that are not currently utilized but are valuable in enhancing students' learning at classroom and clinical are recommended these include play therapy workshop and case studies that would enhance creativity, problem solving and critical thinking among students[23]. Besides that, the pediatric nursing curriculum could have included self-study modules for giving coverage to the content that has already been covered in other courses. Moreover, as presently skills lab based teaching in majority of the schools of nursing of Pakistan mainly focuses on demonstration and return demonstration; therefore, utilization of lab based simulation exercises is recommended as teaching strategy during lab based teachings to enhance students' learning[23], promote their critical thinking[7,9,24], and enable them to recognize clinical based errors[25,26].

Course Assessment Criteria: The assessment criteria include two paper pencil tests, one group presentation, and one clinical case based assignment. All these assessment criteria that are meant to assess course content taught during theory, skills and clinical, were found in alignment with the identified BScN programme objectives, course and clinical objectives. In view of the total credits of Pediatric course, the assigned assessment criteria seems appropriate and is sufficient to assess the content that is being covered in the course.

CONCLUSION

Review ofoperationalized Pediatric Health Nursing curriculum of an undergraduate programme in Pakistan revealed that sub-components in the course including course description, course objectives, content, and assessment criteria are in alignment with the terminal objectives of the BScN programme. The entire course gives broader coverage to the four main themes including "integration of knowledge derived from humanities and science", "effective

communication", "health promotion" and "nursing process". Utilization of integrated approach in overall curriculum was viewed as the greatest strength of the undergraduate Pediatric health nursing curriculum. It was analyzed that Pediatric curriculum could be improved by involving students in lab based simulation exercises, adding practice sessions for communication, utilizing community sites for clinical practice, and offering sessions on Pediatric medications and drug dosage calculation.

Table 1. Course and Clinical Objectives of the Pediatric Baccalaureate Curriculum in Pakistan

Course Objectives:
At the end of the course, learners will be able to:
1. Develop awareness on common health issues of the children in Pakistan
2. Discuss principles of growth and development and its deviation in all aspects of nursing care
3. Discuss the impact of hospitalization on the child and family
4. Discuss the role of a family in the care of sick children in Pakistani Context
5. Integrate pharmacological knowledge into care of sick children
Clinical Objectives
At the end of the course, students will be able to:
1. Apply principles of growth and development in all aspects of nursing care
2. Identify the impact of hospitalization on the child and family and utilize the strategies to decrease the stress of hospitalization
3. Integrate therapeutic play to minimize stress of a child during hospitalization
4. Utilize Gordon's Functional Health Pattern effectively when providing care to a child and family with acute or chronic illness
5. Utilize communication skills that facilitate therapeutic relationship with children, their families and health care team members
6. Identify needs and give health education to child / family at their level of understanding to promote health and prevent disease
7. Integrate pharmacological knowledge in the care of sick children

ACKNOWLEDGEMENT

We are grateful to the Aga Khan University School of Nursing and Midwifery for allowing us to review the existing Pediatric Baccalaureate Nursing Curriculum.

Source of Funding: None

Ethical Clearance: Not required

Conflict of Interest Disclosure: The authors of this manuscript declare that the manuscript is an original work and does not hold any potential or actual conflict of interest.

REFERENCES

1 The World Bank. Mortality rate, under-5 (per 1,000) 2011; http://data.worldbank.org/indicator/SH.DYN.MORT.

2 Hirani SA, Kenner C. Effects of Humanitarian Emergencies on Newborn and Infant's Health in Pakistan. Newborn and Infant Nursing Reviews 2011; 11 (2): 58-60.

3 Kenner C, Hirani SA. Safety Issues in Neonatal Intensive Care Units in Pakistan. Newborn and Infant Nursing Reviews 2008; 8 (2): 69-71.

4 Higher Education Commission. Curriculum of Nursing Education, BScN 2006; http://www.hec.gov.pk/InsideHEC/Divisions/AECA/CurriculumRevision/Documents/Nursing%20Education%202006.pdf.

5 Dias JM, Ajani K, Mithani Y. Conceptualization and operationalization of a baccalaureate nursing curriculum in Pakistan: Challenges; hurdles and lessons learnt. Procedia-Social and Behavioral Sciences 2010; 2 (2): 2335-2337.

6 Pakistan Nursing Council. List of PNC recognized institutions for Diploma program, Degree program and Post Basic Diploma program 2011; http://www.pnc.org.pk/Recognized_Institutes.htm.

7 Lynch ME. Society of Pediatric nurses education committee: Policy statement-Child Health Content Must Remain in the Undergraduate Curriculum. Journal of Pediatric Nursing 2007; 22 (1): 87-89.

8 Bastable SB. Behavioral objectives. In Bastable SB (Ed.), Nurse as Educator (2nd ed.). Sudbury, MA: Jones and Bartlett 2003.

9 Linder LA, Pulsipher N. Implementation of simulated learning experiences for Baccalaureate Pediatric nursing students. Clinical Simulation in Nursing 2008; 4: e41-e47.

10 Pridham KF, Broome M, Woodring B. Education

for the nursing of children and their families: Standards and guidelines for Pre-licensure and early professional education. Journal of Pediatric Nursing 1996; 11 (5): 273-280.

11 Curry DM. SPN News: Position statement on Family-centered care content in the nursing education curriculum. Society of Pediatric Nurses 2008.

12 Seccombe JA. Attitudes towards disability in an undergraduate nursing curriculum: A literature review. Nurse Education Today 2006; 27: 459-465.

13 Rawat MS, Kamal S. Education for Primary Pediatric care. Indian Journal of Pediatrics 1997; 64: 369-372.

14 Kaushal R, Bates DW, Landrigan C, McKeena KJ, Clapp MD, Federico, et al., Medication errors and adverse drug events in Pediatric Inpatients. Journal of the American Medical Association 2001; 285 (16): 2114-2120.

15 Fortescue EB, Kaushal R, Landrigan CP, McKenna JK, Clapp MD, Federico F, et al. Prioritizing strategies for preventing medication errors and adverse drug events in Pediatric in patients. Pediatrics 2003; 111 (4): 722-729.

16 Taxis K, Barber N. Causes of intravenous medication errors: an ethnographic study. Quality & Safety in Health Care 2003; 12: 343-348.

17 Thyer S. An Australian Pediatric nursing education experience. Pediatric Nursing 1992; 18 (1): 80-85.

18 Blair M. Training and Education as a means of increasing equity in Child Health Teaching of Undergraduates. Pediatrics 2003; 112 (3): 747-748.

19 Lieber MT. Community-Based Pediatric experiences: Education for the future. Journal of Pediatric Nursing 1997; 12 (2): 85-88.

20 Task Force on the Future of Pediatric Education. The Future of Pediatric Education II. Organizing Pediatric education to meet the needs of infants, children, adolescents, and young adults in the 21st century. Pediatrics 2000; 105: 161-212.

21 Cuellar NG, Brennan AM, Vito K, Siantz ML. Cultural competence in the Undergraduate Nursing curriculum. Journal of Professional Nursing 2008; 24 (3): 143-149.

22 Cummins A, McCloskey S, O'Shea M, O'Sullivan B, Whooley K, Savage E. Field visit placements: An integrated and community approach to learning in Children's nursing. Nursing Education in Practice 2010; 10 (2): 108-112.

23 Billings DM, Halstead JA. Teaching in Nursing: A guide for faculty. Philadelphia: Elsevier Inc, 2005.

24 Baldwin KB. Friday night in the Pediatric emergency department: A simulated exercise to promote clinical reasoning in the classroom. Nurse Educator 2007; 32 (1): 24-29.

25 Lambton J. Integrating simulation into a Pediatric nursing curriculum: A 25% solution? Simulation in Healthcare 2008; 3 (1): 53-57.

26 Lambton J, O'Neill SP, Dudum T. Simulation as a strategy to teach clinical pediatrics within a pediatric curriculum. Clinical Simulation in Nursing 2008; 4 (3): 79-87.

DOI Number: 10.5958/j.0974-9357.6.1.012

Knowledge, Attitude and Practices of Adolescents Related to HIV/AIDS in Selected Schools of Delhi

Smriti Arora[1], Jyoti Sarin[2]

[1]*Assistant Professor, Faculty of Nursing, Hamdard University, Rufaida College of Nursing, Hamdard University, Hamdard Nagar, New Delhi,* [2]*Principal, MM College of Nursing, Mullana, Ambala, Haryana*

ABSTRACT

Introduction: In India, the largest and most populated countries in the world, with over one billion inhabitants, it is estimated that around 2.5 million Indians are living with HIV. Adolescents comprise about 22% of the population of India (1). This large group of population contains high potentiality for social and economic development of the country in future. According to NFHS 2005 and 2006, the prevalence of HIV infection among 15-19 years age group is 0.04%. There is paucity of data in Delhi regarding awareness on HIV/ AIDS among adolescents, which is required to plan an education program for them.

Objective: This study was conducted among 175 school going adolescents studying in class 11 and 12 to assess their knowledge, attitude and practices related to HIV/AIDS and to assess the relationship of selected variables with their KAP scores.

Method: The study was conducted in two conveniently selected urban government schools in East Delhi. The data was collected from 175 students using a valid and reliable structured KAP Questionnaire.

Result: It was found that more than 50% of adolescents had inadequate knowledge, stigmatizing attitude and followed unsafe practices towards HIV/AIDS.

Conclusion: There is a need to educate young adults and equip them with the appropriate information and skills to enable them to protect themselves from HIV/AIDS. HIV/AIDS education with greater participation of school is recommended.

Keywords: *Knowledge, Attitude, Practices, Adolescents, HIV/AIDS*

INTRODUCTION

AIDS epidemic has become one of the greatest threats to human health and development. Statistics for the end of 2010 indicate that around 34 million people are living with HIV. Each year around 2.7 million more people become infected with HIV and 1.8 million die of AIDS.

HIV or AIDS is a major threat for humanity in the world especially in developing countries.The global HIV/AIDS situation for adolescents is deadly serious, and the need for a stronger, focused response is urgent. Young people are particularly vulnerable to HIV infection because of risky sexual behaviour and substance use, because they lack access to accurate and personalized HIV information and prevention services, and for a host of other social and economic reasons. An estimated 11.8 million young people aged 15-24 are living with HIV/AIDS [2]. Moreover, about half of the 6,000 new infections each day occur among young people. Adolescents constitute a considerable proportion of India's population (22%). They are a rich human resource and an important part of the development process. Spread of HIV among young people in India is a growing cause for concern. School children of today are exposed to the risk of being victims of HIV/AIDS which was quite unknown to their predecessors a few decades ago. The epidemic

of HIV/AIDS is now progressing at a rapid pace among young people. Young people form a significant segment of those attending sexually transmitted infection (STI) clinics and those infected by HIV.Decline in the traditional control over youth by family and schools, increase in age at marriage, changes in social values and exposure to media and aspirations are some of the features of the modern society which have heightened the permissiveness in sexual experimentation and led to incidence of HIV/AIDS.

OBJECTIVES

The objective of the study was to assess the knowledge, attitude and practices related to HIV/AIDS of adolescents and to assess the relationship of selected variables with their KAP scores.

MATERIAL AND METHOD

This descriptive cross sectional study was conducted among 175 adolescents studying in class 11 and 12, in two conveniently selected urban govt. schools in East Delhi. Both the schools are affiliated with CBSE having classes from first to twelfth. Mostly the students from middle class family seek admission to these schools. The per annum income of parents of the students studying in these schools is around two lakhs. The medium of instruction is English in both the schools. The permission was sought from the principals of the schools, parents of adolescents and verbal assent was taken from students. Following null hypotheses were framed for the study:

HO1: There will be no significant association between knowledge, attitude and practice scores of adolescents related to HIV/AIDS and the selected variables i.e. gender, religion, parents' education and stream of education as assessed by structured KAP questionnaire at 0.05 level of significance

HO2: There will be no significant correlation between

1. Knowledge and Attitude scores
2. Attitude and Practice scores and
3. Knowledge and Practice scores as assessed by structured questionnaire at 0.05 level of significance.

The data was collected from students using a structured knowledge questionnaire, attitude scale and a practice checklist. The tools were validated by nine experts from nursing and medical field. Knowledge questionnaire consisted of 52 objective type items eliciting information about the mode of transmission and prevention of HIV /AIDS. It contained 29 MCQs and 23 true false items. Each MCQ contained a statement followed by four options. There was only one correct response. Every correct response was given one score. The 23 true false items contained statements having possible choices of "True, False, and Don't Know". The "Don't Know" as an option was included to reduce the probability of guessing, as guessing causes some variation in performance from item to item, which tends to lower the test reliability. The items were prepared under the following heads: magnitude of HIV/AIDS, mode of transmission, management and prevention. The maximum score for knowledge was 52. The reliability was assessed using KR 20 and it was found to be .85. The test retest reliability was done within a gap of 10 days on 20 students to assess the stability of the tool. The value of pearson's r was .85. Difficulty level and discrimination index were also calculated for the 52 items.

Attitude scale consisted of 33 positive and negative statements measuring attitude towards people living with HIV/AIDS and safer sex. There were 16 positively worded and 17 negatively worded statements. Cronbach alpha was used to assess the reliability of five point structured rating scale containing 33 items. Its value was .79. Maximum score in the attitude area was (33x5) 165 and the minimum score was (33x1) 33.

Practice checklist was used to determine the expressed practices of adolescents towards practice of safe sex. It contained 24 items eliciting information about safer sex, skin piercing, condom use, blood donation and common household practices. There were twelve statements each corresponding to safe and unsafe practices. The answer of each statement was either 'Yes' or 'No'. Each correct response was awarded 'one' score and incorrect response "zero". The maximum score in structured practice questionnaire was 24 and the minimum score zero. The reliability for structured practice questionnaire was calculated using Kuder Richardson 20 (KR 20) formula on 20 subjects. The value of KR 20 for the practice questionnaire containing 24 items was .76.

The KAP of adolescents was categorized as follows

Variable	Category	%	Score
Knowledge	Adequate knowledge	Above 75%	39-52
	Moderate knowledge	51-75%	26-38
	Inadequate knowledge	Upto 50%	0-25
Attitude	Favorable attitude	67.4 - 100	112-165
	Moderately favorable attitude	33.4 - 67.3	56- 111
	Unfavorable attitude	Upto 33.3	33-55
Practice	Safe practice	76-100	19-24
	Unsafe practices	Upto 75	0-18

The questionnaire was distributed to the students studying in class 11 and 12 after formal administrative approval. It took around 45-60 minutes to complete the entire questionnaire.

The data was tabulated in Microsoft excel and analysed using SPSS 16 with appropriate descriptive and inferential statistics. Level of significance was kept at 0.05 level.

RESULTS

1. **Demographic characteristics:** The range of age of adolescents was from 15-17 years. Mean age was 16.75 years. As shown in table 1, Majority of the students belonged to science group. Maximum students were Hindus followed by Muslims and Sikhs. There were more male students as compared to female students. Maximum number of fathers and mothers were educated upto tenth class.

2. **KAP scores of adolescents:** As shown in table 2, 56.6% of adolescents had knowledge below mean, 52.6% of adolescents had below mean attitude scores and 57.7% of adolescents had below mean practice scores. Areawise distribution of KAP scores is summarized in table 3. Only 20.6% were aware about correct mode of transmission of HIV infection and 22.9% were having knowledge of correct preventive measures. In the attitude component, 45.7% of the students had favourable attitude towards people living with HIV/AIDS (PLHA). None of the student was sexually active. Merely 37.1% of the students were aware of safe sex practices. Only 27.1% followed safe practices related to skin piercing and 18.3% expressed that they would hug or kiss a person with HIV/AIDS.

3. **Association between adolescents' KAP scores and selected variables:** As seen in table 4, there was a significant relationship between gender of the students and their knowledge (p= .002) scores. Male students had significantly higher knowledge about HIV/AIDS than the females. There was no gender difference observed in the attitude (p= .52) and practice (p=.55) scores. There was also no significant relationship between the religion and knowledge (p= .64), attitude (p= .18) and practice (p= .99) scores of students about HIV/AIDS.

   The relationship between parents' education and KAP scores was assessed using one way ANOVA. There was a significant relationship between fathers' education and adolescents' knowledge scores and no significant relationship observed between fathers' education and adolescents' attitude and practice scores. There was a significant relationship observed between mothers' education and adolescents' practice scores but no relationship seen between mothers' education and knowledge and attitude scores.

   There was no significant relationship between the stream of students and their KAP scores. The knowledge, attitude and practices of students about HIV/AIDS are independent of the stream in which they are in.

   Thus the null hypothesis HO1 is partially rejected with regard to religion, parents' education and stream of education of students.

4. **Correlation between Knowledge, Attitude and Practice scores of adolescents related to HIV/AIDS:** As shown in table 5, there was a statistical significant relationship between knowledge and attitude scores, attitude and practice scores and practice and knowledge scores. Thus the null hypothesis HO2 is rejected. The findings suggest that the knowledge, attitude and practices of adolescents are related to each other.

Table 1: Demographic characteristics of adolescents N=175

Variable	Categories	Frequency	%
Stream	Science	109	62.3
	Commerce	66	37.7
Religion	Hindu	131	74.6
	Muslim	32	18.3
	Sikh	7	4
	Christian	5	2.8
Gender	Male	95	54.3
	Female	80	45.7
Fathers' education	Illiterate	12	6.86
	Upto 10th	123	70.3
	Upto 12th	34	19.4
Graduate and above	6	3.4	
Mothers' education	Illiterate	62	35.4
	Upto 10th	92	52.6
	Upto 12th	17	9.7
	Graduate and above	4	2.3

Table 2: KAP scores of adolescents related to HIV AIDS N=175

Variable	Maximum score	Mean	SD	Above mean f (%)	Below mean f (%)
Knowledge	52	14.80	3.38	76(43.4%)	99(56.6%)
Attitude	165	103.2	6.28	83(47.4%)	92(52.6%)
Practice	24	11.30	2.57	74(42.3%)	101(57.7%)

Table 3: Areawise distribution of KAP scores among adolescents N=175

Area	Frequency	%
Knowledge	Students who answered correctly	
• Magnitude of HIV/AIDS	25	14.3
• Mode of transmission	36	20.6
• HIV physiology	27	15.4
• Testing and treatment	30	17.1
• Prevention of HIV/AIDS	40	22.9
Attitude	Students with favourable attitude	
• Attitude towards HIV infection	46	26.3
• Attitude towards PLHA	80	45.7
• Attitude towards safer sex	47	26.9
Practice	Students following safe practices	
• Practices related to safer sex (abstinence, single partner, condom use)	65	37.1
• Practices related to skin piercing	38	21.7
• Practices related to blood donation	26	14.9
• Common household and social practices (kissing, hugging, sharing utensils)	32	18.3

Table 4: Association between adolescents' KAP scores and selected variables N=175

Variable	Category	f	Knowledge			Attitude			Practice		
			Mean (SD)	F	p	Mean (SD)	F	p	Mean (SD)	F	p
Gender	Male	95	15.37(5.2)	9.78	.002*	103.72(5)	.43	.52	11.39 (2.3)	.37	.55
	Female	80	13.04(4.6)			103.19(5.7)			11.18(2.4)		
Religion	Hindu	131	14.51(5.2)	.57	.64	103.9(5.5)	1.7	.18	11.26(2.4)	.04	.99
	Muslim	32	14.06(4.8)			102.8(5.1)			11.41 (2.4)		
	Sikh	7	13.14(4.5)			100(3.3)			11.29 (1.3)		
	Christian	5	12 (2.1)			101.6 (3.2)			11.40(2.1)		

Table 4: Association between adolescents' KAP scores and selected variables N=175 (Contd.)

Variable	Category	f	Knowledge			Attitude			Practice		
			Mean (SD)	F	p	Mean (SD)	F	p	Mean (SD)	F	p
Father's education	nil	12	15.58(4.56)	4.13	.01*	103(4.09)	.86	.47	11.50(3.3)	.07	.98
	Upto 10th	123	13.55(4.95)			103.33(5.44)			11.25(2.2)		
	Upto 12th	34	15.71(4.75)			103.56(5.44)			11.38(1.9)		
	Graduate and above	6	19.17(5.46)			106.83(7.03)			11.17(2.32)		
Mother's education	nil	62	13.47(4.9)	1.9	.13	103.08(5.2)	.26	.85	11.48(2.4)	2.8	.04*
	Upto 10th	92	14.38(5.2)			103.57(5.3)			11.13(2.24)		
	Upto 12th	17	16.24(4.6)			104.24(6.5)			10.76(2.25)		
	Graduate and above	4	17.25(5.5)			104.25(2.9)			14.25(1.5)		
Stream of education	Science	109	14.24 (4.7)	.05	.83	103.55(5)	.06	.81	11.46 (2.4)	1.49	.22
	Commerce	66	14.41 (5.6)			103.35(5.7)			11.02(2.2)		

*p value significant < 0.05 level

Table 5: Correlation between knowledge, attitude and practice scores of adolescents related to HIV/AIDS N=175

Variables	r	p
Knowledge and Attitude	.6	.00*
Attitude and Practice	.53	.00*
Practice and Knowledge	.47	.00*

*p value significant < 0.05 level

DISCUSSION

Adolescence is a phase of physical growth and development accompanied by sexual maturation, often leading to intimate relationships. Among various risk factors and situations for adolescents contracting HIV virus are adolescent sex workers, child trafficking, child labor, migrant population, childhood sexual abuse, coercive sex with an older person and biologic (immature reproductive tract) as well as psychological vulnerability.

Low levels of knowledge about general aspects and transmission of HIV/AIDS have been observed in the current study which is congruent to the findings amongst secondary school students in Kolkata [3]. A similar observation was made amongst a group of secondary school students belonging to Udupi district in Karnataka [4], in that only 24.3% were aware about the existence of drugs while a slightly higher number of school students (34%) in Mumbai [5] knew about the availability of antiretroviral drugs.

In the current study a significant positive relationship was observed between knowledge attitude and practice scores of adolescents related to HIV/AIDS whereas Yinglan Li [6] reported a weak positive relationship between attitudes and practice intentions (r = .140, p = .036) among Chinese nursing students related to HIV/ AIDS. No significant associations between knowledge levels, attitudes, and practice intentions were found. Samkange-Zeeb FN, Spallek L, Zeeb H. [7] did a systematic review of published literature on awareness and knowledge of STDs among school-going adolescents in Europe and analyzing the findings on condom use, it was concluded that knowledge does not always translate into behaviour change.

Adolescents constitute a considerable proportion of India's population (22%). They are a rich human resource and an important part of the development process. Good health of adolescents will help in raising the health status of the community. Reaching youngsters at an impressionable age before they become sexually active can lay the foundations for a responsible lifestyle, including sex and marriage. Right information, an enabling environment and supportive services help adolescents take informed decisions regarding important health issues and contribute to a better future.

ACKNOWLEDGEMENT

The authors acknowledge the students and principals of Sarvodaya Bal Vidyalaya and Sarvodaya Kanya Vidyalaya who cooperated to conduct the study without which this study would not have been possible.

Conflict of Interest: None

Source of Funding: Nil

Ethical Clearance: The permission was obtained from the Education officer of the east zone of New Delhi and IRB, Jamia Hamdard for conducting the study.

REFERENCES

1. UNESCO. Case studies. STDs/HIV/AIDS (India), 2003. Available from: http:// www.unescobkk.org/ ips/arh-web/ demographics/india2.cfm.
2. Preventing HIV AIDS among adolescents. Available from: http:// www.unfpa.org/ upload/lib_pub_file/224_ filename_ hiv_ adolescents02.pdf
3. Chatterjee C, Baur B, Ram R, Dhar G, Sandhukhan S, Dan A. A study on awareness of AIDS among school students and teachers of higher secondary schools in north Calcutta. Indian J Public Health. 2001;45:27–30.
4. Agarwal HK, Rao RS, Chandrashekar S, Coulter JB. Knowledge of and attitudes to HIV/AIDS of senior secondary school pupils and trainee teachers in Udupi District, Karnataka, India. Ann Trop Paediatr. 1999;19:143–9.
5. Sankaranarayan S, Naik E, Reddy PS, Gurunani G, Ganesh K, Gandewar K, et al. Impact of school-based HIV and AIDS education for adolescents in Bombay, India. Southeast Asian J Trop Med Public Health. 1996;27:692–5.
6. Yinglan Li. Chinese nursing students' HIV/AIDS knowledge, attitudes, and practice intentions. Applied Nursing Research. 2008;21(3):147-152
7. Samkange-Zeeb FN, Spallek L, Zeeb H. Awareness and knowledge of sexually transmitted diseases (STDs) among school-going adolescents in Europe: a systematic review of published literature. BMC Public Health. 2011 Sep 25;11:727.

DOI Number: 10.5958/j.0974-9357.6.1.013

Mothers Knowledge on Domains of Child Development

Miby Baby[1], **Sangeetha Priyadarshini**[2], **Sheela Sheety**[2]
[1]*2nd year Msc Nursing*, [2]*Assistant Professor, Manipal College of Nursing, Manipal University, Manipal, Karnataka, India*

ABSTRACT

Background: Child development refers to the biological, psychological and emotional changes that occur in human beings between birth and the end of adolescence, as the individual progresses from dependency to increasing autonomy.

Objectives: The objectives of the study were to assess the knowledge of mothers regarding the domains of child development and to find the association between the knowledge scores of mothers and selected variables like age, education, monthly income, type of family, area of living and source of information.

Method: A descriptive survey approach was used .Data was collected from 144 mothers by administering the questionnaire on domains of child development and demographic proforma. Descriptive and inferential statistics were used to analyse the data.

Results: Among the 144 mothers, majority (74%) had average knowledge regarding domains of child development and the mean percentage score was maximum (53.63%) in the area related to moral development. A significant association was found between knowledge and age of the mother (χ^2=9.704, P=.032).

Conclusion: The finding gives an insight for nurses to develop better education and parenting training programs for mothers to bridge the gap in the knowledge child development.

Keywords: *Knowledge, Mothers, Domians Of Child Development*

INTRODUCTION

Parents are architects of nation's future "The Children". Parental beliefs and attitudes are regarded as filters through which the behavior of the infant is channelled and the thoughts and ideas of the parents are mutually regulated with the infant. The child views the world through their parents' eyes. These eyes need to have a clear vision or the child's worldview will be blurred.

The optimal development of children is considered vital to society. It is essential to assess the value of caregivers because they are what truly make society function. They prepare the next generation for school, work, and decision-making. So it is important to educate the parents or caretaker on the social, cognitive, emotional, and educational development of children. A child's entire future largely depends on how he / she are nurtured. Increased knowledge of age-specific milestones allows parents and others to keep track of appropriate development.

Corresponding author:
Mrs. Miby Baby
2nd year Msc Nursing
Manipal College of Nursing Manipal
Manipal University, Manipal,
Karnataka. India. Pin: 576104
Email: miby88@gmail.com

Statement of the problem

"A descriptive study to assess the knowledge on domains of child development among the mothers in selected health centres of Udupi District, with a view to develop an information booklet".

OBJECTIVES

— To assess the knowledge of mothers regarding the domains of child development

— To find the association between the knowledge scores of mothers and selected variables like age, education, monthly income, type of family, area of living and source of information.

— To develop and validate an information booklet on domains of child development

Hypothesis

H_1: There will be a significant association between mothers' knowledge level on domains of child development and variables like age, education, monthly income, type of family, area of living, and source of information.

Research methodology

The present study was aimed to assess the existing knowledge of mothers regarding domains of child development. To achieve this objective, survey approach and a descriptive design was used.

Population

The population consisting of mothers having a child in the age group of 0-3 months of age who attended the RMCW centres of Udupi District.

Sample

The sample of the present study consisted of all the mothers with a child between 0-3 months of age who met the sampling criteria and visited the immunization clinics of Rural Maternity and Child Welfare Centres of KMC, Manipal.

Sampling technique

Purposive sampling technique was adopted to select the study samples from rural maternal and child welfare centres.

Sampling criteria

The following criteria are set for the selection of sample:

Mothers

- who had a child of 0-3 months of age
- who visited the immunization clinics of Rural Maternity and Child Welfare Centers of KMC Manipal
- who were able to read and understand Kannada.
- willing to participate in the study

Sampling criteria

The following criteria are set for the selection of sample:

Mothers

- who had a child of 0-3 months of age
- who visited the immunization clinics of Rural Maternity and Child Welfare Centers of KMC Manipal
- who were able to read and understand Kannada.
- willing to participate in the study

Tools

Tool 1: Demographic proforma

The demographic proforma consisted of nine items such as name and address, age of mother in years, age of the child in months, previous exposure to knowledge on domains of child development, sources of health related information, type of family, educational status, area of living and the monthly income of the family. The respondents were instructed to fill the proforma.

Tool 2: Structured knowledge questionnaire

The structured knowledge questionnaire was developed to determine the knowledge of mothers regarding domains of child development. Based on the literature review a blue print was developed and the items were constructed as per the blue print. The areas included were -biological, sensory, social, cognitive and moral development of the child according to their age.

The questionnaire included 30 items of MCQ type questions and each item had 3 distractors and one correct answer. The respondents were requested to choose the most correct answer and put a tick mark (Ö) in the space provided against the best possible answer. Each correct answer carried a score of one and each wrong answer carried a score of zero. The scores were categorized arbitrarily as

- 24-30 : Excellent
- 16-23 : Good
- 8-15 : Average

- 7 and below : Poor

Plan for data analysis

Descriptive statistics in terms of frequencies and percentage was used to analyze sample characteristics and knowledge level. Chi square test was used to find the association between knowledge and selected demographic variables.

Major findings of the study

Section 1: Sample characteristics

The samples included in this study were mothers with a child 0-3 months of age.

- Most of the mothers i.e. 65 (45.1%) were in the age group of 25-30
- Majority of mothers i.e. 99 (68.8%) were from joint families.
- Out of 144 mothers, 41 (28.5%) had educational qualifications of high school level
- 77 (53.5%) came under the income group of Rs.4001-8000
- Majority of the subjects i.e 89 (61.8) reported health personnel as their source of information
- Most of them (53.5%) had previous information regarding the domains of child development.
- Majority (69.4%) lived in rural area.

Section 2: Knowledge of the mothers

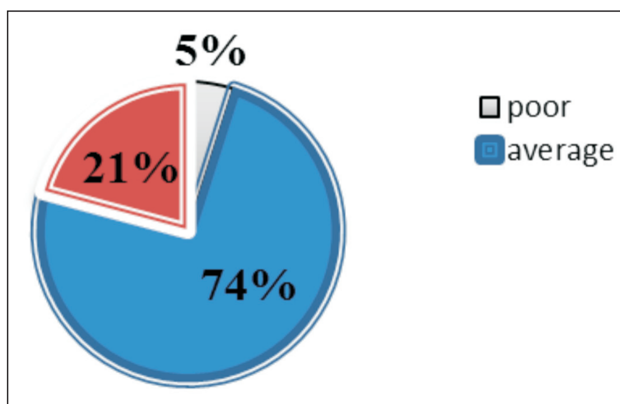


Fig. 1. Pie diagram showing percentage distribution of knowledge of mothers on domains of child development

The above diagram showed that out of 144, majority i.e 107 (74%) had average knowledge and 30 (21%) had good knowledge and 7 (5%) came under the poor category and none of the mothers belonged to the excellent category

Section 3: Area wise knowledge of mothers

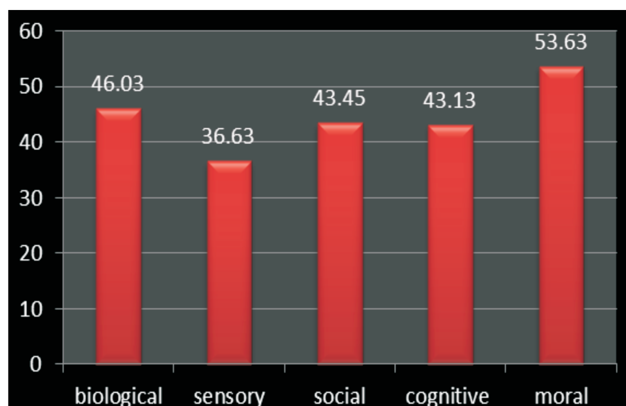


Fig. 2. Bar chart representing area wise mean percentage score of knowledge level of mothers on domains of child development

The data presented in figure 2 revealed that mean percentage score was maximum (53.63%) in the area related to moral development and the minimum mean percentage score of 36.63% was in the area related to sensory development.

Section 4 : Mean, median and standard deviation of knowledge scores

Table 1: Range, Mean, median and standard deviation of knowledge scores n=144

Range	Mean	Median	Standard deviation
5-23	13.43	14	3.46

The data in the table 1 represented the mean and standard deviation of knowledge scores of mothers and it was 13.43 and 3.46 respectively. The maximum score obtained was 23 and minimum score was 5.

Section 5: Association between knowledge and selected variables like age, education, monthly income, type of family, area of living and source of information

In order to determine the statistical significance between knowledge and selected variables, chi square was computed. The data showed that there was a significant association between knowledge and age of the mother ($\div^2$=9.704, p=.032). The null hypothesis was rejected with regard to this variable and research hypothesis was accepted. But there was no significant association between knowledge and selected variables like education, monthly income, type of family, area of living and source of information, thus null hypothesis was accepted with regard to these variables.

CONCLUSION

The present study concluded that the majority of mothers had average knowledge regarding domains of child development and most (20.8%) of them had good knowledge but none of the mothers came in the excellent category. This shows that mothers have some knowledge about child development. The study also revealed that the knowledge of mothers on domains of child development is associated with age of the mother. Results gives a insight for nurses to develop better education and parenting training programs for mothers to bridge the gap in the knowledge.

Recommendations

Based on the study findings, the following recommendations were made:

- A similar study can be conducted using probability sampling
- A similar study can be conducted among the health care providers especially the staff nurses who are working in the paediatric unit
- A comparative study can be done between the mothers of rural and urban areas
- Replication of the study in different parts of the world on a larger sample would help to draw conclusions that are more accurate and generalize to a larger population.

Limitations

- Data was collected only from mothers who were present during the data collection period
- The study used purposive sampling, so generalization of the study was limited to the sample.

ACKNOWLEDGEMENT

We thank"The almighty god" for His blessings during our study. We acknowledge whole heartedly the participants of the study

Also we express our sincere gratitude to Dr. Anice George, Dean, MCON, MU, Manipal and Dr. Baby S. Nayak, Professor and HOD, Department of Child Health Nursing, MCON, MU, Manipal for providing us an opportunity to undertake this study.

Conflict of Interest: No

Ethical clearance: Institutional ethical committee clearance is obtained. Also informed consent is obtained from the participants of the study

REFERENCES

1. Sharma N, Sapru R, Gupta P. Maternal beliefs of dogra mothers of Jammu and their child's perceived competence in preschool. Journal of Human Ecology. 2004; 15(2): 153-156.
2. Kail R E. Children and Their Development: Prentice Hall; 2006.Available from http://en.wikipedia.org/wiki/Child_development
3. Child care. [internet].Available from http://en.wikipedia.org/wiki/Child_care
4. Thomas S, Vijayakumar C, Siva R, Isaac R. Parenting children under three years of age in a south Indian setting. Journal of paediatric nursing. 2007 Sept; 33(5):421-426.

DOI Number: 10.5958/j.0974-9357.6.1.014

Effectiveness of Information Education Communication (IEC) Package on Life Style Practices of Adolescents - A Pilot Study

L Mendonca

Prof (Vice Principal), Laxmi Memorial College of Nursing, A. J. Towers , Balmatta, Mangalore

ABSTRACT

Adolescents are those between the ages of 10 and 19 years old and are tomorrow's adults. Life style factors related to eating behavior and physical activity play a major role in the prevention and treatment of type 2 diabetes. However rapid changes in lifestyle may adversely affect the growth and maturation. Some people lack adequate food while some people though have adequate amount of food yet make its poor choices. Because of these reasons, nutritional problems not only affect their growth and development but also in future would adversely affect their livelihood as adults.

Keywords: *Adolescents, Physical Activity, Diet, Lifestyle Practices*

INTRODUCTION

Adolescence is a period of transition from childhood to adulthood: it assumes critical position in the lifecycle of human beings, characterized by an exceptionally rapid rate of growth. [1] Many adolescents make poor nutritional and lifestyle choices that put them at risk of health problems[2.] Occurrence of series of nutritional problems like under nutrition, anemia and overweight or obesity may develop in them.[3]An increasing trend of overweightedness and obesity in combination with a high prevalence of underweightedness is found to be common among many countries[4].The fundamental cause of nutritional disorders are an increased consumption of more energy dense, nutrient poor foods with high level of sugar and saturated fats, poor choice of nutrient rich food and consumption of inadequate quantity of food which is due to ignorance, reduced physical activity which is due to increased use of automated transport, technology in the home and more leisure pursuits.

The economic growth in India and urbanization has a remarkable impact on socioeconomic status, and lifestyles; globalization and food markets are major forces thought to underline the obesity epidemic[5].

Adolescence is a unique intervention point in the life cycle. It is a stage of receptivity to new ideas and a point at which lifestyle choices may determine an individuals life course. They are usually open to new ideas; they show curiosity and interest[6]. School – based nutrition – physical activity education improves dietary practices and physical activity level that affect young persons' health, growth and intellectual development. School – based nutrition education is particularly important because today's children and Adolescents frequently decide what to eat with little adult supervision [7]

Statement of the problem

Effectiveness of information education and communication (IEC) package on lifestyle practices of adolescents in selected high schools, Mangalore.

Objectives of study

1. To determine pre test and post test lifestyle practices among adolescents in experimental and control group.
2. To compare the pre test and post test lifestyle practices among adolescents in experimental group.
3. To compare the post test lifestyle practices between experimental and control group.

Hypothesis

1. **H_{O1}:** There is no significant difference between mean post test life style practice score among adolescents of experimental and control group.

2. **H_{O2}:** There is no significant difference in the mean pre test and post-test lifestyle practice score among adolescents of experimental group.

Research Methodology

Research approach: A experimental research approach was used.

Research design: Pre test post test control group design was adopted for the study

Setting of the study: The study was conducted in two selected high schools of Mangalore city region.

Population: In this study Adolescents studying in high school were the population of study.

Sample: The total sample consisted of 40 adolescents. From each school twenty sample were selected.

Sampling technique Sampling technique adopted was simple random sampling technique.

Development of the tool: The tool had 2 parts

Part I : demographic proforma

Part 2 : Structured questionnaire to assess the life style practices of the adolescents.

Validity of the instrument: To ensure content validity of the tool the tool was submitted to expect along with the blueprint, objectives checklist and content validation certificate.

Reliability: Test – retest method was used and reliability coefficient was calculated by using Pearson Correlation coefficient formula. The reliability coefficient for the questionnaire found to be 0.94 which was highly significant.

Preparation of IEC package: IEC package named as information book on **nutrition and physical activity for adolescents** was prepared based on review of literature and discussion with the guide and other experts.

Data collection procedure: Formal administrative permission to conduct the study in the selected high schools was obtained from the head of the institution. The investigator visited the school on the given date. The purpose of the study was explained to them. After the pre-test teaching was given using power point presentation and video show. Information book containing the information regarding nutrition and physical activity was given to the students along with the letter to the parents; post test was conducted after 3 months.

RESULTS

Demographic characteristics

Higher percentages (40%) of them were in the age group of 15-16 years in experimental group and control group. Highest percentage (50%) were males in experimental and in control group, 35% of them were studying 9th slot 35% of them in 10th std and 30% of them were studying in 8th standard.

Majority in experimental (65%) and in control group (70%) were from nuclear families. Majority in experimental (70%) and in control group (85%) were non vegetarians. Highest percentage of them had income in between Rs 10001-15000 (experimental group 40% and control group 45%). Highest percentage in the experimental group watching T.V. for 2-4 hrs (60%) where as in the control group highest percentage were watching T.V. for less than 2 hrs. (55%). None of them in the experimental group and control had any limitation to participate in the physical activity.

Description of lifestyle practices

In the experimental group the mean pre test lifestyle practice score was 95.70+16.93 and in the post it increased to 110.10+15.51. Where as in the control group the pretest mean was 94.70+12.92 and in the post test it decreased to 92.50+12.08.

Effectiveness of IEC package on Lifestyle practices of adolescents

There was significant difference in the post test lifestyle practice scores between experimental and control group (t=3.63, p<0.001). There was significant difference between mean pre and post test lifestyle practice scores among adolescents of experimental group in the areas 'dietary habits' (t=2.191, p<0.001), frequency and type of food '(t=0.006, p<0.001)' amount of food t=3.597, p<0.001) type and frequency of physical activity' (t=3.278, p<0.001).

Findings also revealed that there was significant difference in the mean post test lifestyle practice scores between experimental and control group. Significant difference was found in the area' diet area wise habits (t=3.78, p<0.001) 'frequency of food consumption (t=2.18, p<0.001)' 'hygienic practices' (t=3.63, p<0.001), hence the research hypothesis accepted for these areas.

There was no significant difference in the mean post test lifestyle practice scores between experimental and control group for the area 'physical activity pattern' 'and' type of activity and' Amount of food'.

Table 1. Mean, Median, Range and S.D of lifestyle practice scores in adolescents

	Experimental (n=20)				Control (n=20)			
	Range	Mean	Median	S.D	Range	Mean	Median	S.D
Pre test	67-121	95.70	98.50	16.93	72-120	94.700	96.00	12.92
Post test	82-140	109.10	110.00	15.51	74.121	93.10	92.50	12.08

Table 2. Significance of difference in the post test lifestyle practice scores between experimental group and control group.

Life style practices	Group	N	Mean	Std. Deviation	t
Experimental		20	109.10	15.51	3.63
Control		20	93.10	12.08	P<0.001 vhs

Table 3. Area wise significant difference in the mean lifestyle practice scores of adolescents in experimental group.

Areas	N	Mean	S.D	T value	P value
Diet habits					
Pre test	20	19.15	3.95	2.919	0.009hs
Post test	20	23.4	8.44		
Type of food					
Pre test	20	48.9	8.84	3.088	0.006hs
Post test	20	53.35	8.45		
Amount of food					
Pre test	20	13.05	3.59	3.597	0.002hs
Post test	20	15.9	3.03		
Hygienic practices					
Pre test	20	3.5	1	0.777	0.447
Post test	20	3.7	0.732		
Physical activity pattern					
Pre test	20	6.8	2.839	0.2888	0.776
Post test	20	6.9	2.712		
Type of physical activity					
Pre test					
Post test	20	4.3	2.25	3.278	0.004hs
	20	5.85	2.13		

DISCUSSION

This study findings are supported by a study conducted in Sousse, Tunisia to implement and evaluate school based intervention to promote healthy lifestyle and to prevent cardiovascular risk factors among children pre-test – post test quasi experimental study design with a control group was adopted. Education was given regarding diet, physical activity and tobacco use. The intervention programme lasted for one year. The percentage of children who know what they should eat on breakfast have been improved significantly in the intervention group (15.4-40.5%, there was significant improvement in students eating fruits and vegetables, students who participate in more than 30 minutes of physical activity after the intervention increased significantly (_18.4%). The findings of the study also suggested that intervention can change the lifestyle knowledge and intention in short period[8]

Another study supports the present study is an experimental study conducted to evaluate the impact of school based interdisciplinary intervention on diet and physical activity among African American urban primary school children. Student survey, food frequency, activity measures and 24 hour recall of diet and activity was assessed before the intervention as well as after the intervention. The percentages of total energy from fat and saturated fat were reduced among students in intervention compared with control schools (-1.4%; 95% confidence interval [CI], -2.8 to -0.04; P=.04

and -0.60%, 95% CI, -1.2 to -0.01; P=.05). There was an increase in fruit and vegetable intake (0.36 servings/4184kj; 95% CI, 0.10-0.62; P=.01), in vitamin C intake (8.8 mg/4184 kJ; 95%CI, 2.0-16; P=.01), and in fiber consumption (0.7g/4184kJ; 95% CI, 0.0-1.4;P=.05). Television viewing was marginally reduced (-0.55h/d; 95% CI, -1.04 to 0.04; P=.06). Analysis of longitudinal and repeated cross sectional food frequency data indicated similar significant decreases in the percentages of total energy from fat and saturated fat[9]

CONCLUSION

Study resulted in substantial improvements concerning behaviour in the intervention group. It is concluded that the IEC package was found to be effective in improving the lifestyle practices of adolescents. It is Cost effective and nurses can utilize all the opportunities to educate adolescents to improve desired outcome and thus helping the adolescents to prevent nutritional related disorders.

Ethical Clearance

Ethical clearance has been obtained from ethical committee.

Source of funding: not received any financial support from third party related to the submitted work.

Potential conflict of interest

I have no other relationship /condition / circumstances that present a potential conflict of interest.

ACKNOWLEDGEMENT

My sincere appreciation goes to all the participants for being cooperated in the study

REFERENCES

1. Kapil U, Singh P, Pathak P, Dwivedi SN, Bhasin S. Prevalence of Obesity amongst Affluent School children in Delhi, Indian Pediatrics, May 2002; 39(5):449-452.
2. G.K. Mehdi, N.C. Hazarika, J. Mehanta. Nutritional status of adolescents among tea garden workers; Indian journal of paediatrics, April 2007; 74(4):343-347
3. N. Gupta & G. Kochar. Role of Nutrition Education in Improving the Nutritional Awareness Among Adolescent Girls. The Internet Journal of Nutrition and Wellness, 2009; 7(1). Available from;http://www.ispub.com/journal/the internet journal of nutrition and wellness/volume 7 number 121/article/role of nutrition education in improving the nutritional awareness among adolescent girls. Html.
4. Doak CM, Adair LS, Bentley M, Monterio C, Popkin B.M. underweight and overweight coexist within household in Brazil, China and Russia, Nutrition Journal, 2000;130:29:1-5
5. WHO/FAO expert consultation. Diet, nutrition and the prevention of chronic diseases, Geneva, 28 January -1 February 2002. (WHO technical report series; 916). Available from http://www.who.int/dietphysicalactivity/publications/trs916/en/
6. Sheperd R, Dennison CM. Influences on adolescent food choices. Proc Nutr Soc; 1996:55:345-57 available from whqlibdoc.who.int/publications/2005/9241593660_eng.pdf)
7. Ahmed F, Zareen M. Khan Mr. Dietary patterns, nutrient intake and growth of adolescent school girls in urban Bangladesh. Pub Health Nutr; 1998:1:83-92.
8. Imed Harrabi, et.alschool based intervention to promote healthy lifestyles in sousse, Tunisia Indian journal of community medicine vol.35/issue 1/January 2010, 94-99.
9. Steven L. Gortmaker et.al Arch Pediatr Adolesc Med. 1999;153:975-983.

DOI Number: 10.5958/j.0974-9357.6.1.015

An Exploratory Study to Identify Factors Associated with Noncompliance of Medications and Recommended Lifestyle Behavior after Renal Transplantation- A Pilot Study

Uma Rani Adhikari[1], Abhijit Taraphder[2], Tapas Das[3], Avijit Hazra[4]

[1]Vice-Principal, Woodlands College of Nursing, Kolkata, [2]Formerly Professor & Head, Dept of Nephrology, [3]Formerly Professor & Head, Dept of Medicine, [4]Associate Professor, Dept of Pharmacology, I.P.G.M.E.R & S.S.K.M Hospital, Kolkata

ABSTRACT

Introduction: Noncompliance to prescribed therapy has been found to be common in chronic diseases. Therapeutic compliance not only includes patient compliance with medications but also with diet, exercise or lifestyle changes. Therapeutic noncompliance after renal transplantation is a major risk factor for acute rejection and graft loss. It is estimated that 1 in 10 deaths in transplant patients is due to medication noncompliance1-2

Material and Method: This exploratory longitudinal study was performed in tertiary care teaching and non-teaching hospitals in Kolkata. From 30 renal transplant patients data were collected through interview, records & existing laboratory report. To get self-report structured questionnaire for interview were prepared. For data collection clients were picked up from the period of pre-transplant work up and they were followed up for 1 month.

Results: The extent of noncompliance after renal transplantation is 16.67 (95%CI 3.33-30%). The reason for noncompliance is mainly forgetfulness and poor knowledge. This study also reveals that noncompliance is significantly associated with dialysis duration and waiting time for transplant.

Keywords: *Renal Transplant Patient, Noncompliance, Factors Influencing Noncompliance*

INTRODUCTION

Renal transplantation is the treatment of choice for most patients with end-stage renal failure. According to the World Health Organization, 66,000 kidney transplants were performed in 83countries in the year 2005[3]. Day by day it is increasing in number.

There is evidence that compliance to therapeutic regimen is a critical requirement for the success of an organ transplant. Noncompliance toward diet, medications, exercise, and regular follow up and different other recommendation is a real and common problem in the transplant arena. Studies have shown the prevalence of noncompliance among renal transplant ranging from 2-68%[4].

Patients who report noncompliance may get benefit from the use of various intervention strategies. These strategies need to target specific causes of noncompliance. However, an in-depth understanding of factors associated with noncompliance of medications and recommended lifestyle behavior is essential prior to the development of any intervention.

Research question

i) How extensive is the noncompliance after renal transplant?

ii) What are the factors influencing noncompliance after renal transplant?

METHOD AND MATERIALS

This exploratory longitudinal study was performed in tertiary care teaching and non-teaching hospitals doing regular renal transplantation in Kolkata. With consecutive sampling 30 adult renal transplant patients who can read, speak & write were included in this

study. Data were collected through interview, records & existing laboratory report. To get self-report structured questionnaire for interview were prepared. The questionnaires consisted of open & closed ended questions. Validity & reliability of the tool was established before data collection. For data collection clients were picked up from the period of pre-transplant work up and they were followed up for 1 month (Pilot study). The study was approved by the institutions ethics committee.

STATISTICAL METHOD

Descriptive and inferential statistical methods were used. Data were summarized using frequency, means and standard deviation. Pearson's chi-square for all categorical variables and Mann-Whitney U test for numerical variables were used. A probability of less than 0.05 was accepted as significant. Data were analyzed by using SPSS-14th version.

RESULTS

Table 1: Socio-demographic characteristics of the subjects

Variables	**N (30)**	**%**
Age (Mean)	34.1±10.07	
Gender		
• Male	20	66.7
• Female	10	33.3
Marital status		
• Married	19	63.3
• Unmarried	11	36.7
Types of family		
• Nuclear	18	60
• Joint	12	40
Educational status		
• Graduate & above	17	56.6
• Higher secondary	4	13.3
• Secondary	7	23.3
• Primary	2	6.7
Religion		
• Hindu	23	76.7
• Muslim	5	16.6
• Christian	2	6.6
Belief in God		
• Yes	24	80
• No	6	20
Employment		
• Student	5	16.6
• Service	13	43.3
• Housewife	3	10
• Business	6	20
• Unemployment	3	10
Income (Mean)	26300±16269.60	
Support person		
• Spouse	17	56.6
• Parent	7	23.3
• Siblings	5	16.6
• Son/daughter	1	3.3
Insurance coverage		
Yes 0	0	
No	30	100

Table 2: Therapy related characteristics of the subjects

Variables	N (30)	%
Post-operative complications (Before discharge)		
• Yes	8	26.66
• No	22	73.33
Duration of dialysis	8.1±3.46 (months)	
Types of transplant		
• Related	17	56.66
• Unrelated	13	43.33
Immunosuppressive regimen		
• Pred+TAC+MMF*	9	30
• Pred+TAC+AZA*	21	70
Pill burden (Mean)	14.8±2.22 (number)	
Hospital stay after transplant (Mean)	16.7±4.48(days)	

*-TAC-Tacrolimus, MMF-Mycophenolate Mofitil, AZA-Azathioprin, Pred-Prednisolone.

Table 3: Health care system related characteristics of the subjects

Variables	N(30)	%
Health information		
• Satisfied	16	53.3
• Not satisfied	14	46.7
Availability of health care facility		
• Present	18	60
• Not present	12	40
Waiting time (Mean)	7.18±3.37 (months)	
Medication knowledge	(44.66 ± 17.95)%	

Table 4: Patient & condition related characteristics of the subjects

Variables	N(30)	%
No of side effects of immunosuppressant		
No side effects	1	3.3
1 " "	6	20
2 " "	7	23.3
3 " "	15	50
4 " "	1	3.3

Table 5: Reasons for Noncompliance

Reasons	Frequency
Forgetfulness	3
Lack of information/poor knowledge	2

II. Relationship between selected variables

Table 6: Relationship between the selected variables with the compliance status

Sample characteristics	Compliant status		Fisher's exact test P value
	Compliant	Noncompliant	
Types of family			
Joint	10	2	0.364
Nuclear	15	3	
Gender			
Male	15	5	0.486
Female	10	0	

Table 6: Relationship between the selected variables with the compliance status (Contd.)

Sample characteristics	Compliant status		Fisher's exact test P value
	Compliant	Noncompliant	
Marital status			
Married	14	5	0.129
Unmarried	11	0	
Belief in God			
Yes	21	2	0.256
No	3	3	
Health information			
Positive	13	3	1
Negative	12	2	

Table 7: Relationship between the selected variables with the compliance status.

Compliant	Non-compliant	Fisher's exact test	P value
Graduate & above	17	2	0.532
Higher secondary	4	0	
Secondary	7	3	
Primary	2	0	

Table 8: Relationship between the selected variables with the compliance status

Aspect	Compliant(Mean Rank)	Noncompliant (Mean Rank)	P value from Mann-Whitney U test
Age	14.56	20.20	.190
Income	16.38	11.10	.220
Waiting period	13.60	24.90	.007*
Dialysis duration	13.68	24.60	.010*
Pill burden	15.44	15.80	.933
Hospital stay	15.88	13.60	.592

* P < 0.05

DISCUSSION

In this study the incidence of noncompliance is 16.66% and it is supported by many other studies where incidence of noncompliance ranges from 13-36%[5], overall compliant 23.8%[6]. Many other studies [6-9] reported that noncompliance among transplant patient ranges from 5-43%. The present study reveals that reason for noncompliance is mainly forgetfulness and poor knowledge which is also supported by W.J.Liew study[10]. This study also reveals that noncompliance is significantly associated with dialysis duration and waiting time. W J. Liew[10] also found in her studies that waiting time for transplant was significant predictor's of noncompliance. So dialysis duration & waiting time for transplant are very good predictors of noncompliance after renal transplantation. In the present study other factors like-age, sex ,education, income, knowledge, type of transplant, pill burden, numbers of comorbidities, belief in god are not significantly associated with noncompliance. This may be because of small number of subjects included in this study and short time follow up.

Implication for practice & future research: This study raises several important questions to address in future research. Before doing study on interventional strategies to minimize noncompliance we need to consider factors associated with noncompliance in order to maximize long-term renal allograft survival and it requires addressing larger studies in future. Health care professional needs to stress the importance of compliance with their post-transplant treatment. This includes complying with follow-up visits, medicine intake, investigation etc. It is also necessary to stress the benefits of their treatment and their risks of developing complications, and consequences of non-compliance.

CONCLUSION

This study provides a framework for identifying patients at risk for non-compliance and for developing compliance-enhancing interventions from Indian Context. Future strategies to improve compliance, including increased vigilance in high-risk patient groups, frequent medication review, and laboratory testing, should be encouraged. So, we need to do this sort of study from different parts of India for better understanding regarding predictors of non-compliance among renal transplant patient from Indian sociocultural context.

ACKNOWLEDGEMENT

I am thankful to Head of the Dept. of Nephrology & director of I.P.G.M.E.R & S.S.K.M Hospital, Kolkata for providing support to carryout this work. I am also thankful to The West Bengal University of Health Sciences, Kolkata.

Source of Funding: Investigator is utilizing her own income for the purpose of this research study.

Conflict of Interest: None

REFERENCE

1. WHO. Adherence to Long-term Therapies: Evidence for Action. World Health Organisation; 2003.
2. Butler JA, Roderick P, Mullee M, Mason JC, Peveler RC. Frequency and impact of non-adherence to immunosuppressants following renal transplantation: a systematic review. Transplantation 2004; 77: 769–776
3. WHO-Fact sheet. Kuwalt Medical Jounal 2007 ; 39(2) : 203-208.
4. Chisholm MA. Issues of adherence to immunosuppressant therapy after solid-organ transplantation. Drugs 2002; 62(4): 567-575.
5. Mahmoud Loghman-Adham, Am J Manag Care. 2003 Feb; 9 (2):155-71,
6. Kiley DJ, Lam CS, Pallak R. A study of treatment compliance following kidney transplantation. Transplantation 1993 Jan; 55(1): 51-56.
7. Royal Pharmaceutical Society of Great Britain: From Compliance to Concordance. London, Official Brochure, 1997.
8. Pullar T, Birtwell A, Wiles P, Hay A, Feely M: Use of a pharmacologic indicator to compare compliance with tablets prescribed to be taken once, twice or three times daily. Clinical Pharmacology and Therapeutics (1988) 44, 540–545;
9. Raynor DK: Patient compliance. The pharmacist's role. Pharm Pract 1992; 1:126–135.
10. W.J.Liew. Medication compliance among Renal Transplant Patients. Med J Malaysia December 2004; Vol 59 (5):

DOI Number: 10.5958/j.0974-9357.6.1.016

Intimate Partner Violence an Evil of Society with Integration of Ecological Model a New Perspective

Yasmin Mithani RM[1], Zahra Shaheen Premani[2], Zohra Kurji[3]

[1]Senior Instructor, [2]Chief Operating Officer, [3]Senior Instructor/Curriculum Chair, The Aga Khan University School of Nursing and Midwifery, Pakistan

ABSTRACT

Intimate partner violence (IPV) is the abuse that occurs between two people in a close relationship. WHO report highlights that intimate partner violence has a damaging impact on physical, mental reproductive and sexual health of victims, with consequences such as physical injuries, depression, post-traumatic stress disorder, suicidal attempts, substance abuse, unwanted pregnancies, gynecological disorders, increased risk of sexually transmitted infections including HIV/AIDS, and others.[6, 7].

The ecological model of Hesis for intimate partner violence states that there is no one cause behind violence and it has multifaceted factors. If we understand how each factor is related, we can prevent and intervene for IPV in our society.

Keywords: *Intimate Partner Violence, Ecological Model of Hesis, Damaging Impact*

INTRODUCTION

Working in community surely exposes one to the practical primary care issues like maternal and child health care, infectious diseases, water problem and sanitation. This article presents a case scenario encountered by the primary author, as part of her field work primarily focused on clinical teaching.

CASE STUDY

The root cause behind many problems is scarcity of resources and education. I came across this situation when I was facilitating my students at clinical in one of the slum areas of Karachi. In the very first week, we encountered a 28 year old lady sitting outside her house. Whenever I used to facilitate my students in the locality, she used to come closer and actively listen to my conversation with my students. In the last week of my rotation, the lady showed me a prescription of anti-fungal medications. She had complaints of itching, burning in vagina, heavy curd like discharge and constant backache. When she shared these complaints, I reinforced her to comply with the medication regimen. After a week she reported that her problem got worse. She was having excruciating pain and heavy vaginal discharge, which was very uncomfortable for her. Upon exploration, she quietly told me to send my students away as she wanted to share a secret matter with me. In order to maintain her privacy, I visited her home to discuss the matter. She showed her prescription again and said that the main cause of her illness is her husband and due to this, the doctor has advised her to refrain from sex. It surprised me when she said that she cannot refrain from sex as it is her duty to perform sexual activity every night, despite her prevailing condition, and this is why this infection is persistent. Stating this, she started crying, and told me that even in her post natal days, she could not take rest. If she refused, her husband would have put allegations on her that she has fulfilled her needs elsewhere when he went for fishing for one month. He would also insist her to have sex with him using different positions, which she did not like. She further stated that she is unable to give more details as she

Corresponding author:
Yasmin Mithani
Senior Instructor
Year 1 and 2 Coordinator, The Aga Khan University School of Nursing and Midwifery
Ph: +92-300-2177250
Yasmin.mithani@aku.edu

was feeling embarrassed. Furthermore, she stated that she was not alone and many other women in the community were in the same plight. This is a common primary health problem in the community. While hearing this situation, I felt helpless as I was not able to utter a word and just listened.

Subjective point of view

I was very angry listening to this entire scenario, I asked myself when these women will be heard, and why does the society always make norms to oblige husbands? Why do women feel insecure after marriage? Why are women still suppressed and submissive? When will women be empowered? These questions evoked frustration in me. I felt very sad because this is not the story of one woman, but a very prevalent primary care problem in Pakistani community.

Objective point of view

The above mentioned situation illustrates multifaceted areas where we can relate many factors and many themes. I will now address the issue of sexual violence by integrating epidemiology and sociology into the situation.

Analysis with epidemiological and sociological perspective

Epidemiological Perspective

According to a factsheet by Center for Disease Control and Prevention (CDC):

'Intimate partner violence (IPV) is the abuse that occurs between two people in a close relationship. The term "intimate partner" includes current and former spouses and dating partners'.[3]

'The World Health Organization (WHO) Characterizes domestic violence as a pattern of coercive behavior designed to extend power and control over a person in an intimate relationship through the use of intimidation, threats, and harmful or harassing behaviors.'[6] According to an estimate ".Various forms of domestic violence in the country include physical, mental and emotional abuse. Some common types include honor killing, spousal abuse including marital rape, acid attacks and being burned by family members."[4]

A similar report by the Centre of Disease Control (CDC) on violence prevention reports that every year, around 1.5 million women are victims of raped and/ or physical by an intimate partner.[5] They also validate that sexual violence is very common problem all over Pakistan and many women accept this form of violence as their fate. It is a pandemic problem. According to WHO report, 1.4% women go through sexual violence in La Paz, Bolivia, 0.8 % in Gaborone, Botswana, 1.6% in Beijing, China, 0.3% in Manila, Philippines, 5% or more in Tirana, Albania, 6% in Buenos Aires, 5.8% in Argentina, 8% in Rio de Janeiro, Brazil and Bogota, and 5% in Colombia. It also shows that in three provinces of South Africa, 1.3% of women had been forced physically or by means of verbal threats, to have non-consensual sex in the previous year.[6] WHO report highlights that intimate partner violence and sexual violence have a damaging impact on physical, mental and reproductive and sexual health, with consequences such as physical injuries, depression, post-traumatic stress disorder, suicide attempts, substance abuse, unwanted pregnancies, gynecological disorders, sexually transmitted infections, risk of increased HIV/AIDS, and others.[6, 7]

Based on interviews with more than 24, 000 women from rural and urban areas in 10 countries, the study by Azam and Irma also found that lifetime prevalence of sexual violence by an intimate partner ranged from 6% to 59%, with the prevalence in the majority of study sites falling between 10% and 50%. [4]

A similar study by Karmaliani et al done in Pakistan also endorsed that "one in three women are victims of IPV in Pakistan and a review of more than 50 population-based studies indicated that between 10% and 52% of women from 35 countries around the world report lifetime physical abused by an intimate partner, and between 10% and 30% had experienced sexual violence by an intimate partner."[8]

Therefore, this means that IPV is a serious matter and is prevalent worldwide with the above mentioned data validating this concern.

Sociological Perspective

Sociologist will always focused circumstances with society ,or how societal culture enable or become impeding factors for a individual at micro or macro level .like for example how does a individual behave with family or peers .the main aim of sociologist is to observe always with the lens of social situation **.**

Thus keeping in view the above mentioned role of sociologist, many researchers have endorsed various theories for violence for e.g. feminist theory ,exchange

theory, Bandura theory and many more. However, if we analyze this case study with the ecological model, it will facilitate in understanding the issue with a broader perspective and will assist in preventing IPV and intervening accordingly. It is very pertinent to analyze sociological perspective while planning intervention for prevention in the society.

Discussion: The Ecological Model and Its Integration with the Case

As mentioned by Hesis, 'understanding these situations and manifold causes creates opportunities to intervene before the violent act occurs, and provides policy makers with concrete options to prevent violence'.[10] The ecological model of Hesis for intimate partner violence depicts four major dimensions such as individual, relationship, community and society that influence an individual's behavior. If we integrate the client's situation with this theory, she had no education at individual level. At relationship level, she was experiencing marital conflict, Furthermore, the client expressed that it was not only her, but the neighbors also faced similar problem. This means that this problem was a sociological issue; Pakistan is a male dominant society and women here are expected not to raise their voice even if they are experiencing violence.

The ecological model of Hesis for intimate partner violence states that there is no one cause behind violence and it has multifaceted factors. If we understand how each factor is related, we can provide interventional as well as preventive care to the society.[4 6 10]

Individual

This level identifies the vulnerable characteristic of a victim or perpetrator like client and her husband who had no education. The biological circumstances of ecological model includes low education, habit of substance abuse and child hood aggression if we integrate client situation with this model.

Relationship

The second level of this model identifies how close social relationships contribute to IPV. In the case of my client, I could integrate that daily she was sexually abused by her husband and whenever he did not go for fishing, he demanded sex from her, even when she was undergoing infection or was postnatal. She could not rest and she was bound in marital relation with him, and even after so much violence when she was beaten by him she was willing to continue the relationship. This is a major issue as the emotional attachment was lost in the relationship subsequent to the violence, and the continuation of the relationship was a mere obligation for her.

COMMUNITY

The third level of the ecological model elucidates the community level causes such as schools, workplaces and neighborhoods. As mentioned, my client expressed that it was not only her but the other women were also experiencing same problem. This means that this problem is a social issue. At community level, the woman was not empowered enough to raise her voice against the violence, as it is considered unusual in the community.

Society

The fourth level of the ecological model appraises the societal factors that cause violence. For example, in my client's situation, she was not empowered but was suppressed and she herself was accepting violence as a norm. This acceptance of violence by women not only prevails in certain communities, rather it's a bigger issue at society level, where women are considered sub ordinates to men, and therefore are expected to obey their husbands in all circumstances. In conclusion, this frame work demonstrated various causes of IPV and their significance at different levels.

CONCLUSION

Keeping this theory in view, I will resolve my client's issue with the help of the following strategies at all levels. At individual level, I will resolve this issue by counseling the victim and the abuser. Lack of education is a very dominant factor for my client and I think that by providing awareness sessions on empowerment, women rights etc. might improve their confidence level. Ali & Gavino have also highlighted significance of practical intervention to improve the relationship at individual, community and society levels.[4] I feel from now onwards, I can facilitate my students to educate the community on the concept of family dynamics via role plays, dramas or arranging cultural shows and programs to create family harmony. Couple of sessions on various topics like harmony on family, and husband's role in family can be arranged. Moreover, if the concept of community as a partner is applied and stake holders from the community and

the institution are involved from the very beginning, preventive strategies can be planned .Hence the client can be prevented become productive member of society.

ACKNOWLEDGEMENTS

I would like to acknowledge my faculty of university of London ,Friends, and Family.

Source of Funding: None

Conflict of Interest: None

Ethical Clearance: Not required

REFERENCES

1 World Health Organization Health action in crises: Pakistan. 2008. August. Available from: http://www.who.int/hac/crises/pak/Pakistan_Aug08.pdf. [Accessed 29 October 2009].

2 Urban health programme, community health sciences Aga Khan university.[on line]. Karachi: Available from: http://www.aku.edu/chs/chs-uhpfield.shtml#rehri. [Accessed 28 September 2009].

3 Center for Disease Control and Prevention. Understanding intimate partner violence. Fact sheet [online].2006. Available from: http://www.cdc.gov/violenceprevention/pdf/IPV-FactSheet.pdf . [Accessed 29 0ctober 2009].

4 Ali PA, Gavino MRI . Violence against women in Pakistan: a framework for analysis. Journal of Pakistan Medical Association 2008; 58:

5 Center for Disease Control and Prevention. Intimate partner violence prevention: preventing violence against women: program activities guide. [on line]. 2009. Available from: http://www.cdc.gov/violenceprevention/pub/PreventingVAW.html. [Accessed 28 0ctober 2009].

6 Editors Krug, EG, Dahlberg, LL, Mercy, JA, Zwi, AB and Lozano, R. World report on violence and health. [online]. 2002. Available from: www.who.int/violence_injury.../violence/world_report/en/. [Accessed 26 October 2009].

7 Campbell JC. Health consequences of intimate partner violence. The Lancet 2002; 359:1331.

8 Karmaliani, R, Irfan, F, Bann, CM, Mcclure, EM, Moss, N, Pasha, O, Goldenberg, RL. Domestic violence prior to and during pregnancy among Pakistani women. Acta Obstetricia et Gynecologica. [online]. 2008. p. 1-8. Available from:

9 Greenhalgh, T. The 'ologies' (underpinning academic disciplines) of primary health care. Primary health care: Theory and practice. Chapter 2. 2007. Blackwell Publishing. p.34.

10. Heise LL. Violence against women: an integrated, ecological framework. Violence Against Women 1998; 4: 262-90.

DOI Number: 10.5958/j.0974-9357.6.1.017

Are Health Care Resources Allocated Equitably in Pakistan?

Zahra Shaheen[1], Zohra Kurji[2], Yasmin Mithani[1]

[1]Chief Operating Officer, Catco Kids, [2]Instructor, The Aga Khan University School of Nursing and Midwifery, Affiliation: University of London, The Aga Khan University School of Nursing and Midwifery

ABSTRACT

In countries such as Pakistan where there is paucity of resources, just allocation of resources becomes more critical[8]. Resource allocation is informal[12,22], centralized[12,22] and based on personal and political influences and donor wishes[22] rather than national interests[8]. The health policy making process in Pakistan is explicit yet there is lack of coordination between the Planning Commission and the planning and implementation partners, the Ministries that leads to inefficient decision-making as shown by the broken lines[12,22]. This paper will, therefore, discuss if health resources are allocated justly in Pakistan, using EPI program as an example.

Keywords: *Resource Allocation, Health Care System*

INTRODUCTION

Literature search revealed that though resource allocation of funds is an extremely crucial process, there is lack of local literature in Pakistan regarding how the resources were allocated for various programs[8]. The below-mentioned resource allocation process is used for all healthcare programs in Pakistan and is described here under[8].

Resource allocation process in Pakistan

Resources in healthcare are allocated by evaluating the cost-effectiveness of the interventions for high burden diseases and the resources, usually scarce, are allocated for selective, cost-effective interventions to promote equitable healthcare among population[1,3].

In Pakistan, the Five Year Plan is the main policy document through which the Planning Commission allocates recurrent and development budgets for the next 5 years[22]. The proposal of a new program or project needs to be submitted by the Ministry of Health to the Planning Commission in the form of Planning Commission Document 1 (PC-1). The PC-1 document is a form that provides information regarding type of project, related activities and annual funding. The document is reviewed and deliberated by the Planning Commission and the Ministries of Finance and Health for its technical and financial feasibility. The committee evaluates the strengths and weaknesses of the program and approval is given by the Provincial or the Federal Ministries based on the financial value of the project[8].

Analysis of resource allocation in Pakistan

In countries such as Pakistan where there is paucity of resources, just allocation of resources becomes more critical[8]. Resource allocation is informal[12,22], centralized[12,22] and based on personal and political influences and donor wishes[22] rather than national interests[8]. As shown in figure 1, the health policy making process in Pakistan is explicit yet there is lack of coordination between the Planning Commission and the planning and implementation partners, the Ministries that leads to inefficient decision-making as shown by the broken lines[12,22]. As there is lack of scientific mechanisms, the definition of health needs and priorities are reliant on decision makers and the budget is allocated based on common knowledge, intuition and allocations of previous year[8,13,22]. A pioneer study done to identify the perceptions of decision makers regarding resource allocation for the Enhanced National Aids Program also revealed that though the Planning Commission and Ministries of Health and Finance have defined roles, the process of resource allocation is "highly bureaucratic" thereby

causing delays in the approval of the project. Most importantly, the study demonstrated that individual motivation and personal goals of the decision makers were pre-dominant factors for resource allocation rather than the national interests. Sadly, local evidence-based data is not used to evaluate the cost-effectiveness of the interventions in the process and the decisions were based on "gut feeling". Surprisingly, most of the decision makers were unaware of the cost-effectiveness tools and resource allocation was described by a participant as "a political decision". Moreover, donor agency influence was also identified as an important factor and the principles of equity and efficiency were described by the participants as mere "slogans and jargons"[8].

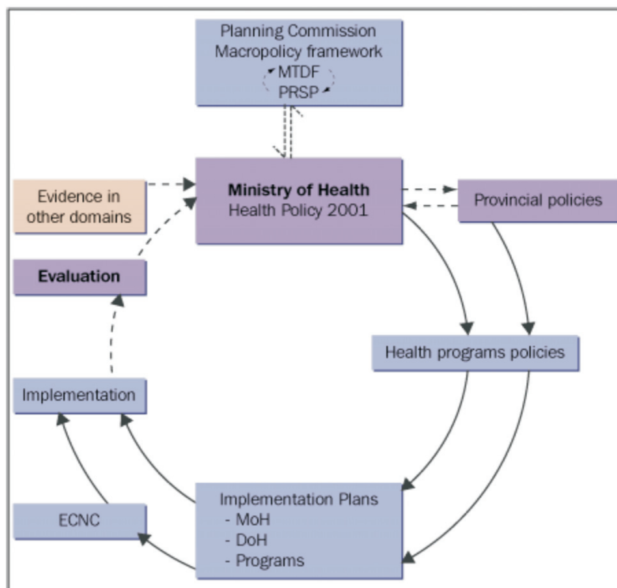


Fig. 1. Pakistan's current health policy framework[12]

Resource Allocation for Expanded Program of Immunization (EPI): Pakistan economic survey 2004-05 indicates that the Infant Mortality Rate in Pakistan is 74 per 1000 live births and the Under 5 Mortality rate is 98 per 1000 live births, most of the deaths occur due to preventable diseases[,6]. Similarly, Maternal Mortality Rate ranges from 350 to 450 per 1000 live births, which is one of the highest in the region mostly occurring due to Tetanus during delivery[45].

EPI is considered as the most cost-effective public health intervention in reducing the communicable high burden diseases[14]. Being one of the vertical service delivery programs, EPI has played a pivotal role in improving the health outcomes in Pakistan[21].

Financing EPI

EPI service is free of cost for the population[17] and is funded partly by the Government of Pakistan and by the donors. Government of Pakistan's share of funding for the Routine EPI in 2007 was 31% of total program funding[17]. GAVI, which is the biggest EPI donor, has committed US $313 million for the year 2001-2012[5]. The allocation of budget for 2009-10 is Rs. 6000 million to improve health of mothers and children[9].

Analysis of EPI program: EPI is a justified program though resource allocation for EPI is not sufficient and appropriately utilized. Statistics reveal that EPI vaccinates 5 million children under one year age and pregnant women per year. A positive trend of 71% overall coverage has been reported with DPT 3 at 69%, Hepatitis B at 65%, measles at 68%[5]and BCG at 80%[16]. In 2004, TT 2 was reported to be 43%[5], which has now increased to 57%[16]. Though not completely eradicated, reduction of polio cases has been seen with 58% coverage of Polio 3 in 2000. Likewise, the coverage of DPT 3 was only 30% in the districts, which increased drastically to 61% in 2009[5].

The goal of EPI program is to eradicate polio by the end of 2005 and increase Routine Immunization coverage to 80% by 2008[5]. Conversely, the rate of fully immunized children is only half of what was aimed for 2008 with polio cases still emerging. Most of the surveys in Pakistan reveal that the coverage of fully immunized child, as per EPI Routine Immunization schedule, is between 47% and 57% with highest rates observed in Punjab while lowest rates seen in Balochistan[5].

If we analyze the utilization of costs against the outcomes, the immunization cost was $ 104 million in 2008[5], yet, the country has not achieved its target of 80% overall coverage with financial resources being wasted. For instance, it is estimated that if all children had been vaccinated against DPT 3, the cost of per child would have been US$ 17.83. On the contrary, 2008 baseline data of the EPI Comprehensive Multiyear Plan 2011-2015 showed that the actual expenditure was US $ 24.51, which is 37% higher and lead to a total loss of US $ 28, 164,774[5] (as shown in table 1). Thus, though EPI is a justified program, it still requires efforts in scaling up and utilizing the costs effectively.

Table 1: Comparison of per child vaccination cost and loss of annual expenditure[5]

	Cost per child US $					
Expenditure Categories	**Total Expenditure in 2008 (US $)**	**At actual coverage (73%)**	**If 80% coverage achieved**	**If 85% coverage achieved**	**If 90% coverage achieved**	**If 100 % coverage achieved**
Vaccines	57714408	13.56	12.37	11.64	11.00	9.90
Injection equipment	3894360	0.92	0.83	0.79	0.74	0.67
Operations	42705209	10.03	9.16	8.62	8.14	7.32
Total	104313977	24.51	22.36	21.05	19.88	17.89
Loss of value of annual expenditure due to low coverage (US $ million)		28.16	20.86	15.65	10.43	Nil

Conclusion/Discussion/Recommendation: Proposed Changes

Health sector reforms are intended to bring about a positive change through re-allocation of resources to improve equity, efficiency and access to quality healthcare services[23]. The strengths of Pakistani healthcare system are health service delivery programs and expansion of resources that have helped enhance access of population to primary healthcare services. In contrast, the weaknesses are lack of governance, planning and surveillance along with lack of access, equity and utilization of primary healthcare services. Moreover, lack of planning and governance is also a major factor that is affecting the resource allocation and quality of services resulting in poor health outcomes[28].

Figure 2: PHC reforms towards health for all[23]

Figure 2 shows the four sets of integrated policy reforms required to divert health system towards Primary Health Care, which are universal coverage reform, leadership reform, service delivery reforms and public policy reforms[23].

Universal coverage reforms: Healthcare services should be such that reduce inequalities and exclusion of the patients[23]. Hence, organizing primary care networks so that the services are accessible and affordable becomes vital[23]. In Pakistan, primary care services that are accessible, unfragmented and efficient are critical factors towards utilization of the services[26]. An estimate reveals that only 15% of the budget is spent on primary care which is utilized by the majority (85%) of the population[25]. This in turn, increases usage of tertiary care services and increases out-of-pocket costs. Moreover, out of the $17 per capita spent on health by the Government, out-of-pocket expenditure is $13, which becomes a biggest barrier to accessing healthcare services making it inequitable for the population[25]. Hence, the health system of Pakistan requires a serious paradigm shift[25].

It is suggested that a Government-regulated social health insurance, which is not currently common in Pakistan, be progressively rolled out[25]. Studies done to evaluate effects of contracting out on equity in access and financial equity demonstrated that there was remarkable improvement in both[29]. Insurance programs rolled out in Malaysia, Thailand, Costa Rico and Mexico are a few success stories[23]. A healthcare basket of essential primary health care services could also be offered as part of the insurance schemes[19]. Nevertheless, this approach would limit the use of services for those who require out-of-the-basket services[10].

Leadership reforms: Fragmentation of the health system is mainly due to poor planning by the Federal and Provincial Ministries that lacks integration, participation and flexibility while implementation is being done at the District level[28]. It is a known fact that planning is a two-way process and plans are only successful if there is feedback from the healthcare providers working on the grass root level and their recommendations incorporated[28]. This should be overcome through decentralization of the system[28]. Studies reveal that decentralization, which is the transfer of power, is implemented in its true sense, has positive impact on such as improvement in efficiency, patient care, enhanced regional and local authority, ownership[19] and accountability[19], improved implementation of healthcare strategies and cost-consciousness[30]. It is therefore, suggested that the decision making power related to all primary healthcare services should be handed over to the District Office that is currently responsible for only implementation of health policies. The District Health

Officer should be the supervisory body under the provincial set-up to bridge the gap between planning and implementation of the programs[25]. Conversely, previous experience of decentralization in Pakistan produced mixed results[28]. For instance, the Government of Punjab has tried to decentralize the system since 1990's. The results of the recent decentralized project of Rahim Yar Khan project highlighted that lack of efficient policy formulation and implementation systems was a major barrier in the implementation[28]. Political manipulation of decentralization, hindrances by the bureaucracy to unleash their powers and possibility of increasing cost and fragmentation is also various concerns with decentralization. Therefore, it can be proposed that a system of monitoring and surveillance be developed and implemented alongside. Finally, strengthening the core functions of the Ministry of Health and department of health along with their capacity building through on-going trainings is critical in promoting strong stewardship role[12]. Setting of standards through participative decision-making, financial controls and providing performance-based incentives would also assist in monitoring and surveillance[12].

ACKNOWLEDGEMENTS

I would like to acknowledge everyone who have assisted me in writing this article; including my tutors, friends, family, and my dear husband and children. This would not have been possible without their unconditional love and support!

Conflict of Interest: None

Ethical Clearance: Not required

Source of Funding: None

REFERENCES

1. Savedoff, WD and Smith, AM. Success in addressing priorities. Priorities in Health. [Online]. 2006; The World Bank. Available from: http://files.dcp2.org/pdf/PIH/PIH.pdf. [Accessed on 08-12-2010].
2. Gibson, JL, Martin, KM and Singer, PA. Setting priorities in healthcare organizations: Criteria, process and parameters of success. BMC Health Services Research. [Online]. 2004; 4:25 doi:10.1186/1472-6963-4-25. Available from: http://www.biomedcentral.com/1472-6963/4/25. [Accessed on 30-11-2010].
3. Mubyazi, GM, Hutton, G. Understanding mechanisms for integrating community priorities in health planning, resource allocation and service delivery: Results of a literature review. [Online]. EQUINET Discussion Paper 13. October 2003; National Institute for Medical Research: United Republic of Tanzania. Available from: www.equinetafrica.org/bibl/docs/mechanisms.pdf. [Accessed on 30-11-2010].
4. No Author. National Action Plan for Action. Ministry of Social Welfare and Special Education. [Online]. 2005; Available from: http://www.nccwd.gov.pk/npa/npa.pdf. [Accessed on 29-11-2010].
5. Hasan, Q, Bosan, AH, Bile, KM. A review of EPI progress in Pakistan towards achieving coverage targets: Present situation and the way forward. Eastern Mediterranean Health Journal: World Health Organization. [Online]. 2010; 16. Available from: http://www.emro.who.int/publications/emhj/16_Supp/article4.htm. [Accessed on 6-12-2010].
6. No Author. Third party evaluation of Expanded Program on Immunization: The Consultant's Consortium. SoSec KEMC. [Online]. July 2000; UNICEF and Health Department Government of Punjab. Available from: www.unicef.org/evaldatabase/index_14212.html. [Accessed on 8-12-2010].
7. No Author. Expanded Program on Immunization in NWFP. [Online]. Available from: www.healthnwfp.gov.pk/EPI.doc. [Accessed on 26-12-2010].
8. Husain, S, Kadir, M, Fatmi, Z. Resource allocation within the National AIDS Control Program of Pakistan: A qualitative assessment of decision maker's opinions. BMC Health Services Research. [Online]. 2007; 7:11, doi:10.1186/1472-6963-7-11. Available from: http://www.biomedcentral.com/1472-6963/7/11. [Accessed on 30-11-2010].
9. Health and nutrition. 2008. Chapter 10. [Online]. Available from: http://www.finance.gov.pk/survey/chapter_10/11_Health.pdf. [Accessed on 8-12-2010].
10. No author. IP 04 Unit 3. Standard reading for IP04/Unit 3: The just allocation of health care resources. [Online]. Dec 2010.
11. Mansuri, FA, Baig, LA. Assessment of immunization service in perspective of both the recipient and the providers: A reflection from Focus Group Discussions. J Ayub Med Coll

Abbottabad. [Online]. 2003;15 (1). Available from: http://www.ayubmed.edu.pk/JAMC/PAST/15-1/Farah%20Lubna%20EPI.htm. [Accessed on 26-12-2010].

12. Nishtar, S. The Gateway Paper: Health systems in Pakistan-A way forward. Pakistan's Health Policy Forum and Heartfile. [Online]. 2006; Available from: http://hearfile.org/gateway.htm. [Accessed on 07-12-2010].
13. Green, A, Ali, B, Naeem, A, Ross, D. Resource allocation and budgetary mechanisms for decentralized health systems: Experiences from Balochistan, Pakistan. Bulletin of the World Health Organization. [Online]. 2000; 78 (8). Available from: www.who.int/bulletin/archives/78(8)1024.pdf. Accessed on 29-11-2010].
14. No Author. Immunization in Pakistan. PILDAT briefing paper number 37. [Online]. May 2010; Available from: www.pildat.org/publications/publication/.../Immunizationinpakistan.pdf. [Accessed on 28-12-2010].
15. Preker, AS, Suzuki, E, Bustero, F, Soucat, A, Langenbrunner, J. Financing the Millenium Development Goals: Expenditure gaps and development traps. [Online]. March 2005; The World Bank. Available from: http://siteresources.worldbank.org/HEALTHNUTRITIONANDPOPULATION. [Accessed on 6-12-2010].
16. Siddiqui, N, Khan, A, Nighat, N, Siddiqi, AA. Assessment of (Expanded Program of Immunization) EPI vaccine coverage in a peri-urban area. [Online]. August 2007; 57 (8). Available from: www.jpma.org.pk/full_article_text.php?article_id=1179. [Accessed on 8-12-2010].
17. Hafeez, A, Sherfer-Rogers, C, Borel, P, Perveen, R, Tangcharoensathien, V. Independent evaluation of major barriers to interrupting Polio virus transmission in Pakistan. 20 [Online]. October, 2009; Available from: www.polioeradication.org/content/.../Polio_Evaluation_PAK.pdf. [Accessed on 30-11-2010].
18. No Author. National Plan for Action. World Fit For Children. UNICEF National reports. [Online]. 24th May 2006; Available from: http://www.unicef.org/worldfitforchildren/files/Pakistan_WFFC5_Report.pdf. [Accessed on 7-12-2010].
19. No Author. Standard reading IP 04 Unit 3. Health services: Well chosen, well-organized. Chapter 3. MSc in International Primary Health Care.
20. No Author. HIV/AIDS in Pakistan. The World Bank. [Online]. June 2005; Available from: http://siteresources.worldbank.org/INTPAKISTAN/Resources/HIV-AIDS-brief-June2005-PK.pdf. [Accessed on 27-12-2010].
21. Mangrio, NK, Alam, MM, Shaikh, BT. Is Expanded Program on Immunization doing enough? Viewpoint of health workers and managers in Sindh, Pakistan. (58), 2, February 2008; J Pak Med Assoc. Available from: http://www.jpma.org.pk/full_article_text.php?article_id=1300. [Accessed on 8-12-2010].
22. No Author. Health systems profile- Pakistan. Regional Health Systems Observatory-EMRO. [Online]. 2007; Available from: http://gis.emro.who.int/HealthSystemObservatory/PDF/Pakistan/Health%20system%20organization.pdf. [Accessed on 25-10-2010].
23. Lerberghe, WV. (Editor). Primary healthcare: Now more than ever. The World Health Report 2008. 2008; Standard reading IP 04 Unit 2. MSc in International Primary Health Care.
24. No author. Guidelines for monitoring and evaluation of health sector reforms in the African region. WHO. Available from: www.afro.who.int/.../2216-guidelines-for-monitoring-and-evaluation-of-health-sector-reforms-in-the-african-region.html. [Accessed on 6-1-2011].
25. Islam, A. Health sector reform in Pakistan: Future directions. [Online]. 2002; Available from: www.jpma.org.pk/full_article_text.php?article_id=2203. [Accessed on 16-12-2010].
26. Shaikh, BT, Rabbani, F, Safi, N, Dawar, Z. Contracting of primary healthcare services in Pakistan: Is up-scaling a pragmatic thinking? Journal of Pakistan Medical Association. [Online]. Vol. 60, No. 5, May 2010. Available from: http://www.jpma.org.pk/full_article_text.php?article_id=2052. [Accessed on 2-11-2010].
27. Shaikh, BT, Hatcher, J. Health seeking behavior and health service utilization in Pakistan: Challenging the policy makers. Journal of Public Health. [Online]. 27, (1), pp. 49–54. Advance

Access Publication. 8 December 2004. doi:10.1093/pubmed/fdh207. Available from: jpubhealth.oxfordjournals.org [Accessed on 25-10-2010].

28. Khan, A. Failure analysis of primary healthcare in Pakistan and recommendations for health. Insaaf Research Wing. [Online]. 28-0-2009. Available from: www.insaf.pk/Portals/.../FAILURE%20ANALYSIS%20%20%206-28-09.pdf. [Accessed on 25-10-2010].

29. Liu, X, Hotchkiss, DR, Bose, S, Bitran, R, Giedion, U. Contracting for Primary Health Care Services: Evidence on its effects and a framework for evaluation. [Online]. Sept 2004. Available from: www.who.int/management/.../ContractingPrimaryHealtServicesEvidence.pdf. [Accessed on 10-1-2011].

30. Saltman, RB, Bankauskaite, V, Vrangbaek, K (Edirors). Decentralization in healthcare: Strategies and outcomes. European Observatory on Health Systems and Policies. [Online]. 2007; Available from: http://www.euro.who.int/__data/assets/pdf_file/0004/98275/E89891.pdf. [Accessed on 10-1-2011].

31. No author. Federal communication plan for Polio and EPI in Pakistan. [Online]. January 1, 2007. UNICEF Pakistan. Available from: http://www.comminit.com/en/node/266989/292. [Accessed on 24-12-2010].

DOI Number: 10.5958/j.0974-9357.6.1.018

Effectiveness of an Empowering Programme on Student Nurses' Understanding and Beliefs about HIV/AIDS

Smriti Arora[1], Sarin Jyoti[2], Sujana Chakravarty[3]

[1]Assistant Professor, Rufaida College of Nursing, Hamdard Nagar, New Delhi, [2]Principal, MM College of Nursing, Haryana, [3]Principal, Rufaida College of Nursing, New Delhi

ABSTRACT

Context: Recent research has shown inadequate knowledge, understanding and unfavorable attitude towards HIV/AIDS amongst the youth. Many young people across India are still not receiving information about HIV/AIDS.

Aim: The main aim of the study was to assess the effectiveness of an empowering programme on student nurses' understanding and beliefs related to HIV/AIDS in a selected college of nursing in Delhi.

Settings and Design: This true experimental study following pretest post design was conducted in Rufaida College of Nursing, Jamia Hamdard, New Delhi.

Method and Material: The study was conducted among 65 student nurses pursuing third year BSc nursing and General nursing during Aug 2011- March 2012. The students were randomized into experimental and control group using a computer generated table of random numbers. There were 33 students in experimental group who received five days empowering programme and 32 students in the control group who were not exposed to the empowering programme.

Statistical analysis used: Analysis was done using SPSS 16 using appropriate descriptive and inferential statistics. Student t test was used to compare the understanding and beliefs between the groups. Level of significance (p value) was kept at .05.

Results: Empowering programme was highly effective in increasing the understanding of student nurses about HIV/AIDS and modifying their beliefs related to the same.

Conclusion: Empowering program facilitated the understanding and bringing about positive change in the student nurses' beliefs about HIV/AIDS. More such programs can be planned and executed to enable our youngsters to fight with the modern day epidemic i.e. HIV/AIDS.

Keywords: *Empowering Programme, Understanding, Beliefs, HIV/AIDS*

INTRODUCTION

India is one of the largest and most populated countries in the world, with over one billion inhabitants. Of this number, it is estimated that around 2.4 million people are currently living with HIV. HIV emerged later in India than it did in many other countries. Infection rates soared throughout the 1990s, and today the epidemic affects all sectors of Indian society. In a country where poverty, illiteracy and poor health are rife, the spread of HIV presents a daunting challenge. AIDS education for young people plays a vital role in global efforts to end the AIDS epidemic. Yadav SB et al [1] conducted a community based study among youths aged 15-24 years in rural areas of the Saurashtra region of Gujarat, India and found that basic knowledge of HIV/AIDS is still lacking in two fifths of the rural youth. P Lal et al [2] in his study reported that only 51.4% of the students were able to write the full form of AIDS and 19.9% were able to write the full form of HIV. Providing young people with basic AIDS education enables them to protect themselves from becoming infected. AIDS education also helps to reduce stigma and discrimination, by dispelling false information that can lead to fear and

blame. It is crucial that young people learn about AIDS in areas with a low prevalence so that the prevalence stays low. The investigator undertook the present study to investigate the understanding and beliefs of nursing students related to HIV/AIDS and to assess the effectiveness of an empowering programme on HIV/AIDS.

SUBJECTS AND METHOD

In order to achieve the objective of the study the following hypothesis was prepared;

H_1: There will be a significant difference in the mean posttest understanding and belief scores of adolescents exposed to empowering programme on HIV/AIDS and control group as measured by the structured questionnaire at 0.05 level of significance.

The primary outcome variables were understanding and beliefs of nursing students towards HIV/AIDS.

In order to test the hypothesis the data was collected from 65 student nurses after obtaining formal permission from the institutional head. Verbal assent was taken from the students after explaining them the purpose of the study. The study was conducted among 65 female student nurses studying in third year of BSc nursing and General nursing in Rufaida College of Nursing, during Aug. 11 – March 2012. There were 34 students in BSc nursing and 31 students in General nursing group, thus a total of 65 students. A sampling frame of 65 student nurses was prepared from the attendance register of first year B.Sc. and General nursing students. The nursing students were randomized into experimental and control group using computer generated table of random numbers. There were 33 students in experimental group and 32 students in control group. In each group there was a mix of BSc and general nursing students. Students in the experimental group were exposed to the empowering programme. **Intervention:** The five day empowering programme was prepared in consultation with eight experts from community medicine and nursing field with an objective to expand the understanding of student nurses and modify their beliefs related to HIV/AIDS. First two days focused on the magnitude, basic dynamics, mode of transmission and prevention of HIV/AIDS. Next two days were dedicated to alter the beliefs of student nurses about HIV infection and AIDS. Lecture, group discussion and role play were used to impart correct information to the students about AIDS. Case based scenarios were used in the role plays to bring about a change in the thought process of students. **Tools:** Two parallel structured questionnaires were prepared to assess understanding and beliefs of students related to HIV/AIDS. Each questionnaire was pretested on a group of ten students to ensure the clarity of items. The content validity for the questionnaire was obtained from ten experts in medical, nursing and education field. Each questionnaire was divided into two parts ; Part A and Part B. In part A, information about demographic data and understanding of students about HIV/AIDS was elicited. In the demographic data information was obtained related to age, religion, parents' education, occupation and monthly family income. To assess the understanding of nursing students towards HIV/AIDS, 52 objective items were framed. It contained 29 MCQs and 23 true false items. Each MCQ contained a statement followed by four options. There was only one correct response. Every correct response was given one score. The 23 true false items contained statements having possible choices of "True, False, and Don't Know". The "Don't Know" as an option was included to reduce the probability of guessing, as guessing causes some variation in performance from item to item, which tends to lower the test reliability. Each correct response had one score. The items were prepared under the following heads: magnitude of HIV/AIDS, mode of transmission, management and prevention. The maximum score for understanding domain was 52. The reliability was assessed using KR 20 and it was found to be .84. The test retest reliability was done within a gap of 10 days to assess the stability of the tool. The value of pearson's r was .85. Difficulty level and discrimination index were also calculated for the 52 items in understanding domain.

In part B, the beliefs of the students towards HIV/AIDS was assessed using a five point rating scale containing 33 statements. The beliefs of the students were assessed towards PLWHA, HIV infection and safe sex. Students were asked to indicate the degree to which they agree or disagree with the opinion expressed by the statement. This tool consisted of 33 items. There were 16 positively worded and 17 negatively worded statements. Cronbach alpha was used to assess the reliability of five point structured

rating scale containing 33 items. Its value was .79. The value of pearson's r obtained by test retest method for rating scale within a gap of 10 days was .80. It took around 45-60 minutes to complete the questionnaire. **Data collection technique:** The data was collected from 65 female nursing students selected conveniently studying in Rufaida College of Nursing, Jamia Hamdard. A list of all 65 students was obtained from the attendance register of third year BSc nursing and third year general students and the sampling frame was prepared. These 65 students were randomised in either experimental or control group using a computer generated table of random numbers. First the data was collected from the students in control group and then from experimental group in order to avoid the contamination between the groups. Structured questionnaire I (pretest) was administered to the students in control group on day 1 and parallel form structured questionnaire II (posttest) was administered on day 30 without administration of any empowering programme. Then the data was collected from the students in experimental group. A structured questionnaire I(pretest) was administered to the student nurses before initiation of the programme on day 1. Following the empowering programme of five days duration, the structured questionnaire II (posttest) was administered on day 30 to the nursing students to evaluate their understanding and beliefs about AIDS.

RESULTS

The data was entered in MS excel and analyzed using SPSS 16. The significance level was kept at 0.05. The results were analyzed for 65 student nurses.

The mean age of the student nurses was 17.5 years. Majority of the students were Hindus (87.6%). Most of the fathers (73.8%) and 64.6% of mothers of the students had studied till tenth standard. All the students had heard about HIV/AIDS either from textbooks (90.7%) or media (80%).

The pretest and posttest understanding and belief scores within the group were compared using paired t test. As shown in table 1, there was a significant increase in mean understanding and belief scores after the administration of empowering programme on HIV/AIDS in the experimental group but no significant difference was observed in the mean scores among the students in the control group. After the implementation of the empowering programme to the experimental group, there was 48.9% increase in the mean scores related to mode of transmission and 47.5% increase in mean scores in the items related to prevention against HIV infection. There was a significant difference observed in the mean posttest understanding and belief scores between the experimental and control group as seen in table 2.

Table 1. Comparison of pretest and posttest scores of experimental and control group. N=65

	Pretest Mean (SD)	Posttest Mean (SD)	t	p
Experiment group(n=33)				
Understanding	15.09(5.4)	30.39 (7.6)	12.2	.00*
Belief	103.36(4.17)	129.12(13.5)	10.5	.00*
Control group(n=32)				
Understanding	17.5(12.1)	22.94(9.5)	1.8	.06
Belief	104.1(7.5)	112.22(32.9)	1.3	.18

*significant at .05 level

Table 2. Comparison of posttest understanding and belief scores between the experimental and control group. N=65

	Experimental group Mean (SD)n=33	Control group Mean (SD)n=32	t	p
Understanding	30.39 (7.6)	22.94(9.5)	3.5	.001*
Belief	129.12(13.5)	112.22(32.9)	2.7	.01*

*significant at .05 level

Thus the hypothesis H_1 is accepted that the empowerment programme was effective in bringing about a positive change in the understanding of student nurses about HIV/AIDS and modifying their beliefs towards the same.

There was no significant relationship observed between mean posttest understanding and belief scores (r=.06, p=.6) suggesting that understanding and beliefs are independent of each other. The acceptability of the empowerment programme was assessed using an opinionnaire in which majority of the students (90%) expressed that the programme was informative; information was provided in simple and sensitive manner which helped them to clarify their doubts about HIV/AIDS and change their beliefs regarding the same.

DISCUSSION

In the present study, with regard to the sources of information about HIV/AIDS, majority of the students mentioned that textbooks (90.7%) and television (80%) were the main sources of information to them. Likewise, a majority (62.7%) of senior secondary students belonging to a government school in Chandigarh reported that they derived most of the information from TV and radio.[3] In Kuwait the 69 % participants acquired information about AIDS from the mass media. [4] Television as a source of information was revealed by 72.1% students in a study by Li S, Huang H, Xu G, Cai Y et al in China [5]. These findings imply promoting television as a significant source of information. Low levels of knowledge about general aspects and transmission of HIV/AIDS have been observed in the current study which is congruent to the findings amongst secondary school students in Kolkata. [6]

The findings of the study are compatible with the study conducted by Jahanfar S, Lim AW, Loh MA, Yeoh AG and Charles A [7] who measured the effectiveness of two hours talk on sex education offered by a non governmental organization in improving youngsters' knowledge and perception towards HIV and AIDS and found that there was a significant increase in participants' knowledge and perception after the intervention (p = 0.000). Jahanfar S, Lye MS and Rampal L [8] conducted a randomised controlled trial of peer-adult-led intervention on improvement of knowledge, attitudes and behaviour of university students regarding HIV/AIDS in Malaysia and concluded that the educational programmes for youth using various interactional activities, such as small group discussions, poster activity and empathy exercises, can be successful in changing the prevailing youth perceptions of AIDS and HIV. Similar interactional activities like group discussion and role play were used in the present study.

The present study was conducted only among girl students, further studies may be carried out among both the genders. **Conclusion:** Empowering program facilitated the understanding and bringing about positive change in the student nurses' beliefs about HIV/AIDS. More such programs can be planned and executed to enable our youngsters to fight with the modern day epidemic i.e. HIV/AIDS.

ACKNOWLEDGEMENT

The authors would like to thank the student nurses who participated in the study without which this study would not have been possible and the experts like late Dr. Bir Singh, and Ms. Madhavi Verma for validating the tool.

Conflict of Interest: None

Ethical Clearance: The permission was taken from the HOD, Rufaida College of Nursing prior to conduct the study.

Source of Funding Nil

REFERENCES

1. Yadav SB, Makwana NR, Vadera BN, Dhaduk KM, Gandha KM. Awareness of HIV/AIDS among rural youth in India: a community based cross-sectional study.J Infect Dev Ctries. 2011 Oct 13;5(10):711-6.
2. P Lal, Anita Nath, S Badhan, Gopal K Ingle. A study of awareness about HIV/AIDS among senior secondary school children of Delhi. Indian J Community Med. 2008 July-September ;33(3): 190-192.
3. Sodhi S, Mehta S. Level of Awareness about AIDS: a comparative study of girls of two senior secondary schools of Chandigarh. Man India. 1997;77:259–66.
4. Rashed A. Al-Owaish et al. Knowledge, attitudes, beliefs and practices of the population in Kuwait about AIDS—a pilot study Eastern Mediterranean Health Journa 1995: 1(2);235-240.
5. Li S, Huang H, Xu G et al. HIV/AIDS-related knowledge, sources and perceived need among

senior high school students: a cross-sectional study in China.Int J STD AIDS 2009;20:561-565.

6. Chatterjee C, Baur B, Ram R, Dhar G, Sandhukhan S, Dan A. A study on awareness of AIDS among school students and teachers of higher secondary schools in north Calcutta. Indian J Public Health. 2001;45:27–30.
7. Jahanfar S, Lim AW, Loh MA, Yeoh AG, Charles A. Improvements of knowledge and perception towards HIV/AIDS among secondary school students after two hours talk. Med J Malaysia. 2008 Oct;63(4):288-92
8. Jahanfar S, Lye MS, Rampal L. A randomised controlled trial of peer-adult-led intervention on improvement of knowledge, attitudes and behaviour of university students regarding HIV/AIDS in Malaysia. Singapore Med J. 2009 Feb;50(2):173-80.

DOI Number: 10.5958/j.0974-9357.6.1.019

A Study to assess the Knowledge and Involvement in Child Rearing Practices among Fathers of Hospitalised Children of 1-6 Years of Age, in Kasturba Hospital, Manipal

Sreeram A[1], D' Souza A[2], Margaret B E[2]

[1]MSc Nursing, [2]Assistant Professor, Department of Child Health Nursing; Manipal College of Nursing; Manipal University, Karnataka, India

ABSTRACT

Objective: To assess the knowledge and involvement in child rearing practices among fathers of hospitalised children of 1-6 years of age.

Materials and method: A descriptive correlational survey was done among conveniently selected 150 fathers of hospitalised children of 1-6 years of age at Kasturba Hospital, Manipal. The knowledge and involvement in childrearing practices were assessed using a demographic proforma, knowledge questionnaire and involvement rating scale.

Result: The findings showed that fathers had satisfactory knowledge and satisfactory involvement in childrearing practices. However there was no relationship between knowledge and child rearing practices. The study also revealed that there was a significant association between knowledge and type of family (p= 0.015ï) and that there was no association between involvement in childrearing practices and demographic variables.

Conclusion: The study concluded that there is no relationship between knowledge and involvement among fathers in child rearing practices and fathers had satisfactory knowledge and satisfactory involvement in childrearing practices.

Keywords: *Knowledge, Involvement, Child Rearing Practices, Hospitalised Children*

INTRODUCTION

The most important factor in a child's healthy development is to have at least one strong relationship (attachment) with a caring adult who values the well-being of the child. A father is an involved father if his relationship with his child can be described as being sensitive, warm, close, friendly, supportive, intimate, nurturing, affectionate, encouraging, comforting, and accepting. In addition, fathers are classified as being involved if their child has developed a strong, secure attachment to them. The role of the father in child rearing is limited, whereas mothers assume primary responsibility for childcare duties However, recent social and demographic changes as well as increasing full time employment of wives increase pressure for fathers to become more actively involved in child rearing.[1]

A comparative study was conducted by Rodolfo in 2005 about parenting knowledge in a sample of 70 married Brazilian couples in Rio De Janeiro. Snowball sampling technique was used to select the participants. Knowledge on infant development inventory was collected and a sociodemographic questionnaire was distributed and hierarchial regression analysis was used to know whether gender, education status predicted the knowledge scores. The study found out that the average knowledge scores in mothers was found to be significantly higher than that of father's knowledge scores and that in mothers, the education [F(1,69) - 15.13] and child's age[F(2,69)-3.92] predicted knowledge score, that is older mothers with more education and older children had higher knowledge scores but for fathers only education predicted knowledge score. [2]

Palkovitz (1997) broadened the conceptualization of childrearing with reference to 15 categories of paternal involvement that included: Communication (listening, talking, showing love); Teaching (role modeling, encouraging activities and interests); Monitoring (friends, homework); Cognitive processes (worrying, planning, praying); Errands; Caregiving, (feeding, bathing); Shared interests (reading together); Availability; Planning (activities, birthdays); Shared activities (shopping, playing together); Providing (food, clothing); Affection; Protection; and Supporting emotionality (encouraging the child).[3]

A survey done by Jessica and Mohammed Khan in Bangladesh in 2010 sought to initiate dialogue about fathering and fatherhood within the contexts of cultural continuities and shifts, labor migration, and geopolitical disturbances that are affecting families and communities throughout South Asia. The findings revealed that rural fathers appear to spend much more time with their children, especially boys; fathers and sons work together in the fields and factories, bathe together in ponds, and gather firewood and food together and they also may walk their children to and from school whereas urban fathers generally have much less time to spend with children as a result of long work and commuting hours. The findings also indicated that a parent education program in Bangladesh should focus on providing fathers with appropriate information about child health, safety, nutrition, and development, and encourage them to share ideas about how they can enhance and sustain their care giving roles, even across changing circumstances, such as temporary out-migration.[4]

A comparative survey done by Taiwanese professors in child education surveyed the parental involvement through a questionnaire in 2009. The survey included instruments regarding parental engagement activities and parental role beliefs. Among the specific activities examined in the study (e.g., reading stories; practicing Chinese characters; teaching songs; and visiting libraries, museums, and zoos), Taiwanese mothers typically participated more in these events compared to Taiwanese fathers. The study indicated that the rapid changes to Taiwan's social and economic conditions and the resulting shift from a traditional to a progressive society have contributed to fathers becoming more involved with the everyday lives of their children and to mothers and fathers sharing more liberal beliefs about parenting roles.[5]

Although fathers became a topic of interest and research, few Indian studies have specifically examined fathers knowledge and attitude in child rearing. Understanding the parent–child relationship is fundamental to nursing of children and families. Fathers have a key role in the development of a child and their attitude and involvement in child rearing brings about sociopsychological changes in the child's growing periods .

The investigator's clinical and personal experience provided rich insight into the problem. Studies regarding paternal attitude in childrearing are studied less in Indian population. This study is undertaken since studies on paternal knowledge, attitude and perceived paternal involvement in childrearing are few in number.

The purpose of the study was to assess the knowledge and involvement of fathers in childrearing practices. The findings of the study would help to identify the ways to improve the role of the father in childrearing .The information gained will help the health care personnel in planning educational activities for the father in the future.

MATERIALS AND METHOD

Participants

After obtaining the ethical approval from the institutional ethical committee, a total of 150 fathers were conveniently selected from Paediatric medicine wards whose children between the age of 1-6years were admitted with minor conditions such as fever, respiratory infections, urinary problems, etc and or those who came for routine immunisation visits in Paediatric outpatient department of Kasturba Hospital Manipal.

MATERIALS

A demographic proforma was used which had ten items that were divided into two sections namely; data related to the father such as age, religion, type of

family ,number of children, monthly income of family, education and occupation and data related to the child such as age , gender and birth order.

The knowledge questionnaire had thirty items under different areas of child rearing practices namely nutrition, health, milestone development, immunization, accidents and toilet training with four response options for each question and the correct response was assigned a score of one and the incorrect item was assigned a score of zero. According to the scores obtained, the fathers were categorized into having poor knowledge with scores between (1-10), satisfactory knowledge with scores between (11-20) and good knowledge with scores between (21-30).

The involvement rating scale had twenty items. There were four responses to each item ranging from always, sometimes, rarely and never. According to the scores obtained, the fathers were categorized into having poor involvement with scores between (20-40), satisfactory involvement with scores between (41-60) and good involvement with scores between (61-80).

METHOD

A descriptive correlational survey was done among conveniently selected 150 fathers of hospitalised children of 1-6 years of age from the Paediatric out patient department and Paediatric medicine wards of Kasturba Hospital, Manipal. The subject information sheet about the study and informed consent were given to the fathers. After obtaining informed consent, the four tools were administered. The fathers were asked to read the instructions of each tool and complete each item accordingly.

FINDINGS

The data was categorized based on the objectives and hypotheses of the study using descriptive and inferential statistics. The SPSS (16.0 version) statistical package was used for the analysis of data.

Table 1. Demographic characteristics of fathers of hospitalized children (n=150)

Demographic variable	Category	Frequency	Percentage (%)
Age (in years)	24- 29	39	26
	30- 35	79	52.7
	36-42	32	21.3
Religion	Hindu	114	76
	Muslim	20	13.3
	Christian	16	10.7
Type of family	Nuclear	117	78
	Joint	33	22
Number of children	One	76	50.7
	Two	66	44
	Three	8	5.3
Monthly family income (in rupees)	3000-5000	11	7.3
	5000-7000	32	21.3
	7001-9000	63	42
	>9001	44	29.3
Education	Upper primary	14	9.3
	Secondary	42	28
	Higher secondary	40	26.7
	Diploma	27	18
	Graduate	23	15.3
	Postgraduate	4	2.7
	Professional	15	10
	Non professional	24	16
Occupation	Skilled	50	33.3
	Semiskilled	22	14.7
	Unskilled	39	26

Table 2:Demographic characteristics of children (n=150)

Demographic variable	Category	Frequency	Percentage (%)
Age (in years)	3-Jan	97	64.7
	>3-6	53	35.3
Gender	Female	90	60
	Male	60	40
Birth order	First	93	62
	Second	50	33.3
	Third	7	4.7

It was observed that majority 79 (52.7 %) of the fathers belonged to the age group of 30-36 years, belonged to Hindu religion 114 (76 %) and nuclear family 117 (78 %) .Majority 76 (50.7 %) of the fathers had only one child . Regarding the family income, 63 (42%) had income between Rs 7001-9000. The study results showed that 42 (28%) of the fathers had secondary level of education and 50 (33.3%) were employed as skilled workers . It was also observed that the majority 97 (64.7%) of the children were between the age of 1-3 years , 90 (60%) of the children were girls whereas 60 (40%) were boys and majority 93 (62%) of the children were first born.

Table 3: Mean, Median, Standard deviation of knowledge, attitude and involvement scores of fathers (n=150)

Variables	Mean	Median	Standard deviation
Knowledge	19.34	19	2.471
Involvement	66.98	67	5.183

The mean knowledge score on childrearing practices was 19.34 +/- 2.471 and the mean involvement score in child rearing practices was 66.98+/- 5.183.

Table 4: Correlation between knowledge and involvement in child rearing practices (n=150)

Variable	Correlation coefficient	p-value
Knowledge Involvement	0.070	0.397

The data presented in table 4 shows that the p value obtained is more than 0.05. Therefore, the null hypothesis is accepted stating that there is no significant relationship between knowledge and involvement in child rearing practices among fathers of children of 1-6 years of age.

Table 5: Association between knowledge in child rearing practices and selected demographic variables. (n=150)

Demographic variables	Knowledge		χ^2	df	p-value	Significance
	< 19	>19				
Age						
24-29	19	20				
30-35	42	37	1.391	2	0.499	Not significant
36-42	20	12				
Religion						
Hindu	62	52				
Muslim	10	10	0.168	2	0.919	Not significant
Christian	9	7				
Type of family						
Nuclear	57	60				
Joint	24	9	5.973	1	0.015ï	Significant

Table 5: Association between knowledge in child rearing practices and selected demographic variables. (n=150) (Contd.)

Demographic variables	Knowledge		χ^2	df	p-value	Significance
	< 19	>19				
Number of children						
One	41	35				
Two	36	30	0.06	2	0.971	Not significant
Three	4	4				
Monthly family income						
Below 7000 (in rupees)	23	20				
Above 7000 (in rupees)	58	49	0.006	1	0.936	Not significant
Education						
Below Diploma	56	40				
Above Diploma	25	29	2.016	1	0.156	Not significant
Occupation						
Skilled	46	43				
Unskilled	35	26	0.472	1	0.492	Not significant
Age of the child						
Below 3 years	52	45				
Above 3 years	29	24	0.017	1	0.896	Not significant
Birth order						
First	49	44				
Second	29	21	0.736	2	0.692	Not significant
Third	3	4				

The data presented in table 5 revealed that there is significant association between knowledge and type of family ($c^2_{(1)} = 5.973$, p= 0.015[i]). Thus it can be interpreted that knowledge is dependent on type of family and independent of other variables. Hence the researcher rejected the null hypothesis with regard to type of family and accepted the null hypothesis with regard to other remaining variables

Table 6: Association between involvement in child rearing practices and selected demographic variables (n=150)

Demographic variables	Involvement		χ^2	df	p-value	Significance
	Satisfactory	Good				
Type of family						
Nuclear	10	107				
Joint	6	27	2.508	1	0.113	Not significant
Number of children						
One	8	68				
Two	8	58	1.103	2	0.576	Not significant
Three	0	8				
Education						
Below Diploma	8	88				
Above Diploma	8	46	1.524	1	0.791	Not significant
Occupation						
Skilled	9	80				
Unskilled	7	54	0.071	1	0.217	Not significant
Gender						
Female	8	82				
Male	8	52	0.746	1	0.388	Not significant
Birth order						
First	10	83				
Second	6	44	0.93	2	0.628	Not significant
Third	0	7				

The data from table 6 showed that the p- value obtained for the association between involvement and demographic variables is more than 0.05 stating that the null hypothesis is accepted, therefore there is no significant association between involvement in child rearing practices and selected demographic variables.

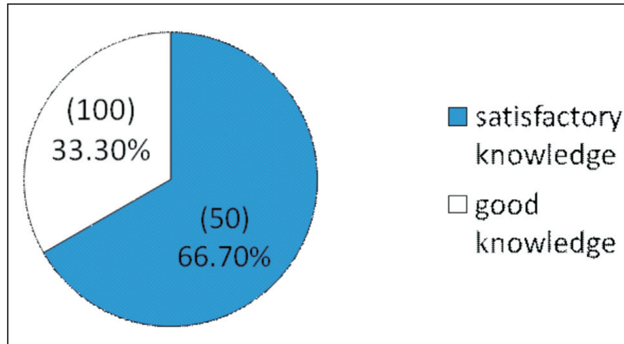


Fig. 1. Pie diagram showing the percentage distribution of fathers in each knowledge category. n=150

The data presented in figure 1 showed that a majority 100 (66.7%) of the fathers had satisfactory knowledge in child rearing practices whereas 50 (33.3 %) fathers had good knowledge in child rearing practices

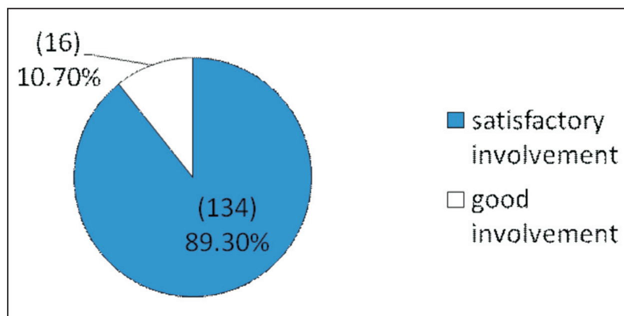


Fig. 2. Pie diagram showing the percentage distribution of fathers in each involvement category. n=150

The data presented in figure 2 showed that a majority 134 (89.3%) of the fathers had satisfactory involvement in childrearing practices whereas 16 (10.7%) fathers had good involvement in child rearing practices.

DISCUSSION

The present study shows that a majority 100 (66.1%) of the fathers had satisfactory knowledge in child rearing practices with a mean knowledge score on childrearing practices of 19.34 +/- 2.471. Similar to the present findings, a comparative study conducted by Rodolfo in 2005 about parenting knowledge in a sample 70 married brazilian couples in Rio De Janeiro found out that the average knowledge scores in mothers (M= 0.69, SD= 0.09) was found to be significantly higher than that of father's knowledge scores(M= 0.64, SD= 0.09).

IMPLICATIONS

The practical implications of the study is that the findings would help the nurses to understand the level of knowledge, attitude and involvement of fathers in childrearing practices. The awareness on the important areas of child development like nutrition, health, milestone development, immunisation, toilet training, and the prevention of home accidents should be a part of health teaching both in the hospital and in the community. Nurses must focus on to the full participation of each parent in the care of their child by educating them about aspects of child rearing. Different A. V aids can be used in imparting knowledge to various categories of people. From the present study, the investigator as a nurse felt the need that nurse should act as a facilitator to educate fathers regarding child rearing practices. Nursing administration should implement outreach programmes in the rural areas to make the fathers aware about child rearing practices both within and outside the hospital.

CONCLUSION

The present study shows that majority (66.1%) of the fathers had satisfactory knowledge in childrearing practices and The study also shows that there is significant association between knowledge and type of family ($\chi^2_{(1)} = 5.973$, p=0.015[i]). From this study it can be inferred that as there is no relationship between knowledge and involvement , fathers have got satisfactory knowledge and satisfactory involvement in childrearing practices.

ACKNOWLEDGEMENT

I extend my gratitude to Dr. Anice George, Dean, Manipal College of Nursing for providing an opportunity to undertake the study and for her valuable ideas and suggestions in the initial part of my study.

My heartfelt gratitude to Dr. Baby S. Nayak, HOD, Department of Child Health Nursing, Manipal College of Nursing for her valuable guidance and concern during the entire period of my study.

Conflict of interest : Nil

Funding : Nil

REFERENCES

1. Retrived from http://en.wikipedia.org/wiki/Scientific Child Rearing.
2. Castro R. Parenting knowledge, similarities and differences in Brazilian mothers and fathers. InterAmerican Journal of Psychology.2005 Mar; 39(1):5-12.
3. Palkovitz R. Reconstructing involvement: Expanding conceptualizations of mens caring in contemporary families.1997. Retrieved from URL: http://udel.edu/~robp/downloads/reconstructing%20involvement.pdf.
4. Ball J, Khan M O. Exploring fatherhood in Bangladesh. International Focus Issue. 2010.
5. Parental involvement in Taiwanese families: father-mother differences. Childhood Education. Association for Childhood Education

DOI Number: 10.5958/j.0974-9357.6.1.020

Identify Risk Factors for Postnatal Depression among Antenatal Mothers - A Hospital Based Study

Alma Juliet Lakra[1], **Salomi Thomas**[2]

[1]Lecturer, Department of Fundamentals of Nursing, Manipal College of Nursing, Manipal University, Manipal, Karnataka, [2]Associate Professor, OBG Nursing Department, St. John's College of Nursing, Bangalore

ABSTRACT

Aim: Identify the risk factors associated with postnatal depression among pregnant women and its outcome in a selected urban hospital in Bangalore.

Method: A cross sectional study design was used with sample consisting of hundred pregnant women selected at convenience. The study was based on the conceptual framework of Pender's health promotion model. The risk factors of low self esteem, prenatal anxiety and depression, lack of social support, life stress and poor family relationship were measured using modified postpartum predictors inventory.

Findings: Most prevalent risk factor for postnatal depression among pregnant women was prenatal anxiety and depression (81%) and the least prevalent risk factor was poor family relationships. The outcome area most affected was sleeping eating disturbances (mean %=40.5) and physical appearance (mean %= 22.23). Significant associations were noted between family income with life stress (p=0.013) and poor family relationships (p=0.017).

Conclusion: Presence of certain risk factors in the antenatal period places the mother at a higher risk of developing postnatal depression and nurses should assess mothers at each contact for signs and symptoms of depression.

Keywords: *Prevalence, Pregnant Women Risk Factors, Postnatal Depression*

INTRODUCTION

The diagnostic and statistical manual of mental disorders (DSM-IV) defines post-natal depression (PND) as a major depressive episode occurring within four weeks of childbirth[1].This debilitating illness has been described by mothers as "going to gates of hell and back", "your worst possible nightmare"[2].

Annually approximately 400,000 mothers in the United States are diagnosed with postnatal depression. The recent enquiries have reported prevalence rates for postpartum depression of 15.8 % in Arab women, 16% in Zimbabwean women, 34.7% in South African women, 17% in Japanese women, 23% in Goan women and 30% in Bangalorean women, India[3].However as much as 50% of all cases are undetected, and the incidence and prevalence rates of postnatal depression are misleading and thought to be underreported.

The immediate and long term consequences of postpartum depression are far reaching, affecting not only the mother but her infant and their relationships[4].Many obstetric care providers fail to ask mothers explicitly about symptoms of depression and may not schedule visits until 6 weeks after delivery when symptoms may already have led to adverse consequences[5]. Heneghan and Chaudron have reported that clinical discomfort with psychiatric disorders, time constraints, low belief in maternal

Corresponding author:
Alma Juliet Lakra
Lecturer
Department of Fundamentals of Nursing, Manipal College of Nursing, Manipal University, Manipal, Karnataka-576104
E mail: alma.lakra@manipal.edu
Mob:+ 9731076474

health having an important effect on child development, and lack of knowledge about resources are some of the barriers to clinical screening for psychiatric disorders in medical settings[6].

A systematic review examining antenatal risk factors for postnatal depression of over 14,000 subjects, found that the following factors were the strongest predictors of postpartum depression: depression during pregnancy, anxiety during pregnancy, stressful life events experienced during pregnancy or the early puerperium, poor social support, and a previous history of depression[7]. There is no perfect time for the assessment of a woman with signs of postpartum depression but it needs to be continuous. Nurses do not look for postnatal depression as a part of their assessment and this is an aspect that has been neglected due to early discharge and lack of time. Keeping in mind the seriousness of the disease and to make prevention of postpartum depression as the primary nursing goal this study was taken up with the aim of identifying the risk factors of postnatal depression among pregnant women are able to provide adequate referral services.

METHODOLOGY

A cross sectional descriptive survey design was selected and study was carried out at the OBG outpatient, antenatal and postnatal units of a selected tertiary care hospital. The study was based on Revised Pender's model of health promotion (2002). Informed consent was taken from participants consisting of 100 pregnant women attending the outpatient department as well as those admitted in the inpatient antenatal unit. Pregnant women at or beyond 36 weeks of gestation and willing to come for deliveries in the same hospital were included in the study. Pregnant women who developed pregnancy related complications like metabolic, endocrine disorders and eclampsia and with previous history of psychiatric illness were excluded from the study owing to the reason that literature review has shown that these mothers are at a potential risk of developing PND due to the effect of these conditions. A non probability convenient sampling technique was used.

After the sample selection, modified post partum predictors inventory was administered to the mother in a separate counseling room in the OPD, for samples identified in the inpatient area the inventory was administered in the class room. Investigator kept a track of the patients till delivery. After the delivery three participatory observations were made using an observational checklist at 24 hrs and 48 hrs of delivery, the last observation was done at the time of discharge along with a structured questionnaire answered by the samples.

Findings of the study

Out of the 100 pregnant women, majority (58%) of the antenatal mothers were less than 25 years of age, about 55 % had received education upto high school and majority (74%) of the mothers were semi skilled workers. 60% belonged to nuclear families, family history of psychiatric illness was present in 6%, 65% had their family income more than Rs.10, 000 and majority (89%) had undergone vaginal delivery.

Table 1: Participants demographic characteristics n=100

Baseline variables	Frequency	Percentage (%)
Age (in years)		
<25	52	52
≥25	48	48
Education		
High school	44	44
Pre degree	19	19
Graduate	37	37
Occupation		
Professional	19	19
Skilled	7	7
Semi skilled	74	74
Type of family		
Nuclear	60	60
Joint	40	40
Family history of psychiatric illness		
Absent	94	94
Present	6	6
Family income		
<Rs.10,000	35	35
≥Rs.10,000	65	65
Type of delivery		
Vaginal delivery	89	89
Caesarean section	11	11

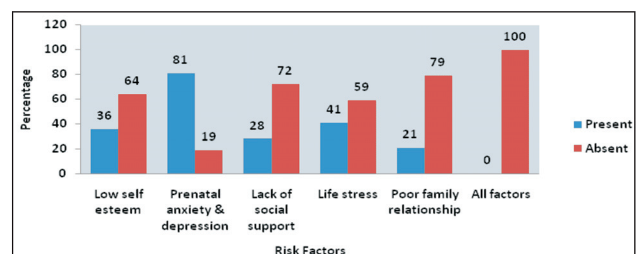


Fig. 1. Distribution of antenatal mothers based on the prevalence of risk factors of postpartum depression.

The risk factor of post partum depression most prevalent among pregnant women was prenatal anxiety & depression and the least prevalent risk factor was family relationships.

Postnatal outcome areas of subjects most affected were sleeping eating disturbances (mean %= 40.5) with the least affected area being suicidal thoughts (mean%= 26.33) .

Table 2: Range, mean and standard deviation based on the outcome among postnatal mothers n=100

Sl No	Outcome	Maximum score	Range	Mean	Mean %	Standard deviation
1	Sleeping eating disturbances	20	5-14	8.10	40.5	2.51
2	Anxiety and insecurity	12	3-7	4.52	37.6	1.27
3	Emotional stability	20	5-10	5.79	28.9	1.28
4	Mental confusion	12	3-7	3.75	31.25	1.04
5	Loss of self	8	2-5	2.19	27.37	0.58
6	Guilt and shame	16	4-12	4.51	28.18	1.38
7	Suicidal thoughts	12	3-7	3.16	26.33	0.66

There was no association of risk factors with age, education, type of family and occupation. Significant associations were observed between family income with life stress (p=0.013) and poor family relationships (p=0.017) at 0.05 level of significance.

DISCUSSION

The most prevalent risk factor in this study was identified as prenatal anxiety and depression (n=81). A longitudinal study by the University of Reading have implicated that there is paucity of evidence on the relationship between the various forms of anxiety and postnatal depression[8], after accounting for the presence of other antenatal anxiety disorders, antenatal depression, maternal age at child's birth, socio-economic status and ethnicity, antenatal generalised anxiety disorder independently predicted depression at all time points after delivery. The study carried out in Italy also supports that the most prevalent risk factor for the occurrence of PPD at 6-8 weeks was antenatal anxiety[9] ,in another cohort study conducted in Tamil Nadu, the risk factors for postnatal depression identified were low income, an adverse life stress, poor relationship with in laws, birth of a daughter and lack of physical help at home[3], a meta-analysis conducted in North America found the following risk factors of stressful life events during pregnancy, poor social support and previous history of depression[7].

Findings of the current study state that outcome area of sleeping eating disturbances (mean= 8.10) and physical appearance (mean=0.697) was most affected. Similar conclusions were drawn from a study using the DSSI-D (Delusions-Symptoms-States Inventory), which states that having difficulty sleeping, feeling inactive and depressed without knowing why were some of the common symptoms reported[10].According to this study, there was an association between family income with life stress (p=0.013) and with poor family relationships (p=0.017). The presence of low family income increases life stress and poor family relationships placing the mother at a higher risk for developing postnatal depression. Significant associations were also reported in a study carried out in Turkey between the risk factors of postnatal depression and poor socio-economic status. Women with very poor economic status had more than a six times higher risk of depression than those with good economic status. Women with poor family relationships have a fivefold higher risk of depression. The risk of depression was almost two times higher among women with three or more daughters.[6]

LIMITATIONS

Convenient sampling technique which was used for this study and small sample size, which may limit the generalizability to the population under study. Follow up of the study samples was not done.

CONCLUSION

The present study shows that there is higher prevalence of risk factor prenatal anxiety and depression during the antenatal period. Hence there is an urgent need for early identification of high risk mothers in order to prevent the occurrence of postnatal depression during puerperium. Nurses as health professionals play a very important role by making family members aware of this phenomena and taking active steps to screen mothers during puerperium. The study findings will help to think and implement several

possible practical measures in the fields of nursing education, nursing practice, and nursing research.

ACKNOWLEDGEMENTS

The authors are extremely grateful to the mothers who participated in the study.

Conflict of Interest: Nil

Source of Funding: Nil

Ethical Clearance: Institutional ethical committee clearance was sought before conducting the study.

REFERENCE

1. Sobey, WS. 2002. Barriers to postpartum depression prevention and treatment: A policy analysis. Journal of Midwifery and women's health (5):331-336.
2. Beck, TC. 1998. A checklist to identify women at risk for developing postpartum depression. Journal of Obstetrics and Gynaecologic nursing (27)39-46.
3. Chandran, M. Tharyan, P. Muliyet, J. Abraham, S. 2002. Postpartum depression in a cohort of women from rural area of Tamilnadu, India. British journal of psychiatry http://www.rchpsy.org/full/content/html.
4. Bronwyn, L. Jeannette, M. 2008. Risk factors for antenatal depression, postnatal depression and parenting stress. http://www.biomedcentral.com/1471-244x/8/24.
5. Noreen CF. Lawrence, F. 2006. Psychiatry health nursing. Sanat, Haryana.
6. Pearlstein,T. Margaret, H. Amy, S. Caran, Z. 2009. Postpartum depression. American Journal of Obstetrics and gynaecology (55)357-362.
7. Kizilay, PE. 1992. Prediction of depression in women. Nursing clinics of North America (4):983-992.
8. Milgrom, J. Gemmill, AW. Bilszta, JL. Hayes, B. Barnett, B. Brooks, J. Ericksen, J. Ellwood, D. Buist, A. 2008. Antenatal risk factors for postnatal depression: a large prospective study. Journal of affective disorders (1-2):147-57.
9. Bhachech, H. Bhargava, A. 2000 . Postpartum psychiatric disorder. Indian Journal of paediatrics (1):241-244.
10. Vikram,P. Merlyn,R. Nandita,D. 2002. Gender, Poverty and postnatal depression: A study of mothers in Goa. American Journal of psychiatry (1):43-47.

DOI Number: 10.5958/j.0974-9357.6.1.021

Accessing Community through a Nursing Course: Evidence Based Practice

Amina Aijaz Khowaja[1], Lubna Ghazal[1], Fatima Jawad[1], Naveeda Haq[2]
[1]Assistant Professor, School of Nursing and Midwifery, [2]Instructor, Institute of Education Develpment, Aga Khan University, Stadium road, PO Box 3500, Karachi 74800, Pakistan

ABSTRACT

Back ground: Despite several initiatives taken communicable diseases such as Tuberculosis, measles, and polio remain the leading cause of mortality in developing countries but also severely affect both children and adults. Therefore, it is necessary to prevent them on mass scale by raising awareness among public by health care professionals.

Method: Nursing faculty in one of the private health institutions in Karachi Pakistan conceptualized, designed, and operationalized a course for students to address the issue of communicable diseases in general public within the course. One of the assessment strategies "Teaching Learning Aids Assignment" was designed in step by step approach that involved: community assessment; prioritization of problems; health awareness session planning; budgeting; session delivery; and the evaluation.

Results: The designed strategy was successful in engaging students in learning as well it served the dual purpose of health awareness in communities, especially among children, parents and teachers in school and community settings. The course also left a positive impact on some school policies and sensitized communities to take pertinent actions against communicable diseases.

Conclusion: The innovative nursing course helped the nursing students and nursing faculty to access communities in providing health awareness sessions during the course implementation and also provided opportunity for students to acquire skills of a health educator in health promotion and disease prevention. This teaching learning strategy also had positive impact on the community.

Keywords: *Communicable and Tropical Diseases, Nursing Education, Teaching Learning Strategy, Health Promotion*

INTRODUCTION

Despite the several local and international initiatives taken, eradication campaigns and immunization programmes, communicable diseases such as tuberculosis, measles and polio remain the leading cause of mortality and morbidity in developing countries. [1] These communicable diseases may affect children and adults badly; as a result they either are disabled or lose the important time of their life including loosing schooling and employments. [2]

Pakistan is one of the high risk countries where infectious/communicable diseases account for almost 41 percent disease burden [3]. Each year Tuberculosis kills 68000 people in Pakistan. [4] Although polio has been eradicated from most of the countries, Pakistan reported 58 cases of polio in 2012.[5] Moreover, from January 2012 to February 2013 measles epidemic in Pakistan affected 19,048 with 463 deaths of children.[6] This disastrous situation calls for local health professionals to take personal interest and work collaboratively to save lives of the people. Such initiatives could be taken by focusing on public awareness at mass scale through community involvement. The Health Sciences University or Schools of Nursing can also help developing in public awareness programmes to promote health and prevent illness as they can use innovative teaching learning strategies to address the prevalent communicable diseases.

This paper will share one of the initiatives taken by the faculty of a private university- School of Nursing and Midwifery that accessed communities through their course, in which the community was involved and mobilized to eradicate tropical and communicable diseases. Moreover, the nursing students also availed an opportunity to learn and practice the role of community health nurse, as a health educator.

Course conceptualization and design (background)

In this process the "Tropical and Communicable Diseases" course was redesigned and integrated in the curriculum. Previously, the concepts of tropical and communicable diseases were scattered in different courses i.e. child health nursing, adult health nursing and community health nursing in the existing nursing curriculum. However, looking at the epidemics of communicable diseases in the country, a need for a separate course was identified by the faculty. Moreover, the objective of separating this course was to develop the competence of nursing students, once they graduate to deal patients with communicable diseases as well as to educate general public regarding the prevalent communicable disease. Therefore, for the purpose of emphasis, all the topics of major communicable diseases were extracted from different nursing courses and were put together to make a separate course. In addition, keeping in mind the objective of this newly developed course, it was important to assess the nurses' knowledge and their teaching learning skills regarding tropical and communicable diseases (in past it was paper and pencil test) . Therefore, it was decided to include one of the assessment criteria that is "low cost teachings aids assignment" cum "health education project" to evaluate both the above mentioned competencies (knowledge and teaching skills) in students. Thus this assignment was conceptualized and planned to operationalize after the curriculum committee, which approved it and allowed to implement it in the diploma and baccalaureate nursing programmes after several vigilant reviews.

Course Planning and Budgeting

It is important to share that this community based project helped the students to access the actual community in need for the health education sessions. However, this step required intense planning for the implementation of the project with students, targeted community and the School of nursing administration by the course faculty. This course is offered twice a year.

Once the course faculty identifies and approaches second partner i.e. target groups where the project is supposed to be implemented. , she prepares course budget, which includes transport to reach community, students' lunch and gets approval of the budget by AKUSONAM administration. Next, faculty collaborates with target population heads (community, school administration, or hospital heads) and the year coordinator AKUSONAM to decide the day and timings for the project implementation, according to the availability of the target groups.

Community assessment and involvement

The major emphasis of the tropical and communicable diseases course is that the students learn the theoretical concepts related to the spread of communicable diseases in hospital and community and apply their concepts through health awareness sessions in hospital/ community, as literature suggests that bridging theoretical knowledge of students to practice is an important pedagogy in nursing education. [7] To implement this project, in the initial classes the course faculty survey current epidemics through newspapers and other media. This strategy helps the faculty as well as students to prioritize and select one of the highly communicable diseases at the time of offering this course. Faculty shares this prioritized list with the students and makes small groups of students 6 weeks prior to the implementation of the project. Student grouping is randomly (4-6 students in one group) made and the topics for the propjet are also randomly assigned to them from prioritized list.

Students conduct meetings and keep a record of their process of working and work load of 6 weeks of the class timings .In their study time, they search recent literature regarding diseases and thoroughly educate themselves on their assigned topics. Next, they plan to prepare health education material, by collecting old or low cost material such as empty box (insert picture TV made from Empty boxes), old socks, old clothes, empty bottles to puppets and environmental hygiene models. The special focus is on how to prepare low cost and sustainable teaching aids. While preparing materials students keep the knowledge of target

population such as language, gender and age. Moreover, students in their group use creative approaches to develop teaching aids, which are based on teaching learning principles as well are culturally acceptable. Faculty meets individual student groups time to time to facilitate them

Project implementation

To bring the theory into practice students are expected to develop a project to deliver health education to community through arranging a Health Mela [8] in school, community health centers, and hospitals or boarding houses. On the day of the implementation of the project, students reach project site in the morning with their cost faculty to set their stalls in a camp or in a hall set by school or community administration. Once people start coming on the given time , nursing students provide health education to them by using their low cost teaching materials. The student activities are evaluated by community representatives, course faculty and one neutral faculty expert in content. They evaluate students by using set criteria and their feedback students are graded for the project.

Impact of course on students and community

Both the student and the agency benefit from the experience of this course assignment as it helps students to develop sense of social responsibility [9] towards preventable communicable disease, as well as to enhances their interest in learning and their critical thinking abilities. The Health Mela cum teaching learning aids assignment" is successful in engaging and empowering communities, especially to parents and teachers in the schools; as this project impacted on some school policies that emphasized health of children at school. In one of the schools after running this project, school administration developed an strategy to keep soap outside washroom in the school (rare practice in many schools of Pakistan) and assigned one worker to oversee and make sure children wash hands after coming from washroom, same school asked parents to sent their child with their own boiled water bottles, simultaneously, started keeping boiled water in the school. In one of the boarding houses where similar project was implemented, they arranged typhoid vaccines for children. Moreover, one of the communities after this project developed "Kuta bahgao scheme (Street dog eradication to prevent rabies) with help of city municipal cooperation after this project.

Furthermore, at the end of health festival (health Mela) evaluation of the participants attending this course were encouraging as they were able to discuss the causes of the diseases and ways to protect from these deadly but preventable diseases.

In addition, through this course students learn to work collaboratively and cooperatively to complete their assignments in groups outside classroom. From this cooperative learning they develop skills to create their own teaching aids and learn how to work in a team. The real essence of application of theory in to practice is noted when students display and use these handmade teaching in the implementation phase of the project.

CONCLUSION

In conclusion, this innovative nursing course about tropical and communicable diseases helped the nursing students and nursing faculty to access community to provide health awareness session during the course. The course assisted the students to develop skills to get involved in the community, and conduct health awareness sessions, to prevent the communicable diseases. It also provided them an opportunity to learn the skills, required for a health educator and practice this role. They also learned to prepared low cost and culturally acceptable teaching material to deliver the session. This course not only developed nursing students skills as health educators, but also brought many positive impact on targeted communities.

ACKNOWLEDGEMENTS

We acknowledge all our students, faculty, community leaders, and residents, all administrative personnel within and outside AKUSONAM efforts in providing their support to operationalize this course. Their active participation at all levels made it possible to bring our course to benefit the public and raised awareness on such deadly diseases.

Conflict of Interest: We do not have any Conflict of interest

Source of Funding: Aga Khan University School of nursing and midwifery

Ethical Clearance: Course is approved by Curriculum committee of the school of nursing Karachi Pakistan.

REFERENCES

1. Gupta I, Guin P. Communicable diseases in the South-East Asia Region of the World Health Organization: towards a more effective response Bulletin of the World Health Organization 2010; 88:199-205. doi: 10.2471/BLT.09.065540 http://www.who.int/bulletin/volumes/88/3/09-065540/en/
2. Communicable disease prevention, control and eradication. WHO regional office for Africa. http://www.afro.who.int/en/ethiopia/country-programmes/communicable diseases.html.
3. Non communicable diseases Pakistan's next major challenge. NCD's Policy Brief (February 2011). The World Bank south Asia, Human Development Health, Nutrition and Population. http://siteresources.worldbank.org.
4. Sabir SA, Naseem U, Abideen Z, Chisti MJ. Assessment of "Tuberculosis Preventive Knowledge "in Persons Taking Care of TB-Patients. Journal of Rawalpindi Medical College; 2012; 16(1):62-64.
5. The Global Polio Eradication Initiative: Every Last Child: copyright 2010. http://www.polioeradication.org/AboutUs.aspx
6. Report on Measles Outbreak in Pakistan (2013). Wafaqi Mohtasib (Ombudsman)'s Secretariat Islamabad. http://202.83.164.28//Mohtasib/reports/Measles Report.pdf
7. Armstrong MA, PieranunziV. Interpretive Approaches to Teaching/Learning in the Psychiatric/Mental Health Practicum. Journal of Nursing Education. 2000; 39(6), 274- 277.
8. Gupta R, Vaidyab A, Campbell R, Gupta A, Rajbhandari, S. Health Mela: a novel way of health promotion. British Journal of Healthcare Management 2011; 17(4): 165-167.
9. Narsavage GL, Batchelor H, Lindell D, Chen Y. Developing Personal and Community Learning in Graduate Nursing Education through Community Engagement. Nursing Education Perspectives. 2003; 24(6), 300-305.

DOI Number: 10.5958/j.0974-9357.6.1.022

The Threat of Domestic Violence: an Analysis through 'ology' Perspectives

Zahra Shaheen[1], Yasmin Mithani[2], Zohra Kurji[2]
[1]Chief Operating Officer, Catco Kids. Pakistan, [2]Senior Instructor, the Aga Khan University School of Nursing and Midwifery

ABSTRACT

Domestic Violence is a threat generally to females all around the world. It not only leaves a mark on a person's physical state but has more serious consequences on the emotional, spiritual, sexual and social states as well. Below is the case study of an employee, which I had encountered at my work place. This case study will be analyzed with the help of epidemiological and sociological perspectives.

Keywords: *Violence, Sociology, Epidemiology*

INTRODUCTION

My workplace: The organization I work in is an organization that came to Pakistan in 2003. It aims to open quality childcare/daycare centers in Pakistan. The daycare centers include corporate centers; which manage children of the employee's working in multinational organizations; community centers, which are context-based models in the rural areas of Karachi, Pakistan; which are Catco Kids franchises that are run as businesses by trained individuals; and advocacy initiatives with the stakeholders, including the Ministries.

Demographic Profile: The population that I serve is from both urban and rural areas of Pakistan. There are four provinces of Pakistan: Sindh, Punjab, Balochistan and North West Frontier Province (NWFP). Islamabad is its capital with Karachi being the most populous city. According to the 2005 estimates by Tourism department of the Government of Pakistan, Pakistan's population is 162,400,000. The ethnic group of majority of people in Pakistan is Indo-Aryan with sub-ethnic groups as Punjabis (44.68%) of the population, Pashtuns (15.42%), Sindhis (14.1%), Seraikis (10.53%), Muhajirs (7.57%), Balochis (3.57%) and others (4.66%) such as Tajiks, Bengalis etc [1]. The national language of Pakistan is Urdu with the majority of people being Muslims. Its major health problems include high infant mortality rate (82/1000 live births), high maternal mortality rate (500/100,000 births) [3], and high fertility rate of 4 [2](p.491-499). Its primary causes of sickness and death include gastroenteritis, respiratory infections, congenital abnormalities, tuberculosis, malaria, and typhoid fever [4].

Significant Event:

This situation occurred in 2006 with one of our female employees, Ms. XYZ, who had joined us as a caregiver in 2004. She is a very happy-go-lucky person with a pleasant personality. She does not have children and has been married for 20 years. After she joined us, she stated that her husband and in-laws physically abused her when there were any quarrels between them. Recently, they were having frequent arguments and fights. Her husband insisted that she should give consent for his second marriage to which she was refusing. Based on the religion that she belonged to, her consent was important. One day, her husband came to the daycare center in the evening asking for her identity card, saying that he wanted to cash his pay cheque as it was first of the month. She willingly gave her identity card to him. Next morning, she came to the center crying. When we asked her what had happened, she said that her husband has re-married and that is why he had come to the center the day before for her identity card, so that he could prove to others that he had her consent. The husband moved out of the house the same night and she started living all alone.

After this incident, we observed that she usually came to the center with bruises all over her body. One day, we noticed that her face and eyes were swollen and she was not in her usual happy mood. I called her

in my office and asked her what had happened, she started to cry profusely. I let her cry for a while. Then she said that her father-in-law and husband had come to her house in the evening and started quarrelling with her. The husband picked up a cricket bat and started hitting her. He then pulled her hair and bunch of hair came out of her scalp. The father-in-law also hit her. When the neighbour heard her screaming and shouting, they came to her rescue and both of the husband and father-in-law fled away.

I counseled her and tried to help her out but I felt very helpless. I did not know w[1]hat to do. I also felt like crying and felt very upset the whole day. Then I called the head of my organization and explained the situation to her. She asked me to bring Ms. XYZ to the head office so that she could talk to her. I took her in the evening and Ms. XYZ was again counseled. The counseling helped her to ventilate her feelings and she felt comfortable. As we were concerned about her safety and security, we hired the services of a security guard at Ms. XYZ's residence for a few days to protect her. We also discussed the option of divorce with her, which she refused, as she loved her husband very much. After that incident, the husband or her in-laws did not come to her house and Ms. XYZ is still legally his wife.

If I analyze this situation, the husband used physical violence habitually, which increased in frequency due to the wife's refusal to divorce him and to take on a new wife. As the supervisor, if I had not explored why this staff was upset and if she hadn't told me, I would not been able to explore her life world and she would have been left without any support. As an organization, we could not do much regarding Domestic Violence at a family or community level as it is believed to be a private matter between a husband and wife. Families believe that nobody can interfere in this. People think that women are "their property" and they can treat them in whichever way they like to. Eastern women usually hide their marital problems. In addition, there are very few Non-Governmental Organizations working on this issue and women do not approach them unless they are in a life-threatening situation. We also encounter this primary care problem at our health centers in rural area of Karachi where women come with injuries and when asked, they usually report a fall or an injury as the cause of those injuries. After analyzing this situation, I would like to explore the sociological and epidemiological perspectives in order to prevent this problem through our daycare centers.

Epidemiological Perspective of Domestic Violence: To have a holistic picture of the issue of domestic violence, I would first like to describe the epidemiological perspective. Domestic violence, as defined by the World Health Organization (WHO) is:

"The intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, mal development or deprivation."[5].

Violence is a preventable problem that entails use of power and physical force [5]. According to Karmaliani et al, one out of every three women goes through some sort of violence worldwide at some point in time [6] (p.1-8). The epidemiological data mentioned by WHO, reveals that 10 % of women are physically assaulted by their intimate partners in Paraguay and Phillipines, 22.1% women in the United States of America, 29% in Canada and 34.4% in Egypt [5]. A study done in Karachi, Pakistan to explore the attitude of Pakistani men reveals that 49.4% women are physically abused, with slapping, hitting or punching being the most common. Another interesting data demonstrates that 55% men were themselves beaten during their own childhood and 65% had seen their mothers being beaten. Almost half of them thought it was their right to hit their wives [7] (p. 49-58). A similar study from Pakistan shows that the most common cause of violence includes societal factors such as cultural norms of male dominance; use of excessive force; health; education; economic and/ or social policies[8] (p.23-28). Hence, the above mentioned data reveals that violence is a universal and preventable problem with the abuser having experienced abuse during his own childhood. Moreover, violence against women is viewed as a cultural norm in Pakistan due to various factors.

Sociological Perspective: Sociology, as defined by Greenhalgh, is '…the study of human society and the relationships between its members, especially the influence of social structures and norms on behaviors and practices' [9] (p.34). Hence, according to the above situation, understanding the object relations theory from the sociological perspective would explain why some men are violent and some are not. If we integrate this situation with the theory, it is an intra psychic theory that understands the reasons for some people to resort to violence while others do not[10]. Object relations theory illustrates that Early Childhood Development plays a vital role in an individual's

psychological development. According to Zosky, human beings form an attachment to relationships that are termed as objects. If the relationship with the primary caregivers, such as mothers is not healthy, there is a strong possibility of problems in the child's future relationships. Hence, children who are exposed to negative environment in their early childhood period tend to demonstrate negative behaviors with their objects when they grow up. The primary caregiver must, therefore, build trust, develop the child's self-esteem and provide consistent, positive nurture and care during the period of early childhood[10]. A study cited by Zosky revealed that children who did not receive nurture and care in their childhood turned out to be violent towards their intimate partners. (Kesner, Julian and McKenry, 1997).[10] This theory further states that as these children's object constancy (separate identity of self and others) has not developed during their childhood, they are unable to manage love and anger towards their partners and therefore, resort to violence on their seemingly "all bad" partners[10].

Hence, as Ms. XYZ was subjected to partner violence, the above stated theory could be the cause for her husband's violent behavior although we did not explore at that time whether her husband had himself been a victim of violence during his own childhood. It further explains that violent individuals use power to suppress their partners. This means that in the above situation, Ms. XYZ's husband exerted power on her by being violent and by hitting her. Not only the husband, but the family was also involved in this as hitting wives is sociologically agreeable. This could be explained by WHO citation, that violence is pre-determined by a culture. Therefore, wife battering may not be viewed as a problem but as a norm[10].

CONCLUSION

As I am working in the higher management and am involved in developing policies for the organization, this theory has helped me gain an insight on how important it is to provide a healthy and nurturing environment for children. I strongly believe that being proactive is way better than being reactive. Therefore, I would now oversee all our training modules and inculcate "importance of nurturing relationships" for our staff and teachers. Moreover, as the children spend most of the day with us at the center; it nevertheless becomes more important for us to train the caregivers in this aspect. In addition, the staffs are already trained in assessing the children's behavior for any changes in order to identify child abuse, but this has to be re-enforced.

ACKNOWLEDGEMENTS

I would like to acknowledge everyone who have assisted me in writing this article; including my tutors, friends, family, and my dear husband and children. This would not have been possible without their unconditional love and support!

Conflict of Interest: None

Ethical Clearance: Not required

Source of Funding: None

REFERENCES

1. No Author. Demographics of Pakistan. [online]. 2005. Available from: http://www.tourism.gov.pk/demographics_of_pakistan.htm. [Accessed on 21-9-2009].
2. Hussain, S, Malik, S, Hayat, MK. Demographic transition and economic growth in Pakistan. [online]. European Journal of Scientific Research. Vol. 31. no 3. 2009. p. 491-499. Available from: http://www.eurojournals.com/ejsr_31_3_15.pdf. [Accessed on 21-9-2009].
3. Ghauri, I. 34% of pregnant women face malnutrition in Pakistan. [online]. Daily Times. 8-1-2007. Available from: http://www.dailytimes.com.pk/default.asp?page=2007\01\08\story_8-1-2007_pg7_2. [Accessed on 20-9-2009].
4. No Author. Health care in Pakistan. May 2007. [online]. Available from: http://en.wikipedia.org/wiki/Health_care_in_Pakistan. [Accessed on 14-10-2009].
5. Editors Krug, EG, Dahlberg, LL, Mercy, JA, Zwi, AB and Lozano, R. World report on violence and health. [online]. 2002. Available from: www.who.int/violence_injury.../violence/world_report/en/ [Accessed on 22-10-2009].
6. Karmaliani, R, Irfan, F, Bann, CM, Mcclure, EM, Moss, N, Pasha, O, Goldenberg, RL. Domestic violence prior to and during pregnancy among Pakistani women. Acta Obstetricia et Gynecologica. [online]. 2008. p. 1-8. Available from: http://dx.doi.org/10.1080/00016340802460263. [Accessed on 26-10-2009].
7. Fikree, FF, Razzak, JA, Durocher, J. Attitudes of Pakistani men to domestic violence: a study from Karachi, Pakistan.Top of Form [online]. Vol 2, no

1. March 2005. p. 49-58. Available from: http://www.journals.elsevierhealth.com/periodicals/jmhg/article/S1571-8913(05)00005-1/pdf. Retrieved on 22-10-2009. [Accessed on 22-10-2009].

8. Shaikh, MA. Is domestic violence endemic in Pakistan: perspective from Pakistani wives? Quarterly January. [online]. Pakistan Journal of Medical Sciences. Vol 19, no 1. 2003. p. 23 – 28. Available from: http://www.crescentlife.com/psychstuff/is_domestic_violence_ endemic_in_pakistan.htm. [Accessed on 22-10-2009].

9. Greenhalgh, T. The 'ologies' (underpinning academic disciplines) of primary health care. Primary health care: Theory and practice. Chapter 2. 2007. Blackwell Publishing. p.34.

10. Zosky, DL. The application of object relations theory to Domestic Violence. [online]. Clinical social work journal. Vol. 27, no. 1. Spring 1999. Available from: ww.springerlink.com/index/U0570115388333V2.pdf. [Accessed on 20-10-2009].

DOI Number: 10.5958/j.0974-9357.6.1.023

Comparison of Maternal Comfort between two Breastfeeding Positions

Bency G[1], Maria P[2], Anusuya V P[2]
[1]2nd Year MSc Nursing, [2]Assistant Professor, Department of OBG Nursing, Manipal College of Nursing Manipal, Manipal University, Manipa

ABSTRACT

Objectives: To compare the effectiveness of cradle hold versus football hold position of breast feeding in terms of increased comfort of primiparous women and to find the association between comfort of primiparous women and type of delivery.

Method and materials: An evaluative approach was used and the design selected for the study was quasi experimental, two group post test only design. Samples comprised of 60 postnatal mothers (30 in each group) admitted in Kasturba Hospital, Manipal and Dr.TMA Pai Hospital, Udupi. Purposive sampling technique was used to select samples. Data was collected using demographic proforma and maternal comfort checklist

Results: The result of the study shows that, there was no significant difference in the mean post test scores of comfort of primiparous women between cradle hold and football hold groups (p=0.411). But there was improvement in the mean post test scores of comfort of primiparous women in subsequent measures (three measures) in each group. There was no significant association between comfort of primiparous women and type of delivery (P value- 0.589).

Conclusion: Cradle hold and football hold positions of breast feeding were equally effective in terms of increased comfort of primiparous women. Mother can try either cradle hold or football hold position for breast feeding and can adopt whichever is comfortable for her. The study also revealed that there was no association between comfort of primiparous women and type of delivery in both cradle hold and football hold positions of breast feeding. Mother can try either cradle hold or football hold position for breast feeding irrespective of type of delivery.

Keywords: *Breastfeeding Positions, Comfort, Primiparous Women*

INTRODUCTION

Breastfeeding is a mother's privilege and a baby's right. Human milk contains a balance of nutrients that closely matches infant requirements for brain development, growth and a healthy immune system.

Though breast feeding is a pleasant experience it can cause a lot of discomfort both to mother and the newborn if the breast feeding positions and techniques are not proper. If the mother is comfortable and pleased with breastfeeding, her baby also will be comfortable and enjoy being fed. So it is very important to provide a proper position for breast feeding that minimizes the discomfort of the mother during the early postnatal period.

The most common breast feeding position involves cradling the infant next to the breast from which he or she will feed, with his or her head propped up by the mother's arm. Another holding position is the football hold, in which the infant is cradled in the mother's arm with his or her head in the mother's hand and the feet oriented toward the mother's elbow. Mothers recovering from cesarean delivery may usually prefer this position because less pressure is placed on her abdomen.

Though breast feeding is a natural process it cannot be done so instinctively. First time mothers needs lots of help and guidance at the beginning of the breast feeding especially after the caesarean section.

Indian women usually prefer the cradle hold position of breast feeding. But literature describes some other positions which are more or less equally effective to cradle hold. So the researcher felt the need to identify the position which promotes the comfort of primiparous women by comparing two positions (cradle hold and football hold position of breast feeding).

Statement of the problem

"A comparative study of the effectiveness of two breast feeding positions on comfort of primiparous women in selected hospitals of Udupi District, Karnataka".

Objectives of the study

The objectives of the study were to

1. compare the effectiveness of cradle hold vs. football hold position of breast feeding in terms of increased comfort of primiparous women
2. find the association between comfort of primiparous women and type of delivery.

Hypotheses

All hypotheses were tested at 0. 05 level of significance

H_1: There will be significant difference in the mean post-test scores of comfort of primiparous women between cradle hold group and football hold group.

H_2: There will be significant association between comfort of primiparous women and type of delivery

MATERIALS AND METHOD

Research Methodology

The research approach used in the study was evaluative approach. Research design used was quasi experimental, two group post test only design. The population comprised of primiparous women admitted at the Dr.TMA Pai Hospital, Udupi and Kasturba Hospital, Manipal. In this study the sample comprised 60 postnatal women with 30 each in group one (cradle hold group) and group two (football hold group). Samples for group one was taken from Kasturba Hospital, Manipal and for group two was taken from Dr.TMA Pai Hospital, Udupi. Allocation of breast feeding positions have been done in two hospitals (cradle hold position of breast feeding to Kasturba Hospital, Manipal and football hold position of breast feeding to Dr.TMA Pai hospital, Udupi) to avoid the chance of contamination. Purposive sampling technique was used to select samples in each group.

Sampling criteria

Primiparous women

- aged 18-35years
- delivered after 37 weeks of gestation
- admitted to the postnatal ward of Kasturba Hospital, Manipal and Dr.TMA Pai Hospital, Udupi
- mothers with nipple abnormalities (flat, inverted or cracked nipple) were excluded from the study.

Description of the tool

Tool 1: Demographic proforma

This tool was developed to gather information about sample characteristics. It included six items seeking information on the background of primiparous woman such as age, education, occupation, religion, type of family and mode of delivery.

Tool 2: Maternal comfort checklist

This tool was developed to determine the comfort of primiparous women during breast feeding (self reported checklist). The items of the checklist were developed as per the blueprint and items covered were the physiological and the psychological comfort of primiparous women. Few items were taken from the modified fatigue symptom checklist. The maternal comfort checklist comprised of 18 items ('yes' and 'no' columns). Each 'yes' carried one score and 'no carried zero score except item numbers 14, 15 and 16 (reverse scoring is done for these items). The maximum score possible is 18 and minimum score is 0.

Data collection procedure

The main study was conducted in selected hospitals of Udupi district (Kasturba Hospital, Manipal and Dr.TMA Pai Hospital, Udupi). Allocation of breast feeding positions had been done in two hospitals (

cradle hold position of breast feeding to Kasturba Hospital, Manipal and football hold position of breast feeding to Dr.TMA Pai hospital, Udupi) to avoid the chance of contamination. Equal number of mothers with normal delivery and caesarean delivery were taken in each group. Once the mother is able to sit and give feeds by herself without anybody's support (normal delivery- six hours after being shifted to the postnatal unit and operative delivery- twenty four hrs after being shifted to the postnatal unit) the willingness of the mothers were asked to participate in the study and the consent was taken. After this, cradle hold position of breast feeding was taught to one group and football hold position of breast feeding to the second group. Mothers were encouraged to assume same position which was taught to them on subsequent feeding. Comfort of primiparous women was assessed in three repeated measures (fourth, sixth and twenty fourth hours of breast feeding) after the teaching session. Demographic background of the mother and the neonates was collected during the first measure.

OBSERVATION AND RESULTS

Section 1: Description of sample characteristics

- Majority of the samples i.e. 15 (50%) in cradle hold group and 15 (50%) in football hold group belonged to the age group of 26-30
- 25 (83.3%) in cradle hold group and 23 (76.7 %) in football hold group were unemployed.
- Majority of the samples i.e. 25 (83.3%) in cradle hold group and 27 (90%) in football hold group belonged to the Hindu religion.
- Majority of the samples i.e. 21 (70%) in cradle hold group and 16 (53.4%) in football hold group belonged to nuclear families.

Section 2: comparison of comfort of primiparous women between cradle hold and football hold position of breast feeding

Section 2A: Scores of comfort of primiparous women of group 1 (cradle hold) and group 2 (football hold)

Table 1: Mean and standard deviation of subjects based on post test scores of comfort of primiparous women in group 1 and 2. n=60(30+30)

		O1		O2		O3	
		Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**
Comfort scores	Group 1	11.17	1.341	12.47	1.332	14.83	0.986
	Group 2	11.16	1.206	12.70	1.264	15.30	1.055

The data in the table 1 depicts that there was no significant changes in the mean post test scores of comfort of primiparous women in three repeated measures between cradle hold group and football hold group but there was improvement in the comfort scores in subsequent measures in each group.

Section 2B: Difference between the post test scores of comfort of primiparous women across two groups:

Repeated Measures ANOVA (RMANOVA) was used to test post test scores of comfort of primiparous women across two groups at three time points (fourth, sixth and twenty fourth hours of breast feeding).

Table 2: Repeated measure analysis of variance between the subjects

F ratio	df value	P value
0.686	1, 58	0.411

*Significant at $p<0.05$

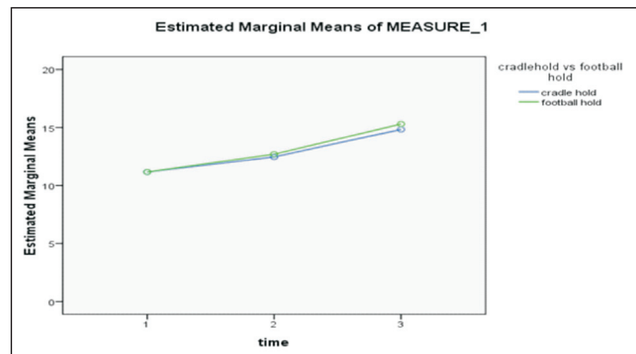


Fig.1. Profile plot showing RMANOVA for post test scores of comfort of primiparous women.

Table 2 and figure no 1 profile plot showed that there was no significant difference in mean post test scores of comfort of primiparous women between cradle hold group and football hold group. So the null hypothesis was accepted and the research hypothesis was rejected. Therefore it could be concluded that both of the breast feeding positions (cradle hold and football hold position of breast feeding) were equally effective for

breast feeding in terms of increased comfort of primiparous women.

Section 3: **Association between comfort of primiparous women and type of delivery**

In order to find the association between comfort of primiparous women and type of delivery, the following hypothesis was stated

Ho_3: There is no significant association between comfort of primiparous women and type of delivery.

Two - way Repeated Measures ANOVA was used to test the association between comfort of primiparous women and type of delivery at three repeated measures.

Table 3: Mean Standard deviation, F ratio and P value of post test scores of comfort of primiparous women on type of delivery. n=60(30+30)

Group		O1		O2		O3		F ratio	P value
		Mean	SD	Mean	SD	Mean	SD		
Cradle hold	ND*	11.7	1.223	12.87	1.18	15.27	0.977	0.295	0.589
	CD*	10.60	1.242	12.07	1.38	14.40	0.986		
Football hold	ND*	10.73	1.163	12.40	1.24	15.07	1.100		
	CD*	11.60	1.121	13.00	1.254	15.53	0.990		

*Significant at p<0.05

*N D– Normal Delivery, *CD-Caesarean Delivery

Table 3 depicts that there was no significant association between comfort of primiparous women and type of delivery (P value- 0.589). So the null hypothesis was accepted and research hypothesis was rejected.

DISCUSSION

The current study revealed that there was no significant difference in the comfort scores between cradle hold and football hold position of breast feeding. Both of the positions are equally effective for breast feeding in terms of increased comfort of primiparous women.

The current study finding is supported by the article published by Wagner and Rosenkrantz on June 5, 2009 with the title of "Counseling the Breastfeeding Mother". The article described that positioning the infant is one of the most fundamental components to successful breastfeeding. If no maternal or neonatal contraindications are present immediately after birth, the mother should be helped into a comfortable position. The most common position involves cradling the infant next to the breast from which he or she will feed, with his or her head propped up by the mother's arm. The infant should be placed with his or her stomach flat against the mother's upper abdomen, in the same plane (cradle hold position of breast feeding). This close contact also helps the infant maintain a normal body temperature. Another holding position is the football hold, in which the infant is cradled in the mother's arm with his or her head in the mother's hand and the feet oriented toward the mother's elbow. Mothers recovering from caesarean delivery may prefer this position usually because less pressure is placed on their abdomen. Mothers can adopt any one of these position based on their comfort.[7]

The current study also reveals that there is no significant association between comfort of primiparous women and type of delivery in each group. Cradle hold and football hold positions of breast feeding are equally effective after normal and operative delivery.

This study finding contradicts the article published in the Breastfeeding Answer Book .It described that the football or clutch hold position is a very useful position for mothers who have had a caesarean birth than any other position. It helps keep the weight of baby off mother's incision. It is also a good position for mothers with flat or inverted nipples and for babies with latch-on or sucking problems because it offers the mother a better view of the baby and breast and offers her better control of the baby's head. Though there is no significant difference between normal and operative delivery in football hold position, mean scores of comfort of primiparous women is more in operative delivery than normal delivery.

The limitations of the study were

- In the present study the primiparous women in each group were selected using purposive sampling, which limits the generalizibilty of the study.

- Controlling the extraneous variables like personal characteristics of primiparous women and hours of postnatal period was not possible.

ACKNOWLEDGEMENT

The authors are thankful to all administrators and participants for providing necessary facilities and information to carry out this project.

Conflicts of Interest

There were no situations which give rise to conflicts of interest in present study. The study is done as a partial fulfillment for the degree of MSc Nursing. Not for an organization, any person, financial interest or any significant position.

Ethical Clearance

For collecting data, following steps were taken in terms of ethical clearance

- Formal administrative permission from the Dean, Manipal College of Nursing, Manipal.
- Ethical clearance from the ethical clearance committee of Kasturba Hospital, Manipal.
- Permission from Unit Heads of OBG department, Kasturba Hospital, Manipal
- Permission from the Medical Superintendent of Dr. TMA Pai Hospital, Udupi.
- Informed consent from the participants

Source of Funding

This research is not funded by any corporations, organizations and universities.

REFERENCES

1. Eastman A. The mother baby dance: positioning and latch on. LEAVEN 2000; 16(4):63-68 (Updated 2006 October15). Available from: http://www.llli.org/llleaderweb/lvagusep00p63.html
2. Wagner C L, Rosenkrantz T. Counseling the Breastfeeding Mother. American Academy of Pediatrics 2009 (Updated 2012 February 2).Available from: http://emedicine.medscape.com/article.html.
3. Polit FD, Hungler PB. Nursing Research principles and Method. Philadelphia: Lippincott; 1999
4. Birth source.com, official site of Perinatal Education Associates.inc.
5. Drucker, Peter F. The effective Executive Definition Guide to Greeting the Right Things Done. Newyork: Collins.2006
6. Polit FD, Hungler PB. Nursing Research principles and Method. Philadelphia: Lippincott; 1999.
7. Stufflebeams B L. CIPP model. Annual conference of the Oregon Programme Evaluators Network (OPEN). Portland; 2003. Avialbe from: http://www.wmich.edu/ evalctr/pubs/CIPP-Model Oregon 10-03.pdf

DOI Number: 10.5958/j.0974-9357.6.1.024

Patterns of Auditory Verbal Hallucination among Patients Diagnosed with Chronic Schizophrenia

Bivin J B[1], Sailaxmi Gandhi[2], John P John[3]

[1]Lecturer in Psychiatric Nursing, Mar Baselios College of Nursing, Kothamangalam, Kerala, [2]Asst. professor, Dept. of Nursing, [3]Associate professor, Dept. of Psychiatry National Inst. of Mental Health & Neurosciences, Bengaluru

ABSTRACT

Background: Presence of auditory hallucination is considered to be the frontline diagnostic criteria for schizophrenia. The present study aimed to evaluate the pattern of auditory verbal hallucinations (AVH) among patients diagnosed with chronic schizophrenia.

Materials and method: Consented patients (N=52) were asked individually to detail about their experience of persistent auditory hallucinations using a semi-structured interview schedule. Data was pooled and analyzed using Microsoft Excel-2007.

Results: Mean age at first hearing voices was 26 years, and 50% of them reported to hear voices for about a few minutes a day. 11.5% of them reported that their voices were hostile and many (69.2%) of them heard voices of more than one person talking at a time. Commenting type of AVH was more (84.6%), voices more (61.5%) frequently heard during evening time. Majority (57.7%) of them reported to hear voices which are of both male and female and 50% of them it was not from anyone they known before. 88% reported that the intensity of AVH was more when they are alone and 65.4% of them reported to be relieved when they started doing something interesting. 50% them reported that the medications have no effect over AVH.

Discussion: The result of the study may be used to increase understanding of the pattern of AVH among chronic schizophrenia and to be more empathetic in formulating nursing care plans to help those troubled voice hearers by incorporating more adaptive self help strategies to deal with it.

Keywords: *Auditory Verbal Hallucinations, Schizophrenia*

INTRODUCTION

Auditory hallucinations are found most often in patients with schizophrenia, with a prevalence of 75% in that population. Hallucinations are pathognomonic of no one mental illness. They may be experienced in a range of mental disorders such as schizophrenia, depression, mania, post-traumatic stress disorder as well as drug withdrawal or intoxication, metabolic disorders, and during periods of high stress, deprivation of sleep or sensory stimulation. However, auditory hallucinations have been described inconjunction with many life circumstances and diseases, including religious phenomena, bereavement, drug intoxication, sensory deprivation, and near-death experiences, as well as psychiatric or neurological disorders. Auditory hallucinations have been estimated to occur in 10%–15% of those without neuropsychiatric illness[1].

Various psychological explanations have been offered for the phenomenon of hallucinations. Auditory hallucinations found to vary considerably in their frequency, duration, severity, intrusiveness, content, loudness, clarity, tone of voice, the degree of affective reactions they elicit, and the extent to which they are perceived as distressing or disabling by the individual who experiencing them.[2] The experience of hallucinations can be influenced by the environmental conditions such as sensory deprivation, or exposure to white noise or other stimulations.[3]

Cultural attitudes towards hallucinations affect the person's emotional reaction, the degree of control over the experience, and helpers should consider the functional significance and meaning of hallucinations as well as the social context and the stimuli associated with them[4]

Experiencing auditory hallucination is distressing and may often lead to various other problems such as anxiety, depression, self harm and suicide. It also causes disability in social and occupational functioning.[5] Even with the best pharmacological treatments many people continue to experience voices[6]. Most individuals with schizophrenia spectrum disorders hear voices even when they adhere to prescribed medications regimens.[7] Many of them report voices that are abusive, critical, and out of touch with everyday reasoning and sense of self. These troubled voice hearers often have a persistent paranoia, abuse, and suicidal ideation, and occasionally, violent acting out.[8]

"…understanding of psychotic problems may be improved by taking more account of the patient's subjective experience of psychosis, and the ways in which people with psychosis may try to make sense of their subjective experiences, and then act to cope with them"[9]. Nurses are in an ideal position to facilitate coping with voices through teaching, coaching, and counseling roles.

Attempts at helping the voice hearer must be by an understanding of the experience, sensitivity to the person's distress, the person's own usage of coping strategies and the meaning the person attributes to the experience. Without such knowledge, the nurse may unwittingly hinder the person's attempts to cope and undermine their sense of self-efficacy. An understanding of the biological processes underlying the hallucinatory experience and theories of hallucinations are required to provide some direction to the nurses' choice of intervention.

MATERIALS & METHOD

The study adopted a cross sectional descriptive research design aimed at exploring the pattern of AVH among patients diagnosed with Schizophrenia using a semi structured interview schedule, Auditory Hallucination Interview Guide- Inpatient version (AHIG-IP). The study was conducted at inpatient psychiatric units of National Inst. of Mental Health and Neurosciences, Bengaluru, involving the patients who have been diagnosed as schizophrenia (F20.0) by a board certified psychiatrist based on the diagnostic criteria outlined by ICD-10, including the subtypes of schizophrenia. Consented subjects *(n=52)* who were reported to hear AVH for a duration of not less than one year persistently even with their psychotropic medication. The subjects were informed about the purpose of the study and duration of individualized interview. The given information by the participants were checked for its consistency with their primary caregivers who present with them during their hospital stay.

Auditory Hallucinations Interview Guide - Inpatient Version (AHIG-IP) [10]

The Auditory Hallucinations Interview Guide (AHIG) [10] is a 30-item interview guide developed from the literature and clinical experience that asks patients for demographic and detailed information about auditory hallucinations and command hallucinations to harm, strategies they have found useful to manage auditory hallucinations and command hallucinations to harm, and their psychiatric medication regime. Clinical utility has been established with the revised and shortened inpatient version (AHIG-IP) [10]

Inter-rater reliability has been reported to be very high for AHIG-IP total scores. All items showed adequate reliability when the scale was administered within the context of interview guidelines. A sufficiently high inter-rater reliability (Cohen kappa >0.60) was reported for most of the AHIG-IP items and the total score (Cohen kappa: 0.57–0.73) [10]

The data was pooled and analyzed using Microsoft Excel-2007 using descriptive statistics.

RESULTS

Demographic Profile of the subjects

Most of the study subjects were females (57.7%) and unemployed (69.2%). 50% of the subjects were below/ equal to the age of 35 years and were married. 38.5% of the study subjects have completed their Pre University course, while 34.6% have no formal education. 57.7% of the subjects were from the rural background.

Clinical Profile of the subjects

61.5% of the subjects were diagnosed with paranoid schizophrenia, 11.5% with disorganized schizophrenia, and 27% with undifferentiated schizophrenia. Mean age at hearing voices at first was 26 years. About the psychotropic medications, most of them were on typical antipsychotics (84.6%), 69.2% were on atypical antipsychotics, 57.7% were on Sedatives or Anxiolytics and 11.5% were on Antidepressants. All study subjects were on Antiparkinsonian agent, Tab. *Trihexyphenidyl.*

Pattern of Auditory Hallucinations among the Patients Diagnosed With Schizophrenia

Most (61.5%) of them reported the location of their voices as just outside of their head, while 3.8% of them could not locate their voices. 50% of the subjects were hearing voices for a few minutes and 30.8% of them were hearing long for hours. 57.7% of the subjects, the voices were continuous monologues; whereas, 38.5% of the subjects reported that the voices talks in paragraphs. 11.5% of the subjects reported that the voices were hostile; but, 88.5% of them reported that the voices are different at different time, either hostile or friendly. No one in the study population reported the voices to be friendly.

Second person auditory verbal hallucination was commonly (73.1%) reported among the subjects compared to third person auditory verbal hallucination (26.9%). 57.7% of the subjects reported the voices that they heard were both female and male; whereas 26.9% of them it was male voices alone and 15.4% of them it was female voices alone. Number of voices that the subjects heard commonly (69.2%) was 2 or less than 2 in number.

Common (84.6%) content in the hallucinatory voices was commands to do something. Voices that comments on subject's activities, about person, laughs at the subject, talk about religion or god and talks about sex constituted 38.5%, 23.1%, 30.8%, 19.2% and 7.7 % respectively. Only 3.8% of the subjects heard that the voices command to harm self during the preliminary assessment.

Subjective perception towards the hallucinatory voices

69.2% of the subjects reported that they have negative thoughts associated with the auditory hallucinations. The voices were rather more distressing (88.5%) than pleasant (11.5%) among the study subjects.

61.5% of the subjects reported that they hear voices most frequently during evening time, (5 PM – bedtime), and 23.1% of them have frequent voices during morning (till 12 noon). Most (61.5%) of the subjects reported that they never heard voices while asleep and 26.9% of them reported that they never heard voices morning till 12PM. Two subjects (7.7%) reported that they heard voices while they sleep, that the voices awaken them from sleep. Three subjects explained that they usually woke up by the voices in the morning time.

Most of the subjects agreed that the voices are more pronounced when they are alone (88.5%) and fewer voices are associated with the activities that they are engaged with (65.4%).

Table 1: Distribution of subjects based on coping strategies on AVH N=52

Coping strategies and Effects of Medications	*f*	%
• Listening to music	8	15.4
• Reading aloud	4	7.7
• Watching television	22	42.3
• Doing something which is interesting	26	50
• Taking rest or relax	12	23.1
• Yell back at the voice	6	11.5
• Using extra dose of medications	6	11.5
• Praying	6	11.5

*Multiple response item; overall response score does not correspond to 100%

50% of the subjects reported that doing something which is interested could help them to cope with the voices. The other common strategies reported by the subjects were watching Television (42.23%), taking rest or relax (23.1%) and listening to music (15.4%). 11.5% of them reported that praying, using extra dose of medications and yelling back the voices as the coping strategies used. 7.7% reported that they preferred to read aloud while they hear distressing voices.

50% of the subjects reported that the medications have no effect on the hallucinatory experience and dizziness and sleepiness was the main problem associated with medications as the subjects stated. One subject was concerned about her weight gain with the psychotropic medication. 42.3% of the subject stated medications do have effect on their hallucination. As the subjects stated, the psychotropic medications are helpful in getting sound sleep, and relaxation. 7.7% of the subjects were not sure about the effect of medications on the auditory hallucination.

DISCUSSION

50% of the study population was unmarried though the Mean age was 35 years; this is possibly due to the high stigma associated with the illness in India. 38.5% of the subjects completed their pre university education; the findings could be discussed in the light

of their age at onset of hearing AVHs, i.e. 26 years. Unemployment among people diagnosed with schizophrenia increased from 88% in 1990 to 96% in 1999 and increasing through years.[11] This is reflected in the present study where 69.2% of them were unemployed.

Paranoid schizophrenia was the common (61.5%) subtype among subjects as the literature stated.[12] The Mean age at hearing voices at first was 26 years and it was similar in many other studies[13,14] done among schizophrenia patients who reported to have persistent AVH.

73.1% of them reported to hear 2nd person AVH, most of them reported the location of their voices from outside of their head, 11.5% of them reported to hear voices as continuous monologues; these findings were similar to other studies[15,16] done among similar population. One subject in the present study reported that the voices heard were more of animal sounds than verbal forms. Commenting type of AVH was commonly reported as similar to other studies[15,16,17]

CONCLUSION

Voice hearing refers to a subset of auditory hallucinations representing the linguistic, dialogical, properties of "hearing" and reacting to intersubjective voice events. The phenomenon is tied to a variety of normal or abnormal organic, physiological, psychological, and bioelectrical processes. Experiencing auditory hallucination is distressing and may often lead to various other problems such as anxiety, depression, self harm and suicide. It also causes disability in social and occupational functioning.

Central to assisting people to cope with auditory hallucinations is an understanding of the experience from the point of view of the individual. Attempts at helping the voice hearer must be by an understanding of the experience, sensitivity to the person's distress, the person's own usage of coping strategies and the meaning the person attributes to the experience.[18] Without such knowledge, the nurse may unwittingly hinder the person's attempts to cope and undermine their sense of self-efficacy. An understanding of the biological processes underlying the hallucinatory experience and theories of hallucinations are required to provide some direction to the nurses' choice of intervention.

ACKNOWLEDGEMENT

This study was greatly supported by Prof. Robin Kay Buccheri, DNSc, RN, PMHNP, and Louise Neigh Trygstad, DNSc., RN, CNS, (Professor Emeritus) University of San Francisco, School of Nursing, Fulton St., San Francisco, California, USA. It is our pleasure to express our profound gratitude and indebtedness to them for introducing us to a highly stimulating study topic and for the expert guidance and the invaluable support given.

Conflict of Interest: Nil

Source of Support: Nil

Ethical Clearance: Ethical clearance was obtained from the Institutional Ethics Committee, National Inst. of Mental Health and Neurosciences, Bangalore, and the subjects were informed about the study and a signed consent was obtained prior to the data collection procedure.

REFERENCES

1. Nayani, T.H & David, A.S. The auditory hallucinations: A phenomenological survey, Psychol Med.1996; 26(1):177-89.
2. Al-Issa, I. The illusion of reality or the reality of illusion; Hallucinations and culture, British Journal of Psychiatry. 1995; 166 (3): 368–373.
3. Prasada Rao. Cognitive Behavioral Therapy in Hallucinations, Indian Journal of Psychology. 2000; 27: 189-201.
4. Margo, A., Hemsley, D.R., & Slade P.D. The Effect of Varying Auditory Input on Schizophrenic Hallucinations, British Journal of Psychiatry. 1981; 139: 122-127
5. Westacott, M. Strategies for managing auditory hallucinations. Nursing Times. 1995; 91 (3): 35–37.
6. Lindenmayer, J. Treatment of refractory schizophrenia. Psychiatry Quarterly. 2000; 71(4): 373-384.
7. Morrison, A.P., Nothard, S., Bowe, S., & Wells, A. Interpretation of voices in patients with hallucinations and non patient controls: A comparison and predictors of distress in patient. Behavior Research &Therapy. 2004; 42(11): 1315-1323.
8. Hardy, A., Fowler, D., Freeman, D., Smith, B., Steel, C., & Evans, J. Trauma and hallucinatory experience in psychiatric clients. Journal of

Nervous and Mental health Diseases. 2005; 193(8): 501-507

9. Fowler, D., Garety, P. & Kuipers, E. Cognitive Behaviour Therapy for Psychosis: Theory and Practice. Chichester, UK, Wiley. 1995; 25.
10. Buccheri, R., Trygstad, L., Kanas, N., Wal-dron, B., & Dowling G. Audi-tory hallucinations in schizophrenia: Group experience in examining symp-tom management and behavioral strat-egies. Journal of Psychosocial Nursing and Mental Health Services. 1996; 34(2): 12-26.
11. Rachel Perkins & Mils Rinaldi. Unemployment rates among patients with long term illness. Psychiatric Bulletin. 2002; 26: 295-298.
12. Ahuja, N. A short Textbook of Psychiatry. 6th ed., New Delhi, Jaypee Brothers Medical Publications (P) Ltd. 2006; 57.
13. Sreevani, R. A Guide to Mental Health and Psychiatric Nursing. 2nd ed., New Delhi, Jaypee Brothers Medical Publications (P) Ltd. 2007; 80.
14. J.C. González, E.J. Aguilar, V. Berenguer, C. Leal & J. Sanjuan. Persistent Auditory Hallucinations. Psychopathology. 2006; 39: 12-125.
15. Buccheri, R., Trygstad, L., & Dowling G. Behavioral management of command hallucinations to harm in schizophrenia. Journal of Psychosocial Nursing and Mental Health Services. 2007; 45(9): 46-54.
16. Romme, M.A., Honing. A., Noorthroon & Escher. Coping with Hearing Voices: An Emancipator Approach. British Journal of Psychiatry. 1992; 16(1): 99-103.
17. Morrison, A.P., Nothard, S., Bowe, S., & Wells, A. Interpretation of voices in patients with hallucinations and non patient controls: A comparison and predictors of distress in patient. Behavior Research &Therapy. 2004; 42(11): 1315-1323.
18. Bivin, J.B & Sailaxmi Gandhi. Strengthening self symptom management strategies in auditory hallucinations among patients diagnosed with schizophrenia. Souvenir, Third International Conference of ISPN- Bhilai, Chattisgarh. 2011; 41-44.

DOI Number: 10.5958/j.0974-9357.6.1.025

Health Risk Behaviour and Depression among Adolescents

Dayananda B C[1], Meera K Pillai[2]
[1]Lecturer, HOD of Psychiatric Nursing, Apex College of Nursing, Varanasi, Utter Pradesh, [2]Principal, Sree Gokulam College of Nursing, Trivandrum, Kerala

ABSTRACT

Adolescent health is particularly an important issue in India, due to very high population growth, wide socioeconomic and health disparities among its population.

Objectives of the study

The study objectives were to:

1. Assess the occurrence of health risk behaviours among adolescents.
2. Assess the occurrence of depression among adolescents.
3. Study the correlation between health risk behaviours and depression
4. Determine the association between depression and selected demographic variables.

Materials and Method: A quantitative research approach with descriptive correlative design was used for study. A sample of 500 high school students in the age group of 13-16 years were drawn through purposive sampling. Tools: structured Health Risk Beaviour (HRB) rating scale and Beck Depression Inventory (BDI).

Result: There was significant occurrence of health risk behavior and depression among adolescents aged 13-16 years. There was positive correlation between health risk beahviour and depression. Here was association between depression and age, father's educational status and academic grades.

Conclusion: A very high number of high school children had one or the other health risk behavior calls for more attention in this area by school authorities for early intervention.

Keywords: *Health Risk behavior, Depression, Adolescents*

INTRODUCTION

The World Health Organization has defined “Adolescents” as persons in `the age group of 10 to 19 years[1]. About22 % of India’s population is adolescents[1] which are among the largest in the world[2]. This is the generation which will shape India’s future. One of the most important commitment a country can make for its future economic, social, and political progress and stability is to address the health and development related needs of adolescents[3].

Depressive disorders are prevalent and serious in children and adolescents, often causing substantial difficulties in social, personal, family and academic functioning**.** Increased depressive symptoms are one of the most prevalent mental health problems among adolescents[4]. Various risk behaviors, such as engaging in physical fights, violence ,smoking, alcohol and drug use, consuming a high fat diet, suicidal thoughts and attempts and depression are often adopted in young adolescence. In India 70% of mortality in adulthood is linked to habits picked up during adolescence. 24% of drug abusers are in the age group of 12-18 years[1].

METHODOLOGY

The research approach adopted for the study was quantitative research with descriptive correlation design. The independent variables in the study

included health risk behaviours and depression. The extraneous variables were age, gender, parental support, educational status of father, academic grades, type of family, total family income per month and BMI.

The study was conducted in one selected high school from Mangalore. The population under the study consisted of all the high school students between 13- 16 years of age from all the high schools in Mangalore. Purposive sampling technique was used to select an urban English medium high school in Mangalore for easy access to the sample under study. 500 samples who met the inclusion criteria were selected by purposive sampling method for assessing health risk behavior and depression among adolescence.

Health risk behaviour 5 point rating scale contained 20 items in 4 different areas. They were 6 behavioural practices under risk for violence, 3 behavioural practices under risk for suicide, 6 behavioural practices under risk for substance abuse and 3 behavioural practices under risk for obesity (weight gain).5- point scale as never, rarely, sometimes, most of the time and always. The total score ranged between 31 and 100. Beck Depression Inventory consist of 21-question multiple-choice self-report inventory, one of the most widely used instruments for measuring the severity of depression. Screening ranges from, 0 to 3 for each item. Total score is compared to a key to assess the severity of depression. Selected cut-offs are as follows: 0–15 indicates minimal depression and these minimal ups and downs are considered to be normal,16–30 indicates mild depression, 31–40 indicates moderate depression and more than 40 indicates severe depression. Higher total scores indicate more severe depressive symptoms.

Validity of procedure and tool was determined on the basis of expert's opinion for clarity, appropriateness, adequacy and relevance of the items. A try- out study was conducted in order to finalise the tool. Reliability was established by test and retest method. There was 24 hour gap between test and retest in collecting the data. Reliability for health risk behaviour rating scale was found to be 0.891. Data was collected by personally administering the tool to 500 sample subjects of selected high school.

The data was tabulated, organised, analysed, and interpreted using descriptive and inferential statistics on the basis of objectives and hypothesis of the study. Parameters used were mean, median, mode, standard deviation, chi-square, Karl Pearson's Test and regression method.

RESULTS

Demographic characteristics

Table 1: Distribution of samples according to baseline characteristics. n = 500

Sl. No	Sample characteristics	Frequency	Percentage (%)
1	**Age (in years)**		
	13	167	33.4
	14	166	33.2
	15	154	30.8
	16	13	2.6
2	**Gender**		
	Male	400	80
	Female	100	20
3	**Standard**		
	8th	180	36
	9th	160	32
	10th	160	32
4	**Religion**		
	Hindu	230	46
	Muslim	44	8.8
	Christian	219	43.8
	Others	7	1.4
5	**Parents**		
	Both parents alive	471	94.2
	Single parent	21	4.2
	Lost both parents	1	0.2
	Parents are divorced	2	0.4
	Parents are separated	5	1
6	**Educational status of father**		
	Illiterate	0	0
	Primary level education	3	0.6
	High school education	37	7.4
	PUC education	94	18.8
	Graduate	258	51.6
	Postgraduate/ professionals	108	21.6
7	**Father's occupation**		
	Unemployed	2	0.4
	Laborer	9	1.8
	Private employee	252	50.4
	Government employee	139	27.8
	Any other	98	19.6
8	**Mother's education**		
	Illiterate	1	0.2
	Primary education	0	0
	High school education	47	9.4
	PUC education	147	29.4
	Graduate	242	48.4
	Postgraduate/ professional	63	12.6
9	**Mother's Occupation**		
	House wife	310	62
	Laborer	3	0.6
	Private Employee	84	16.8
	Government employee	83	16.6
	Any others	20	4

Table 1: Distribution of samples according to baseline characteristics. n = 500 (Contd.)

Sl. No	Sample characteristics	Frequency	Percentage (%)
10	**Academic grades**		
	< 35 %	14	2.8
	35- 50%	41	8.2
	50-60 %	63	12.6
	60-70 %	131	26.2
	> 70 %	251	50.2
11	**Type of family**		
	Nuclear family	412	82.4
	Joint family	69	13.8
	Extended family	19	3.8
12	**Total family income per month in Rupees**		
	< 5000	23	4.6
	5001-10,000	47	9.4
	10,001- 15,000	60	12
	15,001-20,000	91	18.2
	>20,000	279	55.8
13	**BMI**		
	Normal(>18.5 - < 25)	384	76.8
	Over weight (> 25 - <30)	72	14.4
	Obese (?30)	14	2.8
	Under weight (< 18.5)	30	6

Table 1: depicts that 33.4% of the subjects were in the age of 13 years. Majority (80%) of subjects were males. 36% of the subjects were from 8th standard. 46% of the subjects were belonged to Hindu religion 43.8% of subjects were Christians. Majority (94.2%) of the subjects reported that their both parents were alive and live with them. Majority (51.6%) of the subject's fathers were graduates. Majority (50.4%) of the subject's fathers were private employees. 48.4% of the subject's mothers were graduates. Majority (62 %) of the subject's mothers were housewife. Majority (50.2%) of the subject's academic grades in school was above 70%. Majority (82.4%) of the subjects were from nuclear family. Majority (55.8%) of the subject's family income was above Rs.20, 000. Majority (76.8%) of the subject's BMI was normal.

Occurrence of health risk behavior

Table 2: Occurrence of health risk behavior.

Hrb	Range of Scores	Frequency	Percentage (%)
Violence			
No risk for violence	20 %-30 %	172	34.4
Mild risk for violence	31%-55%	301	60.2
Moderate risk for violence	56%-78%	25	5
High risk for violence	79%-100%	2	0.4

Table 2: Occurrence of health risk behavior. (Contd.)

Hrb	Range of Scores	Frequency	Percentage (%)
Suicide			
No risk for suicide	20 %-30 %	299	59.8
Mild risk for suicide	31%-55%	172	34.4
Moderate risk for suicide	56%-78%	20	4
High risk for suicide.	79%-100%	9	1.8
Substance Abuse			
No risk for substance abuse	20 %-30 %	478	95.6
Mild risk for substance abuse	31%-55%	20	4
Moderate risk for substance abuse	56%-78%	2	0.4
High risk for substance abuse	79%-100%	0	0
Obesity (Weight Gain)			
No risk for obesity (weight gain)	20 %-30 %	68	13.6
Mildrisk for obesity (weight gain)	31%-55%	346	69.2
Moderaterisk for obesity (weight gain)	56%-78%	86	17.2
High risk for obesity (weight gain)	79%-100%	0	0
Over all HRB			
No HRB	20-30	225	45
Mild	31-55	273	54.6
Moderate	56-78	2	0.4
High	79-100	0	0

Table2- shows that Occurrence of health risk behavior among adolescents (as measured by structured health risk behavior rating scale) was found to be 55%. Majority of subjects (60.2 %) reported mild risk for violence, 5% had moderate risk for violence, 0.4% had high risk for violence and 34.4% had no risk for violence. Identified risk for suicide revealed that (59.8% had no risk for suicide) 34.4% had mild risk for suicide, 4% had moderate risk for suicide and 1.8 % had high risk for suicide**.** Identified risk for substance abuse revealed that (95.6% had no risk for substance abuse) minor 4% had mild risk for substance abuse and 0.4% had moderate risk for substance abuse. Identified risk for obesity (weight gain tendency) revealed that [13.6% had no risk for obesity (weight gain tendency)] major 69.2% had mild risk for weight gain and 17.2% had moderate risk for weight gain.

Occurrence of depression

Table:3 Occurrence of depression

Scores	Depression	Frequency	Percentage (%)
0-15	No depression	361	72.2
16-30	Mild	127	25.4
31-40	Moderate	10	2
>40	Severe	2	0.4

The table 3 indicates that 72.2% had no depression, where as 25.4% of the subjects had mild depression, 2.0% had moderate depression and 0.4% had severe depression.

Correlation between health risk behavior and depression

Table 4 : Correlation between health risk behaviour and depression. = 500

Variables		Pearsons Value	d.f	Table value
Depression score	Risk for Violence	0.304	498	0.19
	Risk for Suicide	0.614	498	0.19
	Risk for Substance abuse	0.18	498	0.19
	Risk for Obesity	0.301	498	0.19
	Over all health risk behaviour	0.509	498	0.19

Table 5: Regression analysis to evaluate the most contributing health risk behaviour factor to depression

Model	Unstandardized Coefficients		Standardized Coefficients	t	p-value
	B	Std.Error	Beta		
(Constant)	-3.803	1.757		2.165	0.031
Risk for Violence	0.289	0.109	0.106	2.65	0.008
Risk for Suicide	0.344	0.024	0.553	14.279	0
Risk for Substance Abuse	-0.101	0.221	-0.018	-0.459	0.646
Risk for Obesity	0.076	0.03	0.096	2.557	0.011

The table 4 shows there was positive correlation between the health risk behavior and depression. Which indicates that, health risk behavior increases with increase in symptoms of depression. Regression analysis, table 5 revealed that risk for suicide, risk for violence, risk for obesity had significant contributing role in depression. HRB -q risk for suicide was found to be more of a contributing factor to depression in comparison to risk for violence, risk for obesity and risk for substance abuse (standardized beta to risk for, suicide= 0.553, violence=0.106, obesity=0.096 and substance abuse= -0.018).

Association between depression and selected demographic variables

Chi-square is used in order to find out the significance association between depression and selected demographic variables. There was significant association between depression, and age(χ^2_{cal} = 22.597, $p<0.05$), father's educational status (χ^2_{cal} = 10.283, $p<0.05$) and academic grades (χ^2_{cal} = 26.791, $p<0.05$) . There was no significant association between depression and other variables like gender, parental support, type of family, total income per month, BMI.

INTERPRETATION AND CONCLUSION

Findings of the study show that majority of the subjects had one or the other health risk behavior. There was a positive correlation between health risk behavior and depression. Depression was found to be 27.8% out of only 2.0% had moderate level of depression and 0.4% had severe depression. This indicates that majority had (25.4%) mild depression, which may be due to depressive feelings, related to environmental factors and subjective well being. These points towards the scope for possible beneficial effects by interventions like alternative and complimentary therapy for life style modification.

ACKNOWLEDGEMENT

We acknowledge our thanks to high school students who participated in the study , authorities who provided permission to conduct study and statistician Mrs. Sucharita, Fr Mullers Medical College, Mangalore.

Ethical approval: Ethical approval to conduct the study was obtained from the ethical committee of Nitte Usha Institute of Nursing Sciences (Nitte Deemed University), India. Permission was obtained from the Block Education Officer of urban area and the principal of St.Aloysius high school, little hill road, Mangalore, India, to conduct study. Written consent obtained from the high school students whoever participated in the study.

Source of Funding: Self.

Conflict of Interest: None

REFERENCE

1. Overview of Adolescent Health in India. Retrieved on 2009 Aug14. Available from: URL http://www.indmedica.com/journals/xhtml/13_overview_adol_chopra.htm
2. World's Teen Capital. Retrieved on 2012 Oct 17. Available from: http://articles. timesofindia.indiatimes.com/2011-02-26/india/28636628_1_urban-girls-rural-girls-adolescent-girls
3. Adolescents In India A profile Retrived .Retrieved on 2012 Oct 17. Available from: http://web.unfpa.org/focus/india/facetoface/docs/adolescentsprofile.pdf
4. Eszter Kovacs, Bettina F Piko, 'Depressive youth' – Adolescent's depressive symptomatology in relation to their social support in Hungary, 1089 Budapest, VIII. Nagyvárad Square 4. Hungary.

DOI Number: 10.5958/j.0974-9357.6.1.026

An Experimental Study to assess the effectiveness of the Structured Teaching Programme on Knowledge of Traffic Safety among School Children at Selected Urban Schools in Ludhiana, Punjab

Gaurav Kohli

Assistant Professor, Department of Community Health Nursing, M.M Institute of Nursing M.M university, Ambala

ABSTRACT

Objectives:

1. To assess the pretest knowledge of Traffic Safety among school children of control and experimental group.
2. To assess the post test knowledge of Traffic Safety among school children of control and experimental group.
3. To compare the pretest and posttest knowledge of Traffic Safety among school children of control and experimental group.
4. To ascertain the relationship of structured teaching on knowledge of Traffic Safety among school children with selected variables such as age, gender, academic standard, father's education, exposure to mass media, type of vehicles use.

Material and Method: Experimental approach, true experimental design was used and the study conducted in Sargodha National public senior secondary school, field ganj and Shivalik Vidya Mandir School, Jamalpur. & Shivalik Vidya Mandir School Jamalpur, Ludhiana (Pb.) 64 school children were chosen by Non proportionate stratified random sampling. The data collected through self structured questionnaire. The data was analyzed by descriptive statistics (mean, median & mode) & inferential statistics (Chi square, F test, Correlation of coefficient & t test).

Results: The pretest mean knowledge score of experimental group was 19.66 and in post test 31.94 after carrying out the structured teaching programme. On other side control group mean knowledge score of pretest was 19.91 & in post test 21.41. Horizontal't' test findings between pre test and post test of experimental group was18.065 is highly significant at the level of $P<0.001$ & vertical't' test value between post tests of control and experimental group was 198.677 also highly significant at the level of $P<0.001$. it has shown that structured teaching brought valuable change in the knowledge of school children regarding traffic safety. Recommendations: the findings of the study shown that there is need to carry out the interventions to increase the knowledge of school children regarding traffic safety which further will help to reduce the accidents & secure the school children on the roads.

Keywords: *Experimental Study, Structured Teaching Programme, Traffic Safety, School Children*

INTRODUCTION

"If accident is a disease, education is its vaccine"[1]

Road traffic crashes are routine occurrences throughout the world. Thousands of people lose their lives on the roads every day. Many more left with disabilities or emotional scars that they will carry for the rest of their lives.[2] Children and young adults are more vulnerable. Every hour of every day, forty youngsters die as a result of road traffic crashes. This means that every day another one thousand families have to cope with the unexpected loss of a loved one.

Losing a child is never easy. Knowing that a child was lost to a preventable incident may add to the pain and suffering, and can leave families and communities with emotional wounds that take decades to heal.[3]

It is estimated that more than a quarter of injury-related deaths in the world occurred in the South-East Asia Region in 2000.[4] In fact, road traffic injuries alone ranked as the number one cause of the burden of disease among children between 5-15years. This portion of population comprises 17.5 % of world's total number of accidents. Which cause 15.6 deaths per 1, 00,000 population of this age group. This heavy burden at such an early age has long-term implications on the quality of life and economy of the nations.[5]

METHODS AND MATERIAL:

Objectives

- To assess the pretest knowledge of Traffic Safety among school children of control and experimental group.
- To assess the post test knowledge of Traffic Safety among school children of control and experimental group.
- To compare the pretest and posttest knowledge of Traffic Safety among school children of control and experimental group.
- To ascertain the relationship of structured teaching on knowledge of Traffic Safety among school children with selected variables such as age, gender, academic standard, father's education, exposure to mass media, type of vehicles use.

Hypothesis

- H_1 The posttest mean knowledge score of traffic safety among school children in the experimental group will be significantly higher than those of the control group school children as measured by structured questionnaire at 0.05 levels.
- Rationale: Researcher reported the improved crossing behaviors from pre-test to post-testing conditions after conducting walk safe education programme. A total of 2,987 tests were collected during the three different testing times. Significant differences were observed (p value <0.05) between pre- and post testing.[6]
- H_0 There will not be statistically significant difference in posttest mean knowledge score of traffic safety among school children in control and experimental group as measured by structured questionnaire.

Research Approach and Rationale

An experimental research approach was adopted to accomplish the objective of the study to assess the effectiveness of structured teaching programme on traffic safety among school children in selected schools of Ludhiana Punjab. Experimental study is found appropriate for the study, this approach involves all three properties of these are control, manipulation and randomization. [7]

Research Design

An experimental design was prepared to develop a plan of strategy that would guide the collection and analysis of data.

Experimental group	0_1	X	0_2
Control group	0_1		0_2

O_1 –Pretest

X – Manipulation

O_2 - Posttest

Selection and Description of Setting

The present study was conducted in two schools i.e Sargodha National public senior secondary school, field ganj and Shivalik Vidya Mandir School, Jamalpur. Sargodha National Public Senior Secondary School is near college of nursing C.M.C & hospital. It was established in 1972. It is a co education school. The total strength of school is 1200. The total numbers of school children in age group of 12-15 years are 412. The Shivalik Vidya Mandir School was located at a distance of 5 kilometer from college of nursing C.M.C & hospital. Sargodha National Public Senior Secondary School is 6 km away from the Shivalik Vidya Mandir School. It was established in 1998. The total strength of school is 1000 students. The total number of school children in age group of 12-15 years is 221. It is a co education school. The experimental group was selected from Sargodha National Public Senior Secondary School, Field Ganj and control group from Shivalik Vidya Mandir School Jamalpur.

Sample and Sampling Technique

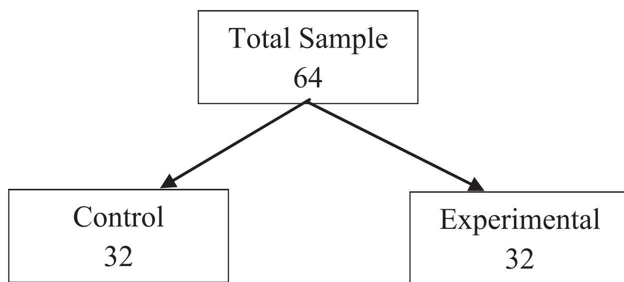


Fig. 1. (sample size & classification into control & experimental group)

Two schools were confirmed to conduct study. These schools were divided into control and experimental group with help of lottery method. Lists of names of all school children under the age of 12-15 year were taken from the school attendance register and age was confirmed by asking orally before making the lists. A total of 221, 412 school children of 12-15 year in control and experimental group considered as accessible population using defined inclusion criteria. The total 64 school children were selected from both groups by using stratified random sampling technique.

Description of tool

The tool consisted of two parts

Part1: Sample characteristics

This part consisted of 8 items for obtaining personal information i.e. age in year, gender, academic standard, family income, father's education, mother's education, channel of mass media exposure and type of conveyance used.

Part2: Questionnaire

This part consists of multiple choice questions on all aspects of school children regarding traffic safety. This questionnaire consisted of 40 multiple choice items, each item consist of one correct answer among the four choices and each correct answer carry one mark.

The questions were related to following aspects

Area	Items	Score
Introduction	3	3
Causes	4	4
Traffic Safety	12	12
Safety actions	21	21
Total Items	40	
Maximum score	40	
Minimum score	0	

Plan of Analysis

Analysis and interpretation of data was done by using descriptive and inferential statistics such as Percentage, Mean, Mean Percentage, Standard Deviation, Coefficient of Correlation, Chi Square Test, T Test and Anova. Bar diagrams were used to depict the findings.

Conceptual Framework

Conceptual model of the present study based on general system's theory by Ludwig Von Bertalanffy (1968). General system theory serve as a model for viewing man as interacting with the environment. One of the first theorists to develop systems theory was Ludwig Von Bertalanffy (1968). A system theory consists of interacting components within a boundary that exchange with the environment. Refers to the arrangements of parts at a given time and function is process of continuous exchange in system. The system uses input to maintain the system's equilibrium. (See Fig. No: 2)[8]

RESULTS

Mean post test knowledge score of school children was significantly higher than the mean pre-test knowledge score of school children in experimental group. There was significant relationship of structured teaching among school children with age, father's education, type of vehicle used & mass media exposure.

Table 1. Comparison of Mean Pretest and Posttest Knowledge Score of School Children Regarding Traffic Safety among Control and Experimental Group N=64

Group	Knowledge Score						
	Pretest			Posttest			
	n	Mean	SD	Mean	SD	df	t
Control Group	32	19.91	3.622	21.41	4.047	31	2.585^{NS}
ExperimentalGroup	32	19.66	3.543	31.94	3.426	31	18.065***
	df	t		df	t		
	62	2.441^{NS}		62	198.677***		

Maximum Score=40 *** at P<0.001

Minimum Score=0 NS Non Significant

Table 2. Frequency and Percentage Distribution of Sample Characteristics N=64

Characteristics	Control group (n=32)		Experimental Group (n=32)			
	f	%	f	%	df	χ^2
Age in years						
12-13	7	21.9%	12	37.5%	1	1.871^{NS}
14-15	25	78.1%	20	62.5%		
Sex						
Male	14	43.8%	20	62.5%	1	2.259^{NS}
Female	18	56.3%	12	37.5%		
Academic Standard						
7-8	16	50%	16	50%	1	.000^{NS}
9-10	16	50%	16	50%		
Family Income						
2000-3000	10	31.3%	9	28.1%	3	1.611^{NS}
3001-5000	10	31.3%	11	34.4%		
5001-8000	7	21.9%	4	12.5%		
8001 and Above	5	15.6%	8	25.0%		
Father's Education						
Illiterate	4	12.5%	1	3.1%	2	2.823^{NS}
Primary- 10+2	22	68.8%	21	65.5%		
Graduation and above	6	18.8%	10	31.3%		
Mother's Education						
Illiterate	8	25.0%	4	12.5%	2	1.767^{NS}
Primary- 10+2	19	59.4%	21	65.6%		
Graduation and above	5	15.6%	7	21.9%		
Mass media Exposure						
Television and Internet	11	34.4%	10	31.3%	3	.291^{NS}
Newspaper and magazine	7	21.9%	6	18.8%		
Television, Internet and Newspaper	11	34.4%	13	40.6%		
Television, Internet and Magazine	3	9.4%	3	9.4%		
Conveyance use						
Cycle	16	50.0%	12	37.5%	3	1.771^{NS}
Two Wheeler	13	40.6%	17	53.1%		
Four Wheeler	1	3.1%	2	6.3%		
pedestrians	2	6.3%	1	3.1%		

NS- Non Significant

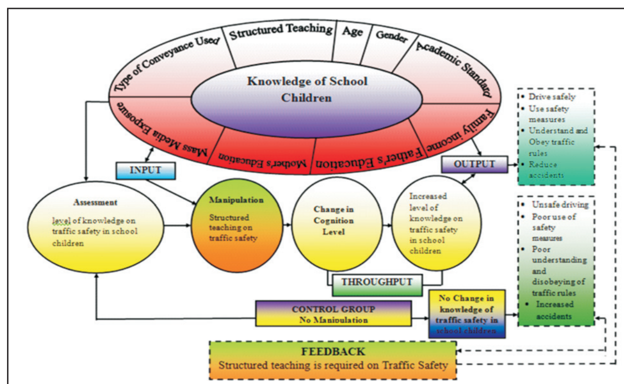


Fig. 1. Conceptual Framework Modified and Based on General System Model (Ludwig Von Bertalanffy,1968) Key Studied, — Not studied

DISCUSSION

Findings shows that structured teaching programme had excellent level of improvement in experimental group of school children as in control group it was average or below average. There is no relation between structured teaching programme & gender, academic standard, family income, mother's education, use of vehicles and type of vehicles but significant relationship has revealed with age, father's education, type of vehicle used and mass media exposure.

ACKNOWLEDGEMENT

First and foremost I praise and thank 'Lord Radhe Krishna' for His abundant grace, which enabled me to complete this thesis work successfully The authors are thankful to invaluable guide Associate Prof. (Mrs.) Reena Jairus, co-supervisor Asstt. Prof. Mrs. Malini Singh & family for their guidance and support throughout the research work.

Conflict of Interest: Financial budget of study was borne by me and I did not find any financial difficulty to carry out this research study. There was not any hindrance to write an article and its publication.

Study Funded By: Self

Ethical Consideration: Though it was a knowledge study so it was not required.

REFERENCES

1. National Safety Council. International Accident Facts. 3rd edition, Itasca & Co.2002.
2. McKeena Frank.The international Hand Book Of Traffic Accidents and Psychological Trauma. 1st edition. Philadelphia, Pergamon publishers 2000.
3. Jha N and Agrawal CS., Epidemiological Study of Road Traffic Accident Cases. Regional Health Forum WHO South-East Asia Region 2004; 8(1):15-22.
4. Swami H.M., Puri S., Bhatia V., Road Safety Awareness and Practices among School Children of Chandigarh. Indian Journal of Community Medicine 2006:31(3):199-200.
5. Jha N and Agrawal CS., Epidemiological Study of Road Traffic Accident Cases. gional Health Forum WHO South-East Asia Region 2004; 8(1):15-22.
6. Hotz G, Cohn S, Castelblanco A, ColstonS, Nelson J, Dunun R. Walk Safe: a school-based pedestrian safety intervention program. Traffic Injury prevention 2004; 5 (1), 382-389.
7. Polit and Hungler, Nursing Research, Principles and Methods, 2nd Edition, Philadelphia, Lippincott. Co. 1987.
8. Braziller G., General System Theory, 1st edition, New York, Grouce Beckfeller Co. *1968.*

DOI Number: 10.5958/j.0974-9357.6.1.027

A Study to Determine the effectiveness of Therapeutic Back Massage on Quality of Sleep among Elderly in Selected old Age Homes at Mangalore

Gayathri J Nair[1], Swapna Dennis[2], Babu Dharmarajan[3]

[1]II Year M. Sc Nursing, [2]Lecturer, [3]Head of the Department, Yenepoya Nursing College, Yenepoya University, Mangalore

ABSTRACT

Sleep-related disorders are common in the general adult population; Therapeutic massage is an ideal way to deal with the health disorders naturally. A quasi experimental study has been carried out to determine the effectiveness of therapeutic back massage on quality of sleep among 60 elderly people in the selected old age homes, in Mangalore, Karnataka, India , found that there was significant difference 6.23 ($p<0.05$) and improvement ($F = 80.463$, $p<0.05$) in the quality of sleep of elderly among experimental and control group. The study concluded that therapeutic back massage was effective to promote the quality of sleep among elderly population.

Keywords: *Therapeutic Back Massage, Quality of Sleep, Elderly, Old Age Homes*

INTRODUCTION

Sleep-related disorders are common in the general adult population, and as the population ages, the prevalence of these disorders increases. A common misconception among clinicians and the public is that this increased prevalence of sleep problems are a normal and expected phenomenon of aging. However, this higher prevalence of sleep disruption is often the result of the increased presence of medical and psychosocial co-morbidities in this population. The complicated multi-factorial interactions that generate sleep disorders in older individuals pose important challenges health care personnel.[1]

Therapeutic massage is an ideal way to deal with stress and health disorders naturally. A massage provides both physical and emotional wellness. The massage sessions can vary from single sessions to a regular massage for a short span, over a period of time. Therapeutic massage is usually rendered to treat certain health conditions, boost overall immunity or as a distressing mechanism. It provides varied benefits such as improved blood circulation, release of endorphins that reduce pain, speedy recovery from injuries or chronic illness and improvement in sleep.[2]

A study was done to examine the physiological and psychological effects of slow-stroke back massage and hand massage on relaxation in older people and identifies effective protocols for massage. All studies using slow-stroke back massage and hand massage showed statistically significant improvements on physiological or psychological indicators of relaxation. The most common protocols were three-minute slow-stroke back massage and 10-minute hand massage. Results of the review show the effectiveness of slow-stroke back massage and hand massage in promoting relaxation across all settings. It was concluded that studies are needed to analyze the feasibility and cost effectiveness of massage to develop best practices for massage interventions in older people.[3]

MATERIALS AND METHOD

The research design selected for this study was quasi experimental design. The independent variable of this study was therapeutic back massage and the dependent variable is quality of sleep. Setting for the present study was St Ann's poor homes, Mangalore, Karnataka. Subjects were selected by purposive

Corresponding author:
Swapna Dennis
Lecturer
Dept of Medical Surgical Nursing, Yenepoya Nursing College, Yenepoya University, Mangalore
E - Mail id - gjmsc2013@gmail.com

sampling technique and randomly assigned to experimental and control group (30 samples each). After obtaining consent from the subjects pre-test quality of sleep was assessed by using developed scale, after referring the standardized scales. The validity of the tool was assessed by 13 experts; nine experts from the field of Medical Surgical nursing, two doctors, and two masseurs. The reliability coefficient calculated by using Karl Pearson's correlation coefficient and the value obtained was 0.9 which indicated that the developed tool was reliable.

The experimental group is provided with therapeutic back massage. Therapeutic back massage means, systematic manipulation (eg. Lubrication, friction, fulling, kneading, compression, percussion, and stroking) of back muscles and soft tissues, 2-3 hours prior to sleep for 10 – 15 minutes per day for 6 consecutive days for an elderly person in prone position (with forehead resting upon the crossed hands). Post-test quality of sleep was assessed in all subjects on 4th day, 5th day, and 6th day during intervention period.

FINDINGS

Post test level of sleep score in experimental and control group

The Sixth day's post test level of sleep score in experimental group in terms of mean, median and mean percentage was 25.33 ± 2.86, 25 and 51.05% and in the control group it was 30.63 ± 3.76, 31, and 51.03% respectively. The mean post tests score of elderly in experimental group (25.33 ± 2.86) was much less than the elderly in control group (30.63 ± 3.76). It shows that there was significant difference in the quality of sleep between experimental group and control group.

Assessment of improvement of quality of sleep among experimental group

Table 1: Assessment of improvement of quality of sleep among experimental group N= 30

	Sum of squares	Mean squares	F ratio
Within the subject effects	649.067	216.356	80.463 $F_{3,87}$ = 2.87P<0.05

From this table F value for the quality of sleep score, with repeated measures, based on the tabled value under the degree of freedoms 3 and 87 in 2.87. Therefore the calculated value is greater than the tabled value, and concludes that there is high significant improvement in the quality of sleep from the 4th - 6th day, in the elderly people of experimental group.

Effectiveness of therapeutic back massage on quality of sleep

Independent't' test was used to test the effectiveness of therapeutic back massage on quality of sleep.

Table 2: Effectiveness of therapeutic back massage on quality of sleep among experimental and control group N= 60

Group	Mean	t value	Mean difference
Experimental group Control group	6.266 0.033	9.522	6.23t_{58} = 1.67, p < 0.05

The data presented in table shows that't' value computed between experimental and control group quality of sleep score was statistically significant at 0.05 level of significance. The calculated value (t_{58}= 9.522) was greater than the tabled value (t_{58} = 1.67). Since the calculated value was more than the table value the research hypothesis stated that there was a significant difference in the quality of sleep between the experimental and control group was accepted.

The present study findings are consistent with the study findings of Richard on effect of a back massage and relaxation intervention on sleep in critically ill older patients, who with 6 minutes back massage, in which the back massage group slept more than 1 hour long than the patients in the control group. However, the variance was significantly different among the 3 groups, and, the reanalysis of data with only 17 subjects in each group revealed no difference among groups (p= 0.05). The authors concluded that back massage is useful for promoting sleep.[4]

The present study findings are consistent with the study findings of Cinar S (2005), on the effect on sleep quality of back massage in older adults in rest homes, in Turkey approves that, the older people who received 10 minutes of back massage prior to bedtime over 3 days had a significant effect on the quality of sleep. It shows the subject's Pittsburg Sleep quality Index scale total mean scores were lower before back massage (11.84 ± 2.11) than on the days when the massage (9.78 ± 2.17) was done (t = 8.07, p= 0.000). It was found that the massage increased the participant's quality of sleep.[5]

Association between pre test quality of sleep and selected demographic variables.

The calculated values of Chi square test are less than the tabled value in all the demographic variables. It indicates that there was no association between demographic variables like age, gender, marital status, length of stay in old age home and pre test quality of sleep among elderly.

CONCLUSION

This study was to examine the effects of back massage on the quality of sleep of elderly in selected old age homes. The result of the research showed that back massage applied for 10minutes before bedtime in older adults increased the quality of sleep in older adults. Back massage results significantly better sleep quality in the elderly people.

ACKNOWLEDGEMENTS

With sincere gratitude and humility I acknowledge the Almighty God who has showered his blessings and never ending support throughout my study, which has helped me to overcome all difficulties with courage and confidence. It is my pleasure and privilege to record my deep sense of gratitude and sincere thanks to the authorities of old age homes, Yenepoya University and to the faculties of Yenepoya Nursing College for the successful completion of this endeavour.

Conflict of Interest: Nil

Source of Funding: Nil

Ethical Clearance: Ethical clearance was obtained prior to the study from Yenepoya University ethics committee to conduct the study.

REFERENCE

1. Richardson A, Crow W, Coqhill E. A comparison of sleep assessment tools by nurses and patients in critical care. J clinic nurse. 2007 Sep ;16(9) : 1660- 1668
2. Glew G.M, et all. Survey of the use of massage therapy. Int J Ther Massage Bodywork. 2010; 3(4): 10-5.
3. Barnes PM, et all. Complementary and alternative medicine use among adults. Massage therapy. Unites states. 2004 Jan; 343(12): 1- 19
4. Richard, Su TP, Fang CL, Chang MY. Sleep quality among community – dwelling elderly people after back massage. JCMA. 2011 Taiwan ; 75(8): 75 – 80
5. Cinar S, Eser I. Effect on sleep quality of back massage in older adults in rest homes. DEUHYO ED. 2010 Turkey; 5(1): 2 – 7.

DOI Number: 10.5958/j.0974-9357.6.1.028

Malnutrition among Underfive Children and Factors Influencing it

Hepsi Bai J[1], Anumod S[2], Aparna S V[2], Ggayathri Devi A S[2], Julie I S[2], Lydia Ferry[2], Shilpa Santhan[2]
[1]Lecturer, Department of Pediatric Nursing, [2]IIIrd Year BSc (N) Students, Sree Gokulam Nursing College, Venjaramoodu, Trivandrum

ABSTRACT

A descriptive study was conducted at Trivandrum District of Kerala among 108 children; aged 6 months to 5 years old were selected by consecutive sampling followed by total enumeration sampling technique. A semi-structured questionnaire was used to collect information on factors influencing malnutrition and nutritional status was assessed by measuring height, weight and mid upper arm circumference (MUAC).Degree of malnutrition was calculated based in IAP classification and Arnold's classification. Majority (86%) of the children are well nourished, (12%) had grade 1 malnutrition and (3%) had grade 2 malnutrition none of the children had grade 3 and 4 level of malnutrition. It was found socioeconomic factor, nutritional factor and health factor were strongly influenced child's nutritional status ($p<0.05$)

Keywords: *Malnutrition, Under Five Children, Factors Influencing*

INTRODUCTION

Malnutrition can be defined as a group of clinical conditions that may result from varying degree of protein deficiency and energy (calorie) inadequacy[1]. Based on reports by the World Health Organization, malnutrition has been recognized as creating the highest burden of disease in the world. Lack of food; however is not always the primary cause for malnutrition. In many developing and underdeveloped nations, diarrhoea is a major factor in malnutrition. Additional factors are bottle-feeding with poor sanitary condition, inadequate knowledge of proper child care practice, parental illiteracy, economic factors and lack of adequate food[2].

Need for the study

In India 47 % of all children below 3 years of age are undernourished. National Family Health Survey (NFHS 1998) data highlights the critical period when growth faltering occurs to be six months to 2 years. About 50-60 % of children are reported to be undernourished by another source. In India, regarding malnutrition, majority of problems are related to deficiency states rather than excess. The most important for this is being poverty, ignorance and illiteracy. Malnutrition is a major pediatric problem and it is responsible for high rates of morbidity and mortality [3-4].

Corresponding author:
Hepsibai. J
Lecturer
Department of Pediatric Nursing, Sree Gokulam Nursing College, Venjaramoodu, Trivandrum, Kerala
Email : hepsijoseph@gmail.com

Statement of the problem

"A descriptive study to assess malnutrition among under five children and factors influencing it in selected community at Trivandrum District, Kerala.

OBJECTIVES

1) To determine the degree of malnutrition among under 5 children
2) To identify the factors influencing malnutrition among under 5 children
3) To determine the association between degree of the malnutrition and factors influencing malnutrition.

METHODOLOGY

- **Research design:** Quantitative approach and descriptive design.
- **Settings:** Kallara Panchayat at Trivandrum district.
- **Population:** 6 months to 5 year old children and their parents in the selected wards of Kallara Panchayat
- **Sample and Sampling technique:** 108 children aged 6 months to 5 year old selected by consecutive sampling followed by total enumeration sampling technique.

- **Tools and techniques:** Assessment of nutritional status of the child including weight taken by calibrated weighing machine, height and mid upper arm circumference (MUAC) was measured by an inch tape and degree of malnutrition was calculated according to IAP classification and Arnold's classification. A semi-structured questionnaire was used to collect information on factors influencing malnutrition

Findings: (tables & figures attached in last page

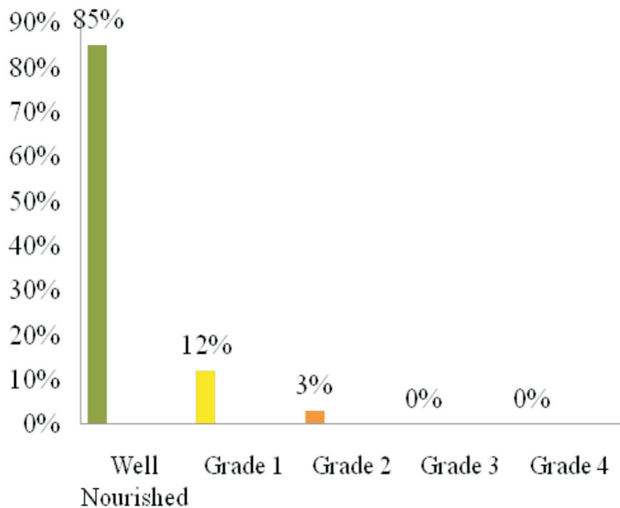


Fig.1. Distribution of subjects according to IAP degree of malnutrition (n= 108)

Degree of malnutrition based on IAP classification

Figure (1) shows majorities (85%) of children were well nourished, (12%) have 1st degree of malnutrition (grade 1) and (3%) have 2nd degree of malnutrition (grade 2).

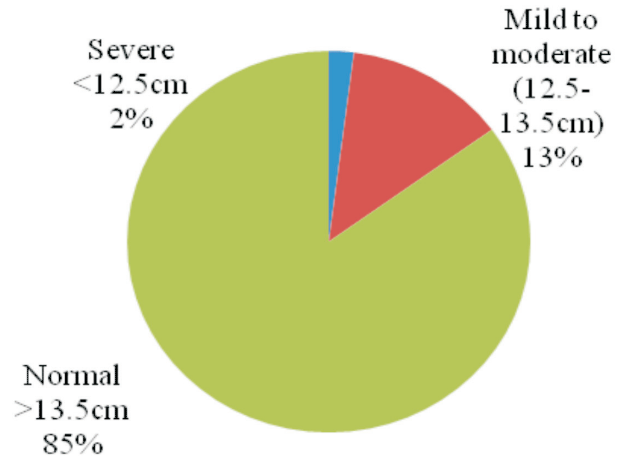


Fig. 2. Distribution of subjects according to Arnold's degree of malnutrition (n=108)

Figure (2) shows majorities (85%) of them were well nourished, 13% have mild to moderate and only 2% have severe malnutrition. (Based on Arnold's classification mid upper arm circumference)

Table 1: Association between the degree of malnutrition and factors influencing malnutrition (n=108)

	Factors influencing malnutrition	Well Nourished (%)	Malnourished (%)	Calculated value	Degree of freedom	Tabulated value
a)	**Birth Factor:**					
1.	Birth weight	1	1	3.17	2	0.204
	<1 kg &1.1 – 1.5 kg					
	1.6 – 2.5 kg	16	4			
	2.6 – 3.5 kg and above 1 – 1.5 kg	76	10			
2.	**Gestational age at birth**					
	Preterm & Term	17	2	0.001	1	0.977
	Post Term	77	12			
3.	**Antenatal complication**					
	Yes	15	4			
	No	78	11	0.396	1	0.52
4.	**Intranatal complication**					
	Yes	7	2			
	No	77	12	0.001	1	0.977
5.	**Post natal complication**					
	Yes	91	1			
	No	1	15	0.168	1	0.68

Table 1: Association between the degree of malnutrition and factors influencing malnutrition (n=108) (Contd.)

Factors influencing malnutrition		Well Nourished (%)	Malnourished (%)	Calculated value	Degree of freedom	Tabulated value
b)	**Nutritional Factor:**					
6.	**Exclusive breast feeding**					
	<3 months	5	3		2	0.08
	4 – 6 months	86	11	4.9		
	Above 6 months & Still continued	3	-			
7.	**Duration of breast feeding**					
	<6 months	3	-			
	6 months – 1 yr	19	2		3	0.82
	1 year- 3 yrs	45	8	0.91		
	Above 3 yrs & still continued	29	4			
8.	**Failure of breast feeding**					
	Yes	3	2			
	No	91	12	1.34	1	0.24
9.	**Age at weaning started**					
	3- 4 months	16	3			
	5 – 6 months	45	11			
	After 7 months	33	-	7.26	2	0.02*
10.	**First source of complimentary feed**					
	Rice, Wheat	7	3		2	0.002**
	Raggi	79	5	17.3		
	Others	8	6			
12.	**Type of food**					
	Vegetarian	32	8			
	Non - vegetarian	60	8	0.78	1	0.37
13.	**Cooking practice**					
	Draining away the water at the end of cooking & Prolonged boiling in open pan	19	2	0.26	1	0.87
	Clean and pealing the vegetables prior to cooking & none	75	12			
c)	**Health Factor**					
14.	**Illness in family**					
	Yes	31	4		1	0.981
	No	64	10	0.001		
15.	**Illness in child**					
	Yes	46	11			
	No	48	3	4.18	1	0.04*
16.	**Immunized up-to age**					
	Yes	77	28			
	No	-	-			
17.	**De-worming**			1.09	1	0.29
	Yes	81	11			
	No	14	-			

* $p < 0.05$ level of significance

Above table 1 shows that there was a association between age at weaning started, first source of complimentary feed, illness in child with degree of malnutrition at p = 0.05 level of significance. There was no association between other factors influencing malnutrition and degree of malnutrition.

- Majorities (86%) of the subjects were between 25 – 60 months of age and (14%) were between to 6 – 24 months. (57%) of the subjects were males and (43%) were females.
- Majority (85%) of children were well nourished, (12%) of them have 1st degree of malnutrition and 3% have 2nd degree of malnutrition based on IAP classification. None of the children had 3rd and 4th degree malnutrition.
- Majority (85%) of them were well nourished, 13% had mild to moderate and only 2% had severe malnutrition.(based on Arnold's classification of malnutrition)
- There was a significant association between socioeconomic factor, nutritional factor and health factor with degree of malnutrition at p< 0.05 level

DISCUSSION

Degree of malnutrition

Malnutrition is important in determining the status of the child health in any country. In this study none of the children has 3rd and 4th degree of malnutrition and 85% were well nourished. This finding is par with the survey done by UNICEF, 2004 regarding the prevalence of malnutrition in India and stated that malnutrition varies across the states, with Madhya Pradesh recording the highest rate (55%) and Kerala among the lowest (27%) [5].

Factors influencing malnutrition

Socio demographic factor:

Children age group between 25- 60 months (2-5 years) are well nourished (85%) comparing to other age group between 6 months to 24 months. Anita Khokar et al in her study revealed that 60.7% of the subjects were malnourished who were aged 6 months to 24 months. In the present study male children (56%) are well nourished than female children (36%) [6]. Sanghvi et al also assessed the potential risk factors for child malnutrition in rural Kerala, and found that female gender was found to be more strongly related to childhood malnutrition. There was a significant association between occupation of father and degree of malnutrition (p = 0.002)[7]. Yasodha P also found that a strong influence of socioeconomic status and parental care on the control of infectious disease and food intake which are the 2 major causes for malnutrition among children[8] .

Birth factor

Regarding birth factor, a large majority (82%) of them is born between 38 - 42 weeks (term) of gestational age and they are well nourished. Majority (76%) of the children born with birth weight of 2.6 – 3.5 kg and they found to be well nourished. Most of the mothers had no complication at antenatal period (82%), intra-natal (82%) and postnatal (98%). Israt Reyhan also found children with larger size at birth and longer prior birth interval have lower risk of malnutrition, children of nourished mother have lower risk of being malnourished compared to children of thin mother, the educational level of parent's is positively related to better nutritional and health status of their children and type of housing, breastfeeding status, vaccination coverage and mother's education are depicted to be significant factors affecting morbidity among under five children [9].

Nutritional factor

Majority (80%) children started weaning at age group between 5-6 months, and they are well nourished (p =0.02). Majority (77%) mother provided Raggi as a first source complimentary feed and those children had good nutritional status (p = 0.002). Solomon A, Zemene T found that inappropriate feeding practices have an association with severe malnutrition. They concluded that to reduce childhood malnutrition, emphasis should be given in improving

the knowledge and practice of parents on appropriate infant and young child feeding practices including exclusive breast feeding, weaning, complimentary food etc [10].

Health factor

There is a significant association between illness in children and child's nutritional status (p = 0.04). Yasoda P found that strong influence of socioeconomic status and parental care on the control of infectious disease and food intake which are the two major causes for malnutrition among children [8].

SUMMARY

Malnutrition is important in determining the status of the child health in any country. Present study was conducted to assess the malnutrition status and factors influencing malnutrition in a selected community at Trivandrum and it was found large majority (85%) of children was well nourished, and 12% are suffering from mild to moderate grade 2malnutrition. The health factor, socioeconomic factor, nutritional factors played a vital role in reducing the grade of malnutrition.

IMPLICATIONS

Nursing Practice in the community

- Emphasis the importance of exclusive breast feeding, weaning with cheap simple nutritious food in prevention of malnutrition.
- Strengthen the child health services provided by primary level health care providers in the community.

Nursing Research

- This study shall be replicated in other parts of the community coastal region and in large sample.
- An experimental study can be carried out to find out the effectiveness of teaching programme to prevent malnutrition.

Nursing Education

- Nursing curriculum should emphasis on factors influencing malnutrition, importance of educating the parents.
- Provide information to the public about different facilities that provide health services and encourage them to utilize those services.

Nursing administration

- Alternative modalities of health care should be made available for the children who suffering from malnutrition in the community.
- Health facilities should be strengthened to assess the nutritional status of children in the coastal region of the community.

CONCLUSION

Nurses play an important role in ensuring good nutritional status and health of children. Though various educational programme, both in the clinical as well as in the community setting, efforts need to be made to improve feeding practices of mothers and thus, the nutritional status of their children can be maintained.

Acknowledgement: None

Conflict of Interest: None

Source of Support: None

Ethical Clearance: Informed consent from parents and asset from the child

REFERENCES

1. Parul Dutta "Text Book of Paediatic Nursing", 2nd edition (2008): Jaypee Publishers
2. World Health Organization The World Health Report Reducing Risks, Promoting Healthy Life. (2005). Geneva, Switzerland: World Health Organization;

3. National Family Health Survey II, Key Findings: International Institute of Population Services, Mumbai, India IIPS Press: 1998
4. Park K, Park's Text Book of Preventive and Social Medicine, 20th edition, Jabalpur Banarsidas Bhahot Pub: 2010
5. United Nations Sub-Committee on Nutrition. 5th Report on the World Nutrition Situation: Nutrition for Improved Outcomes March 2004.
6. Khokar A, Singh .S, Talwar .R, Rasania SK,Badhan SR, Mehra M Astudy of malnutrition among children 6 months to 2 yrears from a resettlement colony of Delhi, Ind J of Med Science 2004: 57 :286
7. Sanghvi U, Thankappan KR, Sarma PS, Sali N. Assessing potential risk factors for child malnutrition in rural Kerala, India. J Trop Pediatr. 2001;47:350–355.
8. Yasoda P. Geervani , Determinants of nutritional status of rural preschool children in Andhra pradesh, Indian Peditar 2010:39:207-209
9. Rayhan. I Factors Affecting Malnutrition, Morbidity and Mortality among Under Five Children of Bangladesh. Social Science and Medicine, 2002 Vol 73, Is 4, Page 576-585.
10. Amsalu S, Tigabu Z. Protein Energy Malnutrition in urban children: Prevalence and Determinants. Ethiop Med J.1998;36 (3);153-165

DOI Number: 10.5958/j.0974-9357.6.1.029

A Study to Compare the Nutritional Status Assessed by CAN Score and Ponderal Index against WHO Intrauterine Growth Curves among Newborns at Birth in Selected Hospital of Ambala, Haryana

Herbaksh Kaur[1], Yogesh Kumar[1], Jyoti Sarin[2]
[1]Assistant Professor, [2]Director-Principal, M.M College of Nursing, Mullana Ambala

ABSTRACT

The neonatal morbidity and mortality is closely related to the nutritional status of newborn at birth and early identification of malnutrition with appropriate tool and technique can reduce the mortality rate. Descriptive and comparative survey design was used to assess and compare the Nutritional status of newborns at birth by CAN Score and Ponderal Index against WHO Intrauterine growth curves at MMIMS&R Hospital, Mullana Ambala. Sixty newborns were selected by purposive sampling from NICU and postnatal wards. The data was collected by Performa for newborn and maternal characteristics, WHO Intrauterine Growth Curves, Ponderal Index and observation sheet of CAN Score. Findings revealed that Ponderal Index (48.4%) classified more newborns as malnourished as compared to CAN Score (25%) with regard to WHO Intrauterine growth curves (21.6%). Ponderal Index has higher Sensitivity (76.9%) and lower Specificity (59.5%) than CAN Score (38.4%, 78.7%) respectively whereas Positive predictive value and Negative predictive value of Ponderal Index (34.4%, 90.3%) was higher than CAN Score (33.3%,82.2%). The likelihood ratio of Positive test of Ponderal Index (1.89) was higher than CAN Score (1.80) and likelihood ratio of Negative test of Ponderal Index (0.38) was lower than CAN Score (0.78) test indicating that Ponderal Index can act more sensitive indicator of assessing malnutrition than CAN Score. The main conclusion of the study is that Ponderal Index may be a simple clinical index but sensitive predictor for identifying malnutrition and for prediction of neonatal morbidity associated with it, without the aid of any sophisticated equipments.

Keywords: *: WHO Intrauterine Growth Curves, CAN Score, Ponderal Index, Nutritional Status*

INTRODUCTION

The World Health Organization defines malnutrition as "the cellular imbalance between supply of nutrients and energy and the body's demand for them to ensure growth, maintenance, and specific functions.[1] Worldwide, malnutrition accounts for 11% of all diseases and causes long-term poor health and disability.In developing countries 15 % (18 million) of infants, or more than 1 in 7, weigh less than 2,500 grams at birth. India, one of the countries with the highest incidence, has the highest number of low-birth weight babies each year: 7.5 million. UNICEF and the World Health Organization have adjusted the under-reporting and misreporting of birth weights with results from household surveys (Multiple Indicator Cluster Surveys and Demographic and Health Surveys).[2] Intra-uterine growth restriction (IUGR) is a clinical definition and includes neonates with clinical evidence of malnutrition. IUGR contributes to almost two-thirds of LBW infants born in India. Even after recovering from neonatal complications, they remain more prone to poor physical growth, poor neuro developmental outcome, recurrent infection and chronic diseases in life later.[3]. Since neonatal morbidity and mortality is more closely related to nutritional status of newborns at birth than to the birth weight for gestational age.[4] The assessment of growth parameters remain one of the most practical and valuable tool to assess the nutritional status among newborns by neonatal nurses in NICU.[5] Various methods are used in the early identification of malnourishment among newborns at birth.[6] Intrauterine growth always remains the gold standard for comparing the nutritional status among newborns.

WHO Intrauterine growth curves developed by "Lubencho" have been widely used because the chart is based on a reasonable sample size, provides curves to monitor, weight, length and head circumference ,moreover it is easy to use and interpret.[7] A retrospective study was conducted to determine the ratio of disproportionate versus proportionate Intra uterine growth retardation among low birth weight babies using the Ponderal Index. Ponderal Index in full term babies was <2.2 in 54.3% and in pre-term <2.0 in 34.9%.Nearly 40% of low birth weight babies had disproportionate body proportions. Ponderal Index is an effective and simple measure to identify wasting.[8] Fetal Malnutrition is a clinical state characterized by obvious intrauterine loss or failure to acquire normal amounts of subcutaneous fat and muscles. This state may be present at almost all birth weights irrespective of the classification of birth weight into AGA or SGA. [9] A study conducted on 473 newborns in Nigeria showed that CAN Score was able to diagnose the Fetal malnutrition more precisely than using Intrauterine growth curves.[10] A prospective comparative study conducted on assessment of fetal malnutrition by CAN Score from July 2008 to September 2010 in Wardha Maharashtra in which total 1400 consecutive, live, single, full term neonates delivered during this period were studied. According to CAN Score, 519 (37.1%) subjects were diagnosed as malnourished as compared to Lubchenco (23%). On the other hand Ponderal Index diagnosed 40.8% as malnourished, out of which only 297 (52%) were malnourished by CAN Score. Of remaining 829 babies diagnosed as well nourished by Ponderal Index, 222(26.8%) were malnourished by CAN Score. Hence CAN Score is a practical, simple method to diagnose fetal (neonatal) malnutrition. [1111] Preeti Waghmare, D N Balpande , Bhavana B Lakhkar.Assessment of fetal malnutrition by CAN Score Malnutrition in the newborns might be missed if intrauterine growth curves only are used for assessment. The main need of the study is prompt identification of newborns with malnutrition at birth, because newborns who are malnourished at birth are known to have increased morbidity, mortality, and long-term disabilities. So there is need, for early recognization of features of malnutrition for , appropriately diagnosis and soon treatment in every newborn at risk with the anticipatory management of CAN score and Ponderal index at birth. Nurses should be acquainted with different tools for assessing the nutritional status. Nurses should not rely on one tool for screening the malnourished among newborns.

OBJECTIVES

1. To assess the nutritional status by WHO Intrauterine growth curves, CAN Score and Ponderal Index among newborns at birth.
2. To compare nutritional status assessed by CAN Score and Ponderal Index against WHO Intrauterine growth curves among newborns at birth.
3. To determine the association of nutritional status of newborns assessed by WHO Intrauterine growth curves, CAN Score and Ponderal Index with selected variables.

METHODOLOGY

A non-experimental approach and Descriptive Comparative Survey Design was used. The study was conducted in Maharishi Markandeshwar Institute of Medical Science and Research and Hospital, Mullana, Ambala after obtaining Ethical approval from Institutional Ethical Committee of M.M University, Mullana. Total 60 Newborns ≥37 weeks of gestational age were included as assessed by New Ballard score within 24hrs of birth. Newborns with congenital malformation, Multiple births, CPAP and Mechanical Ventilators were excluded from the study.

Development of Tool

Newborn and Maternal characteristics: The newborn (gestational age, gender, birth weight, length) and maternal characteristics (age, educational status, occupation, region, religion, place of living, total family income, parity ,hemoglobin, type of delivery & nutritional supplementation during pregnancy) included in the study was derived from the extensive literature review.

WHO Intrauterine growth curves: In present study WHO Intrauterine growth curves has been taken as golden standard. WHO[12] Intrauterine growth curves have been widely used because the chart is based on a reasonable sample size, provides curves to monitor, weight, length and head circumference ,moreover it is easy to use and interpret.

CAN Score: Clinical assessment of nutritional status score is a simple, practical, systematic, rapid and quantifiable clinical method for the assessment of fetal malnutrition in term new born developed by Jac Metcoff. It comprise of nine superficial readily detectable signs by inspection viz. hair, cheeks, neck

& chin, arms, legs, back, buttocks, chest, abdomen to differentiate between well nourished and malnourished newborns. Maximum score of 4 is awarded to each parameter with no evidence of malnutrition and lowest of 1 is awarded to parameter with the worse evidence of malnutrition. The CAN Score ranges between 9 (lowest) and 36 (highest). Newborns at birth with CAN Score having ≤25 is considered as malnutrition and >25 considered as well nourished.

Ponderal Index- Ponderal Index <2.2 is indicative of malnourished newborns and PI ≥2.2 is indicative of well nourished newborns.

Content Validity: To ensure content validity – tool was given to nine experts which include two doctors from Department of pediatrics, one neonatologist, four experts from Department of Child Health Nursing, one expert from Department of obstetrics and gynaecology and one expert from Department of Medical Surgical nursing.

Reliability: The tools used in the study were found reliable **i.e (**WHO Intrauterine growth curves,Ponderal Index and CANScore)

RESULTS

Frequency and percentage distribution of newborn characteristics revealed that 35% newborns had 37 weeks of gestational age followed by 26.7% of newborns in 39 weeks. 31 out of 60 (51.7%) newborns were male .Majority of newborns (83.3%) had birth weight of ≥2.5kg and 16.7% had birth weight of <2.5 kg. The length of all newborns was within normal range i. e 48-52 cm whereas frequency and percentage distribution of mothers indicated that most of mothers of newborns (55%) were in age group of 21-25 years. Maximum of them (88.3%) were Hindus. Majority of mothers (90%) belonged to rural area. Most of mothers (41.7%) were graduate. All of them were homemakers. The family income ranged between 5001 to 10000 per month in INR for 27 out of 60 (45%) mothers and equal number of mothers had Hemoglobin status between 6-8g/dl. Most of mothers (58.3%) were Primigravida. Majority of mothers (95%) had taken nutritional supplements during antenatal period. The mode of delivery of maximum of mothers (63.3%) was normal vaginal delivery.

Table 1 Frequency and Percentage distribution of Well nourished (WN) and Malnourished (MN) newborns as determined by WHO Intrauterine growth curves, CAN Score and Ponderal Index. N=60

Category	WHO Intrauterine growth curves		CAN Score		Ponderal Index	
		f (%)		f (%)		f (%)
Well nourished	AGA/LGA	47(78.4)	>25	45 (75)	≥2.2	31(51.6)
Malnourished	SGA	13 (21.6)	≤25	15 (25)	<2.2	29 (48.4)

Table 1 indicated that data WHO Intrauterine growth curves classified 78.4% newborns as well nourished while CAN Score classified 75% and Ponderal Index categorized 51.6% newborns as well nourished. The nutritional status assessed by WHO Intrauterine growth curves classified 21.6% newborns as malnourished while CAN Score categorized 25% and Ponderal Index categorized 48.4% newborns as malnourished.

Table 2. Sensitivity, Specificity, Positive Predictive Value and Negative Predictive Value of CAN Score and Ponderal Index against WHO Intrauterine growth curves. N=60

Parameter		WHO Intrauterine growth curves		Sensitivity (%)	Specificity (%)	Positive Predictive Value (%)	Negative Predictive Value (%)
		M.N (47)	W.N (13)				
CAN Score	≤25	05(38%)	10 (21.3%)	38.4	78.7	33.3	82.2
	>25	08(62%)	37(78.7%)				
PI	<2.2	10(77%)	19(40.4%)	76.9	59.5	34.4	90.3
	≥2.2	03(23%)	28(59.6%)				

Findings of table 2 inferred that Sensitivity (76.9%) of Ponderal Index was higher and Specificity of Ponderal Index was lower (59.5%) than the CAN Score (38.4%, 78.7%) respectively. Positive Predictive Value, Negative Predictive Value of Ponderal Index was higher (34.4%, 90.3%) than Positive Predictive Value,

Negative Predictive Value of CAN Score (33.3, 82.2%) respectively.

Table 3. Likelihood ratio of Positive test (LR^+) and Likelihood ratio of Negative test (LR^-) of CAN Score and Ponderal Index for assessment of nutritional status of newborns N=60

Index	Likelihood ratio of Positive test	Likelihood ratio of Negative test
CAN Score	1.80	0.78
Ponderal Index	1.89	0.38

Table 3 revealed that the Likelihood ratio of Positive test of Ponderal Index was more as compared to CAN Score indicated the better ability of the Ponderal Index to rule in malnourishment among newborns whereas Likelihood ratio of Negative test of Ponderal Index was less as compared to CAN Score which indicated the better ability to rule the incorrect malnourished newborns.

Table 4. Chi square Value showing association between nutritional status assessed by Ponderal Index with gestational age of newborns in terms of New Ballard Score. N=60

New Ballard Score	Gestational age(wks)	Ponderal Index				χ^2
		<2.2 (29) f (%)		≤2.2(31) f (%)		
31-34	37(n=21)	15	71	06	29	
35	38(n=13)	07	53	06	47	12.9*
36-39	39(n=16)	02	13	14	87	
≥40	40(n=10)	05	50	05	50	

$\chi^{2*}(3)$ =7.81, *significant ($p \leq 0.05$)

The data presented in Table 4 revealed that computed chi square value between the nutritional status of newborns assessed by Ponderal Index (12.9*) with gestational age of newborns was found to be statistically significant at 0.05 level of significance.

DISCUSSION

Analysis of the study in terms of frequency and distribution indicated that WHO categorized 78.4% newborns as AGA and 21.6% newborns as SGA. These findings were consistent with the findings of Soundarya.M[1313] Mahalingam Soundarya et al. Comparative Assessment of Fetal Malnutrition by Anthropometry and CAN Score. Iran J Pediatr.Mar 2012; 21 (1): 70-76 in which weight for gestational age categorized 77% newborns as AGA and 23% newborns as SGA and Waghmare.P[14] which classified 23% newborns as SGA.CAN Score identified 25% newborns as malnourished which were consistent with the findings of Sankhyan.N i.e (26.97%) and Soundarya.M (23%).Ponderal Index classified 48.4% newborns as malnourished. This findings were not concordance with the findings of Soundarya.M (26%) and Sanjay Mehta (75%).[15]Ponderal Index categorized more newborns 48.4% as malnourished in relation to CAN Score (23%) and WHO Intrauterine growth curves (21.6%) which was a golden standard in this study. These findings were partially consistent with the findings of Mehta.S[14] in which Ponderal Index categorized majority of newborns (75%) as malnourished as CAN Score (40%) and Intrauterine growth curves (70%).CAN Score classified 38% newborns as SGA and 21.3% AGA as malnourished. These findings were not consistent with the findings of Sankhyan.N (78.5% in AGA and 79.1% in SGA) [16]. CAN Sore identified 21.3% newborns AGA as malnourished and 62% SGA as well nourished. These findings were also not consistent with the findings of Sankhyan. N (malnourished AGA-4%, well nourished SGA-42.9%) [15].

Table 5: Distribution of Malnutrition by CAN Score in relation to Intrauterine Growth Curves

Malnutrition in relation to AGA / SGA	Herbaksh (2012)	Waghmare (2011)	Kushwahaet.al (2004)	Deodharet.al (1999)	Edwardet.al (1999)	Mehtaet.al (1998)	Metcoff et.al (1994)	Raoet.al (1998)
FM (Fetal Malnutrition)in SGA	38.3%	84.8%	79.10%	84.2%	90%	76.7%	54%	50.3%
FM in (AGA + LGA)	21.3%	22.7%	21%	15.9%	35%	27.8%	55%	9.4%

The above table mentioned that 38.3% SGA and 21.3 %AGA were categorized malnourished by CAN Score. The findings pertaining to malnutrition in AGA by CAN Score was consistent with the findings of Waghmare Preeti, KP Kushwaha whereas malnutrition in SGA assessed by CAN Score showed different pattern of malnutrition from the findings of other authors. i.e Rao, Metcoff, Mehta, Edward, Deodhar, Kushwaha, Waghmare.

The above table also showed the lower malnutrition rate in the present study. It may be in relation to small sample size (60). An important feature of this study was to use clinical methods to assess the malnutrition and this can provide assessment of nutritional status of newborns.[17] Ponderal Index showed the Negative predictive value of 90.3% which was concordance with the findings of Soundarya.M (88.7%)[12]. The Sensitivity and Negative predictive value of Ponderal Index (76.9%,90.3%) was higher than CAN Score (38.4%,82.2%). These findings were consistent with the findings of Soundarya.M in which Ponderal Index had higher sensitivity and specificity (65.2%, 98.7%) than CAN Score (50%, 73.7%).

CONCLUSION

CAN Score classified more newborns as well nourished as compared to Ponderal Index whereas Ponderal Index categorized more newborns as malnourished as compared to CAN Score .The Likelihood ratio of Positive test of Ponderal Index was more as compared to CAN Score indicated the better ability of the Ponderal Index to rule in malnourishment among newborns whereas Likelihood ratio of Negative test of Ponderal Index was less as compared to CAN Score which indicated the better ability to rule the incorrect malnourished cases. Thus it can be inferred that Ponderal Index is better than CAN Score to screen the malnourishment among newborns at birth. The nutritional status of newborns assessed by WHO Intrauterine growth curves and CAN Score was independent of gestational age of newborns whereas the Ponderal Index was dependent on gestational age of newborns.

ACKNOWLEDGEMENT

I would like to thank almighty for his presence experienced during the study. I am greatful to research committee for their constructive criticism and guidance towards successful completion of my study. I am obliged to entire experts for valuable suggestion towards validity in tool.

Conflict of Interest: There is no conflict of interest

Funding Source: Self financed

REFERENCES

1. WHO. Malnutrition-The Global Picture. World Health Organization.. Available from http://www.who.int/home-page/.
2. UNICEF REPORT Available fromhttp://www.childinfo.org/low_birthweight _status _trends.html
3. Ashok K Deorari, Ramesh Agarwal , Vinod K Paul. Management of infants with intra-uterine growth restriction.AIIMS NICU Protocol
4. Mehta S, Tandon A, Dua T, Kumari S, Singh SK. Clinical assessment of nutritional status at birth. Indian Pediatr 1998; 35: 423-428.
5. Boxwell Glenys. Neonatal Intensive Care Nursing. Available from- http://books.google.co.in/ books? id=qs FmJev0zak C&sitesec= reviews
6. Agal p*, Kamath n. Utility of clinical assessment of nutritional status score (can score) in detecting fetal malnutrition. Available from http://www.commedtvm.org/ natconpapers /natcon _paper_41.html
7. Cloherty , Eichenwald,Stark.Manual of neonatal care.Google online books.2008;6th edn:114 117.Availablefromhttp:// books.google.co.in/ books?id=5nMu71qnrq AC&pg= PA115&lpg= PA115&dq =lubchenco+intrauterine +growth+ curves +in+in+manual +of+neonatal+ care &source =bl &ots=MDRPT teffO&sig=3g Q5O DRVvVLlXan UVNqAQXPKd0 &hl= en&sa= X&ei=F_OKT5a MAsbsrAe74 KHK Cw&ved= 0CB8Q6AEw AA#v= onepage &q&f= false
8. Dure Samin Akram, Fehmina Arif. Ponderal Index of Low Birth Weight Babies - a Hospital Based Study. 1993;341:938-41.
9. Kushwaha KP, Singh YD, Bhatia VM, Gupta Yogita Clinical Assessment of Nutritional Status (Cans) In Term New Borns And Its Relation To Outcome In Neonatal Period. Journal of neonatology.2004 Mar;18(1):55-59
10. Adebami et al.Prevalence and problems of fetal malnutrition in terms at South Western Nigeria. West African journal of medicine 2007;26(4): 278-282.
11. Preeti Waghmare, D N Balpande, Bhavana B Lakhkar.Assessment of fetal malnutrition by CAN Score
12. Available from-https://www.macr. org.my/ ennr/pdf%5CIntrauterine%20 Growth% 20 Chart.pdf
13. MahalingamSoundarya et al. Comparative Assessment of Fetal Malnutrition by Anthropometry and CAN Score. Iran J Pediatr.Mar 2012; 21 (1): 70-76
14. Preeti Waghmare, D N Balpande, Bhavana B Lakhkar.Assessment of fetal malnutrition by CANScore Available fromhttp:// www.pediatriconcall. com
15. Mehta S, Tandon A, Dua T, Kumari S, Singh SK. Clinical assessment of nutritional status at birth. Indian Pediatr 1998; 35: 423-428.
16. Naveen Sankhyan. Detection of Fetal Malnutrition Using "CAN Scor≥.Indian Journal of paediatrics.2008Nov;203-206.
17. Kushwaha KP, Singh YD, Bhatia VM, Gupta Yogita Clinical Assessment of Nutritional Status (Cans) In Term New Borns And Its Relation To Outcome In Neonatal Period. Journal of neonatology.2004 Mar;18(1):55-59

DOI Number: 10.5958/j.0974-9357.6.1.030

Randomized Control Trial to Evaluate the effectiveness of Helping Babies Breathe Programme on Knowledge and Skills Regarding Neonatal Resuscitation among Auxiliary Nurse Midwives Students

Jagadeesh G Hubballi[1], Sumitra L A[2], Sudha A Raddi[3]
[1]Lecturer, [2]Professor, HOD of Child Health Nursing, [3]Principal, K.L.E University's Institute of Nursing Sciences, Belgaum, Karnataka

ABSTRACT

Helping Babies Breathe is a simple, evidence-based training for birth attendants that delivers the skills needed to help. Helping Babies Breathe coordinates with the Neonatal Resuscitation Program, which includes techniques of advanced care. Effective resuscitation of the newborn requires adequate training and preparation of staff involved in the care of women in labour. Hence the present study intends to evaluate the effectiveness of helping Babies Breathe Programme on knowledge and skills regarding neonatal resuscitation among Auxiliary Nurse Midwives students.

The objectives of the study were to assess the knowledge and skills regarding neonatal resuscitation among experimental and control group of Auxiliary Nurse Midwives students, to evaluate the effectiveness of Helping Babies Breathe Programme on neonatal resuscitation among experimental group of Auxiliary Nurse Midwives students and to compare the knowledge and skills regarding neonatal resuscitation among experimental and control group of Auxiliary Nurse Midwives students.

The study was conducted using randomized control trail research design by lottery method. The study was confined to 60 ANM students who were studying in KLEU's institute of nursing sciences and Bharatesh college ANM training center Belgaum. Randomized sampling technique was used for sample selection. An experimental study was conducted using randomized control trail research design. Data collection was done through structured knowledge questionnaire. Pre test was taken for the both control and experimental group. Then Helping Babies Breathe programme (neonatal resuscitation) was given to experimental group with the help of demonstration on mannequin. After 7 days post test was taken from both experimental and control group.

Data obtained were tabulated and analyzed in terms of objectives of the study using descriptive and inferential statistics. Findings revealed that gain in knowledge and skills of subjects under experimental group were higher than the control group.

Keywords: *Auxiliary Nurse Midwives, Neonatal Resuscitation, Helping Babies Breathe programme, Knowledge, Skill*

INTRODUCTION

Birth asphyxia is responsible for 20% of neonatal deaths. Among 26 million infants born in India per annum, 4 to 6% fail to take spontaneous breathing at birth and suffer from asphyxia. Timely and appropriate management and asphyxiated baby's can save them and provide a better quality of life amongst survivors without any neurological sequelae[1].

The World Health Organization (WHO)estimates that globally, between four and nine million newborns suffer birth asphyxia each year. Of those, an estimated 1.2 million die and almost the same number develop severe consequences. The WHO also estimates that globally, 29% of neonatal deaths are caused by birth asphyxia[2]. Thus, birth asphyxia or perinatal asphyxia is a huge global problem with fresh stillbirth, neonatal

death and long-term neurodevelopment problems as its main serious outcomes[3]. Neonatal mortality rate (NMR) in India is 30/1,000, while it is, 8/1,000 in Sri Lanka and, 10/1,000 in China.Community education should be a focus of the National Rural Health Mission (NRHM) and Integrated Management of Neonatal and Childhood Illness (IMNCI) program being implemented in Karnataka[4].

The added capacity of the new Accredited Social Health Activists (ASHAs) could enable more women to be reached. With careful tailoring of behavior change messages to the local context, government outreach workers can become effective brokers of positive change and significant improvements in home newborn care and neonatal mortality are possible. American academy of pediatrics (AAP) is working to increase the number of birth workers around the world who are trained to assist babies in that golden minute through the Helping Babies Breathe curriculum. Helping Babies Breathe has a system-based focus designed to change clinical practice across systems of care[5].

The objective of Helping Babies Breathe is to train birth attendants in developing countries in the essential skills of newborn resuscitation, with the goal of having at least one person who is skilled in neonatal resuscitation at the birth of every baby and focuses on practices that protect healthy babies and assist babies who do not breath on their own. Cleanliness, drying, and warmth are essential for all babies.A major cause of neonatal mortality is seen in developing nations where there is lack of resources and health workers[6]; hence the present study intends to assess the knowledge and skills of Auxiliary Nurse Midwives students regarding Helping Babies Breathe Programme on neonatal resuscitation that provides care in community sectors. Adequate knowledge and skills regarding neonatal resuscitation make the Auxiliary Nurse Midwives students to become confident and competent in their ability to manage Birth asphyxia[7].

OBJECTIVES

1. To assess the knowledge and skills regarding neonatal resuscitation among experimental and control group of Auxiliary Nurse Midwives students.
2. To evaluate the effectiveness of Helping Babies Breathe Programme on neonatal resuscitation among experimental group of Auxiliary Nurse Midwives students.
3. To compare the knowledge and skills regarding neonatal resuscitation among experimental and control group of Auxiliary Nurse Midwives students.

MATERIAL AND METHOD

The research approach adopted is quantitative. Research design used is experimental (randomized control group) design[8]. The Stufflebeams CIPP (context, input, process, and product) evaluation model [1983] was used as a conceptual framework for this study[9].

The study was confined to 60 ANM students who were studying in KLEU's institute of nursing sciences and Bharatesh college ANM training center Belgaum.The study was conducted using randomized control trail research design by lottery method.They were divided into two groups. Experimental group: 30 ANM students. Control group: 30 ANM students...

Table1

Group	Randomization	Pre treatment assessment	Intervention	Post treatment
E	R	O_1	X	O_2
C	R	O_1	-	O_2

Table 1 reveals that Randomized sampling technique (lottery method) was used for sample selection. An experimental study was conducted using randomized control trail research design.

The independent variable was Helping Babies Breathe Programme on neonatal resuscitation.The dependent variable was knowledge and skills of Auxiliary Nurse Midwives students regarding HBB (neonatal resuscitation) programmed[8].

After extensive review of literature structured knowledge questionnaire to assess the knowledge regarding Helping Babies Breathe on neonatal resuscitation and Objective Structured Practical Evaluation (OSPE) to identify the skills regarding

Helping Babies Breathe on neonatal resuscitation. The tool was given for validity to experts of pediatric nursing and neonatologists. As per their guidance amendments were made. The lesson plan was prepared for giving teaching to ANM students regarding neonatal resuscitation.

The tool consisted of following 3 sections

Section I: Socio demographic data consists of items seeking information regarding age, gender, marital status and exposure of child health programmes

Section II: This section was contains structured knowledge questionnaire on the knowledge of neonatal resuscitation. To elicit the knowledge 16 Multiple Choice questions were framed. The maximum score for knowledge was 16.

Knowledge score of HBB (neonatal resuscitation) is graded as follows

- Poor: 0-5
- Average: 6-11
- Good: 12-16

Section III: This section was contains the observational checklist is to assess the skill score regarding neonatal resuscitation. The observational checklist was used to observe the skill of neonatal resuscitation performed by ANM students who were included during the study. The maximum score for skill was 47.

Skill score of neonatal resuscitation is graded as follows

- Adequate : 36 to 47
- Moderate : 12 to 35
- Inadequate : 0 to 11

The hypotheses formulated for the study were

H1: The mean post test knowledge scores of the experimental group compared to control group will be higher than the mean pre test knowledge scores.

H2: The mean post test skill scores of the experimental group compared to control group will be higher than the mean pre test skill scores.

The collected data was tabulated and analyzed according to the objectives of the study using descriptive and inferential statistics.

RESULTS

Major findings of the study

Finding related to demographic variables

In the present study it was found out that, majority of Auxiliary Nurse Midwives students 43(71.66 %) were in the age group of 17-20, 47(78.66%) Auxiliary Nurse Midwives students are unmarried, 55(91.66%) Auxiliary Nurse Midwives students are not attended Child health programmes like workshops/seminars.

Findings related to the effectiveness of HBB (neonatal resuscitation) programme

Table 2. Comparison of pre test and post test percentage of knowledge score between the experimental and control group n=60

Group	Pre test percentage of knowledge	Post test percentage of knowledge	Percentage of gain knowledge
Experimental group	49.58%	68.95%	19.37%
Control group	48.75%	50.41%	1.66%

Table 2 reveals that in the experimental group, the pre test Auxiliary Nurse Midwives students scored in only 49.58% of knowledge score after implementation of HBB regarding Neonatal Resuscitation (Bag and Mask technique) programme they scored 68.95%. The difference is 19.37%.

Table 3. Comparison of pre test and post test percentage of skill score between the experimental and control group. n=60

Group	Pre test percentage of skill	Post test percentage of skill	Percentage of gain skill
Experimental group	11.91%	81.34%	69.43%
Control group	12.12%	12.76%	0.64%

Table 3 reveals that in the experimental group, the pre demo of Auxiliary Nurse Midwives students scored in only 11.91% of skill score after implementation of HBB regarding Neonatal Resuscitation (Bag and Mask technique) programme they scored 81.34%. The difference is 69.43%.

In control group they scored 12.12% in pre demo and 12.76% in post demo. The difference between pre and post demo is only 0.64%.

This indicates that experimental group gained the skills of HBB regarding Neonatal Resuscitation (Bag and Mask technique) programme.

Evaluate the effectiveness of helping babies breathe programme regarding neonatal resuscitation (bag and mask technique) among ANM students in terms of gain in knowledge scores and skill scores.

Table 4. Standard error of difference (SEd), paired't' values of knowledge scores among experimental and control group on Neonatal Resuscitation procedure. n=60

Knowledge							Paired t value	
	Pre test		Post test		Mean difference (d)	Standard Error difference (SEd)	Calculated value	Table value at 29 degree of freedom
	Mean	SD	Mean	SD				
Experimental group	7.93	1.96	11.03	1.83	3.10	0.530	t=5.8453* P=0.0001	t=2.045
Control group	7.80	2.14	8.07	2.10	0.27	0.185	t=1.4392P=0.1608	t=2.045

*(P<0.05)

Table 4 reveals that calculated paired t value of experimental group (t= 5.8453) is greater than tabulated value (t=2.045). This indicates that gain in knowledge score is statistically significant at P<0.05 levels. Therefore, HBB programme regarding neonatal resuscitation improved the knowledge of Auxiliary Nurse Midwives students. The calculated paired t value was t=5.8453. P=0.0001

Whereas in control group the calculated paired t value (t=1.4392) is lesser than tabulated value (t=2.045). There is no significance difference in knowledge scores of control group. The calculated paired t value was t=1.4392, P=0.1608.

Table 5. Standard error of difference (SEd), paired't' values of skill scores among experimental and control group on Neonatal Resuscitation procedure. n=60

Skills							Paired t value	
	Pre demo		Post demo		Mean difference (d)	Standard Error difference (SEd)	Calculated value	Table value at 29 degree of freedom
	Mean	SD	Mean	SD				
Experimental group	5.60	1.89	38.23	2.60	32.63	0.637	t=51.2335*P=0.0001	t=2.045
Control group	5.70	1.88	6.00	1.74	0.30	0.445	t=0.6741P=0.5056	t=2.045

*(P<0.05)

Table 5 reveals that calculated paired t value of experimental group (t=51.2335) is greater than tabulated value (t=2.045). This indicates that gain in skill score is statistically significant at P<0.05 levels. Therefore, HBB programme regarding neonatal resuscitation improved the skills of Auxiliary Nurse Midwives students. The calculated paired t value was t=51.2335, P=0.0001

Whereas in control group the calculated paired t value (t=0.6741) is lesser than tabulated value (t=2.045). There is no significance difference in skill scores of control group. The calculated paired t value was t=0.6741, P=0.5056.

Compare the outcome of Experimental and Control group in terms of gain in knowledge and skill.

Table 6. Mean difference, standard error of difference (SEd), unpaired't' values of post test knowledge scores among experimental and control group on Neonatal Resuscitation procedure. n=60

Knowledge	Experimental group		Control group				Unpaired t value	
	Pre test		Post test		Mean difference (d)	Standard Error difference (SEd)	Calculated value	Table value at 58 degree of freedom
	Mean	SD	Mean	SD				
	11.03	1.83	8.07	2.10	2.97	0.508	t=5.8358*P=0.0001	t=1.6715

*(P<0.05)

Table 6 reveals that calculated unpaired t value of Post test knowledge scores between experimental and control group (t= 5.8358) is greater than tabulated value (t=1.6715). Hence H1 is accepted. This indicates that gain in knowledge score is statistically significant at P<0.05 levels. Therefore, HBB programme regarding neonatal resuscitation improved the knowledge of experimental group. The calculated unpaired t value was t=5.8358, P=0.0001

Table 7. Mean difference, standard error of difference (SEd), unpaired't' values of post demo skill scores among experimental and control group on Neonatal Resuscitation procedure. n=60

Skill	Group						Unpaired t value	
	Experimental group Post test		Control group Post demo		Mean difference (d)	Standard Error difference (SEd)	Calculated value	Table value at 58 degree of freedom
	Mean	SD	Mean	SD				
Station i	9.17	1.05	3.07	0.78			t=25.4366*P=0.0001	t=1.6715
Station ii	9.27	0.69	2.47	1.22			t=35.2303*P=0.0001	t=1.6715
Station iii	19.80	1.90	0.27	0.69			t=53.8403*P=0.0001	t=1.6715
Total	38.23	2.60	6.00	1.79	32.23	0.571	t=56.4795*P=0.0001	t=1.6715

*(P<0.05)

Table 7 reveals that calculated unpaired t value of Post test skill scores between experimental and control group (t= 56.4795) is greater than tabulated value (t=1.6715). Hence H2 is accepted. This indicates that gain in skill score is statistically significant at P<0.05 levels. Therefore, HBB programme regarding neonatal resuscitation improved the skill of experimental group. The calculated unpaired t value was t=56.4795, P=0.0001

DISCUSSION

There was significant increase in post-test knowledge and post demo skill scores in experimental group whereas in control group there was no significance gain in post test knowledge and post demo skill scores. The findings revealed that there was significant increase in post test knowledge scores and post demo skill scores of experimental subjects exposed to Helping Babies Breathe (neonatal resuscitation) programme compared to control group. The finding were supported with the study done by (Newton Opiyo[1*], Fred Were[2], Fridah Govedi[3], etal; Kenya[51] Medical Research, Nairobi, Kenya), conducted a randomized, controlled trial. Trained providers demonstrated a higher proportion of adequate initial resuscitation steps compared to the control group (trained 66% vs control 27%; p<0.001). In addition, there was a statistically significant reduction in the frequency of inappropriate and potentially harmful practices per resuscitation in the trained group. Conclusions/Significance; Implementation of a simple, one day newborn resuscitation training can be followed immediately by significant improvement in health workers' practices. However, evidence of the effects on long term performance or clinical outcomes can only be established by larger cluster randomized trials[10].

CONCLUSION

The findings of the study showed that Helping Babies Breathe programme is effective to improve the knowledge and skill regarding neonatal resuscitation among experimental group of ANM students. Findings revealed that Helping Babies Breathe programme was effective to improve knowledge and skill of subjects under study. There was no gain in knowledge and skill

regarding neonatal resuscitation among control group of ANM students.

RECOMMENDATIONS

1. A Similar study can be replicated with a large sample in order to generalize the data.
2. Comparative studies can be conducted in different settings.
3. A Similar study can be conducted with different teaching strategies.
4. A study may be conducted on problems encountered by nurses in relation to newborn resuscitation (Bag and Mask technique).
5. A study can be conducted to find out the knowledge, skills and attitude of staff nurses regarding neonatal resuscitation (Bag and Mask technique) in labour room.

ACKNOWLEDGEMENT

We express our thanks to participants and the authorities who provided permission to conduct the study

Conflict of Interest

A major cause of neonatal mortality is seen in developing nations where there is lack of resources and health workers; hence the present study intends to assess the knowledge and skills of Auxiliary Nurse Midwives students regarding Helping Babies Breathe Programme on neonatal resuscitation that provides care in community sectors. Adequate knowledge and skills regarding neonatal resuscitation make the Auxiliary Nurse Midwives students to become confident and competent in their ability to manage Birth asphyxia.

Source of Funding: Self funding

Ethical Clearance: Ethical clearance taken from Ethical Clearance Committee. Secretary Ethical Clearance Committee- Prof. Milka Madhale. Vice Principal KLEU'S Institute of Nursing Sciences, Belgaum. Chairman Ethical Clearance Committee- Prof. Sudha A Raddi. Principal KLEU'S Institute of Nursing Sciences, Belgaum.

REFERENCE

1. Drissen EM, Hollinzer R: Cardiopulmonary resuscitation guidelines for CPR and emergency cardiac care. Journal of NNT. Aug:2007 vol:3;p55
2. WHO collaborating centers for training and research in newborn care department of pediatrics: All Institute of Medical Sciences. New Delhi: available from: http://www.newbornwhoccorg/images/header2.gif
3. Helping Babies Breath [internet]. 2010 Updated2010. Available from: http://one.org/blog/2011/04/20/helping- babies- breathe-can -save-a-million-lives-each-year
4. Helping Babies Breath [internet]. 2010 Updated2010. Available from :http://www.helpingbabies.org/about.html
5. Wiswell TE. Neonatal resuscitation respiratory care; March2 003 vol:48, p.288.
6. Pileggi Castro Souza C. Neonatal Care.2005.Available from: http://clinical trail.gov/ct2/show/nct000136708
7. Lin IJ,Chi CS; The preliminary results of training courses of pediatric advance life support: Acta pediatrics. Taiwan 1999:40(1);4
8. Polit DF, Beck CT. Nursing Research: Principles and Methods.7th ed. Philadelphia: Lippincott Williams and Wilkins; 2004. 46- 48
9. The Stufflebeam (1983) CIPP evaluation model available from: http://www.cglrc.cgiar.org/icraf/toolkit/The_CIPP_evaluation_model.htm
10. Newton Opiyo[1*], Fred Were[2], Fridah Govedi[3], etal;Kenya Medical Research, Nairobi, Kenya, available from: http://www.medicaljournal-ias.org/Belgelerim/Belge/04

DOI Number: 10.5958/j.0974-9357.6.1.031

A Study to assess the effectiveness of Laughter Therapy on Depression among Elderly People in Selected Old Age Homes at Mangalore

Jaya Rani George[1], Vineetha Jacob[2]
[1]*M.Sc Nursing IInd Year,* [2]*Assistant Professor, Department of Mental Health Nursing, Yenepoya Nursing College, Deralakatte, Mangalore*

ABSTRACT

Many older adults find themselves more alone than ever before as longstanding friends and relatives die and family and friends relocate to different geographical areas. If entry into residential care is necessary, older adults become more isolated. The most common emotional disorder in the elderly population is depression. A study to assess the effectiveness of laughter therapy on depression among elderly people in selected old age homes at Mangalore.The main objective of the study to determine the effectiveness of laughter therapy among experimental group. The conceptual framework adopted for the study was based on the framework of Roy's adaptation model. The study design was two group pre-test post- test design. The population of the study was elderly people at selected old age homes at Mangalore.Purposive sampling technique was used for selecting the study subjects. The sample comprised of 60 samples above the age of 60 years .The tool used for the study were demographic proforma and modified Geriatric Depression Scale. The study result showed that the mean post-test depression scores (11.97) was apparently lower than the mean pre-test depression score (16.97). The pre-test depression score rocked to 43.3% for the moderate level of depression while the post-test depression score reached an all-time high of 63.3% for the mild level of depression. There was a significant difference between pre-test depression score and the post-test depression scores (t= 37.696, $p < 0.05$).The pre-test depression score was independent of all the demographic variables such as age, gender, religion, marital status, years of stay in old age home, any illness. The findings of the study shows that the intervention programme was effective in reducing the depression among elderly people.

Keywords: *Effectiveness, Elderly, Depression, Laughter Therapy*

INTRODUCTION

Ageing is a natural process. In words of Seneca; "Old age is an incurable disease", but recently they commented it as "we do not heal old age but protect it; promote it; extend it". People can be considered old because of some changes in their activities or social roles. There is often a general physical deterioration, and people become less active.[1] Depression is a common problem in older adults .The symptoms of depression affect every aspect of life, including energy, appetite, sleeps, and interest in work, hobbies, and relationships. Depression not only makes one feel sick—with aches, pains, and fatigue—it actually makes physical health worse. Depression also gets in the way of memory and concentration[2]. Laughter is a strong and powerful force that has the most positive effects on the body. Laughter helps to get rid from stress, depression, anxiety, pain , and conflict[3].

MATERIAL AND METHOD

The study design was two group pre-test post- test design. The population of the study was elderly people at selected old age homes at Mangalore. Purposive sampling technique was used for selecting the study subjects. The sample comprised of 60 samples above the age of 60 years .The tool used for the study were demographic proforma and modified Geriatric Depression Scale The data collection was between 19th November and 8th December 2012. After a brief self introduction, the investigator explained the purpose

of the study and obtained informed consent from the subjects. Firstly, the investigator assessed the depression level of the subjects in both experimental group and control group through Geriatric Depression scale. After completing it, the investigator administered laughter therapy for patients in experimental group for 10 days .Duration of the session was half an hour. Post test depression level was assessed on the eleventh and sixteenth day. And same procedure was followed for control group without administering laughter therapy .Control group was sent to watering of plants in the morning to avoid ethical issues. Repeated measure ANOVA and independent 't' test will be used to determine the difference between the score of pre – test and post – test of experimental and control group.

FINDINGS

Table 1: Mean, standard deviation, df and 'F' value of pre-test and post-test depression scores in the experimental group N=30

Test	Mean score	Standard deviation	F value	df
Pre-test	16.17	3.63	724.039*	(2,27)
Post-test 1	11.97	3.55		
Post-test 2	13.90	3.52		

The mean depression score of sample were 16.17±3.63 during pre-test; 11.97±3.55 for the post-test 1; 13.90±3.52 for the post-test 2. The one-way repeated-measures ANOVA shows that these depression scores were significantly different, $F(2, 27)= 724.039$, $p<.001$.

Table 2 : Comparison of mean, standard deviation, mean difference and 't' value of post-test depression scores in experimental and control group N=60

Test	Group	Mean score	Standard deviation	Mean difference	't' value
Post-test 1	Experimental group	11.97	3.55	5.13	5.869*
	Control group	17.1		3.22	
Post-test 2	Experimental group	13.9	3.52	5.53	6.848*
Control group		19.43		2.68	

T_{58}=1.671, p<0.05 *significant

Data in Table 2 shows that the mean post-test 1 depression scores of experimental group (11.97±3.55) was lower than mean depression score of control group (17.1±3.22) and the mean post-test 2 depression scores of experimental group (13.9±3.52) was lower than mean depression score of control group (19.43±2.68). The calculated 't' values (t=5.869 and t=6.848) was greater than the table value (t_{58}=1.671) at 0.05 level of significance in both post-tests.

Association of depression level and demographic variables

The pre test depression score is independent of selected demographic variables that is, age (x^2 = 1.285,table value = 5.991) , religion (x^2= .2, table value 3.841) , marital status (x^2 = 3.74, table value = 7.815) , years of stay in old age home (x^2= .584, table value =7.815) ,any illness (x^2 = 1.6 , table value 3.841) . There was no significant association between pre-test depression score and selected demographic variables like age, religion, marital status, years of stay in old age home, any other illness, practicing any relaxation technique.

CONCLUSION

The present study highlighted the effectiveness of laughter therapy on depression as a non-pharmacological and cost effective intervention for elderly people. A better understanding of health issues associated with the depression among elderly people has constituted a challenge for clinician and researchers. So there is a great lot scope for exploring this area. Research should be conducted to identify the scope of laughter therapy to alleviate depression among elderly.

ACKNOWLEDGEMENTS

I acknowledge my love and gratitude to all those loving hearts who helped me throughout my endeavour. With sincere gratitude and humility I acknowledge the Almighty God for his abundant grace, love, compassion and immense showers of blessings on me which gave me strength, courage to overcome all the difficulties during the study process. His unseen presence helped me to complete this study successfully.

Conflict of Interest: Nil

Source of Funding: Nil

Ethical clearance: Ethical Clearance Obtained

REFERENCES

1. Neeraja KP. Textbook of growth and development for nursing students.Vol. 1. New Delhi: Jaypee Publicatios; 2006.
2. Townsend MC. Psychiatric mental health nursing. 5th ed. New Delhi: Jaypee Brothers Medical Publishers Private Limited; 2011. p. 483-503.
3. Wendy L. Use of complementary and alternative medical interventions for the management of procedure –related depression, anxiety, and distress in old age. Journal of Advanced Nursing 2010 Nov;25:566-79.
4. Melinda S. Laughter therapy is the best medicine. [cited 2011 Oct 12]: 16(4):252. Available from: URL:http://www.helpguide.org/life/homor-laughter-health.html

DOI Number: 10.5958/j.0974-9357.6.1.032

Knowledge and Practice of Housewives on Domestic Plastic Waste Management

Jince V John[1], Sarita T Fernandes[2], Sujith Kuriakose[3]

[1]2nd Year M.Sc Nursing Student, [2]Associate Professor & HOD , [3]Lecturer, Community Health Department, Nitte Usha Institute of Nursing Sciences, Nitte University, Mangalore

ABSTRACT

Background: The environmental pollution affects the health of more than 100 million people across the world. The plastic litter situation in India is a more serious threat to future generations than the menace is posed by nuclear weapons. As waste management should start right at home, the researcher strongly believe that housewives have to be empowered with knowledge first.

Objective: The aim of this study is to assess the knowledge and practice of housewives regarding domestic plastic waste management and preparation of an information booklet based on the findings of the study.

Method: A descriptive survey approach was used for this study. The study was carried out in 300 housewives from selected areas of Mangalore. Sample was selected by cluster random sampling technique. Structured knowledge questionnaire and practice checklists were used for the data collection. The data was analyzed using descriptive and inferential statistics.

Result: Analysis of the data revealed that among housewives, 77.4 % (233) had average knowledge, 22.3% (67) had poor knowledge and none of them had good knowledge regarding domestic plastic waste management and 75.1 % (225) had average practice, 24.9% (75) had poor practice and none of them had good practice regarding domestic plastic waste management. The study shows a positive correlation between knowledge and practice of housewives on management of domestic plastic waste (r=0.071).The more the housewives are empowered with knowledge on management of domestic plastic waste, its disposal becomes more easy and effective. The analysis shows that age, type of family, education and source of information has a significant association between knowledge of housewives on management of domestic plastic waste.

Conclusion: The findings of this study indicated the need for educating the housewives about domestic plastic waste management. They must be motivated for household management of plastic waste.

Keywords: *Knowledge; Practice; Housewives; Domestic Plastic Waste Management*

INTRODUCTION

The environmental pollution affects the health of more than 100 million people across the world. Our planet is becoming increasingly contaminated by plastic pollution.[4] The plastic litter situation in India is a more serious threat to future generations than the menace is posed by nuclear weapons. Unless and until we think about a total ban on plastic bags or put in place a system for manufacturers mandating them to collect back all plastic bags, the next generation will be threatened with something more serious than the atom bomb.[1]Several countries have already banned their use and more will doubtless follow, with the nation overindulging in using 11.6 billion plastic bags every year.[6,7]

Corresponding author:
Jince V John
2nd year M.Sc Nursing Student
Nitte Usha Institute of Nursing Sciences, Paneer,Mangalore
Email : jincevjohn@hotmail.com
Mobile : 08904135202

India will emerge as the third biggest consumer of plastics in the world by 2012 year end, according to studies by the Plastic Development Council under the department of Chemicals and Petrochemicals[8]. India's plastics consumption is one of the highest in the world[9]. Plastic bags are difficult and costly to recycle and most end up on landfill sites where they take around 300 years to photo degrade. They break down into tiny toxic particles that contaminate the soil and waterways and enter the food chain when animals accidentally ingest them.[3].Central and State Government of India are concerned about the drastic situations due to plastic wastes.[10-12]

The domestic waste generated by households comprises mainly of organic, plastic and paper waste and small quantities of other waste.[14] Recent studies also shows the importance of domestic plastic waste management.[19-26] As waste management should start right at home, the researcher strongly believe that housewives have to be empowered with knowledge first.

MATERIAL AND METHOD

Objectives of the Study

1. To assess the knowledge and practice of housewives on domestic plastic waste management.
2. To assess the correlation between knowledge and practice of housewives on management of plastic waste.
3. To find out the association between the knowledge of housewives on management of plastic waste with selected demographic variables.
4. To develop an information booklet for housewives regarding domestic plastic waste management.

Hypothesis

H1: There will be a significant co relation between housewives knowledge and practice on domestic plastic waste management.

H2: There will be a significant association between housewives knowledge and practice with demographic variables.

Research Methodology

Research Approach: In this study, it gives the overall plan for carrying out a quantitative survey to collect the data from the sample population by using a structured knowledge questionnaire and practice checklist and prepare an information booklet on the basis of their knowledge.

Research Design: A descriptive survey design was selected in this study. The design is used to examine the level of knowledge and practice of housewives regarding domestic plastic waste management.

Setting of the Study: The study was conducted in selected community areas under Natekal PHC.

Population: In this study population consists of all housewives from selected community areas of Mangalore.

Sample: The sample for the study comprised of 300 housewives from the population.

Sampling techniques: For the present study cluster random sampling technique was used to select the housewives and the samples. In this study, the researcher assumes that there is one housewife in each family. The Natekal PHC is divided into three sub-centers (clusters) such as Belma, Konaje and Manjanadi. From each cluster the researcher collected samples through randomization procedure.

Data Collection Instruments

Following instruments were developed by the researcher for the present study.

Tool 1: Demographic Performa.

Tool 2: Structured Knowledge Questionnaire.

Tool 3: Practice Checklist.

ANALYSIS

The data was analyzed in terms of objectives of the study using both descriptive and inferential statistics.

- **The results of the study are grouped under the following headings**

Section 1: Description of Sample According To Demographic Characteristics

The demographic characteristics of the sample are presented in the following table.

Table 1: Distribution of housewives according to the demographic characteristics n=300

Sl.No.	Sample charecteristics		Frequency	Percentage
1.	**Age**			
	1.	<25	0	0.00
	2.	25-35	112	37.3
	3.	36-45	105	35.0
	4.	46-55	52	17.3
	5.	56-65	30	10.0
	6.	>65	1	00.3
2.	**Religion**			
	1.	Hindhu	76	25.3
	2.	Muslim	219	73.0
	3.	Christian	5	1.7
3.	**Type of Family**			
	1.	Nuclear Family	213	71.0
	2.	Joint Family	73	24.3
	3.	Extended Family	1	0.3
	4.	Single Parent Family	13	4.4
4	**Educational Status**			
	No Formal Education		71	23.7
	Primary		143	47.7
	Secondary		62	20.7
	PUC		13	4.3
	Diploma		6	2.0
	Graduate or above		5	1.6
	Professional education		0	0.0
5.	**Source of information**			
	Newspaper/magazine		30	10.0
	Radio/Television		49	16.3
	Informal Conversations		167	55.7
	No Information		54	18.0

The above table depicts the following findings

Age

Distribution of housewives according to the age shows that highest percentage 37.3 %of them were in the age group of 25 to 35 years, 35% in the age group of 36 to 45yrs, 17.3 % were in the age group of 46 to 55 yrs, 10 % in age group between 56 to 65 yrs and 0.3 % were in the age group of above 65 yrs.

Religion

Distribution of subjects according to the religion showed that among housewives majority 219(73%) were Muslims, 76(25.3%) were Hindus and 5(1.7%) were Christians.

Type of Family

Distribution of subjects according to the type of family showed that among housewives highest percentage 213 (71%) belonged to nuclear family, 73(24.3%) belonged to joint family, 13(4.4%) belonged to single parent family and 1(0.3%) belonged to extended family.

Educational Qualification

Distribution of subjects according to the educational qualification showed that among housewives majority 143(47.7%) were having primary education, 71(23.3%) were having no formal education, 62(20.7%) were having secondary education, 13(4.3%) were having PUC education, 6(2%) were having diploma education, 5(1.6%) were having degree or above education and none were having professional education.

Source of Information about Domestic plastic waste management

Distribution of housewives according to the source of information about the domestic plastic waste management reveals that most of them 55.7% of them have got information through informal conversations, 16.3% from radio/television, 10% from newspaper/ magazine, and 18% of them does not have any source of information about the domestic plastic waste management.

Section: 2 Assessment of Knowledge of Housewives Regarding Domestic Plastic waste Management

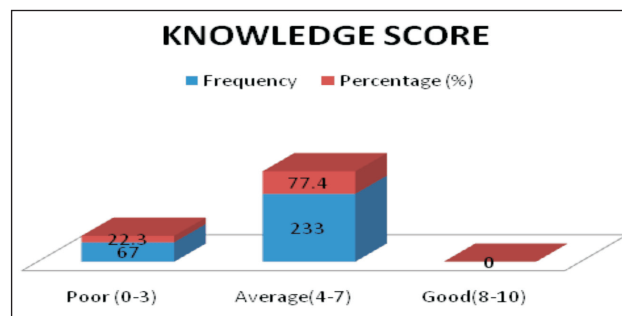


Fig. 1. Bar diagram representing the knowledge score of housewives regarding domestic plastic waste management.

Section: 3 Assessment of Practice of Housewives on Domestic Plastic waste Management

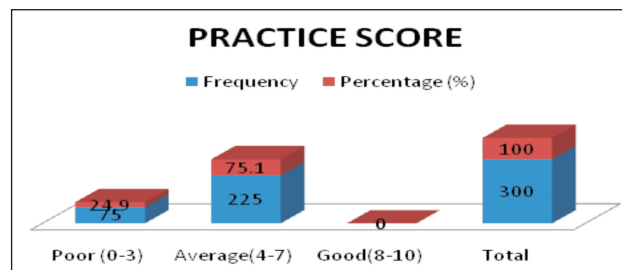


Fig. 2. Bar diagram representing the practice score of housewives on domestic plastic waste management.

Section: 4 Assessment of the correlation between knowledge and practice of housewives on management of plastic waste

Table 2: Correlation between knowledge and practice of housewives on management of plastic waste

	Pearson Correlation	d.f	'p' value
1 Knowledge and Practice	+0.071	300	0.0001

Karl Pearson's 'p' value is 0.0001 which is less than 0.05,So there is a relation between knowledge and practice. Karl Pearson's Correlation-coefficient value ranges between '-1' and '+1'. The table value ranges between 0 to +1, so there is a positive correlation. Table shows a positive correlation (+0.071) with knowledge and practice of housewives on management of domestic plastic waste.

Section 5: Association between the knowledge of housewives on management of domestic plastic waste with selected demographic variables.

To find the association between knowledge score and demographic variables, chi-square (Fishers exact test) value was computed. The significance level selected for testing the hypothesis was 0.05.

Table 3: Association between the knowledge of housewives on management of domestic plastic waste with selected demographic variables

	Variables	Knowledge rating			Fishers exact test	Level of significance
		Poor(0-3)	Average(4-7)	Good(8-10)		
1.	**Age**					
	<25	0	0	0		
	25-35	27	85	0		0.047
	36-45	21	84	0	0.297	(p< 0.05,S)
	46-55	9	43	0		S
	56-65	9	21	0		
	>65	1	0	0		
2.	**Religion**					
	Hindhu	19	57	0		0.103
	Muslim	47	172	0	0.128	p>0.05
	Christian	1	4	0		NS
3.	**Type Of Family**					
	Nuclear Family	51	162	0		0.017
	Joint Family	15	58	0	1.648	p<0.05
	Extented Family	0	1	0		S
	Single Parent Family	1	12	0		
4.	**Education**					
	No Formal Education	13	58	0		
	Primary	27	116	0		0.004
	Secondary	20	42	0	2.21	(P<.05,S)
	PUC	4	9	0		
	Diploma	1	5	0		
	Graduate or Above	2	3	0		
5.	**Source of Information**					
	News paper/Magazine					
	Radio/Television	2	28	0		
	Informal Conversations	5	44	0	11.334	0.0001
	No Information	7	160	0		(p<0.05,S)
		53	1	0		

S=Significant, NS=Not Significant,

The above table depicts that since Fisher's exact test value for age (F=0.047,p<0.05) , type of family (F=1.648), education (F=2.210) and source of information(F=11.334) are greater than p value(p <0.05), the research hypothesis is accepted, that is there is significant association between knowledge of housewives regarding domestic plastic waste management and the above mentioned demographic variables.

The above table (5) depicts that since Fisher's exact test value of the demographic variable , religion (0.1083), is less than p value (p > .05), the research hypotheses is rejected. That is there is no significant association between knowledge of housewives regarding domestic plastic waste management and religion.

DISCUSSION

Pollution is the interference of contaminants into an environment that causes instability, disorder, harm or discomfort to the ecosystem i.e. physical systems or living organisms. Pollution is a growing painful crisis.. We must be wise in managing our resources, and take positive action towards preventing any forms of pollution to the environment. Make the world a better place to live34. The findings of the study have been discussed under various sections with reference to the objectives and hypothesis

Section 1: Description of sample characteristics

The present study showed that with regards to age majority 112(37.3%) of housewives belonged to the age group of 25-35 yrs.The present study is supported by a study conducted on household waste management where the majority of the respondents (38%) were in the age group from 26 to 35 years12. The present study showed that with regards to the type of family majority 213 (71.0 %) housewives from nuclear family.

The present study showed that with regards to educational qualification majority 143(47.7%) of housewives were having primary education. The present study findings were consistent with a study conduct on household waste management which shows that 51.8% finished their primary education12. The present study showed that with regards to source of information on domestic plastic waste 167(55.7%) of housewives were from informal conversations.

Section 2: Knowledge of housewives regarding domestic plastic waste management.

The result of this study revealed that 77.4% housewives had average knowledge and 22.3% housewives had poor knowledge and none of them had good knowledge regarding domestic plastic waste management. In contrast, a study conducted in Myanmar migrants regarding household waste management shows that level of knowledge towards household waste management were half of the respondents (49.8%) had high knowledge, 36% had moderate knowledge and only little percentage (14.2) had low knowledge.[12]

Section 3: Practice of domestic plastic waste management among housewives

On analyzing the practice of domestic plastic waste management among housewives, the present study showed that 24.9% of housewives are on poor practices on domestic plastic waste management, 75.1 % of housewives are on average domestic plastic waste management and none of them had good practice' s of domestic plastic waste management. The present study was supported by the study conducted on Manmar migrants on household waste management. The study shows that 16.5% have good practice, 51.2% have moderate practice and 32.2 5 have poor practice.

The results were very compactable.[12]

CONCLUSION

Thin plastic carry bag has become an intrinsic part of our lives and the urban landscapes. It is one of the most ignored environmental and health problems. Almost everyone including chemists, grocers, vegetable/fruit vendors, restaurants, fast food centers and super markets, put everything we buy in plastic carry bags, as they find it cheaper, easier and cleaner to get them[20]

Being non-biodegradable, they choke the earth for hundreds of years, making the soil unfertile, apart from polluting ground water through leaching of toxic substances. In the light of environmental and health risks, the cost factors and other problems involved in the management of domestic plastic waste, it is desirable to reduce the quantum of waste generated, by minimizing the use of plastic carry bags and by

reusing them in our daily lives. This can be achieved by increasing the thickness of carry bags, so as to make them expensive and to discourage their liberal dispensation, use and disposal. As waste management should start right at home, the researcher strongly believe that housewives have to be empowered with knowledge first.

ACKNOWLEDGEMENTS

The authors acknowledge the experts for their contribution for tool development and the participants for their co-operation.

Conflict of Interest : None

Ethical Clearance : Obtained from Ethical Committee of Nitte University,Mangalore held on 16 th February 2012.

Source of Funding : None

REFERRENCES

1. Robert H.; Shaw, David G.; Ignell, Steven E. "Quantitative distribution and characteristics of neustonic plastic in the North Pacific Ocean. Final Report to US Department of Commerce, National Marine Fisheries Service, Auke Bay Laboratory. Auke Bay, AK" (PDF). pp. 247–266. http://swfsc.noaa.gov/publications/TM/SWFSC/NOAA-TM-NMFS-SWFSC-154_P247.PDF
2. Environment & Pollution; Introduction.[Internet] agritech.tnau.ac.in/environment/envi_pollution_ introduction.htm
3. Plastic Bags to be banned in Abu Dhabi.UAE Interact. 2009 Jun 11. [Internet],Available from http:// www.uaeinteract.com
4. China Watch: Plastic Bag Ban Trumps Market and Consumer Efforts. World watch. 2010 Nov 30. [Internet], Available from http://www.worldwatch.org/node/5808
5. Plastic development council to create awareness on use and disposal of plastics. 2006 April.[Internet]Available from http://www.plasticsindustry.org
6. Plastic Bag Pollution.[Internet], http://www.gits4u.com/envo/envo5.htm
7. Parivesh . Central Pollution Control Board. Plastic Waste Management. www.cpcb.nic.in/139-144.pdf
8. Environmental Pollution in India.[Internet] http://www.gits4u.com/envo/envo5.htm
9. Waste Management. [Internet]. www.environment.tn.nic.in/SoE/images/WasteManagement.pdf.
10. Ban on Plastic Carry Bags in Dk. Times of India, 2012 September 1
11. Cutting plastic waste.Editorial,The Hindhu. February 27, 2011 http://www.thehindu.com/opinion/editorial/article1495532.ece
12. Ye Hein Naing.Factors influencing the practice of household waste management among Myanmar migrants in Muang district,Ranong province, Thailand. [Thesis]. Chulalongkorn University;2009.
13. Geraldine Daniëlle de Wet. Recycling soft plastic household waste into aesthetic products[Thesis]. Magister technologiae: textile design andtechnology. South Africa; Tshwane university of technology;2006.
14. Sinha.A.H,Ijaz Hossain etal.Composition of plastic waste and market assessment of the plastic recycling sector in Dhaka city.waste Concern Consultants;2006
15. Maja.R,Mladen.S,Ana.P.Plastic in the household waste.[Thesis]Mechanical Engineering and Naval Architecture;Croatia;University of Zagreb;2011
16. Shan-Shan Chung, ,Carlos W. H. Waste Management in Guangdong Cities: The Waste Management Literacy and Waste Reduction, September 2004, Volume 33, Issue 5, pp 692-711.
17. Siddique R, Khatib J, Kaur I. Use of recycled plastic in concrete: a review. Waste Manag. 2008;28(10):1835-52. Epub 2007 Nov 5. http/www.nibi.nlm.nih.gov/pubmed/ 17981022
18. Shuokr Qarani Aziz, Hamidi Abdul Aziz, Mohammed Jk Bashir, Mohd Suffian Yusoff. Appraisal of domestic solid waste generation, components, and the feasibility of recycling in Erbil, Iraq. 2011 Aug;29(8):880-7. Epub 2011 Jan 17 21242179.
19. Burnley SJ. A review of municipal solid waste composition in the United Kingdom. 2007;27(10):1274-85. Epub 2006 Oct http/www.nibi.nlm.nih.gov/pubmed/17011771.
20. Foo Tuan Seik . Recycling of domestic waste: Early experiences in Singapore.Habitat International . Volume 21, Issue 3, September 1997, Pages 277–289.[Internet] available from: http://dx.doi.org/10.1016/S0197-3975(97)00060-X.

DOI Number: 10.5958/j.0974-9357.6.1.033

Effectiveness of SIM Versus PIM on Neonatal Developmental Supportive Care in Terms of Knowledge among Nursing Students

Kuldeep Kaur[1], Jyoti Sarin[2], Gurneet Kaur[3]
[1]Assistant Professor, [2]Principal, [3]Assistant Professor, M. M. College of Nursing, Mullana Ambala, Haryana

ABSTRACT

Developmental care is a broad category of Interventions designed to minimize the stress of the newborns. Current study aimed to assess and compare the knowledge of nursing students regarding Neonatal Developmental Supportive Care before and after the administration of SIM and PIM and to determine the acceptability of SIM and PIM on Neonatal Developmental Supportive Care among nursing students. An experimental approach was used with pretest-posttest comparison group design on a sample of 60 B.Sc. Nursing IVth Year students i.e. 30 in SIM group and 30 in PIM group from M.M. College of Nursing, Mullana, Ambala, selected by Simple Random and Total Enumeration sampling technique respectively. The data was collected using Structured Knowledge Questionnaire and Structured Opinionnaire. In SIM group, the mean post-test knowledge score (36 ± 3.39) were significantly higher than the mean pre-test knowledge score (18.67 ± 3.81). In PIM group, the mean post-test knowledge score (43.63 ± 2.79) was higher than the mean pre-test knowledge score (19.27 ± 3.89). The mean post-test knowledge score (43.63 ± 2.79) and the mean acceptability score (27.07±2.08) of PIM group was higher than the mean post-test knowledge score (36 ± 3.39) and the mean acceptability score (24.87±1.66) of SIM group. Therefore both, SIM & PIM were effective methods for enhancing the knowledge of nursing students regarding Neonatal Developmental Supportive Care & PIM was more effective and highly acceptable method in terms of its approval and usefulness than SIM.

Keywords: *Neonatal Developmental Supportive Care, Effectiveness, Knowledge, Acceptability, Nursing Students, Self Instructional Module, Programme Instructional Module*

INTRODUCTION

God has a supreme power of taking care of all the needs of the baby in the womb. The baby is comfortably nested in a flexed posture with hands in the midline close to his mouth. Despite several attempts, scientists have failed to fabricate an incubator with all the qualities and characteristics of the womb.[1]

The growth of the immature cerebellum is particularly rapid during late gestation. However this accelerated growth seems to be impeded by premature birth and associated injury. The long term neuro-developmental disabilities seen in survivors of premature birth and associated injury may be attributable in part to impaired cerebellar development.[2]

Developmental care introduced in the mid 1980's provides a strategy to address the environmental concerns. Different strategies have been used to modify the extra-uterine environment to decrease a variety of stresses including noise and light reduction, minimal handling and the provision of longer rest periods.[3]

Developmental care is a broad category of Interventions designed to minimize the stress of the NICU environment.[4]

The principles of DSC include individualized infant care with initiation of cluster care for nursing activities, family-centered care, minimal and appropriate handling and touching of the preterm infant, developmentally supportive positioning (DSP), non-nutritive sucking, and manipulation of the external

environment to reduce negative stimuli (noise and light reduction) and increase positive smell stimuli. These Interventions lead to stress reduction and an increase in rest periods, and are therefore beneficial to the preterm infant.[5]

Effectiveness of self-directing learning modules has been tested for providing continuing nursing education among nurse educators. Effectiveness and acceptance of the learning modules was enhanced by educational strategies and revealed that self-instructional module was effective in self directed learning.[6]

Nurses enter the profession relatively earlier than other professions. Soon after the final year of education in Basic B.Sc Nursing, the graduates have many lives placed into their hands including the little ones newborns. Hence it is essential that the graduating nurses acquire adequate knowledge on developmental supportive care in order to avoid mishandling of newborns especially in critical conditions. Investigator felt need to enhance the knowledge of nursing students regarding the Neonatal Developmental supportive care as Developmental supportive care concept is not explicitly mentioned in the B.Sc Nursing Curriculum.

As there are reviews related to these two methods of teaching strategies but no study has been done to compare these self directed learning strategies and about their acceptability .Therefore the investigator felt the need to compare the effectiveness of Self Instructional Module versus Programme Instructional Module on Neonatal Developmental supportive care among nursing students and this further emphasis the need of the study.

OBJECTIVES

1. To assess and compare the knowledge of nursing students regarding Neonatal Developmental Supportive Care before and after the administration of SIM and PIM.
2. To determine the acceptability of SIM and PIM on Neonatal Developmental Supportive Care among nursing students.

MATERIALS AND METHOD

The research approach adopted for the study was Experimental with pretest-posttest comparison group research design. The conceptual framework adopted for the study was based on Ludwig Von Bertalanffy General System Model in 1968.

The present study was carried out on nursing students of M. M. College of Nursing, Mullana, Ambala, Haryana to assess their knowledge and acceptability on Neonatal Developmental Supportive Care. 60 B.Sc. nursing IVth year students were taken and 30 nursing students were selected by total enumeration sampling technique and 30 students were selected by simple random (lottery method) sampling technique.

The tools developed and used for data collection were Structured Knowledge Questionnaire and Structured Opinionnaire. Structured Knowledge Questionnaire was comprised of two sections: Section I: It comprised of items seeking information pertaining to characteristics of nursing students such as student's age, gender, religion, type of family, family income per month, place of residence, parental education and parental occupation. Section II: It comprised of 50 objectives type items like multiple choice (21), true or false (21) and match the following (8). These knowledge items are covering the following areas:

- Concept about Neonatal Developmental Supportive Care
- Identification of signs of healthy and alert baby
- Identification of signs of stress and stability in neonates during Neonatal Developmental Supportive Care
- Interventional strategies for promoting Neonatal Developmental Supportive Care

The maximum possible score on the Structured Knowledge Questionnaire was 50 (reliability was found to be 0.79 by KR_{20}). Structured Opinionnaire comprised of 10 statements. A three point rating scale was developed by the investigator to determine the acceptability of SIM and PIM by nursing students. Each respondent was required to give his/her opinion for each of the statement. The respondents were instructed to indicate their extent of agreement to items in the tool by responding to one of the three categories: "Fully met", "mostly met" and "Met to some extent". The content validation of all these tools was established by getting the valuable opinions from the experts. SIM and PIM were prepared for the development of knowledge of nursing students on Neonatal Developmental Supportive Care. It was prepared based on the review of research and non-research literature. Criteria rating scale was formulated for validating the content of the SIM and PIM. Content of both the modules were same in terms of language,

description and pictorial illustrations.SIM and PIM was submitted to the same nine experts for validation. Suggestions given by experts were duly made and final draft was prepared.

The data obtained were analysed using both descriptive and inferential statistics.

RESULTS

- B.Sc. nursing IVth year students in SIM and PIM group were similar in their characteristics and the groups were homogenous as calculated chi square is less than the tabulated value at 0.05 level of significance.

Table 1: Range, Mean, Median and Standard deviation of Pre-test and Post-test Knowledge Score of Nursing Students in SIM and PIM group N-60

Group	Knowledge score			
	Range	Mean	Median	S.D
SIM(n=30)Pre-testPost-test	13-28	18.67	17.5	3.81
	28-42	36	36	3.39
PIM(n=30)Pre-testPost-test	12-26	19.27	20	3.89
	39-50	43.63	43.5	2.79

Maximum Possible Score: 50

- Table:1 reveals that The range of post-test knowledge score 28-42 was higher than the mean pre-test range of knowledge score i.e. 13-28 and mean post test knowledge score (36 ± 3.39) was higher than the pre-test knowledge score (18.67 ± 3.81) in SIM group. The median of post-test knowledge score (36) was higher than the median of pre-test knowledge score (17.5) in SIM group.
- The range of post-test knowledge score (39-50) was higher than the mean pre-test range (12-26) of knowledge score and mean post test knowledge score (43.63 ± 2.79) was higher than the pre-test knowledge score (19.27 ± 3.89) in PIM group. The median of post-test knowledge score (43.5) was higher than the median of pre-test knowledge score (20) in PIM group.

Table 3: Mean, Mean Difference, Standard Deviation Difference and Standard Error of Mean Difference and 't' of Pre-test and Post-test Knowledge Score of Nursing Students in SIM and PIM group N=60

Group	Knowledge score				
	Mean	M_D	SD_D	$S.E_{M.D}$	't'
SIM(n=30)Pre-testPost-test	18.67	17.33	0.42	0.93	16.86*
	36.00				
PIM(n=30)Pre-testPost-test	19.27	24.36	1.1	0.87	27.91*
	43.63				

t (29)=2.05, (*)Significant (pd” 0.05)

Table 3 shows that the mean post-test knowledge score of SIM (36) of nursing students was higher than the mean pre-test knowledge score (18.67) with a mean difference of 17.33. The computed "t" value of 16.86was found to be statistically significant at 0.05 level which shows that the difference between the mean pre-test and post-test knowledge score of Nursing students was a true difference and not by chance. Hence, null hypothesis (H_{01}) was rejected and research hypothesis (H_1) was accepted.

The data also show that the mean post-test knowledge score of PIM (43.63) of nursing students was higher than the mean pre-test knowledge score (19.27) with a mean difference of 24.36. The computed "t" of 27.91was found to be statistically significant at 0.05 level which shows that the difference between the mean pre-test and post-test knowledge score of Nursing students was a true difference and not by chance. Hence, null hypothesis (H_{02}) was rejected and research hypothesis (H_2) was accepted.

Thus both SIM and PIM were effective methods of enhancing the knowledge of the nursing students on Neonatal Developmental Supportive Care.

Table 4: Mean, Mean difference, Standard Deviation Difference and Standard error of Mean Difference and ‘t’ of the Pre-test and Post-test Knowledge Score of Nursing Students in SIM and PIM group N=60

Group	Knowledge score				
	Mean	MD	SDD	S.EM.D	‘t’
Pre-testSIM(n=30)PIM(n=30)	18.67 19.27	0.6	0.08	0.99	0.60^{NS}
Post-test SIM(n=30)PIM(n=30)	36.00 43.63	7.63	0.6	0.8	9.5^{*}

t (58)=2.00; (*)Significant(pd” 0.05); (NS) Not Significant (p>0.05)

Table 4: shows that the mean pre-test knowledge score (19.27) of nursing students who were exposed to PIM was higher than the mean pre-test knowledge score (18.67) of nursing students who were exposed to SIM with a mean difference 0.6, which was found to be statistically not significant with calculated ‘t’ (0.60) for df 58 at 0.05 level of significance. This shows that the obtained mean difference was not a true difference but by chance. This shows that the Nursing students in SIM and PIM group did not differ initially in terms of their knowledge score.

The findings also reveal that the mean post-test knowledge score (43.63) of nursing students who were exposed to PIM was higher than the mean post-test knowledge score (36) of nursing students who were exposed to SIM with a mean difference 7.63, which was found to be statistically significant with‘t’ of 9.5 for df 58 this shows that the obtained mean difference was true difference and not by chance.

Hence, null hypothesis (H_{03}) was rejected and research hypothesis (H_3) was accepted, indicating that the PIM on Neonatal Developmental Supportive Care was significantly more effective method of enhancing the knowledge of the nursing students as compared to SIM on Neonatal Developmental Supportive Care at 0.05 level of significance.

Table 5: Area Wise Mean, Mean Difference, Standard Deviation Difference and Standard Error of Mean Difference and ‘t’ of Post-test Knowledge Score of Nursing Students in SIM and PIM group N=60

Knowledge Areas	Mean		MD	SDD	SEMD	‘t’
	Post-test SIM (n=30)	Post-test PIM(n=30)				
1. Concept about Neonatal Developmental Supportive Care	5.87	7.07	1.2	0.31	0.34	3.48*
2. Identification of signs of healthy and alert neonate	6.37	7.87	1.5	0.45	0.32	4.66*
3. Identification of signs of stress and stability in neonates during Neonatal Developmental Supportive Care	7.5	8.5	1.0	0.31	0.34	2.90*
4. Interventional strategies for promoting Neonatal Developmental Supportive Care	16.27	20.23	3.96	0.94	0.52	7.50*

t (58)=2.00; (*)Significant (pd” 0.05)

Table 5: shows that the area wise mean post-test knowledge score of nursing students in PIM group was higher in all areas as compared to the area wise mean post-test knowledge score of nursing students in SIM group**.** Findings further reveal that the computed ‘t’ in each area i.e. “Concept about neonatal Developmental Supportive Care” (3.48), “Identification of signs of healthy and alert neonate”(4.66), “Identification of signs of stress and stability in neonates during Neonatal Developmental Supportive Care”(2.90) and “Interventional strategies for promoting Neonatal Developmental Supportive Care” (7.50) were found to be statistically significant at 0.05 level which showed that the mean post-test knowledge score of nursing students in SIM and PIM group were truly different and not by chance. Thus, it can be concluded that the PIM was more effective in enhancing the knowledge of nursing students regarding Neonatal Developmental Supportive Care in all the areas as compared to SIM.

Table 6: Mean, Mean difference, Standard Deviation Difference and Standard error of Mean Difference and 't' of Acceptability Score of Nursing Students in SIM and PIM group N=60

Group	Acceptability score				
	Mean	M_D	SD_D	$S.E_{M.D}$	't'
SIM(n=30)PIM(n=30)	24.8727.07	2.2	0.42	0.48	4.58*

t (58) =2.00; (*)Significant (pd" 0.05)

Table 6: shows that the mean acceptability score (27.07) of nursing students who were exposed to PIM was higher than the mean acceptability score (24.87) of nursing students who were exposed to SIM with a mean difference of 2.2, which was found to be statistically significant as evident with 't' of 4.58 for df 58. This shows that the obtained mean difference was true difference and not by chance.

Hence, null hypothesis (H_{04}) was rejected and research hypothesis (H_4) was accepted. This shows that the PIM on Neonatal Developmental Supportive Care was significantly more acceptable method by nursing students as compared to SIM on Neonatal Developmental Supportive Care at 0.05 level of significance.

DISCUSSION

The purpose of the study was to assess and compare the effectiveness of SIM Versus PIM on Neonatal Developmental Supportive Care in terms of knowledge among nursing students.

The present study findings indicated that mean post test knowledge score was significantly higher than the mean pre-test knowledge score in SIM group, so there was an adequate enhancement of knowledge among nursing students by SIM on Neonatal Developmental Supportive Care. The findings of VermaP(2003)[7] ; Swank C., et. al (2000)[8] revealed that SIM is an effective method for enhancing the knowledge of nursing students.

The findings indicated that the mean post-test knowledge score was significantly higher than the mean pre-test knowledge score in PIM group. So there was an adequate enhancement of knowledge among nursing students by the PIM on Neonatal Developmental Supportive Care. The findings of Mamudu J.A. et. al.(2009) , N. Izzet Kurbanoglu. et al. (2006), revealed that PIM is an effective method for enhancing the knowledge of nursing students.

The findings also indicated that the mean post-test knowledge score of PIM group was significantly higher than the mean post-test knowledge score of SIM group. Thus PIM was more significant method of enhancing knowledge of nursing students as compared to SIM.

ACKNOWLEDGEMENT

At very outset, I would like to thank almighty for his presence. My sincere thanks goes to all participants of my study. lastly and most importantly I am grateful to everybody who was important to successful realization of thesis.

Ethical Consideration: Ethical approval to conduct the study was obtained from Institutional Ethical Committee of M.M University, Mullana, Ambala, Haryana. Written informed consent was obtained from the study subjects regarding their willingness to participate in the research project.

Conflict of Interest: There is no conflict of interest.

Funding Source: self financed.

REFERNCES

1. Singh M. Humanized care of preterm babies. Journal of Indian Pediatrics. 2003; 40: 13-20.
2. Soul J S. Late gestation cerebellar growth is rapid and impeded by premature birth. Pediatrics. 2005 March; 115(3): 688-95.
3. Marlow. Textbook of Paediatric Nursing.6thedi. New delhi.2004:15-20,25-35.
4. Singh M. Care of the newborn. 6thedi. New Delhi. Sagar Publications.2004: 12-19.
5. Prendergast CC. et. al. Barriers to provision of developmental care in the neonatal intensive care unit: neonatal nursing perceptions. Journal of Perinatology. 2007 Feb; 24(2): 71-77.
6. Sparling Leslie. Enhancing the Learning in Self-Directed Learning Modules. Journal for Nurses in Staff Development – JNSD. July/August 2001; 17 (4) : 199-205.
7. Swank C., et., al., Effectiveness of a genetics self-instructional module for nurses involved in egg donor screening. The American Journal of

Maternal/Child Nursing. May/June 2000; 35(3): 132-137.

8. Mamudu J.A.et. al. Relative effects of programmed instruction and demonstration methods on students' academic performance in science. College Student Journal. June 2009. See all results for this publicationBrowse back issues of this publication by date

9. N. Izzet Kurbanoglu. et al. Programmed instruction revisited: a study on teaching stereochemistry. Journal of Chemistry Education Research and Practice.2006;7 (1): 13-21.

10. Verma, P. Impact of self instructional module for the nurses on nursing management of the patients having chest tube drainage. Nursing Journal of India. Feb 2003; 25(2): 15-25.

DOI Number: 10.5958/j.0974-9357.6.1.034

Impact of Students-Teacher Relationship on Student's Learning: A Review of Literature

Yusra Sulaiman Al Nasseri[1], Lakshmi Renganathan[1], Fadhila Al Nasseri[2], Ahmed Al Balushi[3]
[1]Assistant Tutors, Oman Nursing Institute, Muscat, Oman, [3]Staff Nurse, Ministry of Health, Oman, [4]Senior Staff Nurse Al Buraimi Hospital, Oman

ABSTRACT

Introduction: The teacher student relationship is very important for a good learning environment. There should be an excellent relationship between a student and teacher in order to facilitate the learning and gain positive attitude. This relationship between teacher and student has vast influence on the learning process of the students.

Method: The literature review was conducted using multimodal search of different databases such as CINAHL, Pub Med, Medline, Psych Info, and Hands on searching.

Results: Although there is still limited empirical research about student teacher relationship on learning process, the available studies showed that literature regarding teacher-students' relationship confirms that, positive teacher-student relationships influence students' learning.

Conclusion: The essence emerged from a connected relationship (caring, support, trust and respect) which support students self confidence, fosters students' self-trust and increases students motivation to learn, influencing their professional development towards future career pathway.

Keywords: *Caring, Learning process, Respect, Student-Teacher relationship, Support, Trust*

INTRODUCTION

Effective teaching is one of the challenges that nurse educators encounter. The challenge in nursing education lies in the production of nursing workforce [1] which requires nurturing the nursing students with the necessary skills and knowledge to facilitate their development into qualified nurses. This challenge has placed the role of the nurse educators in the central position of nursing education.[2]

BACKGROUND

The shortage of nursing faculties and the workload that nurse educators stressed of have formed an obstacle to achieve effective teaching and learning.[3] Therefore, the trend in nursing education has moved towards innovation in which nurse educators are encouraged to adapt some incremental change in teaching styles and move from didactic traditional teaching towards students-centre learning approach.[4] However, facilitation of learning in nursing education requires different skills [1] in which nursing educators must be equipped with necessary characteristics to ensure that learning will take place.

Adapting different teaching strategies, obtaining high level of knowledge as well as the years of experience that teachers have do not necessary result in quality teaching and learning.[5] In a study, an author[6] has suggested that teacher's attributes and positive relationship with the students can be a powerful motivator for students learning.

Therefore, since the process of discovering new, innovative pathways to facilitate leaning in nursing education is still continuous,[3] this paper aims to find an innovative way through exploring the literature of whether the relationship that connects nurse educators and the nursing students in nursing education has an impact on students learning.

MATERIALS AND METHODS

Data Sources and Search Strategy

The literature was obtained by searching different databases which include CINAHL, Pub Med, Medline, Psych Info, and Hands on searching. In view of the apparent paucity of literature on teacher-students relationship, the review period covers the period from 1997 to 2008.

Inclusion criteria

- The articles related to nursing education all over the world
- Research based articles

Exclusion criteria

- All educational articles rather than nursing
- All articles published before 1997
- Literature review based articles

Summary of the evidences

There are multitudes of terms offered in the reviewed articles to describe nurse educator; for instance, nurse preceptor, mentor, and clinical instructor. However, there is no single article has provided a clear definition of these terms. It was assumed from reading those articles that clinical instructors and clinical preceptors which were used mostly by researchers is referred to the nurse educator who teaches in the clinical area. A nurse educator is referred to the nurse educator who teaches both theory and the practice. Therefore, in this paper recognition will be given to the variety of titles and roles.

Literature review

Regardless of not finding specific literature relating to student-teacher relationship, information from other studies used to structure the main body of the review by analyzing the literature for emerging themes.[7] These themes are:

- Caring
- Support
- Trust and Respect

CARING

Research has shown that, caring relationship is the valuable factor that influences students learning in the clinical area.[8] This qualitative study aimed to describe caring student-teacher relationship in nursing education from the perspective of Jordanian nursing students. The results revealed that, the students highly value the caring relationship that clinical instructors provide as the atmosphere in caring relationship alleviates students' anxiety and stress. Also, caring nurse educators encourages independence which in turn, builds up students' confidence and competency and in turn encourages them to learn. However, the students who did not experience a caring relationship with the educators felt as "belittled" which de-motivated them to learn.[9] consequently; this could have affected the study results.

A similar stance is taken by [10] using trans-cultural, comparative designs to compare caring relationship in Jordanian and Australian nursing education. The results of the study revealed that, caring relationship encourages the nursing students to learn safely and without pressure. The Australian students place greater value on, clinical instructors' knowledge more than teacher-student relationship. However, in this study, the researcher compared between two groups with different academic years of study and different size. Also, due to the fact that, the researcher is part of nursing faculty it is suggested that, Jordanian nursing students may have provided bias opinion as they were may be worried about the ramification if they report negative instances of their encounters. This may be attributed to cultural differences in beliefs and practices regarding approaches to teaching and learning.[8]

Other authors[12] have remarked on caring relationship by adapting a feminist approach to study the influence of mentors' emotional labor on learning how to care from the perspective of British nursing students. The results suggests that, caring aspects assists nursing students to overcome the problems they may encounter during learning as well as help them to learn how to care. However, the sample chosen in this study was opportunistic and purposive. Although purposive sampling is widely used in qualitative research, researchers should select the

relevant sample to ensure data accuracy[11] and representativeness.[13] In this study, the researcher was not clear about the type of sample wanted to include as opportunistic sample differs from purposive sample.[14] This makes it difficult to judge on the results and its generalizability as well.

Supporting few study findings, [12 &15] which has reached to the same results by using a longitudinal design which aimed to identify the role of supervisors in integrating theory into practice in clinical area. The results revealed that, students make sense of caring aspect in active engagement with mentors where caring provided to them in a practical way. Similarly the data were collected from British nursing students in a study suggests that the data obtained are accurate. Also, the analyzed information was sent for audit trial which implies the validity of the results.[13]

However, a contrasting idea is suggested by an author [16] as, using a cross sectional design to investigate how American senior and junior nursing students learn to care for patients. The results revealed that, caring aspect was inherent from their parents but was not influenced by their instructors. However, other studies[17, 18] have indicated that senior student's perceptions are different to junior ones. Therefore, it would be important to consider the senior and junior responses separately. Moreover, senior and junior terms were not defined. Generally, the study results can be considered valid and credible as the scale used to measure caring efficacy in this study is internally valid as the results showed.

All the evidences has proven that caring relationship is required in nursing education as it fosters students learning, builds up students' trust, confidence and competence.[8] However, more studies are required to examine whether caring relationship fosters caring aspects among senior and junior nursing students. Also, the research showed that, some countries value caring relationship differently which highlights that, cultural variations exist.

SUPPORT

The theme *support* appeared in most of the reviewed literature. Supportive relationships help to support students who are at risk of failing.[6] Using a qualitative design, this study aimed to explore and describe nursing students' experiences of connection within the teacher-students relationship. In this study, Canadian nursing students elaborated that in a supportive relationship the chances for learning are maximized. Supportive teachers do not focus on problems and deficits in student learning or ignore students' strengths. They facilitate and help struggling students to utilize their best talents to succeed. Furthermore this ensures reliability of the findings of the another study.[11]

Other authors have remarked that the supportive relationship provided by nurse educators helps the students to overcome any stress they may face in a new clinical environment.[19] This quantitative study aimed to identify the best and worst nurse educator from students and educators perspective. The study findings revealed that Australian nursing students' value moral support more than any other factor as it makes them feel at ease, encourages them to learn and seek out learning opportunities.[11]

Similar comments were suggested [20] by adopting a mixed method design. The results showed that, one of the preceptors' leadership qualities that foster students' learning in clinical environment is to be supportive and responsive to students' needs.

Interestingly, a similar view was suggested by using the same design by an author.[21] in a study where the participants were Australian nursing students. The study concluded that, learning in clinical environment is influenced by many factors such as students' satisfaction, nurse-students relationship and clinical instructors support. Therefore, supportive relationship is not the only factor that influences student's learning.[11]

The studies [20, 21] could be acknowledged for their methodology. Using multi-method design not only provides a complete picture of the study, but also investigates the concepts with convergent approaches.[22]

In conclusion, the literature revealed that supportive relationship was highly valued by nursing students. Supportive relationship opens a new future for failing students where new responsibilities can be established to support learning. Nurse educators who provide support to the weak students will not only help to increase students' self-motivation, but also will preserve students' self dignity, self worth and future development.[6] Although, supportive relationship is not the only source for student learning, it is still considered the most important factor that encourages students to learn.[15,19 &20]

Trust and respect

Research has shown that positive teacher–student relationships build up *respect and trust* among nursing students.[6] In a qualitative approach study done for Canadian nursing students' experiences of connection within the teacher-students relationship. The study revealed that when students feel respected by their teachers, they focus more on learning and the flow of learning becomes very smooth. The students described that as 'feeling at ease'. The researcher has provided rich quotes and a detailed explanation of the participants' experience. This ensures reliability of the findings.[11]

Comments from other authors suggest that respectful teachers consider students' privacy when conveying feedback to students.[23] This qualitative study aimed to identify the effective and ineffective nurse educators from student's perspective.

A study has shown[24] that trust, respect and support are crucial characteristics of effective mentors which are required in clinical learning environment. This qualitative study results revealed that the presence of trust, respect and support in the clinical environment, creates an atmosphere where learners are free to ask questions, disclose their lack of understanding without fear, clarify any doubts, which in turn, improves students' learning.

Although qualitative research is criticized for lack of scientific rigor, [25] this research used different measures to establish rigor such as truth-value, applicability, consistency and conformability [26] which indicates the accuracy of the obtained data. Furthermore, two researchers analyzed the data in a study[11] using triangulation for data analysis results in greater confidence in the obtained findings.

In a study conducted in Thailand by adopting quantitative design to identify nursing students' approaches to learning. The study results revealed that learning approaches are influenced by the positive environment created by nurse educators when respect and trust are conveyed.[27]

Henceforth, the learning is greatly influenced by an environment where trustful and respectful relationships create an atmosphere where students feel at ease, are encouraged to discuss concerns, free to ask questions, negotiate objectives, become more attentive and engage in the discussion.[28] Also respected students feel more secure and accepted in the clinical environment and teachers' trust of students fosters students' self-trust.[6] This in turn, builds up students' confidence, improves their self-esteem and helps them to grow professionally to reach their potential.[29]

To conclude the findings, figure 1 outlines a conceptual framework suggested by the emerging themes. The framework illustrates that the caring, support, respect and trust that nurse educators provide within teacher-students relationships creates an environment where student nurses become motivated to learn which enhances their professional development.

Innovation into practice

This article explores the innovative ideas that may contribute to enriching nursing students experience during their education. Therefore, it is envisaged that by creating a greater self-awareness in the nurse educators it may impact on their relationships with the students and offer an experience for the students to equip them to become skilled and competent nurses.

Exploring the literature has created a new pathway in nursing education as teacher-student relationship will not only maximize students learning but also influence their professional development as learners. Since innovation is to bring new ideas or make a change, [30] to '*create an entire paradigm shift*'.

CONCLUSION

The review reveals that positive teacher–student relationships influence students' learning. The essence emerged from a connected relationship (caring, support, trust and respect) which support students self confidence, fosters students' self-trust and increases students motivation to learn, influencing their professional development towards future career pathway. Despite the limitation of some studies, the literature has offered an insight into the importance of students-teacher relationship in nursing education. However, further research should be conducted to explore the nurse educators' perspective on teacher-students relationships and how influential these are on student academic achievements.

Acknowledgement: None

Ethical Clearance: Not obtained because this is the Literature Review study

Conflict of Interest: None

Source of Funding: None

REFERENCES

1. Quenn F and Hughes S (2007) Principles and Practice of Nurse Education (5th eds). Nelson Thornes: Cheltenham 39-40.
2. Odetter Gristscti , Brenda Jacona & John Jacono (2005). The nurse educator's clinical role. Journal of Advanced Nursing. 50(1), 84-92.
3. Chan S and Wong F (1999) Development of basic nursing education in China and Hong Kong. Journal of Advanced Nursing 29(6) 1300-1307.
4. Lee D (1996) The clinical role of the nurse teacher: a review of the dispute. Journal of Advanced Nursing 23(6) 1127–1134.
5. Davis H (2001) The quality and impact of relationships between elementary school students and teachers. Contemporary Educational Psychology 26: 431-453.
6. Gillespie M (2002) Student–teacher connection in clinical nursing education. Journal of Advanced Nursing 37(6) 566–576.
7. Cornwell Ros and William.M Daly. (2003). Nursing roles and levels of Practice: a framework for differentiating between elementary, spcialists and advance nursing practice. Journal of Clinical Nursing. 12(2), 158-167.
8. Lopez V (2003) Clinical teachers as caring mothers from the perspectives of Jordanian nursing students. International Journal of Nursing Studies 40: 51-60.
9. Barnes R, Edmunds L and Ward S (2008) Reality of undertaking research: the experience of Novice researchers. British Journal of Nursing 17 (14) 920-923.
10. Nahas V (2000) A transcultural study of Jordanian nursing students' care encounters within the context of clinical education. International Journal of Nursing Studies 37: 257-266.
11. Bryman A (2008) Social Research Methods. Oxford University Press: NewYork.
12. Smith P and Gray B (2001) Reassessing the concept of emotional labour in student nurse education: role of link lecturers and mentors in a time of change. Nurse Education Today 21: 230–237.
13. Crombie I (1996) The Pocket Guide to Critical Appraisal. BMJ Publishing Group: London.
14. Creswell J (2003) Research Design: Qualitative, Quantitative and Mixed methods approaches. Sage publication: London.
15. Spouse J (2001) Bridging theory and practice in the supervisory relationship: a sociocultural perspective . Journal of Advanced Nursing 33(4) 512-522
16. Salder (2003) Disseminating Innovations in Health Care. Journal of the American Medical Association 289 (15) 1969-1975.
17. Kuen M (1997) Perceptions of effective clinical teaching behaviours in a hospital-based nurse training programme. Journal of Advanced Nursing 26: 1252-1261.
18. Guba E and Lincoln Y (1981) Effective evaluation. Jossey-Bass: San Francisco
19. Lee W, Cholowski K and Williams A (2002) Nursing students' and clinical educators' perceptions of characteristics of effective clinical educators in an Australian university school of nursing. Journal of Advanced Nursing 39(5) 412–420.
20. Zilembo M and Monterosso L (2008) Students' perception of desirable leadership qualities in nurse preceptors: A descriptive study. Contemporary Nurse27(2) 194-206.
21. Dunn S and Hansford B (1997) Undergraduate nursing students 'perceptions of their clinical learning environment. Journal of Advanced Nursing 25(6) 1299–1306.
22. Bdreilmayer B, Ayres L and Knafl K (1993) Triangulation in qualitative research: evaluation of completeness and confirmation purposes. Journal of Nursing Scholarship 25: 237-243.
23. Carol L (2004) Students' perspectives of Effective and Ineffective Nursing Instructors. Journal of Nursing Education 43(12) 565-569.
24. Papp I, Markkanen M and Bonsdorff M (2003) Clinical environment as a Learning environment: student nurses' perceptions concerning Clinical learning experiences. Nurse Education Today 23: 262–268.
25. Koch T and Harrington A (1998) Reconceptualising rigour: the case for reflexivity. Journal of Advanced Nursing 28(4) 882–890.

26. Guba E and Lincoln Y (1981) Effective evaluation. Jossey-Bass: San Francisco.
27. Pimparyoni P, Roff S, Poonchali B and Pemba S (2000) Educational environment, student approaches to learning and academic achievement in a Thai nursing school. Medical Teacher 2(4) 359-364.
28. Haidet P and Stein H (2004) The role of the student-teacher relationship in the formation of physicians. Journal of General International Medicine 21 (1) 16-20.
29. Diekelmann N and McGregor A (2003) Students who fail clinical courses: keeping open a future of new possibilities. Journal of Nursing Education 42: 433-436.
30. Hughes F (2006) Nurses at the forefront of innovation. International Council of Nurses. International Nursing Review 53: 94-101.

DOI Number: 10.5958/j.0974-9357.6.1.035

Lessons from the Field: Using the Work of a Department Research Committee to Facilitate Nursing Faculty Research and Scholarship

Lori S Lauver

Associate Professor, Jefferson School of Nursing, Thomas Jefferson University, Philadelphia, PA, 19107, USA

ABSTRACT

The work of faculty on department committees is instrumental in accomplishing the goals of a school of nursing. Using the Boyer Model of Scholarship as a backdrop, the Faculty Research and Professional Affairs Committee at Jefferson School of Nursing, Thomas Jefferson University, Philadelphia, PA, USA, identified three activities, journal clubs, department funding of research, and the sponsorship of a visiting scholarly annually, to support faculty scholarship. Outcomes of implementing scholarship activities are discussed.

Keywords: *Nursing Faculty Scholarship, Nursing Faculty Research, Boyer Model, Journal Clubs*

INTRODUCTION

Faculty participation on department committees plays an important role in meeting school of nursing program goals. Faculty often serves on one or more committees such as governance, curriculum, outcomes and evaluation, or research. Each committee functions to support the mission and vision of the department or school. This article discusses the efforts of a Faculty Research and Professional Affairs committee to facilitate research and scholarship among nursing faculty in the Jefferson School of Nursing (JSN) and support the school's vision and mission.

The Faculty Research and Professional Affairs committee at the JSN, Thomas Jefferson University in Philadelphia, PA, USA was developed as part of the school's committee structure to address faculty scholarship and research needs. The Boyer Model of Scholarship served to guide development of the committee's purpose, goals, and activities. The first principle of the Boyer Model of Scholarship, the Scholarship of Discovery, concerned with building new knowledge with original research, served as a backdrop to identify activities to support faculty research. According to Boyer[1] discovery is needed to generate new knowledge for application, teaching and integration. Boyer's second principle, the Scholarship of Integration, was also important in achieving our goals. Integration is the interpretation of work to bring new insights to original research[1,2]. Integration allows connections to be made across disciplines, and in our case nursing specialties and organizations, helping to create larger intellectual patterns for individuals and the discipline[1,2]. This principle was used to guide decisions about the type of scholarly activity the committee would champion. A third principle, the Scholarship of Application, ties theory to practice. Application is concerned with how new knowledge can be used or applied beyond the walls in which it is conceived[1,2]. The committee sought to develop scholarly activities that would encourage application of findings to practice and teaching, and be useful to SON partners. Finally, Boyer's fourth principle, the Scholarship of Teaching, supports the notion that 'teaching is not about transferring knowledge but transforming and extending it'[1 p.24]. According to Boyer[1], 'good teaching requires faculty to be learners' [p.4]. Thus, the committee selected scholarly activities to assist faculty in becoming well-read scholars, to communicate effectively and be intellectually inspired, thus having the capacity to transform and extend knowledge into the classroom.

To create a culture of scholarship, the committee was structured to promote generational equity and included associate and assistant professors, and instructors prepared at the master's degree level. Senior and junior faculty were viewed as equals; committee decisions were made by consensus. Active engagement of all committee members was

encouraged to prevent isolated decision-making. Given the detailed planning required for activities, longevity in committee membership is encouraged with most members serving a minimum of two years. One member is elected chairperson at the beginning of each academic year.

Meetings are held monthly throughout the academic year; the meeting schedule is set at the end of the previous academic year. At the beginning of each academic year, goals are identified and/or reviewed by committee members then approved by the Associate Dean. Committee goals are designed to dovetail with the overall vision, mission, and goals of the school of nursing. While goals are revised annually and include collaboration with community partners, coordination of annual faculty awards and participation in the accreditation process are additional responsibilities. However, the committee's main focus is in promoting faculty participation in scholarship and research. Three mechanisms identified to assist this endeavor are: sponsorship of a visiting scholar, journal clubs, and department research funding.

Visiting Scholar

The JSN in conjunction with a community partner co-sponsors a visiting scholar, annually in October. The scholar's day budget includes money for the scholar's travel expenses, hotel accommodations, food, and speaker fees or honorarium, and an honorary luncheon. Money also is budgeted for printing and mailing save the date notices; invitations are mailed to SON faculty and co-sponsors and partners approximately 2-3 weeks in advance of the event. Invitees are requested to RSVP at least one week before the event. Co-sponsorship allows for pooling of resources thus reducing costs for both agencies.

Identifying a visiting scholar occurs in the previous academic year. The theme for the scholar's day event is most often suggested by the Dean of the School of Nursing, and in accordance with the JSN and co-sponsoring organization's current goals; all JSN faculty may participate in identifying a scholar speaker. Nurse researchers having extensive leadership and research backgrounds with clearly defined, progressive research are considered. Speaker credentials, specifically practice, teaching, research, and scholarship expertise are evaluated by the committee. After committee members perform a critical review two or three top candidates are identified after which a recommendation is made to the Dean of SON. After the Dean's approval, the chairperson or a designee contacts the researcher to discuss availability, speaker fees, and presentation content.

Journal Club

Originally, journal clubs were valued as means of keeping abreast with the literature in the practice setting. Recently, they have been used to promote evidence based practice, critical appraisal of evidence, social networking, and continuing education units or credits[3]. A notable pitfall had been low attendance at these meetings.

Much has been written about the use and effectiveness of journal clubs to promote scholarly inquiry in academic medicine. A systematic review of the literature by Deenadaylan, Grimmer-Somers, Prior, and Kumar[4] provides insight into both the effectiveness of and characteristics of successful journal clubs. Likewise, Kleinpell[5] described key strategies including the use of journal clubs to encourage nurse participation in research. In the US, West Virginia University School of Nursing in West Virginia, outlined a format and guidelines for faculty journal club presentations[5]. Using this evidence, the faculty research and professional affairs committee created a faculty journal club. Because having a consistent leader has been identified as important to the success of journal clubs[3], one committee member was designated to lead this scholarly activity.

As a committee, the first steps in the process were to determine the frequency of which the journal club would occur and then identify the day and time of week most convenient for faculty participation. Faculty teaching and clinical schedules were evaluated, and the day of week selected based on the largest number of faculty potentially available to attend. Noting time as a precious commodity, the nature of teaching schedules and availability of faculty, the committee determined journal clubs would be held on the same day each month, and at the same time (during the lunch break) whereby faculty could eat lunch while attending the meeting. Because journal club was a new endeavor, during the first year of its existence, members of the committee served as the presenters; topics were identified each month, advertised via posted flyers and e-mail notices. Recruiting presenters was initially challenging but by networking with faculty more became interested in serving in a presenter role. Over time, the practice of

identifying presenters has changed so that identification occurs at the end of the academic year and the list of presenters and topics is finalized and publicized at the beginning of the next academic year. This new practice is extremely useful in that it allows the presenter adequate time for presentation development and for those interested in a particular journal club topic the ability to plan attendance well in advance.

In order to increase the number of presenting faculty, the SON general faculty meeting recently was used as a recruitment tool whereby the chair of the committee discussed the purpose of the journal club, approval processes, and presentation requirements. In addition, committee members solicited individual faculty members requesting they either present a scholarly article of interest retrieved from the literature or present their own publications or research. What was most useful in recruiting presenters was committee members' knowledge of faculty interests and current scholarly work. As the committee's efforts to promote scholarship evolved, those individuals securing a department seed money grant to pursue research became the next generation of presenters for the monthly journal clubs. Individuals receiving department funding present either an article from the literature used in the evidentiary review of a proposal or their own research.

A final step to promote faculty attendance at journal club presentations was the inclusion of continuing education credit (CEU). Journal clubs are one hour in length and equivalent to one CEU. Working with an affiliated clinical agency's nursing education department, and an approved provider of continuing education, the committee was able to apply for and obtain CEUs from a continuing education approving body, the American Nurses Credentialing Center (ANCC)[6]. To receive CEU approval, application forms for both the sponsoring agency and speaker/presenter are completed and submitted to the ANCC. One member of the faculty and professional affairs committee works closely with the CE sponsoring agency to ensure accurate and timely submission of forms.

Seed Money

The introduction of the seed money grant has proved to be an important mechanism in encouraging faculty research. The Dean of the SON sponsors research by including seed money as a line item in the SON budget. The amount available for research varies from year-to-year. Although the faculty research and professional affairs committee does not have a role in the budgeting process, it makes recommendations for the amount of money to be awarded to faculty applicants.

When charged with facilitating faculty research funding, the committee began developing a clear process for applying for a SON grant. A Powerpoint® presentation was developed and a member of the committee or a faculty member with a history of successful application scheduled a presentation for faculty. Slides were subsequently posted on the committee's website for future reference. The presentation included the purpose of the seed money, proposal requirements, timeline for proposal submission, IRB, and dissemination requirements. Proposal requirements are shown in Table 1. Initially, the seed money process presentation was carried out at the end of the fall semester and those interested encouraged to submit a proposal within a few weeks of beginning the spring semester. However, faculty required more time to prepare a complete research proposal and the presentation was changed to the annual fall faculty meeting occurring at the beginning of the academic year.

Evaluation and scoring of research proposals is carried out by each committee member. Scores for each criteria range between one and five, with a total score calculated for all criteria ranging from six to 30. Table 2 shows evaluation and scoring criteria. Proposals are discussed and scores are reported at a routinely scheduled committee meeting, after which scores are totaled for each criterion then averaged. All scores, committee comments, and recommendations for funding are made to the Dean of the School of Nursing. Recommendations may be to fund the research or fund pending clarification or revision. On occasion, a recommendation not to fund the research but resubmit the proposal in the next seed money proposal cycle may be made. However, the final decision for funding and the dollar amount rests with the Dean.

DISCUSSION

Effectiveness and success of the committee can be measured in terms of goals met. Over time, the number of seed money applications has grown from two to seven per academic year. It is anticipated many more research proposals will be submitted for potential

funding as faculty have more leeway to develop a proposal and or consult with committee members on proposal development prior to submission deadlines. Journal club presentations by faculty have remained relatively stable since inception, with one faculty member presenting monthly throughout the academic year. However, since one of the requirements of research funding is dissemination of findings, recruiting presenters is easier. Moreover, developing relationships with community partners has led to an interest in hospital nurses attending faculty led journal clubs and staff nurses presenting scholarly articles at a hospital based journal club.

Annual sponsorship of a visiting scholar will continue. While requiring much planning by the committee, the benefits and rewards in supporting this type of activity are many. One such reward is formation of positive relationships between SON faculty and community partners thereby extending scholarship beyond the walls of academia.

CONCLUSIONS

The methods we identified and implemented to encourage scholarship worked well to stimulate our faculty's participation in research. The use of one or all of these mechanisms may be useful in stimulating scholarship and research in other academic nursing organizations. Added incentives such as tying these activities to faculty evaluations and promotion requirements may also be of value.

Table 1: Research Proposal Checklist

	1. Evidence of completed IRB and HIPPA training
	2. Title
	3. Author
	4. Date of submission
	5. Narrative
	A. Objective/aim
	B. Human Subjects protection via IRB rules
	C. Significance
	D. Activity implementation
	E. Timeline for completion
	F. Methodology, design, sample, data collection, analysis
	G. Future research potential
	H. Budget
	I. Bibliography
	6. Reporting
A written summation of utilization and outcomes at the conclusion of the research.	

Table 2. Seed Money Research Proposal Evaluation Rubric

Criteria	Excellent 5	Very Good 4	Good 3	Fair 2	Undeveloped 1	Score & Comments
Aim of Scholarly Activity	Specific, researchable questions that include the objectives, relate to the rationale, & provide a clear plan for data collection and analysis.	Researchable questions that include the objectives, relate to the rationale, & provide guidance for data collection and analysis.	Research objectives include the researcher's actions, but need refinement to connect to the rationale to provide better guidance for data collection and analysis.	Research objectives that reveal the researcher's area of interest but are not explicitly connected to the research questions and data collection and analysis.	Goals/Aims/ Research Questions and Data collection and/or analysis are unclear.	
Study Significance	Explicit, detailed and thorough rationale for the study that completely references appropriate scholarly literature.	Explicit rational for the study that references some appropriate scholarly literature.	Implied rationale for the study with support from the literature.	Weak rationale/ lack of supporting evidence from scholarly literature.	Lacks a rationale and/or lack of supporting evidence from the literature.	

Table 2. Seed Money Research Proposal Evaluation Rubric (Contd.)

Criteria	Excellent 5	Very Good 4	Good 3	Fair 2	Undeveloped 1	Score & Comments
Methodology Sample Design Analysis	Complete description of : design type, # in sample, measurements & sample methods, timeframe for data collection, control of variables, reliability and validity of instruments, planned analysis.	Identifies most of methodology : design type, treatment, # in sample, measurements to be performed, sampling methods, time frame for data collection, control of variables, reliability and validity of instruments, planned analysis.	Identifies part of methodology design type, treatment, # in sample, measurements to be performed, sampling methods, time frame for data collection, control of variables, reliability and validity of instruments, planned analysis.	Weak description of methodology: design type, treatment, # in sample, measurements to be performed, sampling methods, time frame for data collection, control of variables, reliability and validity of instruments, planned analysis.	No description of : methodology: design type, treatment, # in sample, measurements to be performed, sampling methods, time frame for data collection, control of variables, reliability and validity of instruments, planned analysis.	
Future Research Potential/ Pilot Data for Next Grant Submission	Clearly defined specific plan to expand the study & submit a grant proposal to appropriate agency to apply for funding.	Clearly defined plan to expand the study past the pilot stage with an idea of an agency to apply for appropriate grant funding.	Clearly defines a research plan to expand the study past the pilot stage.	Weak plan for follow through with future research.	Lacks a plan for future research.	
Completion Timeline	Realistic & manageable timeline for collection, analysis, & write-up of data that allows time for revision, feedback & dissemination	Specific timetable for collection, analysis, and write-up of data.	General mention of time needed to complete the project.	Vague mention of time needed to complete the project.	Lacks a timetable.	
Budget	Budget clearly describes how the proposed expenditures will be allocated & support the study's objectives and activities	Budget describes how the proposed expenditures will be allocated and support the study's activities	Budget items generally apply directly to the research.	Some budget items are applied to research while others seem to not apply	Unrealistic budgeted items.	

_____Recommend ______ Recommend with revisions ____ Do not Recommend Comments: Total Score:___________

ACKNOWLEDGEMENTS

The author wishes to acknowledge the service of the members of the Faculty Research and Professional Affairs Committee

Conflicts of Interest: None

Source of Funding: None

Ethics: Report does not involve human subjects and does not require Thomas Jefferson University IRB approval

REFERENCES

1. Boyer EI. Scholarship Reconsidered. Princeton: The Carnegie Foundation for the Advancement of Teaching, 1990.
2. Beattie D. Expanding the View of Scholarship: Introduction. Academic Medicine, 2000; 75(9): 871-876.
3. Swift G. How to make journal clubs interesting. Psychiatric Treatment, 2004; 10: 67-72.
4. Deenadayalan, Y., Grimmer-Somers, K., Prior, M., & Kumar, S. (2008). How to run an effective journal club: A systematic review. Journal of Evaluation in Clinical Practice, 14(5), 898-911.
5. WVU. West Virginia University School of Nursing. Academic Faculty Practice - Journal Club. [online] Available from: http://nursing.hsc.wvu.edu/FacultyPractice/Journal-Club [Accessed 13th September 2013].
6. ANCC. American Nurses Credentialing Center. FAQ Contact Hours (CNE Credit). [online] Available from: http://www.nursecredentialing.org/Functional Category/FAQs/AccreditationFAQs/Accred ContactHoursFAQ [Accessed 13th September 2013].

DOI Number: 10.5958/j.0974-9357.6.1.036

Awareness of Mothers of under Five Year Children Regarding Round Worm Infestation, its Prevention and Management: A Descriptive Analysis

Mamatha G[1], Munirathnamma K[2]
[1]Assistant Professor, Dept. of Medical Surgical Nursing, [2]Assistant Professor, Dept. of OBG Nursing, JSS College of Nursing, Mysore

ABSTRACT

Background: Ascarisis is common during pre-school period from 1-5 years of age when the child begins to lay a more independent life. In India, intestinal parasites are the priority health problem because of unhealthy practice, poor awareness, misbelieve, illiteracy of parents and poverty. Mothers should essentially have the knowledge of early identification and prevention of worm infestation in under five children. So that serious complications associated with intestinal helminthes such as protein energy malnutrition, iron deficiency anemia, and Vitamin A deficiency can be prevented

Materials and Method: The descriptive survey approach was adopted. The population consisted of mothers of under five children in Mysore. Purposive sampling was used to obtain the sample of 100 mothers in selected urban area of Mysore. A two-part questionnaire was used to collect the data. The first part comprised information about mother's age, level of education, occupation, food habits, previous exposure to mass media and health education. The second part contained 30 items about prevention and management of worm infestation

Results: Majority (51%) of mothers belongs to 18 to 25 years of age and majority (45%) of them studied up to high school and majority (93%) were homemakers and their (51%) family income of Rs5000/-, 69% were belongs to mixed dietary habit and majority 93% and 79% had no previous exposure to health education and mass media respectively.

Conclusion: Child care is mostly the responsibility of mothers. The study is undertaken to assess the levels of mothers' knowledge regarding prevention and management of round worm infestation in under five children and to determine whether there is any association between their level of knowledge with age, level of education, occupation, and previous exposure to education information.

Keywords: *Mothers' Knowledge, Round Worm Infestation, Under Five Children*

INTRODUCTION

Worms are parasitic, soft bodied organisms that can infest human and animals. Parasitic worms fall into several different classes and includes flukes, hook worms, round worms, tapeworms, whipworms, and pinworms[1]. The parasitic infestations are acquired by ingestion, inhalation or penetration of the skin by the infective forms. Worm infestation remains one of the main problems of child development[2]. The roundworm that causes ascariasis enters the body in unwashed or contaminated raw food[3].

The World Health organization estimates that infection with round worm, hookworm, whip worm associated morbidity affects approximately 250 million, 46 million and 151 million people respectively. About half of the population in south India, and 50% of school children in tribal areas of central India are affected with ascaris lumbricoides, trichuris trituria and hook worm. Almost half of the pre-school children in India have a high prevalence of intestinal geo-helminthus[4].

Young children have a high infection rate and suffer with a heavy worm burden of *A. lumbricoides*, *Trichuris trichiura* and/or *schistosomes*. These parasitic infections manifest themselves as reduced growth rates through impaired nutrient utilization. Consequently the children are not able to achieve their full potential in physical performance and education. [4]

It is great health hazard in developing countries In India, more than 200 million children are infected with roundworm, hookworm and whip worm; 60-80% of population of West Bengal, Andhra Pradesh, Uttar Pradesh, and Orissa is infected with worms. In low and middle income countries about 1.2 billion people are infected with roundworm and more than 700 million are infected with hookworm or whipworm[5].

The incidence of intestinal helminthes in urban children was 56.8%. While in rural, it was 79.2%. Ascaris lumbricoid was the single pre dominant species in both rural and urban population[6].

Parasitosis is a major health problem in developing countries. This is a major problem in places where safe water supply and other sanitary facilities are lacking. Population with low education and income families are more prone to get this problem, because they do not know about the disease, there transmission methods and ways of prevention[7].

The complications associated with intestinal helminthes are impairment of nutritional status such as protein energy malnutrition, iron deficiency anemia, and Vitamin A deficiency. Although malnutrition is now recognized as having many causes closely related to socio economic factors, available evidence indicates that several of intestinal helminthiases contribute to the generation and persistence of malnutrition in developing countries. Lower standard of personal hygiene, indiscriminate defection and disposal of excreta, low literacy, especially of mothers, lack of food hygiene, improper storage of potable water coupled with lower socioeconomic status have contributed towards high rate of intestinal parasites[8].

A study was conducted to gather the information needed to design an integrated control program for intestinal helminthes. Mothers were questioned about their knowledge and perception of intestinal helminthes, their hygienic habits and health-seeking behavior. Almost all the respondents considered worms harmful and were aware of the need for treatment. More than adequate knowledge was present on ways to prevent infection; good hygienic practices were associated with a low prevalence of infection in the household[9].

From the above statistics and research studies it is clear that there is a need to motivate and improve the knowledge and practice of mothers of under five children in communities on the prevention of worm infestation and research studies also highlights the importance of gathering information on mothers' perceptions and behavior in the design and implementation of a community-based intestinal helminthes control program. Hence the investigators were motivated to conduct the study.

OBJECTIVES OF THE STUDY

1. To determine the levels of knowledge of mothers of under five children regarding round worm infestation as measured by a structured knowledge questionnaire.

2. To find the association between the levels of knowledge of mothers of under five children regarding round worm infestation and with their selected personal variables

Hypothesis

H_1 : There will be significant association between the levels of knowledge of mothers of under five children with their selected personal variables.

Findings

Part I: Sample characteristics

Table 1: Frequency and percentage distribution of mothers of under five children according to their selected personal characteristics N=100

Sl. No	Sample Characteristics		Frequency (f)	Percentage (%)
1	Age (years)			
	a.	18-25	51	51%
	b.	26-30	35	35%
	c.	31-35	6	6%
	d.	Above 35	8	8%
2	Educational Qualification			
	a.	Illiterate	7	7%
	b.	Primary education	28	28%
	c.	High School	45	45%
	d.	PUC & Above	20	20%
3	Occupation			
	Home makers		93	93%
	Coolie		1	1%
	Others		6	6%

Table 1: Frequency and percentage distribution of mothers of under five children according to their selected personal characteristics N=100

Sl. No	Sample Characteristics		Frequency (f)	Percentage (%)
4	**Income**			
	a.	< Rs 2000	36	39%
	b.	Rs 2001 – Rs 5000	51	51%
	c.	> Rs 5000	10	10%
5	**Food Habits**			
	a.	Vegetarian	31	31%
	b.	Non-vegetarian	0	0%
	c.	Mixed	69%	69%
6	**Previous Exposure to health education**			
	a.	Yes	7	7%
	b.	No	93	93%
7	**Previous exposure to Mass media**			
	a.	Yes	21	21%
	b.	No	79	79%

The data presented in table 1 shows that Majority (51%) of mothers belongs to 18 to 25 years of age and majority (45%) of them studied up to high school and majority (93%) were home makers and their (51%) family income of Rs5000/-, 69% were belongs to mixed dietary habit and majority 93% and 79% had no previous exposure to health education and mass media respectively.

PART II: Description of knowledge score of mothers of under five children regarding prevention and management of round worm infestation.

Table 2: Mean, median, standard deviation and range of knowledge score of mothers of under five children regarding prevention and management of round worm infestation. N=100

Variable	Mean	Median	SD	Range
mothers of children between 1- 5years	14.77	15	±4.34	7-28

The data presented in table 2 shows that mean knowledge score of mothers is 14.77 with SD ±4.34 and median was 15.

Table 3: Frequency and percentage distribution of mothers of under five children regarding prevention and management of round worm infestation according to their levels of knowledge. N=100

Level of Knowledge	Frequency	Percentage
Good	43	43%
Average	27	27%
Poor	30	30%

It is evident from the table 3 that majority (43%) had good knowledge regarding prevention and management of round worm infestation.

PART III

Table 4: Association between the levels of knowledge of mothers of under five children regarding prevention and management of round worm infestation with their personal variable. N=100

Personal variables		Levels of knowledge			
		Average & Good	Poor	Chi square value	Level of significance
Age (yrs)					
a.	18-35	46	46	*2	NS
b.	Above 35	6	2		
Educational status					
a.	Educated	50	43	☐ 1.75	NS
b.	Uneducated	2	5		
Occupation					
a.	House makers	49	44	☐ 0.39	NS
b.	Others	3	4		
Family Income (Rs)					
a.	<5000	44	46	☐ 3.62	NS
b.	> 5000	8	2		
Food habit					
a.	Vegetarian	17	14		
b.	Mixed diet	3	34	☐ 0.13	NS

☐ Yates correction p>0.05 $t_{(59)}$ =3.84

It is evident from the Table 5 that there is no significant association between levels of knowledge of mothers of under five children regarding prevention and management of round worm infestation with their personal variable.

CONCLUSION

Awareness of worm infestation among the general public is an integral part of prevention-oriented approach. In view of high incidence of intestinal parasitosis in the pediatric age group and the complications due to these, steps need to be taken for their prevention and prompt treatment, especially in developing countries where malnutrition is co-existent. Therefore gathering information on mothers' perceptions and behavior related to child care helps in the design and implementation of a community-based control programs.

ACKNOWLDGEMENT

We express our thanks to mothers who participated in the study and the authorities who provided permission to conduct the study.

Conflict of Interest

The mother's knowledge about child care influences the nature and quality of care that is given to the child.

The study revealed that, even majority of mothers had good knowledge, more than fifty percentage mothers had average and poor knowledge, signifies the importance of involvement of health care personnel and institutions in health care education.

Ethical Clearance: Ethical clearance was obtained from the ethical committee of the college.

Funding Sources: Not obtained any funds from any sources.

REFERENCES

1. Beers MH, Berkow R, The Merck manual of diagnosis and therapy. NJ: Merck Research laboratories; 2002.
2. Park K. Textbook of preventive and social medicine. 18th ed. Jabalpur: Banarasidas Bhanot; 2005.
3. http://www.therealessentials.com/parasites.html
4. Awasthi S, Verma T, Kotecha PV, Venkatesh V, Joshi V, Roy S *Indian Journal of Medical Sciences.2008 Dec; 62(12): 484-491*
5. Wong DL, Hockenberry MJ. Wong's nursing of infants and children. 7th ed. St. Louis: Mosby; 2003.
6. Dr.Ousepparampil J. Research in Ayurveda. Health action, June 2004; (17):7.
7. www.who.int/water_sanitation_health/takingcharge.html
8. Stephenson LS, Latham MC, Ohesen EA. Global malnutrition parasitology; 2000
9. Curtale F, Pezzetti P, Sharbini AL, al-Maadat H, Ingrosso P, Sad YS, Babille M. Knowledge, perceptions and behaviour of mothers toward intestinal helminthes in Upper Egypt: implications for control. Health Policy Plan 1998 Dec; 13(4):423-32.

DOI Number: 10.5958/j.0974-9357.6.1.037

A Comparative Study on Level of Job Satisfaction among Nurses in Government and Private Hospitals of Andhra Pradesh, India

Gupta M K[1], Reddy S[1], Prabha C[2], Chandna M[3]

[1]Assistant Professor, Institute of Health Management Research, Bangalore, [2]Research Scholar, Institute of Medical Sciences, Banaras Hindu University, Varanasi, [3]Apotex, Bangalore

ABSTRACT

Objective: To find out and compare the level of job satisfaction among nurses in government and private hospitals.

Method: A cross sectional design was adopted for this study in which 15 variables were chosen to assess the level of job satisfaction using a five point Likert scale. Two hundred nurses (100 from government hospitals & 100 from private hospitals) of Andhra Pradesh were interviewed using a non probability sampling technique.

Results: Government nursing employees were more satisfied with their profession as well as salary structure. Migration to gulf countries in future was disagreed by the nursing personals. This disagreement was significantly ($p < 0.05$) more strong among government nursing employees.

Conclusion: The level of job satisfaction is found to be more in case of government nurses as compared to the private nurses.

Keywords: *Job Satisfaction, Nurses, Hospital, Turnover*

INTRODUCTION

Job Satisfaction is one of the most widely explored subjects in the area of Organizational Behavior and Human Resource Management. Satisfied employees are more productive and committed to their jobs, whereas dissatisfied ones experience absenteeism, grievances and turnover.[1] There are five job dimensions that represent the most important characteristics of a job about which people have affective responses. These are: The work itself, Pay, Promotion opportunities, Supervision and Coworkers.[2]

Corresponding author:
Manoj Kumar Gupta
Assistant Professor & Dean Research Coordinator
Institute of Health Management Research, Site No. 319, Thimma Reddy Layout, Huli Mangla Village, Electronic City, Phase I, Near Shikari Palaya, Bangalore
Phone: 9482301473
Email: drmkgbhu@gmail.com

Job satisfaction is an essential element for the maintenance of the workforce numbers of any organization. Unsatisfied workers report a higher intent to leave which leads to high turnover rates and have detrimental effect on the individual, like burnout (a syndrome where the worker experiences emotional exhaustion, depersonalization, and a reduced sense of personal accomplishment).[3, 4] Turnover provides the organization with new ideas and is a normal process. However, it does not need to be unnecessary and excessive.[5]

The growth of managed care has had major financial implications for health care delivery. One of the major implications is the quality of care which is directly affected by the quality of work life of patient care personnel (nurses) and the level of satisfaction they see in their jobs. Nurses play an important role in maintaining the quality and cost of healthcare industry.[6] Healthcare organizations require a stable, highly trained and fully committed nursing staff to provide effective levels of patient care. Nurse's job satisfaction and organizational working environment are found to influence hospital reputation and is

positively linked to patients' satisfaction and to quality of care.[7] Yet a growing shortage of qualified nurses has led to a steady increase in the turnover rate among nurses.[8] Many hospitals are facing this significant problem of nursing turnover which is a major issue impacting the performance and profitability of healthcare organizations.[9] So it is necessary that their needs have to be taken care and a congenial atmosphere is created for them to work with utmost job satisfaction and content, the result of which would be a high quality nursing care.[10]

With this background this study has been planned with the following objective.

OBJECTIVE

To find out and compare the level of job satisfaction among nurses in government and private hospitals.

METHOD

Period of study: This study was conducted for a period of 2 months. Initial 2 weeks were utilized for extensive literature search and designing and finalization of interview schedule. Next one month was utilized for data collection, data entry and quality check. Data analysis and write up were done in last two weeks.

Study design: A cross sectional study design was adopted for this study.

Sampling methodology: A hypothesis had been formulated to check the difference in level of job satisfaction and attitude of nursing employees for their job in private and government hospitals. It is an analytical type of research where data has been collected from nursing staff of 2 government & 2 private hospitals of Andhra Pradesh, with the help of a reliable and validated questionnaire. A sample of 200 Nurses (100 from government hospitals & 100 from private hospitals) has been drawn using a non probability convenience sampling technique. A sample size of 200 was targeted due to limited resources, such as limited amount of time, and budget constraints.

Fifteen variables were included to assess the attitude and level of satisfaction towards their job. A five point Likert type scale has been used in the questionnaire to measure Job Satisfaction of nurses, where the scale rates 5 for strongly agree (SA), 4 for agree (A), 3 for neither agree nor disagree (NAD), 2 for disagree (D) and 1 for strongly disagree (SD).

Analysis of data

Data thus generated was analyzed using Microsoft excel 2007 and SPSS v.16 software. Since the data is primarily categorical in nature (5-point Likert scale), nonparametric (Mann-Whitney U) test are adopted to test the hypotheses.

RESULTS

Table 1: Descriptive statistics for the variables used in the study

S. No.	Factors	Median		Mode		Range		IQR	
		G*	P*	G*	P*	G*	P*	G*	P*
1.	Profession is satisfactory	5	5	5	5	1	1	0	0.75
2.	Salary is satisfactory for the kind of work	4	3	4	3	3	4	1	1.75
3.	Leave permission/granting procedures are satisfactory	4	3	4	3	3	4	0	1
4.	Getting satisfactory benefits (accommodation, food, and incentives)	4	3	4	3	3	4	0	1
5.	Hospital have satisfactory personal welfare and grievance resolution activities	4	3	4	3	3	4	0	1
6.	Feel proud to work in this hospital	4	4	4	4	2	3	1	0
7.	There is Job security	5	3	5	3	1	3	0	0.75
8.	Time bound promotion is job motivator	5	4	5	4	1	4	0	1
9.	Rotational shifts disturb personal life	4	4	4	4	3	3	1	1
10.	Free to discuss any problem with the management	4	4	4	4	4	3	1	0
11.	Supervisors and colleagues are supportive	4	4	4	4	3	3	0	0
12.	There is more clerical work to do than the regular work	3.5	3	4	4	4	4	2	2
13.	High starting salary is the sure fire way to improve employee retention	4	4	4	4	2	2	1	1
14.	Various in training sessions are beneficial	4	4	5	4	3	3	1.75	1.75
15.	Interested in going to gulf countries	2	3	2	3	3	4	1	1.75

G*- Government Hospitals, P*- Private Hospitals, IQR- Inter Quartile Range

Table 1 show the descriptive statistics in terms of median, mode, range and Inter Quartile Range of score of the variables which were assessed in the study both in Government as well as Private Hospitals.

Table 2: Level of job satisfaction among nursing employees.

S. No.	Factors	Mean Score		Mann-Whitney U	P value
		Govt. Hospitals	Private Hospitals		
1.	Profession is satisfactory	4.82	4.75	4650	0.229
2.	Salary is satisfactory for the kind of work	3.68	3.35	4170	0.034
3.	Leave permission/granting procedures are satisfactory	3.89	3.43	3320	<0.01
4.	Getting satisfactory benefits (accommodation, food, and incentives)	3.91	3.28	2781	<0.01
5.	Hospital have satisfactory personal welfare and grievance resolution activities are	3.9	3.48	3876	0.004
6.	Supervisors and colleagues are supportive	3.98	3.93	4829.5	0.634
7.	Feel proud to work in this hospital	4.25	3.92	3725	<0.01

Table 2 shows that the nursing employees who were working in government hospitals were found strongly satisfied towards profession compared to employees who were working in private hospitals, but this relation was not statistically significant. In comparison to private hospitals, nursing employees who were working in government hospitals were significantly ($p < 0.05$) more satisfied with the salary which they were getting for the kind of work, the leave permission/granting procedures of the hospitals, with the benefits viz. accommodation, food, and incentives which they were getting and with the personal welfare and grievance resolution activities of the hospital. Supervisors and colleagues were felt supportive both by government as well as private hospital nursing staff. Government nursing employees had significantly ($p < 0.05$) more proud to work in the hospital as compared to private hospital employees.

Table 3: Attitude of nursing employees for their job.

S. No.	Factors	Mean Score		Mann-Whitney U	P value
		Govt. Hospitals	Private Hospitals		
1.	There is Job security	4.84	3.15	450.0	<0.01
2.	Time bound promotion is motivator	4.94	3.58	880.0	<0.01
3.	Rotational shifts disturb personal life	3.44	3.68	4356	0.095
4.	Free to discuss any problem with the management	3.62	3.9	4435	0.111
5.	There is more clerical work to do than the regular work	3.14	3.08	4870	0.736
6.	High starting salary is the sure fire way to improve employee retention	3.68	4.22	4888	0.751
7.	Various in training sessions are beneficial	3.98	3.9	4775	0.560
8.	Interested in going to gulf countries	2.45	2.98	3380	<0.01

Table 3 shows attitude of nursing employees for their job. Sense of job security was significantly ($p < 0.05$) more among government nursing employees and their consideration for time bound promotion as a strong motivator for job was significantly ($p < 0.05$) strong as compared to private hospital employees. Migration to gulf countries in future was disagreed by the nursing personals. This disagreements was significantly ($p < 0.05$) more strong among government nursing employees. Although compared to government hospitals, private hospital nursing staffs were freer to discuss any problem with the management, yet they perceived more disturbance of personal life due to frequent rotating shifts in hospitals. Majority of private as well as government hospital nursing employees had shown neutral response for the load of more clerical work to do than the regular work. High starting salary was considered as the sure fire way to improve employee retention by all nursing staff irrespective of government or private setup. Government nursing staffs had comparatively strong belief in getting benefits through various training sessions conducted in hospital as compared to private hospitals nursing employees.

DISCUSSION

In the present study it was found that variety of factors acts as the job motivational and de-motivational factors for nursing employees. Those factors affect their dedication regarding professional behaviour and can turn them to find out some alternate ways of job satisfaction. Study conducted by Chen Ai-Hong (2012)[11] reveals that, overall, nurses were relatively more satisfied in terms of supervision, the nature of the work, and communication, but were less satisfied with operating conditions among the 9 facets of the Job Satisfaction Survey scale considered within the profession.

In previous studies[12-15] nurses identified tremendous workloads as the leading cause of dissatisfaction with their job, followed by poor staff cohesiveness, poor staffing, and poor working relationships with administrators.

In this study Government nursing employees were more satisfied with their profession, salary structure, leave granting procedure of the hospital, benefits which hospital administration has provided to them, personal welfare and grievance resolution activities of the hospital, supportive nature of supervisors and co-workers and so they were feeling proud to work in the hospital and showing less interest in migrating to gulf countries as compared to private hospital nursing employees. Beside that they have better feeling of job security, consider time bound promotion as job motivator and have feeling that various in training sessions are beneficial. These findings are in accordance with the findings of Patil SB (2011)[16], who found that nurses of Government hospitals are more satisfied with their salary benefits, the chance of promotion, training and continue education than the nurses of private hospitals. He also indicateed that the working conditions should be improved in private as well as government hospitals. Park .M, Jones B. C (2010)[17] in their study stated the importance of orientation programs among nursing employees and suggested that the orientation programs were successful in improving their confidence in caring for patient and in enhancing their competencies such as knowledge and critical-thinking skills in the clinical environment. By doing so, these programs encourage new graduates to stay in the organization.

Nursing employees in private hospitals have feeling that starting salary should be high to improve employee retention. They were feeling disturbance in personal life due to rotational shifts in the hospital. Although they were freer to discuss any problem with the management and they have less clerical work to do, yet they were showing more interest in going to gulf countries as compared to government hospital employees. Sharma SK et al. (2009)[18] compared attrition rate among public and private hospitals and found that the attrition rate was higher in private hospitals as compared to government hospitals and also found that possible causes for nurses to leave the hospital are lucrative job opportunities ,high salaries ,better quality of life and also recognition of their profession. According to Laschinger et al. (1997)[19] access to more and better information for nurses can be obtained through formal and informal communication channels among nurses and the management team. Communication mechanism available in the government hospitals are poor than those in private hospitals.[16]

CONCLUSION

There are many factors that contribute to satisfaction as well as dissatisfaction in the work place. According to the study conducted nurses from both the sectors seemed to be quite satisfied from their jobs. However the level of satisfaction is found to be more in case of government nurses as compared to the private nurses but at the same time there are certain factors on which private nurses are more satisfied. This type of research could help hospitals to understand the close connection between nurse's job satisfaction and quality of patient care, which in turn improve health care system in the society. Thus in order to increase the level of job satisfaction among nurses hospital management should provide rationalize compensation and promotion policy, establish grievance redressal forums and must provide more and more professional growth opportunities.

LIMITATIONS OF THE STUDY

1. The study was restricted to the nurses working in Andhra Pradesh only. These views may not be attributed to the nurses of the whole country because of economic, social and cultural differences in the attitude and preferences.
2. Due to constraints of resources, the study is limited to small sample size i.e. only 200 nurses.
3. The data was obtained through questionnaire (5-point Likert scale) which has its own limitations.

ACKNOWLEDGEMENT

This work would not have been possible without the support of Dr Dhirendra Kumar (Director IHMR-Bangalore).

Conflict of Interest: None

Source of Funding: Self funded

Ethical Clearance: The study does not have any intervention so ethical clearance is not necessary. However, at the outset the hospital Medical Superintendents (MS) were contacted and explained about the purpose of the study.

REFERENCES

1. Smith D. Increasing Employee Productivity, Job Satisfaction, and Organizational Commitment. Hosp Health Serv Adm 1996;41;160-174. Assessed from http://www.ncbi.nlm.nih.gov/pubmed/10157961
2. Smith PC, Kendall LM, Hulin CL, the measure of satisfaction in work and retirement, Rand McNally, Chicago, 1969. Assessed from http://books.google.co.in/books/about/The_measurement_ of_satisfaction_ in_work.html?id=UcZEAAAAIAAJ
3. Mrayyan MT. Nurse job satisfaction and retention: comparing public to private hospitals in Jordan. J of Nursing Management 2005;13(1):40-50 Assessed from http://www.ncbi.nlm.nih.gov/pubmed/15613093
4. E. G. Lambert, N. L. Hogan, and I. Altheimer, An exploratory examination of the consequence of burnout in terms of life satisfaction, turnover intent, and absenteeism among private correctional Staff. The Prison Journal 2010;90(1):94-114 Assessed from http://tpj.sagepub.com/content/90/1/94.short
5. Marquis BL, Huston JC. 2003 Leadership roles and management functions in nursing theory & application.4th ed. Philadelphia: JB Lippincott Assessed from http://books.google.co.in/books/about/Leadership_ Roles_and_Management_ Function. html?id= 38mzZLwcOe0C
6. Tonges M, Rothstien H, Carter H. Sources of Job Satisfaction in Hospital Nursing Practice. JONA 1998;28:47-61 Assessed from http://www.ncbi.nlm.nih.gov/pubmed/9601493
7. McNeese-Smith D. Job satisfaction, productivity, and organizational commitment. The result of leadership. Journal of Nursing Administration 1995;25(9):17-26 Assessed from http://www.ncbi.nlm.nih.gov/pubmed/7674041
8. Price Waterhouse Coopers (2007). What works: healing the healthcare staffing shortage. PriceWaterhouseCoopers, LLP Assessed from http://www.wiche.edu/info/agendaBook/nov07/presentations/Carparelli.pdf
9. Alexander, J. A., Bloom, J. R., Nuchols, B. A. Nursing turnover and hospital efficiency: An organizational-level analysis. Industrial Relations 1994;33:505-520 Assessed from http://www.escholarship.org/uc/item/8295j6sx
10. K. Santhana Lakshmi, T. Ramachandran. Analysis of Work Life Balance of Female Nurses in Hospitals - Comparative Study between Government and Private Hospital in Chennai, TN., India. International Journal of Trade, Economics and Finance 2012;3(3):213-218 Assessed from http://www.ijtef.org/papers/202-CF02015.pdf
11. Chen Ai-Hong, Jaafar Saidah Nafisah, and Md Noor Abdul Rahim. Comparison of Job Satisfaction among Eight Health Care Professions in Private (Non-Government) Settings. Malays J Med Sci. 2012;19(2):19–26. Assessed from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3431743/
12. Pillay R. Work satisfaction of professional nurses in South Africa: A comparative analysis of the public and private sectors. Hum Resour Health 2009;7:15. Assessed from http://www.human-resources-health.com/content/7/1/15
13. Lyons KJ, Lapin J, Young B. A study of job satisfaction of nursing and allied health graduates from a Mid-Atlantic university. J Allied Health 2003;32(1):10–17. Assessed from http://www.ncbi.nlm.nih.gov/pubmed/12665288
14. Adams A, Bond S. Hospital nurses' job satisfaction, individual and organizational characteristics. J Adv Nurs 2000;32(3):536–543. Assessed from http://www.ncbi.nlm.nih.gov/pubmed/11012794
15. Kaplan RA, Boshoff AB, Kellerman AM. Job involvement and job satisfaction of South African nurses compared with other professions. Curationis 1991;14(1):3–7. Assessed from http://www.ncbi.nlm.nih.gov/pubmed/1845612
16. Patil SB, Choudhari PT. Assessment of job satisfaction and HR practices: a case study for nursing staff. Asian Journal of Research in Social Science & Humanities 2011;1(3):112-118 Assessed

from http://www.indianjournals.com/ijor.aspx?target=ijor:ajrssh&volume=1&issue=3&article=011

17. Park Mihyun, Jones B Cheryl , A Retention Strategy for Newly Graduated Nurses: An Integrative Review of Orientation Programs Journal for Nurses in Staff Development 2010;26(4):142–149, Assessed from http://www.nursingcenter.com/prodev/ce_article.asp?tid=1052774
18. Sharma Suresh k, kamra pawan k. Attrition among nurses in selected public and private hospitals at Ludhiana, Punjab. Nursing and midwifery research 2009;5(4):176-179, Assessed from http://medind.nic.in/nad/t09/i4/nadt09i4p176.pdf accessed on 4/3/2012 Laschinger HK, Sabiston JA, Kutszcher L. Empowerment and staff nurse decision involvement in nursing work environments: testing Kanter's theory of structural power in organizations. Res Nurs Health 1997;20(4):341-52. Assessed from http://onlinelibrary.wiley.com/doi/10.1002/%28SICI%291098-240X%28199708%2920:4%3C341::AID-NUR7%3E3.0.CO;2-G/abstract

DOI Number: 10.5958/j.0974-9357.6.1.038

Effectiveness of Occupational Therapy on Symptoms of Schizophrenia

Minnu Prasad[1], Nalini M[2]
[1]Msc Nursing 2nd year, [2]Associate Professor and HOD of Psychiatric Nursing, Nitte Usha Institute of Nursing Sciences, Nitte University, Mangalore, India

ABSTRACT

Schizophrenia is a group of psychotic disorders that interfere with thinking and mental or emotional responsiveness that last longer than 6months. It affects about 24 million persons worldwide. Due to this, a study was undertaken in selected hospitals of Mangalore with an objective to assess the effectiveness of occupational therapy on symptoms of schizophrenia. Using purposive sampling technique 30 subjects were undertaken for the study. Scale for assessment of negative symptoms (SANS) was used to assess the symptoms of schizophrenia in schizophrenic clients. Statistical analysis revealed that more than half of subjects (53.4%) were within the age group of 21-40years.Both males and females constitute 5o%. About 46.6% of the subjects were married and with lower socio economic status.43.4% were Hindus.36,8% of the subjects completed primary school education. About 40% of the subjects resides in urban area. Majority of the subjects 60% were diagnosed with paranoid schizophrenia. Nearly half of the subjects 63.3% were not on regular medication. Highest percentage of subjects 70%were hospitalized before. Finding reveals that occupational therapy was not effective for negative symptoms of schizophrenia. The calculated t valve (0.942) was lower than the table value (2.05) at 0.05 level of significance

Keywords: *Occupational Therapy, Symptoms of Schizophrenia, Schizophrenic Clients, Effectiveness*

INTRODUCTION

Schizophrenia impairs self awareness for many individuals so that they do not realize they are ill and in need of treatment. Schizophrenia affects about 7 per thousand of the adult population, mostly in the age group 15 – 35 yrs 8. Though the incidence is low (3 - 10000), the prevalence is high due to chronicity. Though its common the disorder has been diagnosed in children as well, approximately 75%of persons diagnosed as having schizophrenia develop their clinical symptoms between the age of 16 and 25 yrs. schizophrenia usually appears earlier in men , in their late teens or early twenties, than in women, who are generally affected in their twenties or early thirties[1]

Effective intervention strategies are available and the cost of treatment of a person suffering from chronic schizophrenia is about 500 per month; the quaint essential principle being "earlier the initiation of treatment, better the efficacy the earlier the treatment is initiated, effectiveness will be more. However, majority of the persons with chronic schizophrenia do not receive treatment, which contributes to the chronicity of the disease[2]

There are different methods to treat schizophrenia, such as drug therapy, psychotherapy. A variant method derived from the research is known as occupational therapy. This treatment focuses on helping patients in achieving independence in all areas of their lives. The concept of this method involves proper guidance and support to patients in doing certain activities that allow them to learn new skills. This also focuses on assisting patients in practicing positive ways to focus on their self-improvement.it provides a creative outlet to patients in opening the doors to some greater recoveries, self improvements, and increased confidence[1].

The occupational therapy helps the patients to work through all the steps by taking the time and concentration on learning new skills. This process can enable them to practice new skills, for instance, frustration tolerance and gaining self-confidence while participating in leisure activities. Of important to let

the patients feel better about themselves and their abilities through this therapy. The program makes the patients feel productive and take pride in their efforts[2].

A program in occupational therapy promotes positive attitude and belief in self; it establishes awareness for sufferers that they can handle and resolve problems by adapting a step by step procedure; and it also brings help to the loved ones of patients[2].

At present, a number of methods are in use there are different methods used by experts to apply occupational therapy on schizophrenic patients. It usually involves valuable pursuits wherein they can develop new skills while establishing other positive attributes that would help them in coping with their mental condition. All activities involved in the program are designed to help patients in maintaining an active mind and restoring normal functioning. By participating in these activities, patients can nurture their minds in a positive and enriching way[2]

Although schizophrenia is a treatable disorder more than 50% of persons with schizophrenia do not receive the appropriate care due them. Recent statistics indicate that about 90% of the population with schizophrenia resides in developing countries. Therefore Care for such individuals can be provided at the community level, with active family and community involvement

METHODOLOGY

A Pre experimental research approach was used for this study. The main goal of the study was to assess the effectiveness of occupational therapy (embroidery in which running method) on symptoms of schizophrenia in schizophrenic clients. The population for the study female and male patients with negative symptoms of schizophrenia who are admitted in psychiatry ward in selected hospitals in Mangalore. Purposive sampling method was used to collect 30 samples, and convenient sampling for selecting the hospitals. The researcher developed -demographic proforma for collecting information from subjects, and symptoms of schizophrenia was assessed using – SANS. Demographic proforma has 11 items and SANS has 5 items and each had a score 0, 1,2,3,4,5,the score were interpreted as o-not at all. 1-questionable decrease, 2- mild, 3- moderate,4- marked, 5- severe. The tool was developed by Nancy C Andersen. Using intra class correlations coefficients reliabilities ranged from 0.83 to 0.92 ,Internal consistency for the total scores was .90 for the SANS. The samples for interventional group were selected based on the inclusion criteria and assessed the symptoms of schizophrenia in those subjects then Occupational therapy (embroidery in which running method) is given to schizophrenic clients for 12 hours weekly for 30 days. Symptoms were assessed after occupational therapy using SANS .Finally data was analysed using frequency percentage, paired t test, and fishers exact test.

FINDINGS

1. Majority of subjects 53.4% were within the age group of 21-40yrs Both males and females constitute to 50%. about 46.6% of the subjects were married and with lower socio economic status.43.4% were Hindus.36,8% of the subjects completed primary school education. About 40% of the subjects resides in urban area. Majority of the subjects 60% were diagnosed with paranoid schizophrenia. Nearly half of the subjects 63.3% were not on regular medication. Highest percentage of subjects 70%were hospitalized before.

Table 1: Distribution of Sample n= 30

Demographic Variables	Frequency	Percentage
Age		
Less than 20 years	0	0
21-40 years	15	53.4
41-60 years	14	46.6
More than 61	0	0
Gender		
Male	15	50
female	15	50
Marital Status		
Married	14	46.6
Unmarried	4	13.4
Widow/widower	3	10
Separated	5	16.6
Divorce	4	13.4
Religion		
Hindu	13	43.4
Christian	9	26.6
Muslim	8	30
Others	-	-
Socio Economic Status		
Lower class	14	46.7
Middle class	10	33.3
Upper class	6	20

Table 1: Distribution of Sample n= 30 (Contd.)

Demographic Variables	Frequency	Percentage
Education		
Illiterate	0	0
Primary school	11	36.8
High school	9	30
Puc/diploma	5	16.6
Pg/graduate	5	16.6
Residence		
Urban	12	40
Rural	8	26.7
Semi urban	10	33.3
Type of Schizophrenia		
Paranoid	18	60
Residual	0	0
Hebephrenic	0	0
Undifferentiated	5	16.7
Catatonic	0	0
Schizo affective	7	23.3
Disorganized	0	0
Duration		
Acute	4	13.3
Chronic	22	73.4
Semi acute	4	13.3
On Regular Medication		
Yes	11	36.7
No	19	63.3
Previous Hospitalization		
yes	21	70
no	9	30

2. 100% of subjects have no unchanging facial expression, Paucity of expressive gestures Affective non responsivity, Lack of vocal inflections, Inappropriate affect, Global rating of affective flattening, Blocking Increased latency of response Global rating of alogia, Physical anergia, Global rating of apathy, Global rating of attention, global rating of asociality.

Majority of subjects 73.3% have no decreased spontaneous movements, 6.7% have mild, moderate, severe symptoms, 3.3% have marked symptoms.

Majority of 63.3% have no poor eye contact 13.3% have severe symptoms.

53.3% of subjects have no poverty of speech, 16.7% have mild symptoms, 13.3% have severe symptoms, 3.3% have marked symptoms rest have6.7% have moderate and questionable decrease in symptoms.

In poverty of content of speech, majority of subjects have 73.3% no symptoms, 16.7% have moderate symptoms, 6.7% have severe symptoms, 3.3% have mild symptoms.

50% are not maintaining grooming and hygiene , 16.7% have mild, 13.3% have questionable decrease, 6.7% have moderate, marked, severe symptoms.

Majority of subjects reveals that 63.3% have no impersistence at work or school, 13.3% have moderate symptoms, 10% have marked symptoms, 6.7% have severe symptoms, 3.3% have mild and questionable decrease symptoms.

70% have no recreational interests and activities, 13.3% have mild ,6.7% have severe.

Highest percentage of subjects 96.7% have no sexual interests and activities, 3.3% have marked symptoms.

96.7% have no Ability to feel intimacy and closeness, 3.3% have mild symptoms.

70% have not maintaining relationship with friends and peers 3.3% have severe symptoms, rest 6.7% have mild moderate, marked symptoms

In social inattentiveness 10% have mild social inattentiveness and 6.7% have moderate social inattentiveness. Highest percentage of the subjects 83.3% have no social inattentiveness.

53.3%have no inattentiveness during MSE 16.7% have severe inattentiveness during MSE, 10% have questionable decrease and rest 6.7% have mild moderate, marked inattentiveness during MSE.

3. Effectiveness of occupational therapy on symptoms of schizophrenia was analyzed by "paired t test . The results revealed that the mean post test score of the subjects by rating scale(11.133) were significantly higher than pre test score(10.90) of the subjects. The calculated t valve (0.942) was lower than the table value (2.05) at 0.05 level of significance. The result showed in this study was that occupational therapy was not effective for negative symptoms of schizophrenia..

Tab 2: Paired'T' test value between the Pre test and Post test scores of the Subjects by sans to assess the occupational therapy and symptoms of schizophrenia n=30

	Mean	sd	t value	df	P value
Pre test	10.90	4.543	0.942	29	0.354
Pos test	11.133	4.240			

t_{29}=2.05 $p<0.05$ level

4. The effectiveness of occupational therapy in affective flattening/ blunting showed that the mean post test score of affective flattening/ blunting by SANS scale (2.23), were significantly higher than the pre test score (2.0) of the subjects. The calculated t value (1.56) was lower than the table value (2.05) at 0.05 level of significance. The results showed that occupational therapy was found to be not effective in negative symptoms of schizophrenia(affective flattening/ blunting)

Effectiveness of occupational therapy in alogia showed that the mean post test score of alogia by SANS scale (1.06), were significantly higher than the pre test score (1.0) of the subjects. The calculated 't' value (0.34) was lower than the table value (2.05) at 0.05 level of significance. The results showed that occupational therapy was found to be not effective in negative symptoms of schizophrenia(alogia)

Effectiveness of occupational therapy in apathy showed that the mean post test score of apathy by SANS scale (1.36), were significantly higher than the pre test score (1.26) of the subjects. The calculated 't' value (0.57) was lower than the table value (2.05) at 0.05 level of significance. The results showed that occupational therapy was found to be not effective in negative symptoms of schizophrenia(apathy)

Effectiveness of occupational therapy in asociality showed that the mean post test score of asociality by SANS scale (1.88), were significantly higher than the pre test score (1.66) of the subjects. The calculated 't' value (1.75) was lower than the table value (2.05) at 0.05 level of significance. The results showed that occupational therapy was found to be not effective in negative symptoms of schizophrenia(asociality)

Effectiveness of occupational therapy in attention showed that the mean post test score of attention by SANS scale (1.933), were significantly higher than the pre test score (1.866) of the subjects. The calculated' t value (0.284) was lower than the table value (2.05) at 0.05 level of significance. The results showed that occupational therapy was found to be not effective in negative symptoms of schizophrenia (attention).

Tab 3: Item Wise Paired't' Test Value Between the Pre Test and Post Test Score of the Subjects by Sans to Assess Occupational Therapy and Symptoms of Schizophrenia

Sl.No	Items	Pre Test		Post Test		T Value	Df	P Value
		Mean	Sd	Mean	Sd			
1	**Affective Flattening Blunting**	2.0	1.74	2.23	1.43	1.56	29	0.129P>0.05NS
2	**Alogia**	1.0	0.74	1.06	1.25	0.348	29	0.73P>0.05NS
3	**Avolition- Apathy**	1.26	0.739	1.366	1.21	0.571	29	0.573P>0.05NS
4	**Anhedonia-asociality**	1.66	1.72	1.9	1.88	1.75	29	0.09P>0.05NS
5	**Attention**	1.866	1.925	1.9333	.827	0.284	29	0.778p>0.05NS

5. Association of symptoms of schizophrenia (attention) with demographic variables is assessed using fishers exact test . The result revealed that there was no significant association between the symptoms of schizophrenia(attention) and age, gender, socio economic status, education, religion, type of schizophrenia, duration of illness, previous hospitalization and previous medication of subjects at 0.05 level of significance.

Table 4: Association between the Attention and Selected Demographic Variables

Areas	Mild	Moderate	Severe	LOS
Age				
21-40	7	6	4	P>o.o5 0.207 NS
41-60	8	2	3	
Gender				
Male	10	5	2	P>0.05 0.385, NS
Female	5	3	5	
Socio economic status				
Lowerclass	9	7	1	P>0.05 0.06 NS
Middle class	3	1	4	
Higher class	3	0	2	
Education				
Primary school	7	5	1	P>0.05 O.359 NS
High school	2	0	2	
Puc/diploma	4	1	3	
Pg/graguate	1	2	2	
Marrital status				
Married	9	4	4	P>0.05 0.526 NS
Unmarried	1	1	1	
Widow/widower	0	1	1	
Separated	4	0	1	
Divorsed	1	2	0	
Residence				
Urban	7	3	3	P>0.05 O.243 NS
Rural	4	4	0	
Semi urban	4	1	4	
Type of schizophrenia				
Paranoid	9	6	5	P>0.05 0.645 NS
Undifferenciated	3	0	1	
Schizo affective	3	2	1	
Duration of illness				
Acute	5	0	2	P>0.05 0.65 NS
Chronic	9	7	5	
Semi acute	1	1	0	
Previous medication				
Yes	8	2	2	P>0.05 0.772 NS
No	7	6	5	
Previous hospitalization				
Yes	9	7	6	P<0.05 0.168 NS
No	6	1	1	

NS- not significant

DISCUSSION

Section I: Description of sample characteristics

- The demographic characteristics of the study indicate that 53.4 %(15) of the subjects were in the age group of 21 – 40 years and 46.6 %(14) in 41 – 60 years.

The above study was supported by a study conducted in Israel by Noomi Katz and Navah Keren has showed that most subjects were under the age range of 20-38[3]

Both male and female subjects constitute the same percentage for the present study i.e. 50%.

The above study was supported by a study conducted on the age and gender effects on negative symptoms of schizophrenia among two various age groups revealed that gender was not significant for any outcome measure. [4]

Section2: Effectiveness of occupational therapy on symptoms of schizophrenia

Mean pre test balance scores in the experimental group were10.9, whereas after intervention the post test means scores is increased to11.133, which showed no significant improvement in the symptoms after intervention. t calculated value (0.942) is lesser than t table value (2.05) at 0.05 level of significance. Hence, it was concluded that occupational therapy is not an effective strategy for symptoms of schizophrenia

Extensive review of literature was carried out to find the effectiveness of occupational therapy on symptoms of schizophrenia. . But no supportive studies were found.

Section 3: Association between attention and selected variables.

The calculated value for age (1.19), gender(1.112), socio economic status(0.7), education(0.12), residence(0.224), type of schizophrenia(0.89), duration of illness(0.679), previous hospitalization(1.77) and previous medication (0.65)of subjects is less than table value (2.05)at 0.05 level of significance. Hence there is no association between attention and age. Gender, socio economic status, education, residence, type of schizophrenia, duration of illness, previous hospitalization and previous medication.

Extensive review of literature was carried out to find association between attention and demographic variables. But no supportive studies were found.

CONCLUSION

Schizophrenia affects about 24 million persons worldwide. It is a treatable disorder, with treatment being more effective in the initial stages of the disease course. However, more than 50% of persons with schizophrenia do not receive the appropriate care due them. Recent statistics indicate that about 90% of the population with schizophrenia resides in developing countries. Therefore Care for such individuals can be provided at the community level, with active family and community involvement [2]

ACKNOWLEDGEMENTS:

Heartfelt thanks to all those who supported in any respect during the completion of the study

Conflict of Interest: None

Source of Funding: None

Ethical Clearance: Obtained from Ethical Committee of Nitte University, Mangalore held on 16 th February 2012.

REFERENCE

1. Schiziphrenia(internet):http://www.who.int/mentalhealth/management/schizophrenia/en
2. Importance of occupational therapy in schizophrenia (internet) http://www.ncbi.nim.nib.gov/pmc/articles/pmc1140960/
3. Katz Noomi, Keren Navah. On effectiveness of occupational goal intervention in schizophrenic clients, (internet) http://jot.aotapress. net/content/ 65/3/287 .abstract
4. Liberman, R.P, Wallace C.J, occupational therapy for persons with persistent schizophrenia. American Journal of Psychiatry, 155(8), p. 1097-1091

DOI Number: 10.5958/j.0974-9357.6.1.039

A Comparative Study to assess the Effectiveness of Video Recorded Instruction and Pamphlet Regarding Prevention of Swine FLU among High School Children, in Selected Schools of Belgaum City

Moreshwar S A[1], Yumnam M[2], Shivaswamy M S[3]
[1]Asso professor, HOD of Community Health Nursing, KLEU's Institute of Nursing Sciences, Belgaum, [2]Lecturer, RIMS College Of Nursing, Imphal, [3]Professor, Department of Community Medicine, JNMC, KLE University, Belgaum

ABSTRACT

"A comparative study to assess the effectiveness of video recorded instruction and pamphlet regarding prevention of swine flu among High school children, in selected schools of Belgaum city."

The school children are at risk of getting infection, because of their closeness in the group at the same time. The school environment offers a great opportunity to educate school children, since school children are available at a large group at given particular time and place. Looking at the gravity of the situation created by H1N1 and the pace at which it is spreading in a country there is an urgent need to improve people's understanding about H1N1 flu by developing effective, interesting and easily accessible educational material regarding cause, spread and prevention of swine flu to ensure that the spread is arrested. Since the most effective prevention program involves educating the population at risk, motivating the population to protect themselves and changing individual's behavior. The objectives of the study were to assess the knowledge of school children on cause, spread and prevention of Swine flu; to evaluate the effectiveness of video recorded instruction and pamphlet on cause, spread and prevention of swine flu, to compare the results of video recoded instruction and pamphlet. The study was conducted using one group pretestposttest design. The study was conducted on a sample of 100 subjects, 50 each for one group, using systematic random sampling technique. . Data collection was done through structured questionnaire. Data obtained were tabulated and analyses in terms of objectives of the study using descriptive and inferential statistics.

The findings of the study revealed that pamphlet administration was effective to enhance the knowledge of subjects on the cause, spread and prevention of swine flu as compare to video recorded instruction

Keywords: *Video recorded instruction, Pamphlet instruction, School children, Swine flu*

INTRODUCTION

Children are the future of the nation. If the children are healthy, the nation is bound to be strong. In the light of these observations, it was felt that the health education to school children is important.[1]

Health education helps in preparing the younger generation to adopt measures to remain healthy so as to help them to make the best use of educational facilities to utilize in a productive, constructive manner, to enjoy recreation and to develop concern for others[1]. Health education helps the younger generation to

become healthy and useful citizens who will be able to perform their role effectively for the welfare of themselves, their families, the community at large and the country as a promotion of positive health of school children[2].

Educational technologists as well as curriculum experts have proved that video recorded instruction has high potential in the teaching and learning situation for it can multiply and widen the channels of communication[3].

Pamphlet helps to increase interest and help to gather information in an organized manner. It helps to attract children.[4]

Swine influenza was first proposed to be a disease related to human influenza during the 1918 flu pandemic, the first identification of an influenza virus as a cause of disease in pigs occurred about ten year later in 1930[5]

First case of Swine flu was found in a small town in Mexico in the spring of 2009. The fact that the rates of infection and death had held steady throughout the summer, a time in which cases of the flu usually drop off is new, however in June 2009 the World Health organization (WHO) announced that the disease had reached global pandemic level a distinction that refers to the spread of the condition, not to its severity[6].

The school children are at risk of getting infection, because of their closeness in the group at the same time. The school environment offers a great opportunity to educate school children, since school children are available as a large group at given particular time and place[7].

METHODOLOGY

This was an evaluative approach which was one group pre-test post –test design. Study was conducted in two English medium schools of Belgaum that is Benson English Medium high School and St. Paul English Medium High School. Study was conducted during Jan- Feb 2011. A systematic random sampling was used. The sample area selection comprised of two zone that is south zone and north zone school. The study subjects included 50 each in two groups who were studying in class VIII and IX. Data from school children was collected through a structured questionnaire. Process of data collection were, pre-test knowledge questionnaire was distributed after this video recorded instruction was administered in Group I and after 7 days post test was conducted. Similarly in Group II pre-test knowledge questionnaire was distributed followed by pamphlet distribution and after 7 days post-test was conducted.

The maximum score for knowledge was 40.The knowledge scores was divided into three categories viz; good, average and poor according to the mean and standard deviation.

The reliability of the tool was tested by split half method by using Karl Pearson's Co-efficient of correlation formula. The reliability result is r=0.99.The collected data was analyzed by using descriptive and inferential statistics.

OBSERVATION AND RESULTS

In the first group that is video recorded instruction, pre-test conducted among 50 subjects, 43(86%) had average knowledge scores, 7(14%) had poor knowledge scores and none had good knowledge scores. After 7 days post –test was conducted among 49, 22(42.85%) have average knowledge score, 21(42.85%) have average knowledge score and 6 (12.24%) had poor knowledge score.

In the second group that is pamphlet, pre-test conducted among 50 subjects,12 (24%) had good knowledge score, 30(60%) had average knowledge score and 7 (14%) had poor knowledge score. After 7 days post-test was conducted among 49, 39 (79.59%) had good knowledge, 7(14.28%) had average, 4(8.16%) had poor knowledge score.

There was significant increase in post-test knowledge scores through pamphlet distribution. The gain in knowledge score was significant at p *=0.0015 (p<0.001) and calculated paired t is 11.66. Findings revealed that pamphlet distribution was effective to improve knowledge under study. There was significant increase in post test scores through video recorded instruction. The gain in knowledge score was significant at p*=0.0015 (p<0.001) level and calculated paired t is 6. Finding revealed that video-recorded instruction was effective to improve knowledge among school children.

There was significant increase in the post-test knowledge score in learning through pamphlet distribution than video recorded instruction. The gain in knowledge score was statistically significant as p*=0.0015 (p<0.001) level and calculated unpaired't'=2.03. Therefore the finding reveal that

pamphlet distribution on cause, spread and prevention of swine flu was more effective than video-recorded instruction to improve the knowledge of the subjects, under study.

Table 1: Mean median, mode, standard deviation and range of knowledge score of subjects on the cause, spread and prevention of swine flu: n=50

Area of analysis	Mean	Median	Mode	SD	Range
Pre-test (x)	22.26	22	20.8	3.57	15
Post- test (y)	27.55	29	31.9	6.5	24
Difference(y-x)	5.29	7	11.1	2.93	9

Table 1: Depicts that the mean post- test knowledge score are higher than the mean pre- test knowledge score.

Table II: Distribution of knowledge scores of subjects on the cause, spread and prevention of swine flu through video recorded instruction n=50

Knowledge score	Pre-test		Post-test	
	Frequency	%	Frequency	%
Good >(Mean+1 SD) (30-40)	-	-	22	44.89
Average(Mean-1SD) to (Mean+1SD) (19to 29)	43	86	21	42.85
Poor < (Mean-1SD) (0 to18)	7	14	6	12.24

TABLE II: Reveals that in pre-test 43(86%) had average knowledge, 7(14%) had poor knowledge and none had good knowledge and in post-test 22(44.89%) had good knowledge, 21(42.85%) had average knowledge and 6(12.24%) had poor knowledge.

TABLE III: Distribution of knowledge scores of subjects on the cause, spread and prevention of swine flu through pamphlet distribution n=50

Knowledge score	Pre-test		Post-test	
	Frequency	%	Frequency	%
Good >(Mean+1 SD) (30-40)	12	24	39	79.59
Average(Mean-1SD) to (Mean+1SD) (19to 29)	30	60	7	14.28
Poor < (Mean-1SD) (0 to18)	7	14	4	8.16

Table III: Reveals that, in pre-test 30(60%) had average knowledge, 7(14%) had poor knowledge and 12(24%) had good knowledge and in post-test 39(79.59%) had good knowledge, 7(14.28%) had average knowledge and 4(8.16%) had poor knowledge.

TABLE IV: Mean difference, Standard Error of Difference (SED), hypothesis and paired't' values of knowledge score on the cause, spread and prevention of swine flu. (n=50)

Mean difference (d)	Standard error) Difference(SED)		Paired't' values	Hypothesis
	calculated	tabulated		
5.24	6.29	06	1.960	Reject Ho
6.53	3.97	11.66	1.960	Reject Ho

Table IV: Reveals that, there was significant increase in post-test knowledge scores through video recorded instruction. The gain in knowledge score was statistically significant at p*<0.0001 level and calculated paired't' = 6; hence the research hypothesis Ho is rejected. Findings revealed that video recorded instruction on cause, spread and prevention of swine flu was effective to improve the knowledge of subjects under study. There was an increase in the post test knowledge scores through pamphlet distribution also.

TABLE V: Mean difference, Standard Error of Difference (SED), hypothesis and unpaired't' values of knowledge score on the cause, spread and prevention of swine flu. (n=50)

Mean difference (d)	Standard error) Difference(SED)		Paired't' values	Hypothesis
	calculated	tabulated		
2.89	7.10	2.03	1.96	Reject Ho

TABLE V: Reveals that, there was significant increase in the post test knowledge score in learning through pamphlet distribution than video recorded instruction. The gain in knowledge score was statistically significant as p*=0.0015(p<0.001) level and calculated unpaired't'=2.03. Therefore the finding revealed that the pamphlet distribution on cause, spread and prevention of swine flu was more effective than video-recorded instruction to improve the knowledge of the subjects under study.

DISCUSSION

The present study has been undertaken to assess the effectiveness of two teaching strategies on cause, spread and prevention of swine flu in terms of knowledge among the high school children of class VIII and IX in Belgaum.

Main findings of the study are discussed under the following sections

1. The first objective of the study was to assess the knowledge of school children's, on cause, spread and prevention of swine flu:

Section I: Description of Knowledge scores

Section I represents minimum knowledge score in anatomy and physiology of respiratory tract, whereas in the post test maximum gain knowledge score was in the same area the reason could be due to effect of video recorded instruction.

The results were contradicting with the study done by Denela Daneila which revealed that, there was a significant increased knowledge for patients who viewed the video recorded instruction than those who were in control group8.

It represents minimum knowledge score in the area of knowledge regarding cause of swine flu, whereas in the post test maximum gain in knowledgescore was in the same area, the reason could be due to much attention was paid by the subjects through pamphlet.

Section II: Mean, Median, Mode and Standard deviation and Range of knowledge scores of school children**.**

It shows an apparent increase in mean, median, mode, SD and range of pre-test and post-test score of 50 subjects by using pamphlet regarding cause, spread and prevention of swine flu.

Section III: Distribution of knowledge scores of subjects on swine flu

It depicts that in the pre-test none of thesubjects had good knowledge score while in the post- test there were 22subjects (49.89%) had good knowledge score. This could be attributed to the cause that, much in attention was paid by the subjects through video-recorded instruction.

The similar finding was shown by the study conducted By Sadiq Ahmed Shaikh the result revealed that in the pre-test only 6(20.00%) had good knowledge, while in the post there was enhancement of 30 (100%) knowledge score[7].

In the pre-test 12(24%) had good knowledge, while in the post –test there were enhancement of 39 (79.59%) knowledge scores. This could be attributed to the cause that much attention was paid by the subjects through pamphlet distribution.

2. **Evaluate the effectiveness of video instruction and pamphlet on cause, spread and prevention of swine flu**

Results revealed that, there was significant increase in post-test knowledge scores through video recorded instruction. The gain in knowledge score was statistically significant at p*<0.0001 level and calculated paired't' =6 hence the research Hypothesis Ho is rejected. Findings revealed that video recorded instruction on cause spread and prevention of swine flu was effective to improve the knowledge of subjects under study. This could be attributed to the cause that much attention was paid by the subject through pamphlet distribution as compared to video recorded instruction.

There was increase in the post test knowledge scores through pamphlet distribution. The gain in knowledge score was statistically significant at p*<0.0001 level and calculated paired 't'= 11.66, hence the research hypothesis Ho is rejected .Findings revealed that, pamphlet distribution on cause, spread and prevention of swine flu was effective to improve the knowledge of the subjects under study. This could be attributed to the cause that much attention was paid by the subjects through pamphlet distribution as compared to video recorded instruction.

3. **Comparison the results of video instruction and pamphlet**

Results revealed that, there was statistically significant increase in post–test knowledge score through pamphlet distribution than compared to video recorded instruction.

These findings are supported with the study done by Kabakian Khasholian T, Campbill OM which revealed that, women appointment for postpartum

visits by distributing intervention booklet increased their knowledge and their use of health service[9].

CONCLUSIONS

The findings of the study showed that both the methods are effective teaching strategies. As a comparison Pamphlet distribution was more effective teaching strategy to improve the knowledge of school children than video recorded instruction.

ACKNOWLEDGEMENT

We express our thanks to participants and the authorities who provided permission to conduct the study.

Conflict of Interest

The school children are at risk of getting infection, because of their closeness in the group at the same time; hence the present study intendsto assess the effectiveness of video recorded instruction and Pamphlet regarding prevention of swine flu among High school children. Reinforcement of known ideas and impartation of new ones, allows the learner to correlate all the areas included in the education programme. Information regarding cause, spread and prevention of swine flu through pamphlet distribution and video instruction will be useful for prevention of swine flu to the budding students, who in turn will share this information not only in the school setting, but also in community at large.

Source of Funding: Self-funding

Ethical Clearance: Ethical clearance was taken from Chairman of Ethical Clearance Committee- Principal, Prof. Sudha A Raddi, Vice Principal and Secretary, Prof. Milka Madhale, KLEU'S Institute of Nursing Sciences, Belgaum.

REFERNCE

1. Pb. Health government. School health programmed (online) Nov 2009. Available from Pb health.gov.in/pdf/school/20 health.
2. Haag Helen Jessie. School Health program, American publishers, HollyRiehart and Winston Inc 1968; New York p 210.
3. Videotape- definition of videotaped by free online dictionary (online) Jun 2009. Available from www.thefreedictionary.com/videotaped.[cited on feb 2011]
4. Wikipedia. Pamphlet (online) June 2008. Available from en.wikipedia.org/wiki/pamphlet
5. Swine influenza- Wikipedia, the free encyclopaedia (online) may 2009. Available from en.wikipedia.org/wiki/swine influenza officials.
6. An introduction to Influenza 9H1N1 or "Swine flu" from the Times Topic page on Swine flu (online) May 2009. Available from www.nytimes.com/.../20090501 H1N1
7. Park K, Text book of Prevention and Social Medicine. 20th ed. Jabalpur Banarsidas Bhanot publishers,2009,p498-501
8. Denela Daneila .Effectiveness of general health promotion teaching for patients in the waiting room, using focused videotaped instruction (online) Jan 2009. Available from http://www.ncbi.nlm.nih.gov/pubmed
9. T Khasholian-kabakian, OM Campbell. A simple way to increase service use triggers of women's uptake of postpartum services. (online) Sep 2008. Available from http://www.ncbi.nlm.nih.gov/pubmed [cited on feb 2011]

DOI Number: 10.5958/j.0974-9357.6.1.040

Nurses' Compliance at Reporting Patient's Pain: Shift Handover Observations from a Tertiary Care Hospital in Karachi, Pakistan

Nazbano Ahmedali[1], Fauziya Ali[2], Nasreen Sulaiman[2], Rozina Roshan[3], Zohra S Lassi[4]

[1]Instructor, [2]Assistant Professor, Aga Khan University, School of Nursing and Midwifery, [3]Manager Nursing Practices, Aga Khan University Hospital, [4]Senior Instructor, Research, Division of Women and Child Health, Aga Khan University

ABSTRACT

Pain is a common and serious problem that affects patients' physical, psychological and social wellbeing. Evidence suggests that pain is under-identified and under-reported by nursing personnel. Assessing nurses' compliance at reporting patients' pain at shift handover was the component of the study aimed at assessing the compliance of nursing shift handover practices. This descriptive cross-sectional study recruited a total of 43 nurses from a medical and surgical unit of a tertiary care hospital. Each nurse's shift handover practices were observed and evaluated against the ISBAPARRST tool. This tool was adapted by incorporating the study setting's shift report policy and tool, and evidence based literature. The tool's content validity and inter-rater reliability was also verified (K=0.938). A total of 129 nursing shift handover observations were made, out of which 9.3% of the observations showed that nurses were compliant at reporting patients' pain; however, 90.7% of the observations showed nurses' noncompliance. The study findings suggest that report on patient's pain is often missed at nursing shift handover; and whenever integrated, the pain scale score is never specified. On the basis of study findings, recommendations are made in relation to nursing administration, education and research.

Keywords: *Pain, Pain Assessment, Pain Report, Nurses Report on Pain, Nursing Shift Handover*

INTRODUCTION

Pain is highly subjective experience, and it is one of the most common reasons for patients to seek medical help[24]. Pain has been associated with the decline in socialization, impaired level of functioning, sleep disturbance, and depression among patients in different settings [3, 17, 22, 26]. Pain, because of its significant impact on patients' wellbeing, is regarded as the fifth vital sign [24]. According to The Joint Commission (TJC) pain management standards 2001; nurses are required to screen patients for pain during their initial assessment and periodically throughout their shift [16]. However, evidence indicates that pain is under-identified and under-reported by the nursing personnel [2, 15]. Two major reasons for under-reporting and under-identification are lack of timely assessment and reassessment of patients' pain by the nursing staff [5]; and lack of nursing personnel's ability to evaluate pain in cognitively impaired older adults [13].

It is certain that nurses play pivotal role in efficient pain assessment and management [7] as they spend more time with the patient than any other healthcare team members [12]. Therefore, it seems reasonable to assume that bedside nurses can aid continuous assessment and management of patients' pain by adding a report on patients' pain in shift handovers. Where timely and effective flow of information between nurses and doctors has been claimed to contribute to efficient pain management [21]; nurse to nurse communication during shift handovers has been an area that needs illumination. Though substantial numbers of studies have explored pain assessment and management from different dimensions, there is scarcity of literature that has assessed the role of shift handover communication in efficient pain assessment and management. Thus, assessing nurses' compliance at reporting patients' pain at the shift handover was the component of the study aimed at assessing the compliance of nursing shift handover practices.

METHOD

This cross-sectional study was conducted at TJC certified private tertiary care hospital (TCH) in Karachi, Pakistan. This research was approved by the Ethical Review committee of the participating institution. Convenience sampling technique was used to select one medical and one surgical unit. However, universal sampling technique was used to enroll nurses and all the nurses working at selected medical and surgical unit were included in the study. Each study participant was informed about the purpose of the study and voluntary consent was obtained. The demographic information regarding participants' age, gender, highest professional degree, graduating institute, years of experience, and current position was obtained. Participants' confidentiality and anonymity was maintained throughout the study. In total, 43 nurses participated in this study and each of them was observed thrice (once in each nursing shift) while she/he gave shift handover to the upcoming nurse. Each nurse's shift handover communication was observed for the presence of report on patient's pain, and to identify if the report on patient's pain integrated the numeric rating scale (NRS) which is currently used in all the units of the selected TCH. The observations were guided by the ISBAPARRST tool and the data related to patient's pain report was one of the subcomponent under the "assessment" section. This tool was adapted by incorporating the TCH's shift report policy, and tool, and the available evidence based handover tools[1,4, 6, 8,9,10, 18, 25, 28, 30]. The study tool's content validity was established through expert opinion; this tool was reviewed by 10 experts that included clinician, clinical nurses, educators, and nursing administrators. The Tool underwent a few changes after the experts' feedback. Tool's inter-rater reliability was also tested. The tool has demonstrated good inter-rater reliability (K=0.938). A total of 129 structured shift handover observations were made in three nursing shifts (morning, evening and night); on week days and weekends (table 1) and all 129 observations were made by the primary researcher.

Table 1: Shift Handover Observations

Variable	**n (%)**
Nursing Shifts	
Morning	42 (32.6)
Evening	48 (37.2)
Night	39 (30.2)
Observation Day	
Week Day	90 (69.8)
Weekend	39 (30.2)

RESULTS

Demographic information suggests that the mean age of the participants was 25.5 years (±3.7). Majority of them were females, working at the bedside and had attained diploma in nursing. More than half of the participants were graduates of a renowned nursing school associated with the teaching hospital, which served as the study setting for this study. Majority of the participants were working in the surgical unit. The participants' job experience ranged from minimum of 1 month to maximum of 12.5 years.

The study finding revealed that in 9.3% of the shift handover observations, nurses were compliant at reporting patient's pain. However, 90.7% of the observed shift handovers suggested that nurses were non-compliant. Importantly, in all the compliant observations, nurses did not state patient's pain rating. Descriptive analysis of compliant observations in regard to the nursing shift and report on patients' pain suggested that 16.6% of the compliant observations were taken during the morning shift; while the rest were from evening and night shift (41.6% each). With respect to the job experience of nurse and the report on patients' pain, findings revealed that nurses who had less than one year of job experience demonstrated compliance on the report of patients' pain less frequently (16.6%) than those who had more than one year of job experience (83.3%). In relation to the specialty and report on patients' pain, results highlighted that ¾ (75%) of the compliant observation were from the surgical unit and 25% were from the medical unit. Analysis of the findings in relation to the staff gender and report on patients' pain indicated that the compliant observations have equally come from male and female nurses. Further, result also explicated that 16.6% of the compliant observations were contributed by the nurses who completed their bachelors in nursing while the remaining 83.3% have been from the nurses who had done diploma in nursing.

DISCUSSION

It is argued that accurate and comprehensive nursing shift handover is necessary to enable upcoming nurse to plan and implement efficient nursing intervention[20]. When an off-going nurse reports patient's pain at shift handover; this report can valuably direct an oncoming nurse regarding the possible plan of care for the patient in the next shift. However, evidence suggests that shift handovers are

given at a very high speed [27], and the verbal handovers are highly variable in relation to the handover content[29]. Nevertheless, at the study setting, pain is assessed and documented every shift; it is likely that nurses omit this piece of information during the shift for it is retrievable from the patient's bedside file. Another reason for such a low compliance in reporting patients' pain can be attributed to the nurses' habit of sharing global assessment during handover. Like this patient is "Fine" or "Ok" or "Poor" [27]. Nonetheless, the study results highlight the need for improving nurses' compliance at reporting patients' pain at shift handover.

It is claimed that pain intensity is the most commonly assessed component of pain [31]. And NRS is one of the most frequently used self-reporting pain scale that aids pain assessment, guides pain management [19] and defines level of change in patient's pain [11]. Therefore, integrating pain scale score in the pain report helps a nurse to objectify the intensity of pain and this pertinent information can direct pain management and reassessment [16]. However, current study results seem to suggest that pain scale score is usually missed at the time of shift handover.

Conclusion and Recommendations

The current study findings have revealed that report on patient's pain is less likely to be shared at the nursing shift handover. The findings also suggest that pain scale score is mostly not integrated in the report on patient's pain. The nursing education services can play an influential role in preparing new joining nurses for conducting a comprehensive nursing shift handover. Further, hospital administration should conduct regular in-service sessions for nurses to educate them about the importance of reporting the patients' pain at shift handovers. According to Berry, & Dahl (2000) nurses especially the ones who are expert in pain management can be the valuable resource in the efficient assessment and management of patient's pain. Therefore, an initiation of specialized training program like Pain Resource Nurse (PRN) training program can be a sustainable step to ensure nurses take catalyst role in improving the patient's pain assessment, reassessment and management throughout the hospital [14]. A part from this, hospital administration shall regularly audit shift handover practices to evaluate the nurses' compliance at reporting patients' pain[5]. Nursing schools should also teach nursing students regarding the important elements of nursing shift handover. Moreover, clinical teachers should provide nursing students ample of opportunities to practice delivering and receiving shift handers. This will result in improvement in the nurses' compliance at reporting patients' pain. Further research is needed to identify the factors associated with the under-reporting of patients' pain at nursing shift handover and lack of pain scale score incorporation in the pain report. Exploring barriers can suggest the possible strategies to improve the patient's pain report and subsequent efficient continuous pain management.

Limitations

The data collection through structured observations has only relied on the information that was shared at the time of shift handover, so it is not known as to what numbers of patients were actually having pain and how many patients were reported by nurses at the time of shift handover. The patients' file audit could have helped to get the holistic data; however, the study findings are consistent with the literature and highlights that pain is underreported by nurses. Secondly, these findings are from 129 observations only nonetheless it has broadened understanding onto the role of shift handover communication in patients' pain assessment and management.

ACKNOWLEDGEMENT

Research team would like to acknowledge the study setting and participants without whom this study would have not been possible.

DISCLOSURE

This research did not receive any kind of support. There is no conflict of interest of the authors attached with this work.

DECLARATION

It is affirmed that this manuscript has not been submitted to or published in any other journal.. There is no conflict of interest of the authors attached with this work.

Source of Funding: This research did not receive any kind of financial support.

REFERENCES

1. Alvarado K, Lee R, Christoffersen E, Fram N, Boblin S, Poole N, Forsyth S. Transfer of

accountability: Transforming shift handover to enhance patient safety. Healthcare Quality.20069:75-79.

2. Apfelbaum JL, Chen C, Mehta SS, Gan TJ. Postoperative pain experience: results from a national survey suggest postoperative pain continues to be undermanaged. Anesthesia & Analgesia.200397: 534 –40.
3. Bair MJ, Robinson RL, Katon W, Kroenke K.Depression and Pain Comorbidity: A Literature Review. Archives of InternalMedicine.2003163: 2433-2445.
4. Baker J S: Bedside shift report improves patient safety and nurse accountability. Journal of Emergency Nursing.201036(4): 355-358.
5. Bell L, Duffy A. Pain assessment and management in surgical nursing: a literature review. British Journal of Nursing. 200918(3): 153-156.
6. Berkenstadt H, Haviv Y, Tuval A, Shemesh Y, Megrill A, Perry A, Rubin O, Ziv A.Improving handoff communications in critical care: utilizing simulation-based training toward process improvement in managing patient risk.Chest.2008134: 158-162.
7. Berry PH & Dahl JL. The New JCAHO Pain Standards: Implications for Pain Management Nurses. Pain ManagementNursing20001(1) :3-12,
8. Caruso EM. The evaluation of nurse-to-nurse bedside report on a medical-surgical cardiology unit. Medical Surgical Nursing.200716(1): 17-22.
9. Chaboyer W, McMurray A, Johnson J, Hardy L, Wallis M, Ying F. Bedside handover quality improvement strategy to “transform care at the bedside”. Journal of Nursing Care Quality.200924(2):136-142.
10. Dufault M, Duquette CE, Ehmann J, Hehl R, Lavin M, Martin V, Moore MA, Sargent S, Stout P, Willey C. Translating an evidence-based protocol for nurse-to-nurse shift handoffs. Worldviews on Evidence-Based Nursing.20107(2): 59-75.
11. Farrar JT, Young J P, LaMoreaux L, Werth JL, Poole RM. Clinical importance of changes in chronic pain intensity measured on an11-point numerical pain rating scale. Pain.200194: 149–158.
12. Ferrell BR, Grant M, Ritchey K,Ropchan R, Rivera LM. The pain resource nurse training program: A unique approach to pain management. Journal of Pain Symptom Management. 1993 8(8): 549–556.
13. Ferrell BA, Ferrell BR, Rivera L. Pain in the cognitively impaired nursing home patients. Journal of Pain Symptom Management.199510: 591-598.
14. Ferrell BR, Virani R. Institutional Commitment to Improved Pain Management: Sustaining the Effort. Journal of Pain and Palliative Care Pharmacotherapy.1998 6 (2): 43-55. http://informahealthcare.com/doi/abs/10.1300/J088v06n02_03
15. Fisher SE, Burgio LD, Thorn BE, Allen-Burge R, Gerstle J, Roth DL, Allen SJ. Pain assessment and management in cognitively impaired nursing home residents: association of certified nursing assistant pain report, minimum data set pain report, and analgesic medication use. Journal of American Geriatric Society. 200250 (1): 152-156.
16. Gordon DB, Dahl JL, Miaskowski C, McCarberg B, Todd KH, Paice JA, Lipman AG, Bookbinder M, Sanders SH, Turk DC, Carr DB. American Pain Society Recommendations for Improving the Quality of Acute and Cancer Pain Management. Archives of Internal Medicine.2005 165(14): 1574-1580:DOI:10.1001/archinte.165.14.1574
17. Gurejea O, Simonb G E, Korffb MV. A cross-national study of the course of persistent pain in primary care. Pain. 2001 92:195-200.
18. Haig KM, Sutton S, Whittington J. SBAR: A shared mental model for improving communication between clinicians. Joint Commission on Accreditation of Healthcare Organizations.200632 (3): 167-175.
19. Herr KA, Garand L. Assessment and measurement of pain in older adults. Clinics in geriatric medicine.2001 17(3):457-478.
20. Iacono MV. Handoff communication: Opportunities for improvement. Journal of Perianesthesia Nursing. 200924(5): 324-326.
21. Jenq YG, Guo Z, Drickamer M, Marottoli R A, Reid C. Timing in the Communication of Pain among Nursing Home Residents, Nursing Staff, and Clinicians. Archives of InternalMedicine. 2004164: 1508-1512.
22. Katz N: The Impact of Pain Management on Quality of Life. Journal of Pain and Symptom Management.200224 (1): s38-47.
23. Lanser P, Gesell S. Pain management: the fifth vital sign. Healthcare Benchmarks.2001 8(6): 68-70.
24. Lynch M: Pain as the Fifth Vital Sign. Journal of Intravenous Nursing. 200124(2): 85-95.

25. McMurray A, Chaboyer W, Wallis M, Fetherston C. Implementing bedside handover: strategies for change management. Journal of Clinical Nursing. 2010: DOI: 10.1111/j.1365-2702.2009.03033.x
26. Parmelee PA, Katz IR, Lawton MP.The relation of pain to depression among institutionalized aged.Journal of Gerontology.1991 46 (1):15-21.
27. Payne S, Hardey M, Coleman P. Interactions between nurses during handovers in elderly care. Journal of Advanced Nursing. 2000 32(2): 277-285.
28. Pesanka DA, Greenhouse P K, Rack LL, Delucia GA, Perret RW, Scholle C, Johnson MS, Janov CL.Ticket to ride reducing handoff risk during hospital patient transportJournal of Nursing Care Quality.200924(2): 109–115.
29. Sexton A, Chan C, Elliot M, Stuart J, Jayasuriya R, Crtookes P. Nursing Handovers: Do we really need them? Journal of Nursing Management. 2004 12(1): 37– 42.
30. Yee KC, Wong MC, Turner P. "HAND ME AN ISOBAR": a pilot study of an evidence-based approach to improving shift-to-shift clinical handover. Critical Communications. 2009190 (11): s121-s124.
31. Zwakhalen SM, Hamers JP, Abu-Saad HH, Berger MPF. Pain in elderly people with severe dementia: A systematic review of behavioural pain assessment tools. BioMed Central Geriatrics.2006 6(3):DOI: 10.1186/1471-2318-6-3.

DOI Number: 10.5958/j.0974-9357.6.1.041

Assessment of effectiveness of a Structured Teaching Programme on Knowledge of Staff Nurses Regarding Risk Factors and Prevention of Deep Vein Thrombosis in a Selected Hospital, Ludhiana, Punjab

Nidhi Kumar

Lecturer, Shaheed Kartar Singh Sarabha college of Nursing Sarabha, Ludhiana

ABSTRACT

The National Institute of health (NIH) estimates that deep vein thrombosis (DVT) and pulmonary embolism (PE) are associated with 300,000 to 600,000 hospitalizations per year, the third leading cause of death from cardiovascular disease. Because many of the most effective interventions for preventing deep vein thrombosis are delivered by nurses, nurses can be instrumental in preventing deep vein thrombosis. Serious health consequences and valuable health care resources can be saved with nursing interventions aimed at risk assessment and prevention of DVT.In this context, it was attempted to assess the effectiveness of a structured teaching programme on knowledge of staff nurses regarding risk factors and prevention of deep vein thrombosis. A quasi experimental approach with purposive sampling technique was used in the study. A structured knowledge questionnaire was prepared and was given to 40 staff nurses working in cardiac ICUs and neuro ICUs of a selected hospital, Ludhiana, Punjab. The findings of the study shows that the difference between pre test mean knowledge score of control and experimental group was statistically non significant at $p< 0.05$ level whereas the difference between post test mean knowledge score of both groups was statistically highly significant at $p< 0.001$ level. It was thus concluded that the structured teaching programme was effective in raising the knowledge level of staff nurses regarding risk factors and prevention of deep vein thrombosis and there was statistically significant effect of age, professional qualification, total years of experience and type of training institute on knowledge level of staff nurses regarding risk factors and prevention of deep vein thrombosis.

Keywords: *Deep Vein Thrombosis, Risk Factors, Prevention, Knowledge, Structured Teaching Programme, Effectiveness, Staff nurses*

INTRODUCTION

Deep Vein thrombosis is a serious but preventable cause of morbidity and mortality in the world. Higher incidence, underestimation of risk, under used prophylaxis with high fatality has made DVT a worldwide cause for concern. The immediate need of the hour is to have standard guidelines for management of DVT which are practical, acceptable and implemental in all over institutions. Nurses are key players in the prevention of deep vein thrombosis and its complications. They are in the ideal position to assess patient risk factors early and ask for DVT prophylaxis. Admission assessments are an opportune time to evaluate patient's risk factors such as mobility, age, previous history of DVT and medical conditions. Once a patient is considered at risk for developing DVT, nurses must advocate for timely prevention mechanisms.

OBJECTIVES

1. To assess the pre test knowledge of staff nurses regarding risk factors and prevention of deep vein thrombosis among control and experimental group.
2. To assess the post test knowledge of staff nurses regarding risk factors and prevention of deep vein thrombosis among control and experimental group.

3. To compare the pre test and post test knowledge of staff nurses regarding risk factors and prevention of deep vein thrombosis among control and experimental group.

4. To find out the relationship of pre test and post test knowledge on risk factors and prevention of deep vein thrombosis among staff nurses in control and experimental group with selected demographic variables.

METHODOLOGY

Approach: quasi experimental research approach

Design: Non equivalent pre test- post test research design

Setting: Selected Hospital, Ludhiana, Punjab

Population: Staff Nurses

Sample Size: 40

Sampling Technique: Purposive Sampling Technique (Non Random Sampling)

MATERIAL & METHOD

The present study was conducted at Christian Medical College & Hospital, Ludhiana, Punjab. The data collection procedure was carried out from Dec 2010 to Jan 2011. The total sample consisted of forty staff nurses, twenty in control group from Neuro surgery ICU and Neuro medicine ICU and twenty in experimental group from Coronary care unit (CCU) and Cardio thoracic unit (CTU). Pre test of control group was taken with the help of structured questionnaire to assess their knowledge regarding risk factors and prevention of deep vein thrombosis followed by a post test after seven days. To avoid contamination pre test and structured teaching to experimental group was given after post test of control group. Post test of experimental group was also taken after seven days.

The demographic variables included in the study were Age, Professional qualification, Total years of experience and Type of training institute.

Plan for data analysis

Descriptive statistics: Mean, Mean percentage & Standard deviation.

Inferential Statistics: Chi square, Paired't' test, unpaired't' test and ANOVA (F).

Major Findings

- Both in control and experimental group maximum number of staff nurses belong to age group of 21-25 years. In control group maximum numbers of staff nurses were GNM whereas in experimental group (50%) of the staff nurses were GNM and (50%) were BSc. In both groups maximum number of staff nurses were having <2 years of experience and were trained from CMC.

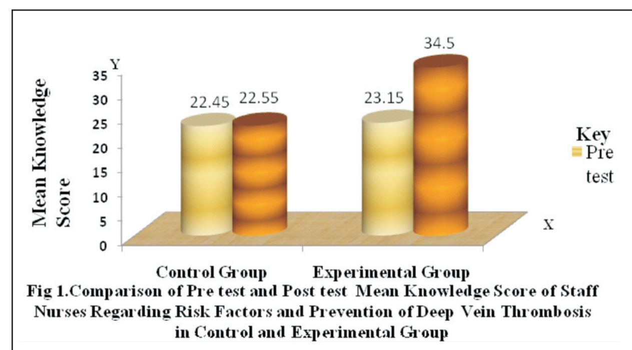


Fig 1.Comparison of Pre test and Post test Mean Knowledge Score of Staff Nurses Regarding Risk Factors and Prevention of Deep Vein Thrombosis in Control and Experimental Group

- Regarding the comparison of pre test and post test mean knowledge score of staff nurses in control and experimental group, the pre test and post test mean knowledge score of control group (22.45, 22.55) was not statistically significant, whereas the pre test and post test mean knowledge score of experimental group (23.15, 34.50) was highly significant at $p< 0.001$.

  Thus it was concluded that structured teaching program had definite impact to increase the knowledge level of staff nurses in experimental group.

- According to percentage distribution, in control group majority of staff nurses had below average pretest (75%) and posttest (85%) knowledge score whereas in experimental group (75%) had below average pretest knowledge score followed by (20%) excellent , (75%) good and (5%) average post test knowledge score.

- According to areas of knowledge, in control group both pre test and post test mean knowledge score of staff nurses was lowest in the area of prevention (42.17%), (41.50%) followed by risk factors (50.56%), (53.33%) and general information

(58.33%), (58.89%) respectively.Similarly in experimental group pre test mean knowledge score of staff nurses was lowest in area of prevention (43.83%), followed by risk factors (50.56%) and general information (60.56%). Whereas the post test mean knowledge score was highest in the area of general information (77.22%) followed by prevention (71.00%) and risk factors (70.56%) respectively.

- There was statistically significant effect of age, professional qualification, total years of experience and type of training institute on knowledge level of staff nurses regarding risk factors and prevention of deep vein thrombosis in control and experimental group.

CONCLUSION

The study concluded that the difference between pre test mean knowledge score of control and experimental group was statistically non significant at $p < 0.05$ whereas the difference between post test mean knowledge score of both groups was statistically highly significant at $p < 0.001$. It was thus concluded that structured teaching was effective in raising the posttest knowledge level of staff nurses in experimental group.

ACKNOWLEGEMENTS

My heartfelt thanks to all the individuals who had been a source of inspiration, guidance and support from the conception of this research to study completion.

Conflict of Interest: None

Ethical Consideration: An informed verbal consent was obtained from each study subject. It was ensured that treatment of patient was not interfered and confidentiality and anonymity of each subject was ensured.

Source of Funding: None

REFERENCES

1. Hogston. Nurses perception of impact of continuing professional education on the quality of nursing care. Journal of advanced nursing. 1995; 22(3): 586-593.
2. Goldhaber Z Samuel, Fanikos J. Prevention of deep Vein thrombosis and pulmonary embolism. Journal of circulation. 2004; 110: 445-447.
3. Piazza Gregory, Goldhaber Z Samuel. Venous thromboembolism and atherothrombosis: An integrated approach. Journal of circulation. 2010; 121: 2146-2150.
4. Hyers TM. Venous thromboembolism. American Journal of critical care medicine. 1999; 1598: 1-14.
5. Stephen M Pastores. Management of venous thromboembolism in the intensive care unit. Journal of critical care. 2009; 24: 185-191.
6. Vyas G. Deep vein thrombosis a brief review. Cardiology Today. 2007; 11:148-153.
7. Bonner Linda. The prevention and treatment of deep vein thrombosis. Nursing times. 2004; 100: 38.
8. Thieme D, Langer G, Behrens J. Knowledge of nurses about compression therapy, Survey about treatment of acute deep venous thrombosis. Pub med. 2009; 62: 296-301.
9. Gallo Hudak. Critical care nursing. 6th edition. JB Lippincott Company; 1994.
10. Agarwala Sanjay, Bhagwat Abhijit S, Modhe Jagdish. Deep vein thrombosis in Indian patients undergoing major lower limb surgery. Indian Journal of surgery. 2003; 65: 159-162.

DOI Number: 10.5958/j.0974-9357.6.1.042

A Comparative Study to Assess the Perception of Doctors, Nurses, Faculty of Nursing and Nursing Students on Ideal Clinical Learning Environment

Preethy J[1], Erna J R[2], Mariamma V G[3]

[1]Assistant Professor, Department of Community Health Nursing, [2]Associate Dean and Professor, Department of Child Health Nursing, [3]Associate Professor, Department of Fundamentals of Nursing, MCON, Manipal University, Manipal

ABSTRACT

Objective: The objectives of the study were to describe and compare the perception of doctors, nurses, faculty of nursing and nursing students on ideal clinical learning environment and to find the association between the perception scores and selected variables.

Materials and Method: A descriptive comparative survey design was used. Data were collected from 324 samples (81 doctors, 81 nurses, 81 faculty of nursing and 81 nursing students) in selected teaching hospitals of Karnataka state by using structured questionnaire.

Result: There was no significant difference between the mean perception scores of doctors, nurses, faculty of nursing and nursing students on how an ideal clinical learning environment should be. There was significant association between the total perception scores with teaching experience (x^2=5.294) and educational status (x^2=9.430).

Conclusion: Clinical experience for nursing students is a very important aspect of their professional education. A supportive clinical learning environment is of paramount importance in securing the required teaching and learning process.

Keywords: *Doctors, Nurses, Faculty of Nursing, Nursing Students, Ideal Clinical Learning Environment*

INTRODUCTION

Nursing as a profession has evolved in response to society's needs for well-prepared, caring practitioners during clients' episodes of illness and promote health among all age groups. Clinical practice, which takes place in the clinical environment, is a vital component in the nursing curriculum and has been acknowledged as central to nursing education[1]. The clinical environment encompasses all that surrounds the student nurse, including the clinical setting, the staff, the patient, the nurse mentor and the nurse educator[2].

The clinical learning environment is an interactive network of forces within the clinical setting that influence the students' clinical learning outcomes[3]. It is within this environment that students develop their attitudes, competence, interpersonal communication skills, critical thinking and clinical problem-solving abilities[4]. Nursing students perceive the practice setting as the most influential context when it comes to acquiring nursing skills and knowledge[5].

Clinical placement provides the student with optimal opportunities to observe role models, to practice by one self and to reflect upon what is seen, heard, sensed and done[6]. The learning becomes integrated into personality to create a holistic way of seeing and relating. The professional socialization of nurse learners occurs largely in the practice setting[7].

The social climate or learning environment is the personality of a setting or environment, such as a family, an office or a class room. Each setting has a unique personality that gives it unity and coherence. Environments, like people, also differ in how rigid and controlling they are. Like some people, some social environments are friendlier than others. Just as some people are very task oriented and competitive, some environments encourage achievement and

competition. Clinicians and researchers have evidence to show how social climate affects each person's behaviour, feelings, and growth[8].

The concept of social climate also emphasizes the importance of the physical, human, interpersonal and organizational properties, mutual respect and trust among teachers and students[9]. In the process of teaching and learning, the learning environment has a dual function. From the teacher's point of view, educational environments can be a powerful teaching instrument at the disposal of the teacher, from the student's perspective, educational environments provide an important vehicle for learning.

The aim of the study is to assess the perception of doctors, nurses, faculty of nursing and nursing students on how an ideal clinical learning environment should be. The findings will help the administrators to develop effective strategies to improve or modify the existing clinical learning environment and it will in turn help to improve the learning outcome of nursing students.

MATERIALS AND METHOD

A survey approach was adopted with a descriptive comparative design and was conducted in selected teaching hospitals of Karnataka state. Tool 1: Demographic Proforma and Tool 2: Clinical learning environment inventory were developed by the researcher and were validated by eleven experts in the field of nursing and medical education. Pretesting was done among 20 samples (5 doctors, 5 nurses, 5 faculty of nursing and 5 nursing students) to determine the clarity of items. The reliability of the tool 2 was assessed by cronbach's alpha by administering the tool to 20 samples and the reliability coefficient obtained for the tool 2 was 0.93. Pilot study was conducted in a teaching hospital at Udupi among 40 samples. Main study was conducted in selected teaching hospitals at Manipal and Mangalore among 324 samples (81 doctors, 81 nurses, 81 faculty of nursing and 81 nursing students). The obtained data were analyzed based on the objectives and the hypothesis by using descriptive and inferential statistics with the help of SPSS version 16.

RESULTS

Section 1: Description of sample characteristics.

Using demographic proforma, data were collected about age, gender, religion, marital status, educational status, designation, teaching experience, clinical experience, year of study and interest in joining nursing course.

Table 1: Frequency and percentage distribution of sample characteristics (n=324)

Sample characteristics	Doctors (n=81)		Nurses (n=81)		Faculty of Nursing (n=81)		Nursing Students (n=81)	
	(f)	(%)	(f)	(%)	(f)	(%)	(f)	(%)
Age (in years)								
20-29	37	45.7	59	72.8	51	63.0	81	100
30-39	30	37.0	11	13.6	23	28.4	00	00
40-49	10	12.3	08	09.9	07	08.6	00	00
50-59	04	04.9	03	03.7	00	00.0	00	00
Gender								
Male	51	63.0	10	12.3	09	11.1	05	06.2
Female	30	37.0	71	87.7	72	88.9	76	93.8
Religion								
Christian	13	16.0	29	35.8	46	56.8	54	66.7
Hindu	68	84.0	52	64.2	35	43.2	19	23.5
Muslim	00	00.0	00	00.0	00	00.0	01	01.2
Others	00	00.0	00	00.0	00	00.0	07	08.6
Marital status								
Married	54	66.7	29	35.8	40	49.4	00	00
Unmarried	27	33.3	52	64.2	41	50.6	81	100

Table 1: Frequency and percentage distribution of sample characteristics (n=324) (Contd.)

Sample characteristics	Doctors (n=81)		Nurses (n=81)		Faculty of Nursing (n=81)		Nursing Students (n=81)	
	(f)	(%)	(f)	(%)	(f)	(%)	(f)	(%)
Educational status								
Diploma	NA	NA	57	70.4	00	00.0	NA	NA
Graduate	00	00	24	29.6	49	60.5	NA	NA
PBBSc	NA	NA	00	00.0	00	00.0	NA	NA
Post graduate	81	100	00	00.0	32	39.5	NA	NA
MPhil	NA	NA	NA	NA	00	00.0	NA	NA
Doctorate	NA	NA	NA	NA	00	00.0	NA	NA
Designation								
Senior Resident	47	58.0	NA	NA	NA	NA	NA	NA
Assistant Lecturer	NA	NA	NA	NA	49	60.5	NA	NA
Lecturer	NA	NA	NA	NA	22	27.2	NA	NA
Assistant professor	17	21.0	NA	NA	08	09.9	NA	NA
Associate professor	08	09.9	NA	NA	02	02.5	NA	NA
Professor	09	11.1	NA	NA	00	00	NA	NA
Staff Nurse	NA	NA	74	91.4	NA	NA	NA	NA
Ward Incharge	NA	NA	07	08.6	NA	NA	NA	NA
Teaching experience								
Yes	74	91.4	03	03.7	81	100	NA	NA
No	07	08.6	78	96.3	00	00	NA	NA
Clinical experience								
Yes	81	100	81	100	54	66.7	NA	NA
No	00	00	00	00	21	33.3	NA	NA
Year of study								
Third year	NA	NA	NA	NA	NA	NA	40	49.4
Fourth year	NA	NA	NA	NA	NA	NA	41	50.6
Interest in joining nursing course								
Own interest	NA	NA	NA	NA	NA	NA	61	75.3
Parents interest	NA	NA	NA	NA	NA	NA	18	22.2
Relatives or friends interest	NA	NA	NA	NA	NA	NA	02	02.5

Section 2: Description of the perception of doctors, nurses, faculty of nursing and nursing students on ideal clinical learning environment.

In order to identify the perception on ideal clinical learning environment, structured clinical learning inventory was administered. The maximum score was 350 and minimum score was 70. The scores arbitrarily categorized as poor (70 – 140), good (141 – 210), very good (211 – 280) and excellent (281 – 350).

Table 2: Frequency and percentage distribution of the perception score of doctors, nurses, faculty of nursing and nursing students on ideal clinical learning environment. (n=324)

Perception categories	Range of score	Doctors (n=81)		Nurses (n=81)		Faculty of Nursing (n=81)		Nursing Students (n=81)		Total (n=324)	
		(f)	(%)	(f)	(%)	(f)	(%)	(f)	(%)	(f)	(%)
Poor	70 -140	0	0	0	0	0	0	0	0	0	0
Good	141 - 210	0	0	0	0	0	0	0	0	0	0
Very good	211 - 280	17	21	24	29.6	13	16	10	12.3	64	19.8
Excellent	281 - 350	64	79	57	70.4	68	84	71	87.7	260	80.2

The data presented in table 2 shows that, a total of 17 (21%) doctors, 24 (29.6%) nurses, 13 (16%) faculty of nursing and 10 (12.3%) nursing students had very good perception on how an ideal clinical learning environment should be and 64 (79%) doctors, 57 (70.4%) nurses, 68 (84%) faculty of nursing, and 71 (87.7%) nursing students had excellent perception on how an ideal clinical learning environment should be.

Table 3: Mean, Median, Standard deviation and IQR perception score of doctors, nurses, faculty of nursing and nursing students on ideal clinical learning environment (n=324)

	Doctors (n=81)	Nurses (n=81)	Faculty of Nursing (n=81)	Nursing Students (n=81)	Total (n=324)
Mean	298.86	298.74	303.77	305.43	301.70
Median	300.00	310.00	306.00	306.00	305.00
Standard deviation	21.35	25.85	19.97	19.17	21.84
IQR (Q1)	281.00	279.00	287.00	288.00	285.00
IQR (Q3)	318.00	312.00	321.00	323.00	319.00

The data presented in table 3 shows that, the total mean score was 301.70 with standard deviation of 21.84 and the total median score was 305.0 with inter quartile range of Q_1 (285) and Q_3 (319).

Section 3: Comparison of perception of doctors, nurses, faculty of nursing and nursing students on ideal clinical learning environment.

As a beginning measure to identify whether to use parametric or non- parametric test, a normality assessment was done using Kolmogorov test. As the distribution followed normality, one way ANOVA was used to find the significance difference between the groups.

Table 4: Comparison of perception scores of doctors, nurses, faculty of nursing and nursing students on ideal clinical learning environment (n=324)

Groups	Mean	Standard Deviation	f Value	df	p value
Doctors	298.86	21.35	1.998	3, 320	0.114
Nurses	298.74	25.85			
Faculty of Nursing	303.77	19.97			
Nursing Students	305.43	19.17			

The data in table 4 shows that, p value was not significant. Hence there was no significant mean difference between the perception scores of doctors, nurses, faculty of nursing and nursing students on ideal clinical learning environment. So research hypothesis was rejected.

Section 4: Association between the perception of doctors, nurses, faculty of nursing and nursing students and selected variables.

In order to find association between the perception scores and selected variables, chi-square was computed. If the expected cell count is less than 5 in 20% of cells, exact value was taken instead of chi-square value. The study shows that, significant association between total perception scores with educational status (x^2=9.430) and teaching experience (x^2=5.294). Excellent perception on ideal clinical environment was present in majority of the postgraduates and who had teaching experience more than six months.

DISCUSSION

The present study found that, a total of 64 (79%) doctors, 57 (70.4%) nurses, 68 (84%) faculty of nursing and 71 nursing students (87.7%) had excellent perception on ideal clinical learning environment. The above finding is supported by a qualitative study by Callister on staff nurses perception regarding nursing programme, in which the need for more importance for clinical teaching and a positive nurturing learning environment through close collaboration between nursing education and service was identified inorder to improve the outcome of nursing students.

In the present study, there was no significant difference between the mean perception scores of doctors, nurses, faculty of nursing and nursing

students on ideal clinical learning environment. The above finding is supported by a study conducted by Nahas on nursing students perception of effective clinical teacher, in which there was no significant difference between the perception of male and female nursing students. A study conducted by Freeth on nursing students and tutors perception of clinical teaching and learning environment also revealed that, there was no significant difference in the perception scores between tutors and students. In contrast to the present study, a comparative study conducted by Chan on the perception of nurses, tutors and nursing students existing clinical learning environment revealed significant difference between the 3 groups.

Acknowledgements: Nil

Conflict of Interest: Nil

Source of Funding: Nil

Ethical Clearance

- Administrative permission was taken from the principals of Colleges of Nursing in Udupi and Mangalore district.
- Permission was taken from the administrators of teaching hospitals in Udupi and Mangalore district.
- Informed consent was taken from the participants

REFERENCE:

1. Lee D. The clinical role of the nurse teacher: a review of dispute. Journal of Advanced Nursing. 1996 June; 23:1127–1134.
2. Papp I, Markkanen M, Bonsdorff VM. Clinical environment as a learning environment: student nurses' perceptions concerning clinical learning experiences. Nurse Education Today. 2003; 23:262–268.
3. Dunn SV, Burnett P. The development of a clinical learning environment scale. Journal of Advanced Nursing. 1995; 22:1166–1173.
4. Dunn SV, Hansford B. Undergraduate nursing students' perceptions of their clinical learning environment. Journal of Advanced Nursing. 1997; 25:1299–1306.
5. Chan DSK. Combining qualitative and quantitative methods in assessing hospital learning environments. International Journal of Nursing Studie.2001; 38 (4):447–459.
6. Ekstrand I, Bjorvell H. Nursing students' experience of care planning activities in clinical education. Nursing Education Today. 1996; 15:196–203.
7. Lee CH, French P. Ward learning in Hong Kong. Journal of Advanced Nursing. 1997; 26:455–462.
8. Moos RH. The Social Climate Scales: A User's Guide. Consulting Psychologists Press, Palo Alto, CA. 1987.
9. Knowles M. The Adult Learner: A Neglected Species, Fourthed. Gulf Publishing Co, Houston. 1990.

DOI Number: 10.5958/j.0974-9357.6.1.043

Study to assess the Depression and Ideation of Suicide among Terminally Ill Patients, in Selected Hospitals, Ludhiana, Punjab

Ramanpreet Kaur

Lecturer, Shaheed Kartar Singh Sarabha, College of Nursing, Sarabha, Ludhiana, Punjab

ABSTRACT

The whole span of life includes struggles, achievements, successes, and failures, natural and unnatural distresses. Psychological distress impairs the patient's capacity for pleasure, meaning, and connection; erodes quality of life which is a major risk factor for suicide and for requests to hasten death. Recent studies among terminally ill patients found that a desire for hastened death or an interest in assisted suicide was associated with depression. Depression is often neglected and untreated in the terminally ill which leads to desire for death1. An exploratory study was conducted on 100 terminally ill patients diagnosed with end stage renal disease (ESRD) and cancer in selected hospitals of Ludhiana, Punjab. The result of the study shows that there was a positive correlation between depression and suicide ideation ($r = 0.515$, $p<0.001$). Majority (96%) of patients had depression and (85%) had ideation of suicide. Significant association of depression was found with age, family income per month, duration of illness, education level and diagnosis. Significant association of ideation of suicide with variables was found with gender, and family income per month ($p<0.05$). The study concluded that the terminally ill patients had depression and ideation of suicide. Therefore, guidelines were prepared for them to reduce depression and developing positive attitude towards life.

Keywords: *Depression, Ideation Of Suicide And Terminally Ill Patients*

INTRODUCTION

The body and the mind have been viewed as interdependent since ancient times. Any alteration in the physical health of a person results in lot of psychological and emotional reactions and disturbances. Patients who are suffering from terminal illnesses may be able to cope with the situation but some are unable and being lost in them and find a way of communication which is nothing but a cry for help-suicide[2]. World Health Organization (WHO) has ranked depression fourth in a list of the most urgent health problems worldwide. A host of thoughts and behaviors are associated with self-destructive acts. The risk for suicide increases if the patient faces pain in the face of a progressively debilitating disease[3]. It is noteworthy that simply missing dialysis for some sessions or going on a potassium food binge can produce death for ESRD patients. The prevalence of diagnosed depressive syndrome was 58.8% among patients with a desire to die and 7.7% among patients without such a desire[4]. The incidence of depression in dialysis patients ranges from 10% to 66%. Risk factors identified for completed suicide and suicidal ideation in cancer patients include mental health, socio-demographic and illness factors[5].

OBJECTIVES

1. To assess the depression among terminally ill patients.
2. To assess the ideation of suicide among terminally ill patients.
3. To ascertain the relationship between depression and ideation of suicide among terminally ill patients.
4. To find out the relationship of depression and ideation of suicide with variables like age, gender, family income per month, duration of terminal illness, education, diagnosis.

METHODOLOGY

Design	:	Non – experimental with exploratory approach
Setting	:	Selected hospitals (CMC & H and DMC & H), Ludhiana, Punjab
Population	:	Terminally ill patients (ESRD, Cancer)
Sample size	:	100
Sampling technique	:	Purposive sampling technique (non random sampling).

MATERIAL AND METHOD

The study was conducted in the selected hospitals at Ludhiana, Punjab from 6th December 2010 to 10th January 2011. During this study period the terminally ill patients admitted in hospital and attending out patient department were explained regarding the nature of study and written consent was taken from them by assuring to maintain their confidentiality. Structured interview method was used to collect the data from the samples who gave their consent. Standardized Beck Depression Inventory II was used to assess depression and Mini International Neuropsychiatric Interview for Suicidality to assess ideation of suicide among terminally ill patients. Depression was assessed according to the severity of depression that is minimal, mild, moderate and severe whereas ideation of suicide was assessed as the risk category with absent, low, moderate and high risk.

Plan for Data Analysis

Descriptive statistics: Frequency, Percentage, Mean, and Standard deviation

Inferential statistics: Karl Pearson's Correlation Coefficient, z-test, t- test and ANOVA.

FINDINGS

- Majority of terminally ill patients belonged to age group 51-60 years (34%), Hindu religion (48%) , family income per month Rs.15, 001-20,000 (26%), were males (61%), under matric (33%), married (76%), diagnosed with cancer (61%) and had duration of illness less than 1 year (50%).

Table 1: Percentage Distribution of Levels of Depression among Terminally Ill Patients N=100

Levels of Depression	Score	n	%
Minimal	0-13	10	10
Mild Depression	14-19	31	31
Moderate Depression	20-28	34	34
Severe Depression	29-63	25	25

Maximum score= 63

Minimum score = 0

Table 1 depicts that maximum terminally ill patients had moderate level of depression.

Table 2: Percentage Distribution of Risk of Ideation of Suicide among Terminally Ill Patients N=100

Risk of Ideation of Suicide	Score	n	%
Absent	0	10	10
Low	1-5	60	60
Moderate	6-9	20	20
High	≥ 10	10	10

Maximum Score=33

Minimum Score=0

Table 2 depicts that maximum number of terminally ill patients (60%) had low risk of ideation of suicide.

- Depression and ideation of suicide had moderate positive correlation ($r = 0.515, p<0.001$) i.e. the patients who has depression have ideation of suicide.

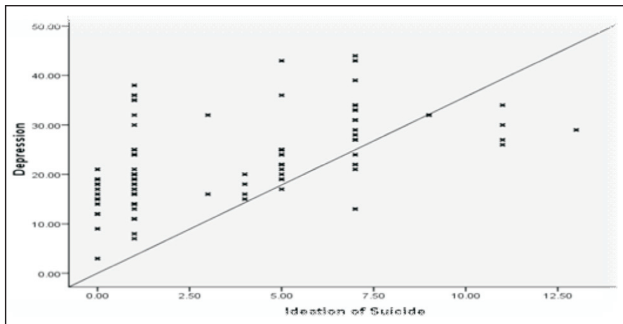


Fig. 1. Relationship of Depression and Ideation of Suicide among Terminally Ill Patients

- Statistically significant difference was found in depression score with variables age, family income per month, duration of illness, education level and diagnosis on the other side gender, and family income per month for ideation of suicide.

CONCLUSION

The study concluded that terminally ill patients who had depression had ideation of suicide. Therefore, guidelines were prepared by keeping in mind the findings of the study to reduce depression and promoting good health. Nurses working in the areas dealing with terminally ill patients should understand the various emotional and psychological problems of the patients who are suffering from terminal illness, so that they can prevent the negative thinking which can lead to depression and ideation of suicide. Health care professionals can identify more prevalent symptoms of depression and ideation of suicide at early stage and differentiate them from the general course of terminal illness to prevent any negative effect.

ACKNOWLEDGEMENT

I express my deep sense of gratitude and heartfelt thanks to all my seniors, classmates, participants and all those who helped me to complete my project.

Conflict of Interest: None

Source of Support: Didn't get any financial support from any body. It was an individual project during post graduate period and got guidance from my supervisor.

Ethical Clearance: Written permission was taken from MS and ethical committee of both the hospitals before collecting the data. Written consent was taken from the participants.

REFERENCES

1. Srivastava AS, Kumar R. Suicidal Ideation and Attempts in Patients with Major Depression. Indian Journal of Psychiatry. 2005; 47: 225-28.
2. Cohen Lewis M, Steven K Dobscha, Kevin C Hails, Penelope S Pekow, Harvey Max Chochinov. Depression and Ideation of Suicide in Patients who discontinue the Life Support Treatment of Dialysis. Psychosomatic Medicine. 2002; 64: 889-96.
3. Tatsuo Akechi, Hitoshi Okamura, Akira Kugaya, Tomohito Nakano, Tatsuro Nakanishi, Nobuya Akizuki et al. Suicidal Ideation in Cancer Patients with Major Depression. Journal of Clinical Oncology. 2000; 30 (5): 221-24.
4. Latha KS & SM Bhat. Suicidal Behavior among Terminally Ill Cancer Patients in India. Indian Journal of Psychiatry. 2005; 47(2): 79-83
5. Fisher BJ, Haythornthwaite JA. Suicidal Intent in Patients with Chronic Pain. Clinical Journal of Pain. Jan, 2001; 89 (2-3): 199-206.
6. Ruth Anne Van Loon. Desire to Die in Terminally Ill People. Health and Social Work. 1999; 24.
7. Kimmel Paul L, Manjula Kurella. Suicide in ESRD Patients. Journal of American Society of Nephrology. 2005; 16: 774-81.
8. Kaplan and Sadock's. Synopsis of Psychiatry. 10th Edition. Lippincott Williams and Wilkins. 2007.

DOI Number: 10.5958/j.0974-9357.6.1.044

A Cross-Cultural Comparison of a Clinical Nurse Competency Path Model

Susan B Sportsman[1], Patti Hamilton[2], Randall E Schumacker[3]
[1]*Director, Academic Consulting Group, Elsevier,* [2]*Professor, Texas Woman's University, College of Nursing,* [3]*Professor, The University of Alabama, Carmichael Hall, Tuscaloosa*

ABSTRACT

A path model of clinical nurse competency was proposed in Thailand based on key variables that impact nursing. The path model was improved by adding a path from perception of student effort to perception of clinical learning environment. Data from a nursing program in the U.S. was applied to the improved Thailand path model. Results indicated that the path model was similar between the two countries. This provided a cross-cultural validation of the clinical competency path model. Research findings suggest further investigation of the negative relation between GPA and clinical competence.

Keywords: *Clinical Competence, Cross-Cultural Study, Multiple Group Analysis*

INTRODUCTION

Clinical competence develops over time. Benner identified five stages of competence: novice, advanced beginner, competent, proficient and expert.[1] Stage 3 in this process is the competent nurse, which is typified by someone who has been on the job in the same or similar situations for two or three years. Baramee and Blegen identified three domains in which one may become competent: cognitive, affective and psychomotor.[2] Baramee and Blegen posed a number of questions related to the competence of new graduates, including: (a) whose perception is it that new graduates lack competence; (b) on which standards are new graduates' competence based; (c) on which competence components are new graduates thought to be lacking; (d) why do new graduates lack competence; and (e) how can this problem be remedied? Once competence is reached in each domain, they are integrated and applied in a clinical situation. The integration and application or clinical judgment is often referred to as clinical competence.

Corresponding author:
Randall E Schumacker
Professor
The University of Alabama, Box 870231, 316 Carmichael Hall, Tuscaloosa, AL 35487
Phone: (205) 348-6062
rschumacker@ua.edu

Tanner defined clinical judgment, or "thinking like a nurse" as "an interpretation or conclusion about a patient's needs, concerns or health problems, and/or the decision to take action (or not), use or modify standard approaches, or improvise new ones as deemed appropriate by the patient response". [3] Tanner's model of clinical judgment involved noticing, interpreting, responding and reflection (p. 208).

Del Bueno reported that only 35% of new nurse graduates were able to meet expectations for entry-level clinical judgment when evaluated by the Problem Based Development System (PBDS).[4] PBDS involves the assessment of nurses' clinical judgment using patient-focused exercises presented by video simulation. This system, used by more than 350 health care agencies in 46 states in the U.S., is designed to evaluate nurses' critical thinking and interpersonal skills and abilities in a variety of clinical situations. The nurses' responses are compared to validated criteria for each situation. The resulting evaluation ranges from unacceptable (unsafe) to expert (exceeds expectations). Although new graduates are expected to be at the entry (safe practice) level, analysis of data collected from 1995 to 2005 found that from 65% to 76% of newly graduated registered nurses do not achieve this entry point.

Burns and Poster described a similar situation in the competence of new graduates. [5] They based their

opinion on comments by a consortium of nursing schools deans and nurse executives in a metropolitan area who met to discuss employers' concerns for the readiness of new graduates to enter the work force. These nurse executives reported that new graduates had difficulty "critically thinking on their feet" or managing patient situations, especially those requiring quick, accurate decisions and actions. Similar results were found by the Advisory Board Company who implemented a survey on new graduate practice readiness.[6] Frontline nurses were asked to rate their level of satisfaction with new graduate proficiency on 36 critical competencies identified by the Nursing Executive Center in cooperation with a cross-section of nursing administrators and clinical experts. The survey found that that new graduates met the performance expectations of over half of their unit managers on only two competencies: "Utilization of Information Technologies" and "Rapport with Patients and Families". Thus, three years later, the concerns expressed by Del Bueno as well as Burns and Poster continue to plague nursing education and practice.

Nursing programs today are using high fidelity patient simulation in the nursing curriculum to address clinical competence of nurses. Students are asked to rate their perception of their clinical competence when evaluating their patient simulation learning experience. At least two studies used focus groups to elicit student perceptions of their clinical competence before and after participating in high fidelity patient simulation. [7,8] Lassater reported that: "simulation served as an integrator of learning, that it brought together the theoretical bases from their classes and readings, as well as the psychomotor skills from laboratory and lessons learned from clinical practice, requiring them to critically think about what to do."[7] Similarly, Bradshaw and Sportsman noted that: "Participation in simulation brings everything together" and "it makes you realize you know more than you think you do".[8]

Research into the clinical competence of nurses has become an international concern.[9,10] The concern about the competence of new graduates provided the basis for the Baramee and Blegen study. They explored variables prior to and during a nursing students' educational process which influenced the perception of their clinical competence. They identified key variables when defining a path model of nursing competency. The purpose of this study was to compare the path model proposed by Baramee and Blegen with a similar path model developed by the authors using a new sample of data.

METHOD AND PROCEDURES

Participants

Baramee and Blegen did not report the age and gender of the students from Thailand.

The U.S. nursing data were female with an age range from 19 to 50 years (63% were between 19-29 and 25% between 30-39). Although age and gender influences a students' learning, these variables were not included in the Baramee and Blegen path model and therefore not included in the cross cultural path model comparison.[11,12]

Instruments

The Clinical Competency Appraisal Scale (CCAS), a 44 item instrument, was an adaptation of the Clinical Competency Rating Scale (CCRE) by Sheetz and the 6-DSNP instrument by Schwirian.[13,14] The five CCAS subscales included the Psychomotor Skills Perception (PSP), Leadership, Teaching/Collaboration, Planning/Evaluation and Interpersonal Relationships/Communication. The Cronbach alpha reliability coefficients for these subscales ranged from 0.82 to 0.95.

The Learning and Study Strategies Inventory was designed to assess how respondents learn and study.[15] Student effort was measured by the concentration, self-testing, study aids, and time measurement scales. According to the authors, these scales measured how students manage or self-regulate and control the entire learning process, by using their time effectively, focusing their attention and maintaining their concentration over time, checking to see if they have met the learning demands for a class, assignment or a test, and using study supports such as review sessions, tutors or special features of a textbook. The Cronbach Alpha reliability coefficients for these subscales ranged from 0.73 to 0.89.

The Clinical Learning Environment Scale, a 23- item survey, assessed student satisfaction with the clinical experience during their last semester.[16] It is composed of five subscales: (1) staff-student relationships; (2) nurse manager commitment; (3) patient relationships; (4) interpersonal relationships; and (5) student satisfaction. Dunn and Burnett reported that factors

within the scales have strong substantive face and construct validity, as determined by confirmatory factor analysis.[16] The reliability coefficients range from .63 to .85.

Personal hardiness was measured by a sense of commitment to a goal, a perception of control over the environment influencing the goal, and the ability to view change as a challenge. A person with positive levels of each of these dimensions is theorized to be protected against stress, particularly if the stress is severe and repeated. Hardiness is most protective during severe stress by altering the perception of stress and mobilizing effective coping techniques.[17] The Personal View Survey (PVSIII-R) was used to measure graduates' level of personal hardiness.[18] The PVSIII-R is an abridged form of the original 50-item Personal View Survey (PVS). The PVSIII-R correlated .91 with the original Personal View Survey. Internal consistency reliability of the PVSIII-R ranged from .70 to .75 for commitment; .61 to .84 for control; .60 to .71 for challenge; and .80 to .88 for total scores. The Cronbach Alpha coefficient was .65 in the Baramee and Blegen study.

Graduating grade point average (GPA) for all students participating in the study was collected by accessing university data bases. Grades for all courses required for the BSN degree were included in the calculation of the graduation grade point average.

CORRELATION DATA

The observed variables were ordered in the correlation matrix as: hardiness, student effort, clinical learning environment, grade point average, and clinical competence. The correlation matrix from the Baramee and Blegen study, n = 453 nurses, was:

1.0

.38 1.0

.19 .25 1.0

.07 .24 .02 1.0

.16 .28 .23 -.08. 1.0

The correlation matrix from the U.S. study, n = 80 nurses, was:

1.0

.509 1.0

.185 .208 1.0

.166 .318 -.181 1.0

.062 -.086 .154 -.222 1.0

The LISREL-SIMPLIS program was used with these correlation matrices to test the individual path models and the multiple group analysis for testing a difference in the path model between the two countries, Thailand and U.S.[19]

Path Model

The Baramee and Blegen path model, based upon Tinto's theory of student departure and the Pascarella and Terenini model of assessing change, defined key variables that influenced the perception of students regarding their clinical competence at the time of graduation from a baccalaureate nursing program in Thailand.[2, 20, 21] Baramee and Blegen concluded that five variables, including perception of nurses own hardiness, effort in their studies, clinical learning environment, and student-faculty relationship, as well as graduating grade point average, produced a path model to explain students' perception of their own clinical competence.

Their path analysis indicated that students' perception of their own effort, the clinical learning environment, and the graduation grade point average had a direct effect on the perception of clinical competence. Students' sense of their own hardiness had an indirect effect on their perception of clinical competence through its impact on their perception of their effort, clinical learning environment and the student-faculty relationship. They questioned their results which only showed a 12% variance explained in the outcome variable with a statistically significant chi-square model fit; which is not an acceptable model fit. We re-analyzed their path model, adding a path from perception of student effort to perception of clinical learning environment, and obtained a $R^2 = 34\%$ and a non-significant chi-square statistic indicating a good data to path model fit (Table 1 [B&B Revised]; Chi-square=1.72, df=3, p=.63).

The U.S. path model used a set of data from 80 nursing students who graduated from a baccalaureate nursing (BSN) program in a U. S. accredited university.[22] Although Baramee and Blegen identified faculty-student relationships as one of the variables influencing students' sense of clinical competence, the present study excluded the faculty-student relationship variable because the researchers were unable to obtain permission to use the instrument.

RESULTS

The original Baramee and Blegen path model did not indicate a good fit to the data (Table 1: B&B), implying that the variance-covariance amongst the variables was not explained well by this path model (Chi-square = 19.35, df = 4, $p < .001$). In structural equation modeling, we seek a non-significant Chi-square to signify that there is no statistical difference between the sample variance-covariance matrix of observed variables and the model implied variance-covariance matrix that is generated based on the model.[23]

The Baramee and Blegen revised path model, indicated a better fitting path model (Table 1: B&B Revised, Chi-square = 1.72, df = 3, p = .63). The additional path is supported by educators who have suggested that the greater a student believes their effort to be, the more positive they view the clinical learning environment. Baramee and Blegen overlooked an important relation in their path model. The U.S. path model indicated a good fit (Table 1: U.S. Path Model, Chi-square = 6.74; df = 3, $p < .08$), but differed in a negative path coefficient from perceived student effort to clinical competence (- .06).

Both path models had a negative relation between grade point average and students' perception of clinical competence (-.15 and -.18, respectfully). This relation implies that a lower grade point average was associated with higher perceived clinical competence. Baramee and Blegen suggested a possible reason for this finding. High academic achievement may encourage graduates to set unrealistically high goals for themselves. As students evaluate their clinical competence, they may be reluctant to rate themselves as highly competent when compared with more experienced nurses. In contrast, students with low self-esteem and low academic achievement may be less accurate in self-evaluation, because feelings of insecurity, inefficiency and loss of confidence might be compensated for by giving themselves a high rating on clinical competence. Despite the possible explanation for the association between a lower grade point average and higher clinical competence, they noted that this finding in their research should be interpreted with caution.

Multiple Group Analysis

Our hypothesis was to test whether the path model was the same or different between the Thailand and U.S. students. The multiple group comparison of the path model was conducted in LISREL to test the hypothesis.[19, 23] The resultant non-significant Chi-square = 20.82, df = 17, p = .23, indicated that the path model was the same for the Thailand and U.S. nursing students. The path model is diagramed in Figure 1 with the common path coefficients and the results are reported in Table 1. The common path model, being the same for both the U.S. and Thailand nursing students implied a viable theoretical model to explain clinical competence in nursing and established validity of the Baramee and Blegen path model, as revised.

CONCLUSIONS

The re-analysis of the Baramee and Blegen path model revealed an important relation in the model that produced a better fitting model. The discrepancy in the U.S. path model (negative path coefficient) was not apparent in the multiple group analysis. Both groups however did have negative path coefficients from grade point average to perceived clinical competence in the individual and multiple group path analysis. This implies that lower grade point averages are associated with higher clinical competence, which doesn't relate well to theory, so further research is warranted. The multiple group analysis indicated a common path model with clinical competence predicted at $R^2 = .40$, therefore they were not different. This study supported a cross cultural comparison of a clinical competence path model in nursing and validated the initial work of Baramee and Blegen.

Our findings validate that students' sense of their hardiness indirectly affects their perception of clinical competence and graduating GPA through its effect on their perception of their effort and clinical learning environment. As a result, students who have this internal characteristic may have an advantage in coping with the stress inherent in nursing programs. Perhaps this characteristic, as measured by reliable and valid scores from an instrument such as the PVS III-R, should be one of the criteria for admission.

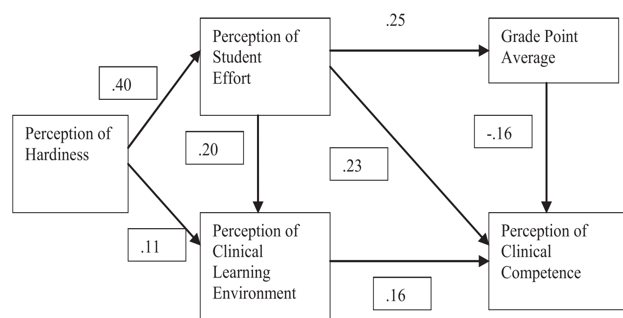


Fig. 1. Common Path Model for Thailand and U.S. Students Perception of Hardiness

Table 1: Path Model Results

Paths in Model	B&B	B&B Revised	U.S. PathModel	Multiple GroupModel
Hardiness'!Student Effort	.38	.38	.51	.40
Hardiness'!Clinical Learning Environment	.19	.11	.11	.11
Student Effort'!GPA	.24	.24	.32	.25
Student Effort'!Clinical Competence	.28	.28	-.06	.23
Clinical Learning Environment'!Clinical Competence	.17	.16	.13	.16
Student Effort'!Clinical Learning Environment	.21	.15	.20	
GPA'!Clinical Competence	-.15	-.15	-.18	-.16
Chi-square (df: p)	19.35(4: .001)	1.72 (3: .63)	6.74 (3: .08)	20.82 (17: .23)
RMSEA	.09	0	.13	0
CFI	.92	1.0	.89	1.0
R-squared	.31	.34	.40	.40

ACKNOWLEDGMENT

High Fidelity Clinical Simulation: A Regional Collaborative for Increasing Nursing Enrollment and Accelerating the Orientation of New Graduates. Nursing Innovation Grant-Category D. Texas Higher Education Coordinating Board. $1,272,410

Conflict of Interest: There is no conflict of interest in the research, analysis, and manuscript.

Source of support: Manuscript preparation did not receive any financial support. Authors contributed in the writing and preparation of the manuscript.

Ethical Clearance: The Institutional Review Board (IRB) at the Midwestern State University, 3410 Taft Boulevard, Wichita Falls, Texas, (940) 397-4352, approved the research.

REFERENCES

1. Benner, P. From novice to expert: Excellence and power in clinical nursing practice. Menlo Park: Addison-Wesley; 1984.
2. Baramee, J. & Blegen, M. New graduate perception of clinical competence: Testing a causal model. International Journal of Nursing Studies. 2003; 40: 489-399.
3. Tanner, C. Thinking like a nurse: A research-based model of clinical judgment in nursing. Journal of Nursing Education. 2006 June; 45(6): 204-211.
4. Del Bueno, D. (2005, September/October) A crisis in critical thinking. Nursing Education Perspectives. 2005 September/October; 26(5): 278-282.
5. Burns, P. & Poster, E. (2008, February) Competency development in new registered nurse Graduates; Closing the gap between education and practice. The Journal of Continuing Education in Nursing. 2008 February; 39(2): 67-73.
6. The Advisory Board Company. Capturing the academic and industry perspectives: Nursing Executive Center Dual Survey Methodology [Internet]. 2008. Available from: http://www.advisory.com/Research/Nursing-Executive- Center/Studies/2008/Bridging-the-Preparation-Practice-Gap-Volume-I.
7. Lassater, K. High-fidelity Simulation and the development of clinical judgment: Students' experiences. Journal of Nursing Education. 2007 June; 46(6): 269-276.
8. Bradshaw, P. & Sportsman, S. Student Nurses' Perception of their Clinical Competence. 17th International Nursing Research Congress Focusing on Evidence-Based Practice [conference]. 2006 July 19-22. Sigma Theta Tau International, Honor Society of Nursing, Montreal, Quebec, Canada.
9. Ofori, R. & Charlton, J.P. A path model of factors influencing the academic performance of nursing students. Journal of Advanced Nursing. 2002; 38(5): 507-515.
10. Blackman, I., Hall, M, & Darmawan, I.G.N. Undergraduate nurse variables that predict academic achievement and clinical competence in nursing. International Education Journal. 2007; 8(2): 222-236.
11. Arnold, J.C. The Influence of student effort, college environment and selected student

characteristics on undergraduate students learning and personal development at metropolitan institutions. [conference]. 1991. ASHE Annual Meeting Paper Available from: http://eric.ed.gov/ERICWebPortal/custom/portlets/recordDetails/detailmini.jsp?_n fpb= true &_ & ERICExt Search_ Search Value_ 0=ED 339296&ERICExtSearch_Sear chType_ 0=no &accno=ED339296 [Last Accessed, September, 2008].

12. Selvarajah, C. Cross-cultural study of Asian and European student perception: The need to understand the changing educational environment in New Zealand. Cross Cultural Management: An International Journal. 2006; 3(2): 142-155.
13. Sheetz, L. Baccalaureate nursing student preceptorship programs and the development of clinical competence. Journal of Nursing Education. 199; 28: 29-35.
14. Schwirian, P. M. Evaluating the performance of nurses: a multidimensional approach. Nursing Research. 1978; 27: 347-351.
15. Weinstein, C., Schulte, A. & Palmer, D. Learning and study strategies inventory (LASSI) Users manual (2nd Edition). Clearwater, Florida: H & H Publishing; 2002.
16. Dunn, S & Burnett, P (1995). The development of a clinical learning environment scale. Journal of Advanced Nursing. 1995; 22: 1166-1173.
17. Schwab, L. Individual hardiness and staff satisfaction. Nursing Economics. 1996 May-June; 14(3): 353-359.
18. Maddi, R. & Khoshaba, D. Personal views survey (3rd Revision). Newport Beach: Hardiness Institute Inc.; 2001.
19. Jöreskog, K.G. & Sörbom, D. LISREL 8.8 for Windows. Skokie, Illinois: Scientific Software International; 2006.
20. Tinto, V. Leaving College: Rethinking the causes and cures of student attrition (2nd Edition). Chicago, Illinois: University of Chicago Press; 1993.
21. Pascarella & Terenini. Predicting freshman persistence and voluntary dropout decisions from a theoretical model. Journal of Higher Education. 1980; 51(1): 60-75.
22. Sportsman, S., Schumacher, R., and Hamilton, P. Evaluating the Impact of Scenario- Based High Fidelity Patient Simulation on Academic Metrics of Success. Nursing Education Perspectives. 2011; 32(4): 259-265.
23. Schumacker, R. & Lomax, R.G. A Beginner's Guide to Structural Equation Modeling (3rd edition). New York, NY: Routledge Press; 2010.

DOI Number: 10.5958/j.0974-9357.6.1.045

Identify the Impact of Tuberculosis on Health Status and Coping Strategies Adopted by Tuberculosis Patients

Rashmi[1], Shobha Prasad[2], Sulakshna Chand[3]

[1]Assistant Professor, [2]Professor, [3]Assistant Professor, M. M. College of Nursing, Mullana Ambala, Haryana

ABSTRACT

A study to identify the impact of tuberculosis on health status of tuberculosis patients and coping strategies adopted by tuberculosis patients with a view to develop pamphlet at selected DOTS centers in Ambala district of Haryana. Sample subjects were drawn by purposive sampling. The sample comprised of 100 tuberculosis patients attending DOTS centers of Ambala for tuberculosis treatment. Significant findings of the study were that Fifty subjects had mild impact of tuberculosis on health status, 45 subjects had moderate impact of tuberculosis on health status and five subjects had severe impact of tuberculosis on their health status. Maximum impact of tuberculosis was on physical health followed by mental health, spiritual life and social life. The most frequently adopted coping strategy was Logical analysis followed by problem solving, emotional discharge, positive reappraisal. A low negative relationship was established between impact of tuberculosis on health status and coping strategies adopted by tuberculosis patients. There was no significant association between impact of tuberculosis on health status of subject and age, gender, educational status, occupation, marital status, family income, number of rooms in residing house, number of family members place of residence and category of treatment.

Keywords: *Tuberculosis, Tuberculosis Patients, Health Status, Coping Strategies, Pamphlet*

INTRODUCTION

"Tuberculosis for which effective interventions exist remains an orphan and the world should be ashamed"

Kevin Delock

Humanity has probably recognized tuberculosis as a killer disease since the ice age. It is a debilitating disease which can prove fatal if left untreated. Tuberculosis is the single largest infectious cause of death among young people and adults in the world, accounting for nearly two million deaths per year. Tuberculosis was declared a "global emergency" by WHO in 1993 because of its toll on the health of individuals and wider social and economic impact on the overall progress of a country.[1]

According to the 13th annual tuberculosis report published by WHO on World Tuberculosis Day; there were an estimated 9.27 million new cases of tuberculosis worldwide in 2007. Disturbingly, there were approximately 500,000 cases of multidrug resistant tuberculosis in 2007, of these 131,000 were in India.[2]

In 2008, there were approximately 9.4 million new cases of tuberculosis. India had the largest number of cases, with an approximate 1.6-2.4 million new cases, closely followed by China with 1-1.6 million new cases.[3]

It is estimated that 40% of the population in India is infected with the tuberculosis bacilli and about 10% of them will develop tuberculosis disease during their lifetime. There are over 8.5 million tuberculosis patients in India with an incidence of 1.9 million cases annually including 0.8 million newly infected cases.

Thread that runs through the journey of all the tuberculosis patients is stigma related to the disease. Central to the experience of tuberculosis, for both patients and their households, is anticipated and enacted stigma. Tuberculosis patients all experience verbal stigma and social exclusion. Rejection is another common form of stigma; broken relationships with spouses or partners during tuberculosis illness are not uncommon. Fears around tuberculosis transmission and social and physical exclusion of tuberculosis patients is very much evident.[4]

It was highlighted by Bhatia et al that while looking at the medical aspects of the disease, one cannot ignore related social aspects to it. The way people think about the disease, the economic and social deprivation of the person suffering from the disease, contribute to the recovery from the disease.[5]

It is a well known fact that people respond to their problems and situations in different manner. Similarly in stress, people adopt different coping strategies. Individuals who cope effectively are able to accept a diagnosis; seek for the information related to problem solving; talk with the family members and friends, adopt some positive attitude and actions. Better coping means stronger determination, less illness and better health. Thus, use of positive coping strategies means people are stronger, earn better, take responsibilities and are more productive.

OBJECTIVES

1. To identify the impact of tuberculosis on health status of tuberculosis patients.
2. To identify the coping strategies adopted by tuberculosis patients.
3. To determine the relationship between impact of tuberculosis on health status and coping strategies adopted by tuberculosis patients.
4. To determine the association of impact of tuberculosis on health status with selected variables of tuberculosis patients.
5. To develop and validate a pamphlet on healthy coping strategies for tuberculosis patients.

MATERIAL AND METHOD

The present study was conducted at selected DOTS centers of urban area of Ambala, Haryana; Civil Hospital, Ambala Cantt; TB Hospital, Ambala City; Railway Hospital, Ambala Cantt. The target population for the present study comprised of patients diagnosed with tuberculosis. 100 patients with tuberculosis were selected by using purposive sampling. The study was carried out in the month of November and December 2011.

Data collection tools were constructed to obtain the data; Structured interview schedule to identify the impact of tuberculosis on health status of tuberculosis patients, Moo's coping rating scale to identify the coping strategies adopted by tuberculosis patients.

Section I: 16 items which were designed to obtain demographic information such as age, gender, religion, occupation, type of family, marital status, family income, type of house, number of rooms, number of family members, place of residence, duration of illness, number of previous hospitalization due to tuberculosis, any health education program attended on anti tubercular treatment, category of treatment for tuberculosis.

Section II: Structured interview schedule was developed to identify the impact of tuberculosis on health status of tuberculosis patients. It comprised of 30 items with the following domains of impact; Physical impact, Mental impact, Social life impact, Spiritual life impact.

Section III: Moo's coping rating scale comprised of 48 items with the following domains; Logical Analysis, Positive Reappraisal, Positive Reappraisal, Selecting Guidance and Support, Problem Solving, Cognitive Appraisal, Acceptance or Resignation, Seeking Alternative Rewards, Emotional Discharge.

The validity of the tool was established by consultation with experts. The reliability for structured interview schedule was computed by cronbach's alpha method and is found to be r = 0.82 and another was standardize tool of Moo's coping inventory.

Pilot study was conducted which did not indicate any major flaws in the feasibility and design of the study.

Study was conducted in month of December, 2010. Structured Interview Schedule and Modified Moo's Coping rating Scale was administered to collect the data regarding impact of tuberculosis on health status and coping strategies by using interview technique. Five to six tuberculosis patients were interviewed in a day. On an average it took 50-60 minutes to collect data from each subject. Data was analysed using inferential and deferential statistics. Frequency and percentage distribution, Coefficient of correlation, Chi- square were used to infer the collected data.

RESULTS

Total 100 patients were enrolled in the study. Forty five percent of subjects were in age group of 20-30 years. Maximum number of subjects (63%) was male. All the subjects (100%) were Hindu. Thirty six percent of subjects had primary education. Forty three percent of subjects were self employed as educational status. Maximum number of subjects (53%) were from nuclear families. Majority of subjects (77%) were married. Majority of subjects (88%) had income below Rs. 5000/- per month. All of subjects (100%) were living in pucca houses. Maximum number of subjects (55%) was

having one to two rooms in their residing houses. Maximum of subjects (53%) were having five to seven members living in the house. Majority of subjects (84%) were residing in their own house. All of subjects (100%) were having disease duration less than 1 year. None of the subjects were previously hospitalized due to tuberculosis. None of the subjects had attended any formal health education program on Anti Tubercular treatment.

Mean deviation and standard deviation for impact of tuberculosis is 51.55 and 9.61 respectively. Mean deviation and standard deviation for coping strategies adopted by tuberculosis patients is 102.82 and 18.24 respectively. There was no significant association of impact of tuberculosis on health status of subject with selected variables.

Table 1 Frequency Percentage distribution of Tuberculosis Patients in terms of Severity of Impact of Tuberculosis on Health status N= 100

Range of Score	Severity of Impact	f%
30-50	Mild	50
51-70	Moderate	45
71-90	Severe	05

Maximum Score: 90

Minimum Score: 30

The data presented in Table 1 reveals that 50% subjects had mild impact of tuberculosis on health status whereas 45% subjects had moderate impact of tuberculosis on health status. Five percent subjects had severe impact of tuberculosis on health status.

Table 2. Domain wise Mean, Mean Percentage, Standard Deviation and Rank order of Impact of Tuberculosis on Health Status of Tuberculosis Patients N =100

Domains	Max possible Score	Mean	Mean %	SD	Rank order
Physical	27	17.62	65.53	3.83	I
Mental	27	15.58	57.70	4.02	II
Social	30	15.19	50.63	4.87	IV
Spiritual	6	3.16	52.66	1.05	III

The data presented in Table 2 shows that highest mean percentage score in the physical domain with a mean % of 65.5 ranked as I, followed by mental health domain at II rank with mean % 57.70. The spiritual domain was ranked III with a mean % score of 52.66. The data further suggest that maximum problem were faced is the physical problems followed by mental, spiritual and social.

Table 3 Domain wise Mean, Mean Percentage, Standard Deviation and Rank Order of Coping Strategies Adopted by Tuberculosis Patients N=100

Domains of Coping Strategies	Mean	Mean %	SD	Rank order
Logical analysis	14.20	59.16	3.37	1
Positive reappraisal	12.69	52.87	3.27	4
Selecting guidance and support	12.44	51.83	3.23	5
Problem solving	13.88	57.83	2.99	2
Cognitive reappraisal	12.22	50.91	2.80	7
Acceptance or rejection	12.35	51.45	3.55	6
Seeking alternative reward	11.96	49.83	3.11	8
Emotional discharge	13.08	54.5	3.06	3

Maximum possible score for each domain is 24.

The data presented in Table 3 shows that the maximum mean % score was obtain on logical analysis domain (59.16%) followed by problem solving (57.83%) and emotional discharge (54.5%) domain of coping strategies.

Table 4 Correlation between Health Status and Coping Strategies Adopted by tuberculosis patients N= 100

Variables	Mean	Standard Deviation	Pearson correlationr
Health status	51.55	9.61	-0.04^{NS}
Coping Strategies Adopted	102.82	18.24	

'r' (98) e" 0.995

NS not significant at 0.05 level

The findings in table 4 shows that the coefficient of correlation computed between health status and coping strategies was found to be -0.04. This shows that a low negative relationship exist between health status and coping strategies adopted by tuberculosis patients. Thus the null hypothesis H_{01} was accepted and research hypothesis H_1 was rejected. Concluding there is no significant relationship between health status and coping strategies adopted by tuberculosis patients.

DISCUSSION

The purpose of this study was to identify the Impact of Tuberculosis on Health Status of Tuberculosis patients and Coping Strategies Adopted by Tuberculosis patients.

Findings of the present study revealed that tuberculosis reflected the overall health of subjects. The maximum impact was on physical health as followed by mental heath, spiritual life and social life. These findings are supported by a study conducted by Noronha V A (2005) which revealed that majority of subjects affected by PTB has moderate to severe impact on the health and life style of subjects.

Findings further showed that subjects used different coping strategies to overcome the impact of tuberculosis on health. These findings are also supported by Noronha V A (2005) which showed that subject used coping strategies in effective manner to overcome the impact of tuberculosis on their health.

ACKNOWLEDGEMENT

At very outset, I would like to thank almighty for his presence. My sincere thanks goes to all participants of my study. Lastly and most importantly I am grateful to everybody who was important to successful realization of thesis.

Ethical Consideration: Ethical approval to conduct the study was obtained from Institutional Ethical Committee of M.M University, Mullana, Ambala, Haryana. Written informed consent was obtained from the study subjects regarding their willingness to participate in the research project.

Conflict of Interest: There is no conflict of interest.

Funding Source: Self financed.

REFERENCE

1 WHO report 2006. Global tuberculosis control

2 WHO report 2009. 13th annual tuberculosis report.nej.org.june4

3 Tuberculosis international health organization.2011.Available from: http:// ganapserves.who.int/gho/interactive

4 Sullivan C. Impact of tuberculosis. 2009. Available from: http://www.programs.ifpri.org/renewal/ pdf/zambia SA Final Report.pdf

5 Bhatia AK, Himani AB: Review of behavioral studies in TB. Technical report series. CHEB: 1983

DOI Number: 10.5958/j.0974-9357.6.1.046

Effectiveness of Music Therapy vs Foot Reflexology on Pain among Postoperative Patients in Selected Hospitals at Mangalore

Reena Baby[1], Babu D[2],

[1]M.Sc Nursing II Year, [2]Associate Professor, Department of Medical Surgical Nursing, Yenepoya Nursing College Deralakatte, Mangalore

ABSTRACT

A study to compare the effectiveness of music therapy vs foot reflexology on pain among postoperative patients in selected hospitals at Mangalore. The main objective of the study was to compare the effectiveness of music therapy vs foot reflexology among postoperative patients and determine the association between level of pain and selected demographic variables of post operative patients.

The conceptual framework adopted for the study was based on the framework of King's Goal Attainment Model. The research design adopted for the present study was two group pre test post test(pre experimental) design. Purposive sampling technique was used to select the sample. The main study conducted in Yenepoya Medical College Hospital by applying numerical pain scale followed by administration of music therapy and foot reflexology twice a day for two days.

The mean of music therapy group was greater than foot reflexology group. Hence Foot reflexology was more effective than music therapy. There was no significant association found between the level of pain and age, gender, occupation, history of previous surgery, type of surgery, and marital status except education status of postoperative patients.

Keywords: *Effectiveness, Postoperative Patients, Post Operative Pain, Music Therapy, Foot Reflexology*

INTRODUCTION

Health is a multidimensional concept and must be viewed from a broader perspective. Each person has personal concepts of health and it will vary among different age-group, race, and culture. Positive health behaviours are related to attaining, maintaining, or regaining good health and prevent illness, whereas negative behaviours actually or potentially harmful to health and can lead to illness[1]. Postoperative pain is the one of the most common therapeutic problem in hospital. Strategic aimed at reducing postoperative pain, to increase patient comfort and shorten hospital stay[2].

Pain duration after the surgery is more prolonged than anticipated. Pain interferes with the daily function of the patient from first three days to a week. In majority of patients, postoperative pain is preventable with adequate analgesics and by appropriate use of newer techniques[3]. A number of non-pharmacologic or complementary therapies are used for pain relief. Reflexology& music therapy has become one of the most frequently used treatment modalities within complementary medicine[4].

MATERIAL AND METHOD

Two group pre test post test (pre experimental) design has been adopted to attain the objectives of the present study.

The investigator selected Yenepoya Medical College, Deralakatte, Mangalore, to carry out the study which is a 750 bedded multi specialty hospital with the strength of 168 staff nurses. The sample size of the present study consists of 60 patients with in of the age group of 21-60 years and who undergone for abdominal surgeries such as elective caesarean, hysterectomy, hernioplasty, appendicectomy in a selected hospital at Mangalore.

Numerical rating scale used to assess the severity of pain. The data collection was done from 19th November 2012 to 7th December 2012 in Mangalore. Data collection was done at Yenepoya Medical College Hospital, Deralakatte. Subjects were selected according to the selection criteria. The purpose of the study was explained to the subjects and informed consent was obtained. Their respondents were assured confidentiality.

Firstly, the pre-intervention pain intensity was measured in the music group and foot reflexology group. An interval of 10 minutes was given, between the pre-intervention assessment and the commencement of music therapy and foot reflexology. Music was administered for 20 minutes in the music group and foot reflexology was administered 20 minutes in the foot reflexology group. Post-intervention assessment of pain was performed immediately after the cessation of the music therapy and foot reflexology. The process was continued from the postoperative day II to postoperative day III for each subject. The intervention was repeated twice a day, for two consecutive days, once in the morning from 7 am to 10 am and in the evening between 4 pm and 7 pm

FINDINGS

Table 1. To compare music therapy vs foot reflexology on postoperative pain.

Test	Group	Mean score	Standard deviation	Mean difference	't' value
Post-test 1	MT	4.1	1.35	0.77	2.203*
	FR	3.33	1.35		
Post-test 2	MT	5.8	1.16	1.37	4.745*
	FR	4.43	1.07		
Post-test 3	MT	4.87	1.14	1.2	4.167*
	FR	3.67	1.09		
Post-test 4	MT	4.23	1.33	1.56	4.982*
	FR	2.67	1.09		

It was revealed from the above table the mean pain score of MT (4.1±1.35) was higher than mean pain score of FR (3.33±1.35) in post-test 1. The calculated 't' value (t=2.203) was greater than the table value (t_{58}=1.671) at 0.05 level of significance in post-test 1. The mean pain score of MT (5.8±1.16) was higher than mean pain score of FR (4.43±1.07) in post-test 2. The calculated 't' value (t=4.745) was greater than the table value (t_{58}=1.671) at 0.05 level of significance in post-test 2. The mean pain score of MT (4.87±1.14) was higher than mean pain score of FR (3.67±1.09) in post-test 3. The calculated 't' value (t=4.167) was greater than the table value (t_{58}=1.671) at 0.05 level of significance in post-test 3. The mean pain score of MT (4.23±1.33) was higher than mean pain score of FR (2.67±1.09) in post-test 4. The calculated 't' value (t=4.98) was greater than the table value (t_{58}=1.671) at 0.05 level of significance in post-test.

Association of pain level and demographic variables

The obtained chi-square values of age, marital status, gender, occupation, history of previous surgery and type of surgery (3.83, 0.02, 1.94, 0.347,0.5, 2.2, and 3.88) were lesser than the table values so there was no significant association between the demographic variables and the pre-test pain at the level of $p<0.05$ except education status (17.2).

CONCLUSION

The findings of the present study enabled the candidate to compare the effectiveness of music therapy vs foot reflexology on pain among postoperative patients in selected hospitals at Mangalore. The findings of the present study have various implications for nursing practice, education, administration and research. The use of non-pharmacological measures like music therapy and foot reflexology can be easily incorporated in nursing education along with other complementary therapies. In order to bring about the holistic health, music therapy and foot reflexology can be practiced for better health, to reduce pain.

ACKNOWLEDGEMENTS

I acknowledge my love and gratitude to all those loving hearts who helped me throughout my endeavour. With sincere gratitude and humility I acknowledge the Almighty God for his abundant grace, love, compassion and immense showers of blessings on me which gave me strength, courage to overcome all the difficulties during the study process. His unseen presence helped me to complete this study successfully.

Conflict of interest: Nil

Source of Funding: Nil

Ethical clearance: Ethical clearance obtained.

REFERENCES

1. Tylor C, Lilllis C, Lemone P. Fundamentals of nursing the art and science of nursing care. 6th ed. New York: Lippincott Publications; 2008. P. 1365.
2. Singleton KJ, Sando AS. Primary care. Philadelphia: Lippincott Publications; 1999. P. 526.
3. Shorten G, Core BD. Postoperative pain management: an evidence based guide to practice. Philadelphia: Saunders Publication; 2006.
4. Kochkrow C. Foundation of nursing. 5th ed. Missouri: Mosby Publications; 2006.

DOI Number: 10.5958/j.0974-9357.6.1.047

Nurses' Practice Related to Prevention of Pressure Ulcer among Patients and Factors Inhibiting and Promoting these Practices

Rishu Anand[1], Vinay kumari[2], Rathish Nair[3]

[1]Lecturer Ved Nursing College Baroli, Panipat, [2]Assistant Professor, [3]Professor M. M. College of Nursing, Mullana Ambala, Haryana

ABSTRACT

Pressure sores have plagued the nursing profession for many years as a major health care problem in terms of a patient's suffering and financial cost. Current study is aimed to assess nurses' practices related to prevention of pressure ulcer and identifying factors which inhibit and promote nursing practices in relation to pressure ulcer prevention. An observational approach was used with descriptive design on sample of 100 nurses from medical- surgical units of the Maharishi Markandeshwar Institute of Medical Science and Research, Hospital, Mullana, Ambala selected by convenience sampling technique.The data was collected by using observational checklist and rating scale. The nurses' practice observed and showed that majority of nurses (87%) was performing fair practice for prevention of pressure ulcer and only 2 nurses were doing good practice. There was no significant association of level of preventive practice with age, gender, year of experience and there was significant association of level preventive practice with area of work. Factors identified by nurses as promoter for practice in relation to prevention of pressure ulcer are: Use of risk assessment tool, Use of pressure ulcer prevention protocol, Teamwork & collaboration, Supervision of bedside practice by ward sisters. Factors identified by nurses as inhibitor are: Lack of confidence in performing activities, Inadequate skin care supplies, More involvement of nurses in non patient care activities, Knowledge deficit for use of equipments and skin care products, Lack of patient co-operation in following commands, lack of staff training and education. Therefore it is concluded that nurses' practice in relation to prevention of pressure ulcer are not appropriate.

Keywords: *Pressure ulcer, Nurses, Medical- Surgical units, Inhibiting and Promoting factors*

INTRODUCTION

Pressure ulcers are not a plague of modern man; they have been known to exist since ancient Egyptian times. However, despite the increasing expenditure on pressure ulcer prevention, a pressure ulcer remains a major health care problem. Although nurses do not have the sole responsibility for pressure ulcer prevention, nurses have a unique opportunity to have a significant impact on this problem.[1] Pressure ulcers are a localized injury to the skin and/or underlying tissue usually over a bony prominence, as a result of pressure, or pressure in combination with shear and/or friction as evident by, redness, warm to touch, blisters, tissue damage, breakdown of skin integrity. The most common sites of pressure ulcers are the sacrum, coccyx, heels, ischium, trochanter, malleolus, elbow, spine, and occiput. [2]

Moreover, pressure ulcers have been described as one of the most costly and physically debilitating complications in the 20th century.[3] Pressure ulcers are the third most expensive disorder after cancer and cardiovascular diseases.[44] Health Council of the Netherlands: Pressure Ulcers. Publication No. 1999/23. ISBN: 90-5549-302-3.

In addition, about 57–60% of all pressure ulcers occur within hospitals.[5] Up to 13% of patients develop pressure sores while being treated in an intensive care.[6]

Recent studies conducted in Europe, the United States, Canada and Australia have provided estimates of pressure ulcer prevalence in hospitals ranging from 8.3% to 25.1%.[7,8]

Pressure ulcers may not directly cause death, but the association with mortality may be due to their occurrence in otherwise frail, sick patients.[9]

Prevention is the key to the management of pressure ulcers. Implementation of best practice guidelines should be utilized for all patients to maintain skin integrity and prevent tissue breakdown. A comprehensive multi-disciplinary team approach is needed to prevent and treat patients with pressure ulcers, especially high-risk, complex medical patients.[10]

The prevention of pressure ulcers represents a marker of quality of care. Pressure ulcers are a major nurse-sensitive outcome. Hence, nursing care has a major effect on pressure ulcer development and prevention. Prevention of pressure ulcers often involves the use of low technology, but vigilant care is required to address the most consistently reported risk factors for development of pressure ulcers.[11] Nursing staff would make a greater commitment to lower the rate of pressure ulcers provided with accurate, current information on the costs of pressure ulcer treatment.

Keeping in view the present study was undertaken to identify the nurses practice related to prevention of pressure ulcer and factors inhibiting and promoting the nursing practice. The finding of study will be useful in reducing the incidence of pressure ulcer by identifying factors which inhibit good nursing practice and helpful in taking corrective measures against identified factors.

OBJECTIVES

1. To assess nurses' practice related to prevention of pressure ulcer in medical- surgical units of the selected hospital.
2. To identify factors inhibiting and promoting the nurses' practice in prevention of pressure ulcer among patients.
3. To determine the association of level of preventive practice with selected personal variables.
4. To develop and validate guidelines for pressure ulcer prevention.

MATERIALS AND METHOD

Design, Sample and Tools and Techniques

The study was conducted in Maharishi Markandeshwar Institute of Medical Sciences and Research hospital Mullana, Ambala. The research approach used was non-experimental with descriptive research design. Hundred nurses working in medical-surgical units were selected by convenience sampling technique. Time sampling was used for observing nurses' practice. Three nurses were observed simultaneously for 6 hours.

The tools developed and used for data collection were observational check list having 19 items for observing nurses' practices towards prevention of pressure ulcer and rating scale having list of 14 factors were used to identify factors which act as promoter / inhibitor for nurses' practices in relation to prevention of pressure ulcer. The data collection technique used for assessing nurses' practice was observation technique by using observational checklist. Time sampling was used. Factors inhibiting and promoting nurses' practice were identified by paper pencil technique using Rating scale.

RESULT

Data was entered into Microsoft excel and analysed using descriptive and inferential statistics. Frequency and percentage, mean, median, Standard deviation and mean percentage, chi-square were used to analyse the nursing practice in relation to prevention of pressure ulcer. Frequency and percentage used to analyse the factors which act as promoter / inhibitor for nursing practice in prevention of pressure ulcer.

The age of nurses enrolled in this study ranged from 20-40 years. Majority of the nurses (97%) belonged to age group of 20-30 years and most of them were female (87%). Majority of the nurse's were single (67%) and most of them were (68%) Hindus. All the nurses (100%) had done General Nursing and Midwifery. Majority (37%) of them had experience between 1-2 years and most of them (32%) were working in surgical ward.

Table 1. Frequency and Percentage distribution of nurses according to level of preventive care N-100

S.No.	Level of Preventive Care	Percentage
1.	Good Practice (>75%)	2
2.	Fair Practice (50-75%)	87
3.	Poor Practice (<50%)	11

Table 1 depicts that only 2 staff nurses were doing good practice in relation to pressure ulcer prevention. Maximum nurses (87%) were performing fair practice followed by 11% performing poor practices.

Table 2: Mean, Median, Range, Standard deviation of practice score% of nurses regarding prevention of pressure ulcer N-100

Mean	Median	Range	S.D
58.36	57.89	41.67-81.82	7.98

NOTE:- Mean is calculated by percentage scores obtained by nurses on observational checklist for prevention of pressure ulcer.

Table 2 shows that mean score of nurses' practice regarding prevention of pressure ulcer was 58.36 ± 7.98; median was 57.89, ranging from 41.67- 81.82

Table 3. Frequency and percentage distribution of nurses according to identified inhibiting and promoting factors for prevention of pressure ulcer N-100

S. No.	Factors	Promoter%	Rank	Inhibitor%	Rank
1.	Use of risk assessment tool(Braden, Norton scale) for assessing pressure ulcer.	96	3	04	12
2.	Use of pressure ulcer prevention protocol.	97	2	03	13
3.	Lack of confidence in performing activities for pressure ulcer due to inadequate competences.	06	12	94	03
4.	Teamwork and collaboration in performing activities for pressure ulcer prevention.	100	01	-	-
5.	Lack of staff training and education regarding current practice for pressure ulcer prevention and care.	33	08	67	07
6.	Supervision of bedside practice by ward sisters.	82	06	18	09
7.	Inadequate skin care supplies and products related to prevention of pressure ulcer.	05	13	95	02
8.	Year of experience (more experience can improve competence)	58	07	42	08
9.	Involvement of family members in the preventive activities.	92	04	08	11
10.	More involvement of nurses in non patient care activities.	18	09	82	06
11.	Communication of patient's risk of developing pressure ulcer to other staff during change of shift.	90	05	10	10
12.	Knowledge deficit for use of equipments and skin care products related to prevention of pressure ulcer care.	11	10	89	05
13.	Inadequate supplies of equipments & products related to prevention of pressure ulcer.	07	11	93	04
14.	Lack of patient co-operation in: - Following commands. - preventive care activities	01	14	99	01

Data present in Table 4 identify factors that act as promotor or inhibiter nurses' practice in relation to pressure ulcer prevention.

Top 5 promoter factors identified by nurses are:

1. Teamwork and collaboration in performing activities for pressure ulcer prevention.
2. Use of pressure ulcer prevention protocol.
3. Use of risk assessment tool (Braden, Norton scale) for assessing pressure ulcer.
4. Involvement of family members in preventive activities.
5. Communication of risk of developing pressure ulcer to other staff during change of shift.

Top 5 inhibitor factors identified by nurses are:

1. Lack of patient co-operation in: Following commends.
- preventive care activities
2. Inadequate skin care supplies and products related to prevention of pressure ulcer.
3. Lack of confidence in performing activities for pressure ulcer due to inadequate competency.
4. Inadequate supplies of equipments & products related to prevention of pressure ulcer.
5. Knowledge deficit for use of equipments and skin care products related to prevention of pressure ulcer care.

Table 4. Chi-square showing association of levels of preventive care with selected personal variables N-100

S. No	Personal variables	Levels of preventive practice			d.f	Table value	Chi-square	P value
		Good	Fair	Poor				
1	**Age**							
	20-30	2(2.27)	75(85.22)	11(12.5)		5.99	1.002NS	0.006
	31-40		12(100)		2			
2	**Gender**							
	Male	1(7.69)	9(69.23)	3(23.07)		5,99	1.508 NS	0.47
	Female	1(1.14)	78(89.65)	8(9.19)	2			
3	**Year of Experience**							
	<1 yrs		24(82.7)	5(17.2)	6	12.59	4.173 NS	0.653
	1-2yrs		33(89.18)	4(10.81)				
	3-5yrs	2(9.09)	18(81.81)	2(9.09)				
	<5yrs		12(100)					
4	**Area of Work**							
	Ortho ward		24(100)					
	ICU	1(8.33)	11(91.66)					
	ICCU		14(100)		8	15.5	21.058*	0.007
	Surgical ward	1(4.76)	20(95.23)					
	Medical card		18(62.06)	11(37.93)				

Table-5 shows that chi square value computed between level of preventive care with selected personal variables age (χ^2 =1.002) gender (χ^2= 1.508) year of experience

(χ^2=4.173) were found to be statistically not significant. This reveals that there was no significant association between level of preventive care with age, gender and year of experience. The chi-square value computed between level of preventive care and area of work (χ^2=21.058)* was significant. This shows that there was significant association between level of preventive care and area of work.

Preventive activities differ significantly in different areas of work only 2 nurses did good practice in ICU & surgical ward. In medical ward11 nurses did poor practice but none of the nurses in other areas of work performed poor practice. Performance of nurses was significantly poor as compared to other areas of work.

DISCUSSION

Pressure ulcers are a serious medical problem that can affect a patient in any health care setting. Pressure ulcers typically occur among patients who can't move or have lost sensation and result from prolonged periods of immobility with uninterrupted pressure on the skin, soft tissue, muscle, or bone.

The present study revealed that most frequent performed preventive activities by nurses in relation to prevention of pressure ulcer are: Keeping bed sheet wrinkle free and dry (99%), assisting, turning, rising, changing position(99%), using comfort devices(99%) maintaining personal hygiene(99%).

Similar findings were reported by Walia et.al (2004) that some of the preventive steps to reduce the prevalence of pressure ulcers either by staff or attendants of patients included: change of side or position (95%), removal of wrinkles from the bed sheet (60%) and use of cushions or air rings (55%). More than 50% nurses reported 'care of back' as a preventive step.[12]

Some of the study findings are inconsistent with Walia et.al like in present study (99%) nurses were maintaining personal hygiene but Walia et.al reported that 35% nurses were maintaining cleanliness.[11]

The present study further revealed that least frequent performed nursing activities in relation to pressure ulcer prevention were screening of pressure ulcer (0%) Inspection of skin of the high risk especially at bony prominences once per shift (0%) and assists/ encouraging repositioning (19.6%).

The result of the study are consistent with the study by Amelia Merriman et.al (2000) the findings

highlighted that nurses generally do not use a risk assessment tool for identifying pressure ulcer development & rely on a range of routine practice procedures.[13]

In the present study, factors which had been identified as inhibiting factors by nurses were inadequate skin care supplies related to prevention of pressure ulcer (95%), inadequate supplies of equipments & products related to prevention of pressure ulcer (93%), more involvement of nurse's in non- patient care activities. The result of the study is consistent with study conducted by Jankowski et.al (2011) the barriers identified were non-availability of supplies, Equipment issues, Access to supplies etc.[14] The present study concludes that nurses' practice in relation to prevention of pressure ulcer was not appropriate. Nurses do not screen patient for pressure ulcer neither any tool was used for risk assessment. Only few nurses (3/100) were changing the position of high risk patient every 2 hourly though repositioning is the foremost preventive action in relation to prevention of pressure ulcers.

ACKNOWLEDGEMENT

At very outset, I would like to thank almighty for His presence. My sincere thanks to all participants of my study. I am extremely grateful to everyone who has whole heartedly co-operated to make my thesis successful.

Ethical Consideration: Ethical approval to conduct the study was obtained from Institutional Ethical Committee of M.M University, Mullana, Ambala, and Haryana. Written informed consent was obtained from the study subjects regarding their willingness to participate in the research project.

Conflict of Interest: There was no conflict of interest.

Funding Source: Self financed.

REFRENCES

1. Maklebust J., Sieggreen M.Y. 2001. Pressure Ulcers: Guidelines for Prevention and Management, 3rd ed. Springhouse, PA. Lippincott Williams & Wilkins.
2. National Pressure Ulcer Advisory Panel. Pressure ulcer prevention points. The Advisory Panel. 1993. Available From:-http://www.npuap.org/PDF/preventionpoints.pdf
3. Burdette T, Kass J.Heel ulcers in critical care unit: a major pressure problem. Critical Care Nursing 2002; 25 (2):41–53.
4. Health Council of the Netherlands: Pressure Ulcers. Publication No. 1999/23. ISBN: 90-5549-302-3.
5. Thomas, D.R., 2001. Prevention and treatment of pressure ulcers: what works? What doesn't? Cleveland Clinic Journal of Medicine; 68 (8): 704–722.
6. Hunt, J.Application of a pressure area risk calculator in an intensive care unit. Intensive and Critical Care Nursing1993; 9 (4): 226–231
7. Clark M, Bours GJJW, Defloor T Summary report on the prevalence of pressure ulcers. EPUAP Review 2002; 4(2):49-57.
8. Whittington KT, Briones R: National Prevalence and Incidence Study: 6-Year Sequential Acute Care Data. Advances in Skin & Wound Care 2004; 17(9):490-494.
9. Berlowitz DR, Wilking SVB. The short-term outcome of pressure sores. American journal of Geriatriatrics.1990; 38:748–752.
10. Carpico B. Preventing skin breakdown through education. Pennsylvania pressure ulcer partnership teleconference. 2009.
11. Courtney H. Lyder, Elizabeth A. Ayello Pressure Ulcers: A Patient Safety Issue.
12. Vati. Jogindra, Chopra Suksham, Walia, Indarjit nurses' role in the management and prevention of pressure ulcers - a study 2004.
13. Eman SM Shahin et.al. Pressure ulcer prevention and incidence in intensive care patients a literature review. Journal of critical care nursing.2008; 13(2):72-78.
14. Mirjam A Hulsenboom, Gerrie JJW Bours, Ruud JG Halfens Knowledge of pressure ulcer prevention: a cross-sectional and comparative study among nurses. BMC Nursing 2007; 6:2.

DOI Number: 10.5958/j.0974-9357.6.1.048

Effectiveness of Planned Teaching Programme on Prevention of Anaemia among School Going Adolescent Girls

Moreshwar S A[1], Naik VA[2], Chrostina B C[3]

[1]*Associate Professor, Department of Community Health Nursing, KLEU's Institute of Nursing Sciences, Belgaum,* [2]*Professor and HOD, Department of Public Health, Jawaharlal Nehru Medical College, Belgaum (Karnataka), India,* [3]*Lecturer, Department of Community Health Nursing, Institute of Nursing Sciences Belgaum, (Karnataka), India*

ABSTRACT

Investing in adolescent health will yield large benefits for the generations to come. During adolescent period, growth spurt and the acquisition of adult phenotypes and biologic rhythms takes place. In addition to this, iron requirement also increases dramatically as a result of the expansion of the total blood volume, the increase in lean body mass and the onset of menstruation which contribute to accentuating the potential risk for anaemia. The global prevalence of anaemia mainly in South East Asia is 65.5%, in India 56% mainly among adolescent girls as per the NFHS -3 report. The adolescent girls are future mothers. Thus, the researcher has focused on health education to improve and motivate them to prevent health problems and conditions in early period due to anaemia. A pre-experimental study was carried over a period of 6 months on 60 adolescent high school girls between 10-19 years studying in Handignur high schools, Belgaum, Karnataka. The objectives of the study were, to assess the knowledge of adolescent girls both before and after planned teaching programme, to administer teaching program and to associate findings with selected socio demographic variables. Data obtained were tabulated and analysed in terms of objectives of the study using descriptive and inferential statistics. Analysis of the data showed that 100% of adolescent girls in pre-test had average knowledge, whereas in post-test majority 73.33% of the adolescent girls had good knowledge and 26.67 % had average knowledge, which indicates that the Planned Teaching Programme has impact in prevention of anaemia.

Keywords: *Anaemia, Planned Teaching Programme, Adolescent girls, Effectiveness*

INTRODUCTION

One of the most wide spread problem in India is anaemia. Girls and women of child bearing age are anaemic. Anaemia can have profound negative impact on psychological, physical development, behaviour, healing capacity, working performance and reproductive health which affects the future of an individual. Adolescent is a period where learning and adoption of new knowledge and practices take place. Additionally rural adolescent girls get married at an early age which leads to early pregnancy, repeated pregnancy and abortions and are exposed to greater risk of morbidity and mortality[1].A significant percentage of anaemia among adolescent girls in the developing countries (27%) is more than in developed countries (6%) [2]. Regional figure which vary by country within the region suggests that percentage of anaemia in Africa and Oceania 45%, Latin America and the Caribbean 12% and Asia 19%[3].

Anaemia among adolescent girls reduces work productivity as it causes impaired physical capabilities which leads to poor performance in the school. Physical and mental development should be taken care in this crucial period so as to prevent later maternal anaemia. No strategies are appropriate to reduce iron deficiency among adolescent girls other than creating awareness in the form of teaching programme[4].

Corresponding author:
Sangeeta Moreshwar
Asso Prof & HOD
Community Health Nursing, KLE Institute of Nursing Sciences, Nehrunagar, Belgaum, Karnataka
Email: smoreshwar@yahoo.co.in

India, in fact, beats even sub- Saharan Africa with the highest underweight adolescent girl population of 47% in age group of 15 to 19 years. The country has the world's largest adolescent girl population (20%)[4]. Iron deficiency is one of the most prevalent nutritional deficiencies in the world, affecting in estimated 2 billion people (Stoltzfus - Dreytuss, 1998).Young women are most commonly and severely affected because of the high iron demand for growth.

Although anaemia affects over 2 billion people worldwide (APC), it is especially prevalent in India, where more than 90% of adolescent girls (13-19 years) suffer from anaemia (UNICEF, 2004). Iron deficiency anaemia is more prevalent among adolescents with faulty dietary habits, chronic illness, heavy menstrual blood loss and who are underweight or malnourished. Regular health education programme needs to be incorporated in the school for prevention of anaemia[5].

Adolescent girls are the future generation mothers and they need to be taken care in terms of their balanced nutrition to prevent morbidity and mortality. However, most of the adolescent girls diet are based on staple food with little meal intake, which causes iron deficiency. In Indian context, adolescent girls are more prone for nutritional disorders due to ignorance and son preference of parents in the family which intern limits access to health and leads to nutritional disorder[6].

Treatment of anaemia consists of supplementation of iron for a period of at least 100 days. This being long term treatment compliance plays a very important role. Based on literatures and investigators experience, investigator felt that there is a strong need of planned teaching programme regarding prevention of anaemia and find out its effectiveness to develop healthy life style among adolescent girls which will help them to incorporate healthy dietary pattern for prevention of anaemia and its associated disorders[7].

MATERIALS AND METHOD

This was Pre-experimental study carried out in the high schools at Handignur village, Belgaum for a period of 6 months. A simple random sampling was used. The sample area selection comprised of two zones that is south zone and north zone school. The study subjects included 60 who were studying in class VII and VIII. Data from school children was collected through a structured questionnaire. In process of data collection, pre-test knowledge questionnaire was distributed followed by planned teaching programme and after 7 days post test was conducted. The maximum score for knowledge was 40.The knowledge scores was divided into three categories viz; good, average and poor according to the mean and standard deviation.

The reliability of the tool was tested by split half method by using Karl Pearson's Co-efficient of correlation formula. The reliability result was r=0.89. The collected data was analysed by using descriptive and inferential statistics. The study attempted to examine the following research hypothesis:

H1: The mean post-test knowledge scores of adolescent girls exposed to planned teaching programme will be significantly higher than their mean pre-test knowledge scores at 0.05 levels.

H2: There will be significant association between pre-test knowledge scores and selected demographic variables at 0.05 levels.

As this study pre-test knowledge was obtained before the intervention and post-test knowledge was obtained. Pre-experimental one group pre-test-post-test design was chosen. The measurement used in this study was the knowledge and test denoted as O1 and O2 for pre-test and post-test respectively.

O1 X O2

O1 = Pre-test Knowledge scores before introducing the intervention.

X = Intervention (Planned teaching programme)

O2 = Post-test knowledge after seven days of introducing the intervention.

OBSERVATION AND RESULT

Association between knowledge on Prevention of anaemia and selected demographic variables:

Majority of students 76.67% belonged to age group of 14-16 years, 96.67% were from Hindu religion, 73.3% of students' parents had secondary education, 73.33% were from joint family, 50% of student's family income was Rs3001-4000 and 43.33% non-vegetarian and 43.33% were vegetarian.

Analysis showed that the selected socio demographic variables such as education of parents, religion, family income, type of family and dietary pattern has statistically significant association with knowledge regarding Prevention of anaemia.

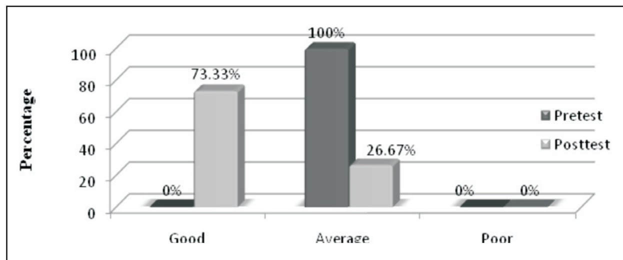


Fig. 1. Distribution of pre-test and post-test knowledge score among adolescent girls.

Fig. 1 represents that 60 (100%) of adolescent girls in pre-test had average knowledge, whereas in post-test majority 44(73.33%) of the adolescent girls had good knowledge and16 (26.67 %) had average knowledge.

Table1: Mean Median, Mode, and Standard Deviation &Range of knowledge score of Adolescent girls. n=60

Area of Analysis	Mean	Median	Mode	S.D	Range
Pre-test (x)	16.22	16	20	4.17	18
Post-test (y)	25.87	26	28	2.97	13
Difference (y-x)	9.65	10	8	-1.20	-5

Table1 depicts that the mean post- test knowledge scores are higher than the mean pre- test knowledge score.

Table 2: Mean difference (d), Standard Error of difference (SEd) and paired‘t ’values of knowledge score of Adolescent girl:

Mean Difference (d)		Paired 't' Values	
	Standard Error Difference (SEd)	Calculated value	Tabulated value
9.49	0.660	14.6160	2.145

Table 2 revealed that calculated paired‘t’ value (t=14.6160) is greater than tabulated value (t=2.145). Hence H1 is accepted. This indicates that the gain in knowledge score is statistically significant at $P<0.05$ levels.

DISCUSSION

Analysis showed that the selected socio demographic variables have statistically significant association with knowledge regarding Prevention of anaemia. A study which was conducted in Haryana on 110 adolescent girls who belonged to low socio-economic groups, found that anaemia was more prevalent in girls who were more than 14 years of age[8].Thus, the high prevalence of anaemia among girls who were more than 14 years of age could be related to menstrual loss. These findings correlates with those of the studies which were conducted among adolescent girls in Chandigarh, Nagpur, UP and Delhi, where it was revealed that anaemia was high in the lower socio-economic groups[9, 10, 11, 12]. The study conducted by Akramipour R, Lezari M, Rahimi Z. contradicts with our results that there was no significant difference between the presence of anaemia and the level of education of parents[10].In the present study overall improvement in knowledge was found after planned teaching programme and paired‘t’ value 14.6 at $p<0.05$ level of significance which proved that the hypothesis H1 is accepted. Improvement of food practices and home-fortified food supplementation interventions are essential. High-risk groups should be targeted and a long-term health education program that aims to modify food habits should be implemented.

CONCLUSION

The findings of final study revealed that there was a significant gain in knowledge scores of the students after the session of PTP at 0.05 levels. The study concluded that PTP had a great potential for accelerating the awareness regarding the prevention of anaemia.

ACKNOWLEDGEMENT

We express our thanks to participants and the authorities who provided permission to conduct the study.

Conflict of Interest

Improvement in diet, as well as treatment and prevention of infections along with iron and folic acid supplementation will definitely improve the nutritional status of the adolescents from under-privileged sections of the society, being brought up in low socioeconomic group. Health education programmes have to be carried out both, at schools and in homes along with health authorities, especially in relation to nutrition, personal and environment hygiene. Even if consumption of vitamin C-rich foods improved among adolescent girls, yet greater effort would be required to promote consumption of iron rich foods for long-term gains in iron status of the girls.

Source of Funding: Self-Funding

Ethical Clearance: Ethical clearance was taken from Chairman of Ethical Clearance Committee of KLE University and Principal, Prof. Sudha A Raddi, Vice Principal and Secretary, Prof. Milka Madhale, KLEU'S Institute of Nursing Sciences, Belgaum.

REFERENCES

1. Baral K P, Onta S R, Prevalence of anaemia amongst adolescents in Nepal, a community based study in rural and urban areas of Morang District. Original Article Nepal Med Coll J, 2009; 11(3) page no.179 -182.
2. World Health Organisation. Programming for adolescent health and development. WHO Tech Rep Ser No.886, 1996.p.2.
3. Stolzfus R J, Dreyfuss M L. Anaemia among adolescent and young adult women in Latin American and the Caribbean. Availablefrom:URL:http;//unscn.org/layout/modules/resources/files/AnemiaEngWEB.pdf.
4. Over 50% adolescent girls in India anaemic: UNICEF ,Feb 28, 2011
5. Paul R. Meier, James Nickerson H, prevention of Iron deficiency Anaemia in Adolescent and Adult Pregnancies. January 2003; 1(1): 29-36. Available From:URL:http://www.ncbi.nlm.nih.gov/pmc/1069018
6. Anaemia is on rise in India, says NFHS report. Express India [online] 2008 Jul [cited2009 Oct29]; Available from: URL: http://www.expressindia.co / latest new / Anaemia-is-on-the-rise-in-India.
7. Assessment, prevention and control; a guide for program managers, WHO/NHD 01.3, Distribution: general.
8. Gupta N, Kochar G. Pervasiveness of anaemia in adolescent girls of the lower socio-economic groups of the district of Kurukshetra (Haryana). The Internet Journal of Nutrition and Wellness 2009[Serial online];[cited 2009 Feb 13];7(1) Available from :URL:http://www.spub.com/journal/the_internet_ journal_of_ nutrition_and_wellness/volume_7_ number_ 1_21/article/pervasiveness_of_anaemia_in_adolescent_ girls_of_ low_socio_ economic_group_of_the_district_ of_ kurukshetra_haryana.html
9. Basu S, Hazarika R, Parmar V. Prevalence of anaemia among the school going adolescents of Chandigarh. Indian Paediatric 2005; 42:593-8.
10. Chaudhary SM, Dhage VR. Study of anaemia among adolescent females in the urban areas of Nagpur. Indian J Community Med 2008; 33(4): 245-48.
11. Rawat CMS, Garg SK, Singh JV, Bhatnagar M. Socio-demographic correlates of anaemia among adolescent girls in rural areas of the district Meerut (UP). Indian J Community Med 2001; 26(4):173-75.
12. Kapoor G, Aneja S. Nutritional disorders in adolescent girls. Indian Paediatric 1992; 29: 969-973.

DOI Number: 10.5958/j.0974-9357.6.1.049

Perception and Experience of Teachers and Postgraduate Nursing Students on Microteaching as an effective Teaching Strategy

Shanthi Ramasubramaniam[1], Lakshmi Renganathan[2]

[1]Lecturer, Maternal and Child Health Nursing, College of Nursing, Sultan Qaboos University, Muscat, Oman P. O. Box 66, Alkhod, Muscat, [2]Senior Trainer, Oman Nursing Institute, P.O. Box-3720 PC-112 Muscat, Sultanate of Oman

ABSTRACT

Aim: The main purpose of the study was to assess the perception and experience of teachers and postgraduate nursing students on microteaching at selected College of nursing, India.

Methods: Descriptive survey and interview method was used for the study. A five point likert scale was used to assess the perception of lecturers and students on microteaching. Experiences of teachers were assessed using interview method. The study was conducted by obtaining prior permission from Head of the institution, concerned teachers and postgraduate nursing students.

Findings: the results of the study indicate that teachers and postgraduate nursing students had a positive perception about microteaching as an effective teaching strategy. Participants also brought out suggestions to improve the present practice.

Keywords: *Microteaching, Effective Teaching Strategy, Microteaching in Nursing Education*

INTRODUCTION

Within the literature on teaching in nursing there appears to be little attention paid to the use of microteaching to enhance learning. Its use have been advocated by a number of authors, but for the novice teacher there is little advice available on how to plan or implement a teaching session using this strategy[1].Microteaching, which has for long been acclaimed as one of the best methods for training preservice and inservice teachers, is a technique that can be used for various types and stages of professional development[2].Lack of satisfactory awareness of the use of microteaching has led to criticisms that microteaching produces homogenized standard student teachers, the amount of time for preparing materials; the difficulty of material production may also cause unwillingness[3]. A study investigated the perceptions of 39 teacher trainees towards the effectiveness of microteaching subject in preparing for the teaching practice showed that the teacher trainees perceived microteaching as effective in preparing them for teacher practice[4].

OBJECTIVES

1. Assessment of perception and experience of teachers on Microteaching.
2. Assessment of perception and experience of postgraduate nursing students on Microteaching.
3. To suggest the ways to improve the present microteaching strategy.

NEED FOR THE STUDY

For teacher educators, the implementation of microteaching into their courses enables both pre service teachers and themselves to engage in dialogue and discussion centered on making connections between theories of teaching and microteaching experiences [5,6]. In view of the lack of literature and empirical evidence on the use and benefits of microteaching we would encourage others to implement and evaluate its appropriateness in nurse education[1].

Indepth awareness of microteaching, the motivation of teacher himself/ herself and the ability of the observer to offer comprehensive feedback may bring into remarkable improvements in teaching skills[7].Therefore the author wanted to explore the experience and perception of nursing college lecturers and prospective students (Masters in nursing students) on microteaching technique.

Literature Evidence

Microteaching has become a unique method of investigating technical skills in teaching. It has a great research potential because of its precision and low threats and also because it encourages experimentation. No research exists in the literature indicating as to what should be the ideal class- size and the micro-lesson time in the practical class room setting[8].

A study in Nigirian setting investigated, whether the use of video tape recordings is an effective method of teacher education prior of full-time teaching. Two groups of students were used for the study. The first group was allowed to practice the skills through micro teaching with the aid of video recording equipment. The second group practiced their own skills through micro teaching but without the aid of video recording equipment. At the end of the study it was discovered that the group which used the video-recording equipment has more significant progress in the mastery of teaching skills[2].

Literature describes the use of microteaching as a beneficial and accepted element of preservice teacher education. Microteaching experiences provide pre-service teachers to the realities of teaching. Second it introduces preservice teachers to their roles as teachers [9,2,10];third it helps them to see the importance of planning, decision making and implementation of instruction; fourth, it enables them to develop and improve teaching skills (Communication, public presentation etc.)[11,10] and finally it helps them build their confidence for teaching[5]. Other than bringing about effective teaching skills, microteaching also inculcates the value of reflective practice to preservice teachers who engage in microteaching are more receptive to feedback[10], while others contend that microteaching encourages self evaluation of self perceptions and teaching behaviours[5].

An exploratory research concluded that microteaching is regarded as an essential tool in growing technology. In depth studies in using this technique in training institutions, availability of technological labs and participatory role of expert group emerged as areas for further research[14].

METHOD

The study was conducted at a selected college of nursing, south India which is one of the pioneers among the private nursing colleges. The participants in the study consisted of teachers both at graduate and post graduate level of nursing education and few students at postgraduate level in nursing. 28 respondents were postgraduate nursing teachers and 16 were graduate level nursing teachers and 6 respondents were students at 2nd year masters in nursing level.

Descriptive survey method was used for the study. The data for the study were collected using a self administered 5 five point likert scale questionnaire containing perception and practice items concerning microteaching. The experience was assessed using a structured interview method and were analysed descriptively.

Research Instruments

Two instruments were used in the research. A five point likert scale was used to assess the perception of lecturers and students on microteaching and a structured interview was used to find out the experiences of lecturers and students on microteaching and suggestions for further improvement in microteaching strategy.

Development of the Tool

The tool was developed by referring to relevant literature on microteaching and getting expert opinion. The tool was given to experts in the field of nursing education and general education for validity.

Description of the Tool

Part-A consisted of the socio personal variables of the respondents. It contained questions about the demographic data like the gender, age, educational qualification, years of teaching experience and experience in the use of microteaching as a teaching skill.

Part: B

Consisted of likert scale questionnaire containing perception of lecturers on microteaching topic itself,

process and preparation for microteaching and lastly about the outcome of microteaching.

Part : C

Structured interview with open ended questions on narrating the experiences of the teachers and postgraduate students on various aspects of microteaching and Suggestions were asked from the respondents for further improvement to continue microteaching as a teaching skill.

RESULTS AND DISCUSSION

Socio demographic data

Among 50 samples 28 respondents were in the age group of 20-30 years, 20 samples in the age group between 31-40 and 2 samples between 40-50 years of age.

Among 50 samples 28 respondents were teachers in the postgraduate level teaching, 16 were teachers at the undergraduate level teaching and 6 were students at the 2nd year msc level of their education.

Among 50 samples only 3 teachers in the postgraduate level teaching were males and rest of all the samples including postgraduate students were females.

Main Findings of the Study: The findings related to the perception of nursing college teachers and postgraduate nursing students were assessed using the five point likert scale and it showed the following results.

Table 1. Perception Of Nursing College Teachers And Postgraduate Nursing Students

S.No	Items	Almost never	Never	Sometimes	Frequently	Always
1	Do you feel that Microteaching is the most effective method of teaching technique	0	0	12%	24%	64%
2	Do you think microteaching motivates the teacher	0	0	0	36%	64%
3	Did you feel that microteaching takes a lot of time and efforts from the teachers side to be prepared for the process	0	0	0	56%	44%
4	Have you felt that microteaching is most suitable in clinical learning	0	0	0	56%	44%
5	Do you think that microteaching increases the teachers confidence level	0	2%	15%	23%	60%
6	Do you feel that microteaching helps the teacher to know her strength and weaknesses	0	0	8%	12%	80%
7	Have you felt that microteaching helps to maintain concentration among the students during the session	0	0	0	36%	64%

Table 1. Perception Of Nursing College Teachers And Postgraduate Nursing Students

1. Regarding the statement on "Do you feel that Microteaching is the most effective method of teaching technique"? Majority 64% of them felt it's always as most effective method of teaching.
2. Regarding the statement "Do you think microteaching motivates the teacher?" majority 64 % perceived always motivating and 36% frequently motivating.
3. Regarding the statement "Did you feel that microteaching takes a lot of time and efforts from the teachers' side to be prepared for the process?"56% of them felt frequently it takes a lot of time and efforts from the teachers' side and 44% said always it takes the time and efforts of the teacher.
4. Regarding the statement "Have you felt that microteaching is most suitable in clinical learning?" since it was a clinical oriented course, 56% of them felt it frequently suits clinical learning and 44% felt it always helps in clinical learning.
5. Regarding the statement "Do you think that microteaching increases the teacher's confidence level?"Majority 60% felt it always it increases the confidence level.
6. Regarding the statement "Do you feel that microteaching helps the teacher to know her strength and weaknesses?" almost 80% of them perceived it always helps the teacher to know her strength and weakness.
7. Regarding the statement "Have you felt that microteaching helps to maintain concentration among the students during the session?" majority 64% of them felt it always maintain Concentration among the students.

On the whole the study results showed that there was a positive impact on postgraduate nursing student's perception and views on microteaching as a teaching strategy. The study showed teachers both at undergraduate and postgraduate level teaching had positive perception on microteaching as a teaching strategy. These findings are consistent with studies providing evidence that microteaching as an effective means of improving prospective teachers teaching skills[11,1,17]. Different models and versions have appeared in providing the microteaching experience. Some variables such as the number of students, teaching learning environments, teacher skills and behaviors to be practiced have changed, but in all

versions the principle that certain skills should be practiced again after evaluation remains the same[16].

Experience of teachers and postgraduate nursing students on microteaching

The lecturer needs to assess the student's prior experience and understanding of microteaching before using this strategy. The students also need to be advised about the function, aims and value of microteaching and video recording[1].Microteaching is a scaled down teaching. Its goal is to provide confidence, guidance, feedback and support to the prospective teachers. Basically its aim at modifying teaching behavior provides flexibility, location, organization and divergent ways of thinking[13].

Preparation and Practice Aspects of microteaching:

- Majority of the teachers (71.42%) at the postgraduate level teaching said that they conduct Microteaching at least twice in a year.
- Majority of teachers (62.5%) at the undergraduate teaching level said that Clinical teaching was the main area where the teachers used Microteaching as a method of teaching.
- All the postgraduate nursing students (100%) said that they practice microteaching minimum of 6 sessions per year as a part of their educational requirement. The students said microteaching sessions are planned at the beginning of the semester mainly in their specialty subjects.
- The postgraduate nursing students said they used both topics including theory and also skills were demonstrated in the 20 minute microteaching session.
- Preparation of peers for the msc students (prospective teachers) was done during their specialty hours. As well as the group for the microteaching was between 4-5.the students also felt it would be better if the group is bigger.
- The participants said Video recording was not used for their microteaching sessions.
- The multimedia used in the microteaching sessions were LCD presentations, charts/ posters and printed materials.
- Majority (62%) of the teachers said it was difficult to schedule topics and timings for the microteaching practice at the undergraduate level because the groups of students were around 40 in a class.

The findings are supported by an authors view as microteaching offers the advantages of both realistic practical experiences and controlled laboratory environment. It also offers immediate and continuous feedback; close supervision and objectives that can be managed according to the needs and abilities of the individual trainee [15].

Evaluation of microteaching

- 48% 0f the postgraduate level teachers said that they would give constructive criticisms, and would give feedback based on observation of teachers alone.
- Majority (82%) teachers at postgraduate level teaching said they used to evaluate student teacher at Postgraduate level.
- Problems faced by undergraduate level teaching faculty for not practicing Microteaching were no time, lack of resources and difficulties in student preparation.

An exploratory study[14] recommended that microteaching lessons should be conducted in more flexible environment. Programs should be designed in such a way that does not leave any gaps in planning and presentation of lesson. It requires the use of highly technical information technology devices, so use of these devices should be made proper as necessary. The class size should be increased so that large number of trainee teachers can be given the opportunity of enhancing their skills. Time allocation should be made sufficient for microteaching.

Suggestions for future improvements

The teachers and the postgraduate nursing students suggested few strategies to improve the current practice of microteaching technique.

- Standardize the process of microteaching at the Msc Nursing and Bsc nursing level of education.

- Make the facilities available (eg video recording), use of multimedia in the institution.
- Have continuous staff development programmes on the newer instructional technology including microteaching and giving effective feedback for students after the microteaching.

Limitations of the study

The study was done in a single setting and hence the findings cannot be generalized. The actual microteaching strategy using videotaping and peer presentations at the undergraduate level of education was not practiced.

CONCLUSION

Lack of adequate and in-depth awareness of the purpose of micro teaching has led to criticisms that microteaching produces homogenized Standard robots with set smile procedures. A lot depends on the motivation of the teachers to improve himself and the ability of the observer to give a good feedback. Repeated experiments abroad have shown that over a period of time microteaching produces remarkable improvement in teaching skills[12]. The study results showed that majority of the lecturers perceived microteaching to be the effective method, it helped the lecturer himself/ herself and the prospective teachers to know their strength weaknesses. They suggested that they needed resources adequately, and also have set standardized practice for microteaching skills at the postgraduate and undergraduate teaching practice sessions to overcome the practical difficulties to practice microteaching in the ideal way.

Conflict of Interest: None

Source of Support: There was no funding requested for this study.

Ethical Clearance: The ethical clearance was obtained from the institutional research and ethical committee.

ACKNOWLEDGEMENTS

The authors wholeheartedly thank the Principal, faculty and postgraduate nursing students who actively took part in the study and helped us to arrive at conclusions.

REFERENCES

1. Higgins A, Nicholl H. (2003). The experiences of lecturers and students in the use of microteaching as a teaching strategy. Nurse Education in Practice, 3, 220-227, doi:10.1016/s1471-5953(02) 001606-3.
2. Edward K.P. (2001) A study of the effects of video tape recording in microteaching training. British journal of Educational Technology: 32(4) 483-86.
3. Cripwell K, Geddes M. (1982). The development of Organisational skills through microteaching. ELT Journal 36/4:232-6.
4. Md Saleh, Zanariah and Yahya, Nurfareza. (2011). The *perceptions of TESL teacher trainees towards the effectiveness of microteaching subject (SPA 2001) in preparing them for teaching practice.* Unspecified. pp. 1-8. (Unpublished)
5. Brent R, Wheatley E.A, and Thomson W.S. (1996) Videotaped microteaching: bridging the gap from the university to the classroom. The teacher Educator, 31, 238-247.
6. Pringle R.M, Dawson K & Adams T. (2003) Technology, science and preservice teachers: creating a culture of technology- savvy elementary teachers. Actions in teacher Education,:24(4), 46-52.
7. Ogeyik M.C. (2009) Attitudes of the student teachers In English Teaching Programs towards Microteaching Technique. www.ccsenet.org/journal.html 2,(3).
8. Sahu A.T. (1984) Microteaching: some research studies and research questions. Int.j.Math, Educ.sci.technol,15(6)727-35.
9. Amobi F.A. (2005) Preservice teacher's reflectivity on the sequence and consequences of teaching actions in a microteaching experience. Teacher Education Quarterly, 32(1),115-130.
10. Wilkinson G. (1996) Enhancing microteaching through additional feedback from preservice administrators. Teaching and Teacher education, 12 (2), 211-221.
11. Benton-kupper.J. (2001). The microteaching experience: student perspectives. Education, 121(4), 830-835.
12. Ananthakrishnan N. (1993) Microteaching as a vehicle of teacher training-its advantage and disadvantages. Journal of postgraduate medicine; 39: 142-3

13. Abbasi M.H. (2009) Microteaching. Faculty professional development program, Higher education commission. Learning innovation division. Islamabad. (Unpublished typescript).
14. Ghafoor A, Kiani A, Kayani S.(2012). An exploratory study of microteaching as an effective teaching technology. International journal of Business and social science. 3(4).
15. Lakshmi MJ. (2009). Microteaching and prospective teachers. Discovery publishing house. NewDelhi. India.
16. Ilhan A. (2009). A study on the effectiveness of peer microteaching in a teacher education program. Education and science. 34(151).
17. Ramalingam, P. (2004). Effectiveness of video recorded teaching skills development programmes in higher education. Journal of All India Association for educational research. 16 (3&4) 16-20.

DOI Number: 10.5958/j.0974-9357.6.1.050

A Study to assess the Stressors of the Intensive Care Unit Patients' and to Compare these with the Nurses' Perception in Selected Hospitals of Karnataka State

Tsering Paldon[1], Elsa Sanatombi Devi[2], Flavia Castelino[3]
[1]Staff Nurse, Medicity The Medanta, Gurgaon, Haryana, [2]Associate Professor, [3]Assistant Professor, Manipal College of Nursing, Manipal

ABSTRACT

An intensive care unit is a specialized unit for monitoring the critically ill patients. However this environment is unsettling and frightening for the patients. The purpose of this study was to assess the stressors of the ICU patients and the nurses' perception of these stressors. A descriptive survey was undertaken and data was collected using structured questionnaires from a sample of 75 ICU patients and 75 nurses working in ICUs of Kasturba Hospital, Manipal. The top five stressors identified were: not being able to sleep, financial worries, not able to fulfill family responsibilities, being in pain, frequently being pricked by needles. The patients ranked the Physical Stressors the most stressful, followed by Psychological Stressors and Environmental Stressors. The nurses were able to perceive 4 out of top 5 stressors and also the Physical Stressors as the most important stressor of ICU patients. This shows that the nurses are aware of the fact that ICU is stressful for the patient and the different stressors affecting the patients. However the nurses' rating of the ICU patients' stressors was higher than that of the patients' stressors (59.53 vs 41.84). This shows that the nurses overemphasize the stressors of the ICU patients. The findings from this study provide a set of baseline information to the health care providers, with which to provide better care for the patients in ICU.

Keywords: *Stressors of ICU Patients, Nurses' Perception, Intensive Care Unit*

INTRODUCTION

An Intensive Care Unit can be a very intimidating place for a patient. Shrill alarms, lights flashing from machines intermittently and unpleasant odors permeate the air. While ICU nurses feel comfortable amidst the advanced technology and flashing screens, patients can make little sense of this strange and overwhelming environment. Overall, the experience of being admitted to an ICU is unsettling and frightening for the patient.[1]

The Intensive Care Unit has high technology machines for better monitoring which requires highly trained nurses .The skillful ICU staff makes the patients feel safe and comfortable throughout the treatment. Despite this, the ICU stay is not something, which the patient looks forward to. This may be because of their poor condition, the crowded place, the high technology machines used, invasive procedures carried out, noise as well as the high cost of treatment. All these contribute to physical, psychological, and environmental stressors which take a toll on the patients.[3]

The frightening experience in Critical Care Units, whether it be associated with the disease process or related to the critical care environment, has an important impact on the clients' recovery and rehabilitation. Critical care nurses are therefore in a strategic position to identify stressors in critical care units so that appropriate nursing measures can be directed towards minimizing the controllable stressors and promoting adaptive coping strategies to anticipated stressors.[7]

Research methodology

Descriptive survey design was found used for this study. The present study was conducted in medical ICUs, surgical ICU and cardiology ICUs of Kasturba Hospital, Manipal.

The sample included 75 ICU patients and 75 nurses working in ICUs of Kasturba Hospital, Manipal. Purposive sampling was used for the selection of the samples.

The conceptual model adopted for this study was developed by the researcher by using the concepts of Imogene King goal attainment model (1981).

Inclusion criteria

Patients

- Patients aged 20 years and above
- Patients who have been admitted to ICU for a minimum of 2 days & above.
- Patients who can read & communicate in English, Hindi or Kannada.
- Patients who are willing to participate in the study
- Patients without any neurological or psychological disorders.
- Patients who have not been previously admitted in ICU.

Nurses

Nurses who have worked in ICU for 1 year or more

RESEARCH MATERIALS

Tool 1: Background Proforma of patients and nurses

Tool 2: A Structured Rating Scale on Stressors of the Intensive Care Unit

The tool was developed to assess the stressors of ICU patients. It consisted of 35 items. The content areas covered were Physical stressors, Psychological stressors and Environmental stressors. Each item was scored on a four point Likert Scale to indicate the degree of stressor experienced: Extremely Stressful (3), Moderately Stressful (2), Mildly Stressful (1) and Not Stressful (0). The scores were arbitrarily classified as Mild level of Stressor (1-35), Moderate level of Stressor (36-70) and Severe level of Stressor (71-105).

Tool 3: Rating scale to assess the nurses' perception of stressors of ICU patients

The tool was developed to assess the nurses' perception of ICU patients' stressors. It consisted of 35 items. The content areas covered were Physical stressors, Psychological stressors and Environmental stressors. The nurses were asked to rate their perception of stressors as experienced by the patients during their stay in ICU. Each item was scored on a four point Likert Scale to indicate the degree of stressors perceived: Extremely Stressful (3), Moderately Stressful (2), Mildly Stressful (1) and Not Stressful (0). The scores were arbitrarily classified as Mild level of Stressor (1-35), Moderate level of Stressor (36-70) and Severe level of Stressor (71-105).

The validity was established by experts from different specialties i.e Psychiatry, Medical Surgical Nursing, Pediatric Nursing and Psychiatric Nursing. Reliability of the tools was determined by Cronbach's alpha.

Data collection procedure

The investigator approached the study subjects, explained the purpose of the study and obtained their consent after assuring them of the confidentiality of the data. Data was collected using the structured questionnaires. The patients were approached in the ICU on the day of the transfer to their respective wards and the nurses working in their respective ICUs were approached for the study.

DATA ANALYSIS

Descriptive and inferential statistics using SPSS windows 16.0 version was used to analyze the study findings.

Findings of the study

Sample characteristics

Patients: Most of the patients (30.7%) belonged to the age group of 51-60 years; were males (70.7%) and were married (86.7%). Majority of them (70.7%) were of Hindu religion, were unskilled worker (41.3%) and had a family income of Rs 5001-10,000 per month (58.7%). Only 9.3% of the patients were illiterate. Most of the patients (44%) were admitted with a diagnosis of cardiac disease; and majority of the patients (65.3%) were treated medically. Thirty six percent of the patients had a hospital stay of 10-13 days.

Nurses: Most of the nurses (41.3%) were of the age group 26-30 years and were females (65.3%). Most of them (60%) were from medical ICU and majority of the nurses (74.7%) had a work experience of 1-5 years.

Stressors of the patients

The top five stressors of ICU patients were: not being able to sleep, financial worries, not able to fulfill family responsibilities, being in pain and frequently being pricked by needles.

The least five stressful items as perceived by the ICU patients were: hearing people talk about me and my condition, frequent examination by the health care professional, presence of unusual smells, healthcare professionals more concerned with machines and health care professionals not introducing themselves

The patients reported a marginally moderate level of stressor with scores ranging from 20-60, mean 41.84 and SD= 7.23. Majority of the patients (81.3%) experienced moderate level of stressor, while none of them reported severe level of stressor.

The mean percentage for the categories of the stressors was computed, and it was revealed that the ICU patients were most affected by the Physical Stressors, followed by the Psychological Stressors and the Environmental Stressors.

Nurses' perception of ICU patients' stressors

The top five stressors of ICU patients as perceived by the nurses were: fear of death, being in pain not being able to fulfill family roles and responsibilities, financial worries and being pricked by needles frequently.

The five least stressful items as reported by the nurses were: being in a room that is too cold, health care workers using words which are not understandable, not knowing the date/day, not knowing the time and presence of unusual smells.

The total stressor score of patients as perceived by nurse ranged from 40-74 with mean- 59.53 and SD- 6.646. Majority of the nurses 72 (96%) perceived the that patients experience moderate level of stressors and 4 % of the nurses perceived severe level of stressor; while none of them perceived mild level of stressor.

The nurses were able to perceive the Physical stressors as the most stressful to the ICU patients, followed by Psychological stressors and Environmental stressors.

Comparison of the top five stressors of ICU patients and as perceived by the nurses

Top 5 stressors of ICU patients	Rank	Top 5 stressors of ICU patients as perceived by nurses
Not being able to sleep	1	Fear of death
Financial worries	2	Being in pain
Not being able to fulfill family responsibilities	3	Not being able to fulfill family responsibilities
Being in pain	4	Financial worries
Being pricked by needles frequently	5	Being pricked by needles frequently

It was found that the nurses were able to perceive 4 out of 5 top stressors of ICU patients. However the mean total score of nurses' perception of patients' stressors was greater than that of the patients' stressors (59.53 vs 41.84).

Difference in stressors of ICU patients and stressors of ICU patients as perceived by the nurses

Independent t-test was used and it was found that the stressor scores between patients and nurses were statistically different (t= 15.588, p=0.000), demonstrating the difference in perceptions of stressors between the two groups with the nurses overemphasizing the stressfulness of the ICU environment.

Association between stressors of ICU patients and selected patient variables

There was association between stressors of ICU patients and educational status (f= 2.703, p=0.027) and gender (t=2.442, p=0.017), but there was no association with other demographic variables.

Association between nurses' perception of ICU patients' stressors and selected demographic variables

There was significant association between nurses' perception of ICU patients' stressors with age (f=12.314, p=0.000), professional qualification (f=7.494, p= 0.001) and work experience in ICU (f=10.261, p=0.000), but there was no association with gender (t= 1.493, p=0.140).

Limitations

The purposive sampling technique used may limit the generalization of findings.

The present study was confined to a sample selected from a single hospital.

CONCLUSION

1. Physical stressors were the most felt by the ICU patients. This result supports Maslow's' hierarchy of needs in which humans' primary concern is to fulfill the physiological needs rather than other needs.
2. Although the results of this study indicate that importance is to provide the best possible physical care, it is equally important to provide adequate attention to psychological aspects, since they are interrelated.
3. The study findings reveal that the nurses are aware of the fact that ICU is stressful for the patient and the different stressors affecting the patients
4. The nurses' rating of the ICU patients' stressors was higher than that of the patients' stressors (59.53 vs 41.84). This shows that the nurses overemphasize the stressors of the ICU patients.
5. Critical care nursing practice occurs at the interface of the nurse with the patient and family in an environment that requires humanism and compassion, despite aggressive technology. The nurse is in charge of the environment and the physical and emotional tone in the ICU. Creating an environment where patients feel secure is a major goal.

ACKNOWLEDGEMENT

I would like to extend my sincere thanks to all the Heads of the Departments, nurses, patients, my teachers and my classmates for their help in completing my study.

Conflict of Interest: None

Source of Support: Self

Ethical Clearance: Administrative permission was taken from the Dean, Manipal College of Nursing, Manipal University.

- Permission was taken from the HODs of Department of Medicine, Department of Surgery and Department of Cardiology, Kasturba Hospital, Manipal.
- Permission was taken from Medical Superintendent, Kasturba Hospital, Manipal.
- Institutional Ethics Committee approval from Kasturba Hospital, Manipal.
- Informed consent from the participants.

REFERENCES

1. Joan T. Critical care nursing Clinical Management through the nursing process. Philadelphia: FA Davis Company;1999
2. Wong FYK, Arthur DG. Hong Kong patients' experiences of intensive care after surgery: nurses' and patients' views. Intensive and Critical Care Nursing. 2000; 16:290–303.
3. Soh KL, Soh KM, Ahmad Z, Raman RA, Japar S. Perception of Intensive Care Unit stressors by patients in Malaysian Federal Tertiary Hospitals. Contemporary Nurse. 2008 Dec; 31(1):86-93.
4. Rosa BA, Rodrigues RCM, Gallani MCBJ, Spana TM, Pereira CGS. Stressors at the intensive care unit: the Brazilian version of the Environmental Stressor Questionnaire. Rev Esc Enferm USP. 2010; 44(3):623-30. Available at www.ee.usp.br/reeusp
5. Cornock , MA. Stress and the Intensive Care patient: Perceptions of patients and nurses. Journal of Advanced Nursing. 1998; 27(3): 518-527.
6. Hweidi IM. Jordanian patient's perception of stressors in critical care units: A questionnaire survey. International Journal of Nursing studies. 2007 Nov; 44: 227-235. Available from URL:http://www.sciencedirect.com.
7. So HM, Chan DS. Perception of stressors by patients and nurses of critical care units in HongKong. International Journal of Nursing

Studies. 2004 May;41:77-84. Available at URL:http://www.sciencedirect.com.

8. Franck L, Tourtier JP, Libert N, Grasser L and Auroy Y. How did you sleep in the ICU? Critical Care. 2011;15:408. Available at URL:http://www.biomed central.com.
9. Ozer N, Akyil R. The effect of providing information to patients on their perception of the intensive care unit. Australian Journal of Advanced Nursing. 25(4).
10. Efstathiou N, Ompasi M and Galanaki A. Perception of stressors by patients and nurses from a critical care unit in Greece. American Journal of CriticalCare. 1998;4(1):71-76. Available from URL:http://www.aniarti.it/efccna.

DOI Number: 10.5958/j.0974-9357.6.1.051

The Lived Experience of Associate Degree Nursing Students Intending to Pursue the RN-BSN

Unn Hidle

Professor, City University of New York, LaGuardia Community College, Queens, New York

ABSTRACT

This qualitative phenomenological research study explored the lived experience of ten senior Associate Degree nursing students intending to continue their education. Findings revealed eight themes and although most students were motivated to pursue the RN-BSN, it did not take away from the overwhelming barriers they faced. Based on study findings, there needs to be greater emphasis on individual student barriers, nursing advisement, and accurate information about the changes within academia.

Keywords: *Education Barriers Advisement*

INTRODUCTION

The minimum level of nursing education that should be required for practice has been a topic of conversation for several decades. [1] At present, due to a lack of incentives in pursuing higher education, less than 20% of practicing Registered Nurses (RN) with an Associate Degree (AD) continue on to obtain a Bachelor of Science (BS). [2-4] Once AD nursing graduates enter the work force, personal challenges seem to outweigh the benefits of returning to academia. The National Council of State Board of Nursing (NCSBN) reported in their most recent statistics that AD RNs account for 58.4% of the workforce, while 38.4% hold a BS degree nationally. [5]

Research to date has focused on practicing AD nurses planning to return to school and pursue a BS degree. Results of these studies [2,3,6,7] show that there is a lack of incentives such as salary or title differences. Furthermore, barriers including work and family constraints make it even more difficult to continue education. As opposed to AD nurses in the workforce, a recent study showed that the majority of nursing students currently pursuing an AD intend to enter a transitional educational program (RN-BSN) post-graduation. [8] This new trend may be due to a shift in the nursing shortage with fewer jobs available for new graduates; the need for increased job security, and the opportunity to obtain advanced nursing education. An additional factor to consider is the proposed mandate "BSN in 10" which will require RNs with an AD to obtain a BS within 10 years. [9-14]

MATERIAL AND METHOD

A qualitative phenomenological research design was chosen to describe the lived experience of senior AD nursing students intending to pursue the RN-BSN. Using purposive sampling, qualified candidates from a large Northeastern college were recruited. The Institutional Review Board (IRB) of the college in which the study was conducted granted human subject approval.

Qualified candidates for the study had to be in their last semester of the AD program with the intent to pursue the RN-BSN or higher nursing degree post-graduation. The sample consisted of 10 (n=10) senior AD nursing students, eight females and two males, from the same program. The ages for the participants ranged from 27 to 55 years, with a mean age of 31. Eight of the participants were first generation immigrants, and two were born and raised in the United States. Three of the participants held a High School Diploma as the highest degree, six had a non-nursing BS degree, and one had an MS degree.

Once consent was obtained, data collection consisted of semi-structured one-on-one interviews during the Fall 2012 semester. In order to obtain basic demographic data, each participant completed a brief

verbal survey. The interviews were audio-recorded and ranged from 37 minutes to 66 minutes. Privacy was maintained. The main question guiding the interviews was: "What is it like planning to continue education after your graduation?" with follow-up "probes" as needed. Once the audio-recordings were transcribed, bracketing and phenomenological reduction were used to analyze the data.

FINDINGS

There were many commonalities in the participants' experiences and a total of eight themes were determined from the clusters of meaning (Table 1). The themes are explored in detail using excerpts from participant interviews.

Theme I: Epiphany: nursing education is the right path for me. One evident theme was the epiphany participants experienced since entering the AD nursing program. The realization they had made the right educational choice and the appreciation of the nursing profession, contributed to a desire to pursue the RN-BSN. Although some participants initially entered nursing with the goal to achieve job and financial stability, their intention changed while advancing through the AD program. One student described her epiphany:

While on the Labor and Delivery Unit, holding the hand of a woman in labor and helping her breath, I got this feeling inside of me I cannot describe. I don't have words for it. They [family] really appreciated me and I knew it [nursing] was what I'd like to do in the future.

Another student recalled a simple gesture, which altered his view of nursing

I was going to quit nursing because I thought it was a misconception. Then, while on a medical floor, I gave milk to a patient who had been "ignored" due to a language barrier and she was so grateful. We ended up talking in my language and I've never felt anything like that before. This one incident, it makes up for everything, you know.

The stories of life-changing events were rich with descriptions and emotions. The participants emphasized how patient experiences impacted on their personal and professional lives, reinforcing their intentions to continue nursing education.

Theme II: **Motivation: enhanced knowledge**. Viewing nursing as an evolving science motivated participants, and they equated continued education to enhanced knowledge. One student stated: "The two years [AD program] is just the beginning. Increased knowledge [RN-BSN] means increased security and comfort level in my performance as a nurse." Another student said: "The BS will help improve nursing expertise, which can be applied in the clinical setting. It all comes down to evidence based practice." Several participants were motivated to pursue the RN-BSN because it was a gateway to higher accreditation, such as: "There are no real advantages in terms of skills, but increased knowledge [BS] will give me the opportunity to 'move on' and obtain a higher degree [NP]."

Theme III: **Value of higher nursing education: improved patient care**. There was a belief by the study participants that education beyond the AD in nursing would likely improve patient care. In their last semester of the AD program, many felt insecure entering the workforce due to insufficient knowledge and the necessary skills to perform safe patient care. Although the participants were aware that their insecurities would diminish during work orientation and preceptor ship, many expressed that continued education would likely make them more knowledgeable in their nursing role, and thus provide safer patient care. On student said: "Increased knowledge through education [RN-BSN] will improve my patient assessment and critical thinking skill. I will be able to provide better care because I am more 'in-tuned' with my patients."

Theme IV: **Future vision: job security and financial stability**. One incentive theme for participants to pursue the RN-BSN was the belief that it would be easier to secure a job and receive a regular paycheck. One student expressed her family struggles:

When the recession hit, my husband lost his job four times in two years. By me going back to school and continuing education, we envision a lifestyle we want together with the security of a stable income. I feel nursing is a field that will always be there, and there is always a need for us [nurses].

For many AD students, the stress of working multiple jobs to provide for themselves and sometimes their families while attending college, took a toll.

Theme V: Personal achievement: perseverance and gratification. As students progressed through the AD nursing program they tended to place greater emphasis on personal achievement in the pursuit of a nursing degree and took pride in continuing their educational path. The majority of participants faced overwhelming barriers, but the expected successful completion of the AD in nursing coupled with the intent to enter the RN-BSN program, gave them increased confidence. The participants expressed "determination and perseverance" to overcome the obstacles standing in their way. Commonly used words in this theme of personal achievement were: "personal gratification," "pride," "accomplishment," "fulfillment," "self-confidence," and "self-respect." One student stated: "The biggest incentive is to compete with myself and achieve personal gratification. Pride motivates me, self-pride; not what others think of my accomplishments." Another participant expressed how nursing completed her as a person: "Nursing fulfills that 'other part of me' where I am doing something good for people around me, and contributing to society. I am helping those in need who can't do for themselves, and I feel rewarded in the process."

Theme VI: Frustration: lack of job opportunities with an AD in nursing

Although participants were motivated to continue nursing education, they also expressed frustration with the process. This held especially true for participants who had a BS or MS degree in a different field. One student conveyed her resentment: "I already have a BS from my own country, but none of the credits will be accepted. It is not fair! Alternatives such as accelerated MS programs are costly and I cannot afford it right now." Participants were also discouraged about the limited information they received regarding job requirements in the hiring process. There was consensus that obtaining a job with an AD could be challenging. Participants were concerned they would be unemployed in nursing while attaining the RN-BSN. One participant stated: "Originally, I wanted to get a job immediately after graduation [AD program], pay some of my dept, and start a family before returning for the RN-BSN. Now I have to alter my plans and get a BS in order to get a job."

Theme VII: Overwhelming barriers: financial burden, time constraint, age-factor, visa status, and guilt. Considering the demographics of this sample, the theme of overwhelming barriers is not surprising. The majority were first generation immigrants, many without immediate family in this country. One student stated: "Being by myself, separated from family in my own country is a minus. I don't have the family support and encouragement. This makes me feel lonely at times." Additional challenges such as immigration, visa status and language barriers were commonly expressed within this theme. One participant said:

I thought my greatest challenge was to learn English [ELA classes before nursing], but now I feel the pressure from having an International Student Visa with a time-constraint to continue education or work. My dream would be to get a hospital to sponsor me [Green Card], but sponsorships are almost non-existent.

All participants expressed a financial burden and time constraint to complete the RN-BSN. One student expressed a constant pressure: "The financial strain is very difficult. Right now, I am living off my savings and I am very stressed out since I have no health insurance. It becomes a daily stress factor."

Some participants also conveyed guilt, such as: "I feel guilty towards my husband who has been the sole provider while I've been in this program. I need to work and contribute to the family while I continue education." The concept of aging also surfaced within the barrier theme. Participants in their thirties as well as fifties expressed age as a barrier for different reasons, including the need for starting family and the fear of age discrimination in the workforce.

Theme VIII: Acceptance of educational pathway: peaceful process. Regardless of barriers and frustrations surfacing in the educational process, the majority of participants accepted the future need for the RN-BSN with a sense of serenity. One student stated: "I am not going to stress over things I cannot control [referring to the proposed mandate 'BSN in 10']". Once they reached full acceptance of educational needs, students felt more relaxed. One participant acknowledged her educational intentions:

I just accept it [RN-BSN] and I don't have any feelings that it is unfair. I do not stress myself out about factors that I cannot change; I just go with the flow. BS is a pre-requisite for what I want, and there is no need to fight that.

The value of education and love of learning was also evident: "Attending school is not a chore but a pleasure. I take it one day at a time, do what I have to

do, and don't worry about tomorrow. It brings me happiness."

Table 1. Summary of themes

Theme number	Theme
I	Epiphany: Nursing education is the right path for me
II	Motivation: Enhanced knowledge
III	Value of higher nursing education: Improved patient care
IV	Future vision: Job security and financial stability
V	Personal achievement: Perseverance and gratification
VI	Frustration: Lack of job opportunities with an AD in nursing
VII	Overwhelming barriers: Financial burden, time constraint, age factor, visa status, and guilt
VIII	Acceptance of educational pathway: Peaceful process

CONCLUSION

Based on study findings, there is no doubt that participants were motivated to pursue nursing education post-AD graduation. They were also well aware of reasons the RN-BSN has nearly become a pre-requisite to attain a RN position. However, it did not take away the reality of barriers and frustrations they experienced. Although these rich and in-depth qualitative study findings cannot be generalized, implications for continued nursing education is evident. There needs to be a greater emphasis on advisement, accurate information about changes in academia, and focus on individual student barriers.

In a study by Jacobs, [15] students placed importance on academic advisement in planning to meet degree requirements. Furthermore, providing information about higher education in nursing, or even starting courses towards a BS in nursing while in the AD program, was shown to facilitate the process of continuing education. [15] One participant in this study articulated the meaning of advisement: "Patient discharge planning starts during the admission phase to the hospital, so why not do the same for students? In-depth advisement should start during the first semester of nursing and followed up every semester." Academic advisement should address transitions to the RN-BSN, accelerated higher education programs such as MS, and eventually doctoral degrees to assist nurses in filling specialty roles and faculty positions.[9]

In-depth assessment of individual students' situations is necessary to facilitate a smooth transition to higher nursing education. [16] Multiple studies to date have shown that the lack of financial aid is a major barrier to continuing education. [2,17,18] Thus, creative ways to explore financial resources or alternative ideas is helpful in motivating AD nursing students to pursue the RN-BSN. For example, if a hybrid or web-based nursing program is utilized, the need for childcare expenses may be reduced.

In conclusion, despite facing significant barriers, the participants in this study were motivated in their educational path and realized the benefits of the RN-BSN. In order for AD students to stay motivated, faculty need to be supportive and provide advisement with up-to-date information on academic issues as well as political changes impacting nursing.

ACKNOWLEDGEMENTS

I am forever grateful to the nursing students who shared their experiences and spent valuable time participating in this study.

Conflict of Interest: See attached declaration

Source of Funding: Self

Ethical Clearance: Human subjects were used in this study. Prior to data collection, institutional IRB approval and informed consent from the participants were obtained. Both are indicated in the submitted article.

REFERENCES

1. American Association of Colleges of Nursing [homepage on the Internet]. Washington D. C.: The Association; c2013 [cited 2013 Feb 2]. The Essentials of Baccalaureate Education for Professional Nursing Practice; [about 2 screens]. Available from: http://www.aacn.nche.edu/Education/bacessn.htm.
2. Delaney C, Piscopo B. RN-BSN programs: associate degree and diploma nurses' perceptions of the benefits and barriers to returning to school. J Nurs Staff Dev. 2004;20(4):157-161.
3. Spencer J. Increasing RN-BSN enrollments: facilitating articulation through curriculum reform. J Cont Ed Nurs. 2008;39(7):307-13.
4. U.S. Department of Health and Human Services [homepage on the Internet]. Washington D.C.: HRSA Data Warehouse; c2013 [updated 2013 Feb

27; cited 2013 Mar 10]. National Sample Survey of Registered Nurses [about 2 screens]. Available from: http://datawarehouse.hrsa.gov/nursingsurvey.aspx.

5. National Council of State Board of Nursing (homepage on the Internet]. Chicago: NCSBN; c2013 [cited 2013 Jan 12]. Nurse Licensure and NCLEX Examination Statistics; [about 2 screens]. Available from: https://www.ncsbn.org/1236.htm.
6. Guay F, Ratelle CF, Chanel J. Optimal learning in optimal contexts: the role of self-determination in education. Can Psych, 2008;49(3):233-40.
7. Megginson LA. RN-BSN education: 21st century barriers and incentives. J Nurs Manag, 2008;16: 47-55.
8. Hidle, U. The role of professional values in motivating associate degree nursing students to pursue higher nursing education. Int J Nurs Educ;2011;3(2):132-136.
9. American Association of Colleges of Nursing [homepage on the Internet]. Washington D. C.: The Association; c2009 [updated 2012; cited 2013 Jan 7]. Impact of the Economy on the Nursing Shortage; [about 4 screens]. Available from: http://www.aacn.nche.edu/economy.pdf.
10. American Hospital Association [homepage on Internet]. Washington D.C.; c2006-2013 [cited 2013 Feb 2]. 2010 Health and Hospital Trends; [about 3 screens]. Available from: http://www.aha.org/research/index.shtml
11. Boyd T. New York, New Jersey educators debate BSN in 10 bills. Nursing Spectrum [serial on the Internet]. 2010 Feb 22 [cited 2013 Jan 10]; Available from: http://news.nurse.com/article/20100222/NJ01/302220003.
12. Frey R. Helping adult learners succeed: tools for two-year colleges. Counc Adult Exper Learn. 2007:1-11.
13. Gillibrand K. New York's nursing shortage. The Huffington Post [serial on the Internet]. 2009 July 8 [cited 2013 Feb 12]: [about 2 screens]. Available from: http://www.huffingtonpost.com/rep-kirsten/gillibrand/new-yorks nursingshortage_b_227154.html.
14. Goulette C. Nursing (job) shortage. Adv Nurs [serial on the Internet]. 2009 Oct 14 [cited 2010 Feb 9]: [about 3 screens]. Available from: http://nursing.advanceweb.com/article/nursing-job-shortage.aspx.
15. Jacobs PM. Streamlining an RN-BSN program for nurses. Nurs Educ Perspect. 2006;27(3):144-7.
16. Teeley, K. H. Designing hybrid web-based courses for accelerated nursing students. J Nurs Educ. 2007:46(9):417-422.
17. Lillibridge J, Fox SD. RN to BSN education. What do RNs think? Nurs Educ. 2005;30(1), 12-6.
18. Morgenthaler M. Too old for school? Barriers nurses can overcome when returning to school. Assoc Perioper Regist Nurs J. 2009;89(2):335-44.

DOI Number: 10.5958/j.0974-9357.6.1.052

Mixed Methods Research: A New Approach

Vathsala Sadan
Professor & Addl. Deputy Dean, College of Nursing, Christian Medical College, Vellore, South India

ABSTRACT

Mixed methods research is a new approach in which both the qualitative and quantitative research designs are mixed and are becoming popular in nursing research too. Mixed methods research involves collecting analysing and mixing quantitative and qualitative data in the single research process. It is a natural and practical approach. Because of the complexity of health problems, mixed methods research is needed today in the field of health profession. In this article, the author describes about mixed methods research, the value of this research approach, the types of mixed methods research, its design and the various guidelines and steps involved in designing and conducting mixed methods research. It also outlines the strengths and limitations of the new approach as well as the challenges ahead in conducting mixed methods research.

Keywords: *Mixed Method, Quantitative, Qualitative, Research Design*

INTRODUCTION

Mixed methods research is a new approach. Researchers for many years have collected both quantitative and qualitative data in the same studies. However, to put both data together as a distinct research design or methodology is new. Mixed methods research involves the collection, analysis and integration of both qualitative and quantitative data in a single study. The benefits of mixed method research approach are particularly evident when studying new questions or complex initiatives and interactions. Tashakkori and Teddlie (2003) called mixed methods research the "third methodological movement". It means that in the evolution of research methodologies, mixed methods now follow quantitative approaches and then qualitative approaches.[1] Many researchers are interested in mixed methods research as it has evolved during the last few decades.

Mixed methods research is a research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the data collection and analysis of data and the mixture of quantitative and qualitative approaches.[2] Mixed method encourages the use of multiple world views and is a practical and natural approach to research. Mixed methods research is important today because of the complexity of problems that need to be addressed, the rise of interest in qualitative research and the practical need to gather multiple forms of data for diverse audiences. A combination of both quantitative and qualitative data can provide the most complete analysis of problems.[3]

DEFINITION

A qualitative phase and a quantitative phase are included in the overall research study. Mixed methods research is a design for collecting, analyzing, and mixing both quantitative and qualitative research (and data) in a single study or series of studies to understand a research problem.[4]

Value of Mixed Methods Research[2]

The basic principle of mixed research is that the researcher should use a combination of methods that has complementary strengths and non-overlapping

weaknesses. The quantitative and qualitative researches have their own strengths and weaknesses. The combination of these two approaches provides a better understanding of research problems than either approach. Mixed methods research provides strengths that bring down the weaknesses of both quantitative and qualitative research. It provides more comprehensive evidence for studying a research problem. Mixed methods help answer questions that cannot be answered by quantitative or qualitative research alone. It encourages researchers to collaborate across the relationship between quantitative and qualitative researchers.

Mixed methods research is more practical that the researcher can use all methods possible to investigate on the research problems. According to Collins et al (2006),[2] the following are the research mixing rationale:

- Participant enrichment (optimizing samples)
- Instrument fidelity (maximizing appropriateness and utility of instruments)
- Treatment integrity (assess the fidelity of interventions)
- Significance enhancement (maximize interpretation of data)

Types of Mixed Methods Research

Research can be viewed in a continuum with mono method or partially mixed method or as fully mixed method. The major types of mixed research are mixed model research and mixed method research. In the mixed model research, the quantitative and qualitative research approaches are mixed within or across the stages of research process. In within-stage mixed model, the qualitative and quantitative approaches are mixed within one or more of the stages of research E.g. use of open ended (qualitative) and closed ended (quantitative) questions. In across stage mixed model, the research approaches are mixed across at least two of the stages of research e.g. collecting qualitative data by interviews and then quantifying the results.[4]

In mixed methods research, a qualitative phase and a quantitative phase are included in the research study. The mixed methods research designs are classified based on the time order and the paradigm emphasis. The designs based on the time order decisions include the concurrent versus the sequential designs. The paradigm emphasis designs include equal status versus dominant status. The mixed method design matrix is shown on Figure 1. In order to understand this matrix, we must get oriented to the following notations used: [4]

- QUAL and qual – qualitative research
- QUAN and quan – quantitative research
- Capital letters denote priority
- Lower case letters denote lower priority
- + indicates concurrent data collection
- — indicates a sequential data collection

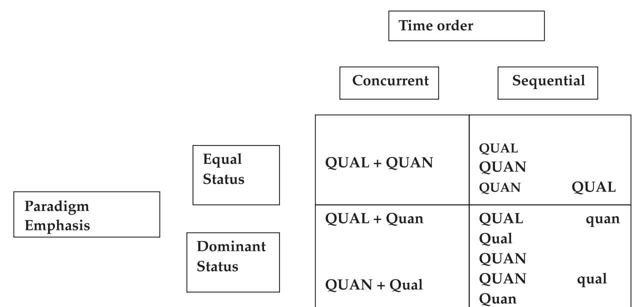


Fig. 1. Mixed Method Design Matrix [4]

We need to ask few questions before we choose the type of mixed methods research design for a research study

- Will the quan and qual data be collected?
  - ♦ Timing
    - – Sequentially? – one builds on the other
    - – Concurrently? – both are collected at the same time
  - ♦ Emphasis
    - – Quan emphasized?
    - – Qual emphasized?
  - ♦ Mixing
    - – Merging?
    - – Connecting?
    - – Embedding?

The mixing of data is an important aspect of mixed methods research. The qualitative and quantitative data need to be mixed together to form a complete picture of the research problem. There are three ways by which the data can be mixed.[2] they are merging or converging, connecting and embedding which are shown in Figure 2.

Merge the data :

Connect the data :

Embed the data :

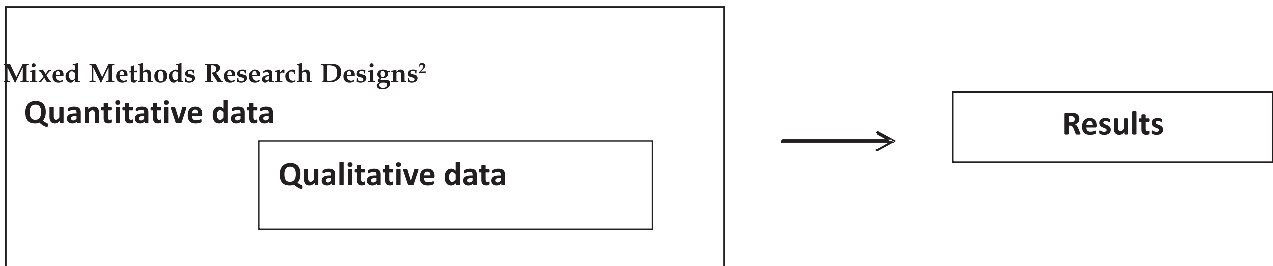


Fig. 2. Ways of Mixing Quantitative and Qualitative Data

A) Concurrent Mixed Methods Designs

a) Triangulation Design: It is a type of design in which different but complementary data will be collected on the same topic. The quantitative instruments will be used to test the theory that predicts that the independent variables will influence the dependent variables .Concurrent with this data collection qualitative data also will be collected. The reason for collecting both qualitative and quantitative data is to bring together the strengths of both forms of research.

b) Embedded Design: An embedded mixed method design is a design in which one data set provides a supportive, secondary role in a study primarily based on the other data set. The primary purpose of this study will use quantitative instruments to test the theory that predicts that independent variables will influence the dependent variables. A secondary purpose will be to gather qualitative data that will explore the central phenomenon. The reason for collecting the secondary data base is to address different questions and to provide support for the primary purpose of the study.

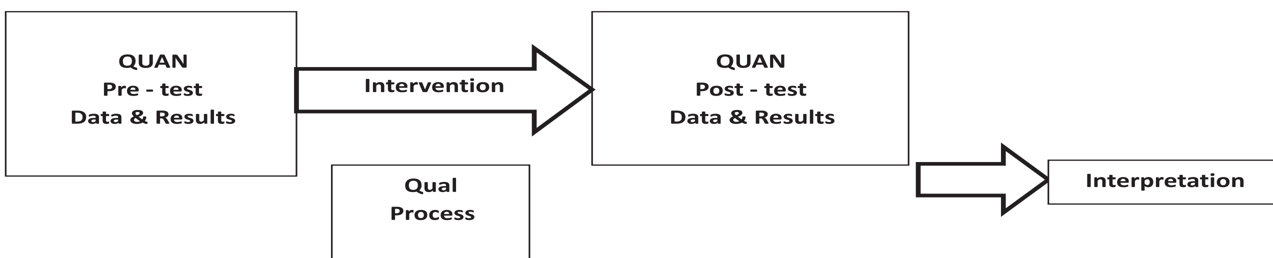


Fig. 3. Concurrent Mixed Methods Design[2]

B) Sequential Mixed Methods Design

a) **Sequential Explanatory Design:** In this design, during the first phase quantitative research questions or hypothesis will address the relationship between the independent and dependent variables. Information from this phase will be explored further in a second qualitative phase. In the second phase, qualitative interviews or observations will be used to probe significant quantitative results by exploring the aspects of the central phenomenon. The reason for following up with qualitative research in the second phase is to better understand and explains the quantitative results.

b) **Sequential Exploratory Design:** In this design, the first phase will be a qualitative exploration of a central phenomenon by collecting qualitative data. Findings from this qualitative phase will be then used to test a theory or research question or hypothesis that relates the independent and dependent variables. The reason for collecting qualitative data initially is that the instruments are not adequate or not available, variables are not known or there is little theory guiding.

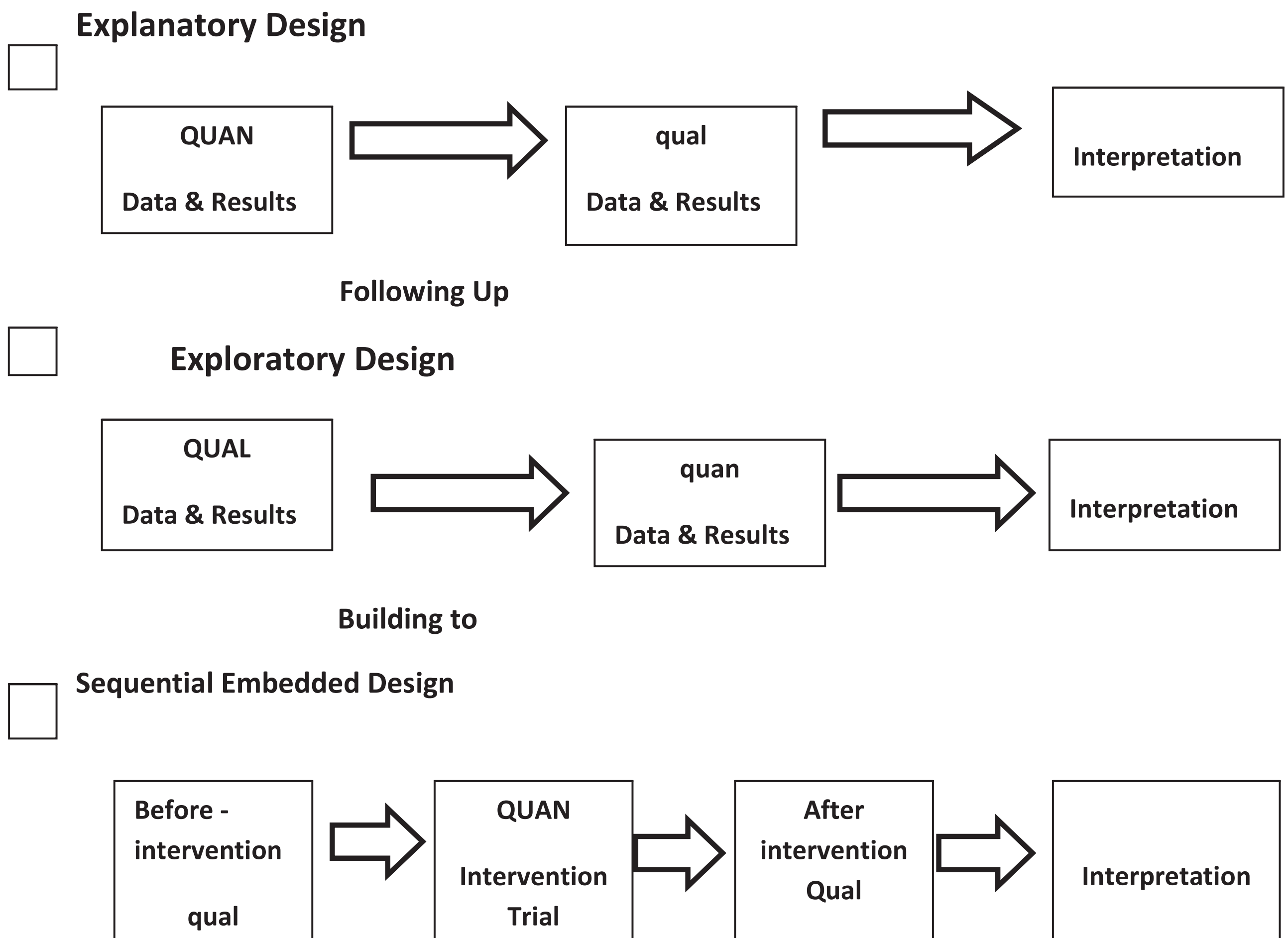


Fig. 4. Sequential Mixed Methods Designs[2]

General Guidelines in Developing Mixed Methods Research Studies

In mixed methods research approach, it is often difficult to clearly define the research questions and the hypothesis. Researchers typically do not see specific questions or hypothesis especially tailored to mixed methods research. Strong mixed methods study should start with a mixed methods research question to shape the methods and the overall design of the study. Mixed methods studies rely on neither quantitative nor qualitative research alone. The combination of these two provides the best information for the research questions and hypothesis. The types of questions presented and the information needed to convey the nature of the study are to be considered.

Both quantitative and qualitative research questions and hypothesis need to be advanced in a mixed methods study in order to narrow and focus the purpose statement. These research questions or hypothesis can be advanced at the beginning of the study or emerge during the later phase of the research Attention to be given to the order of research questions and hypothesis. There should be separate quantitative questions or hypothesis and qualitative questions. Research questions and hypothesis narrow the purpose statement. Qualitative researchers ask at least one central question and several sub questions. Quantitative researchers write either research questions or hypothesis. Both forms include variables that are described, related, categorized into groups for comparison and the independent and dependent variables are measured separately.

Figure: 4 shows the framework which can be used in planning and conducting mixed methods research.[2]

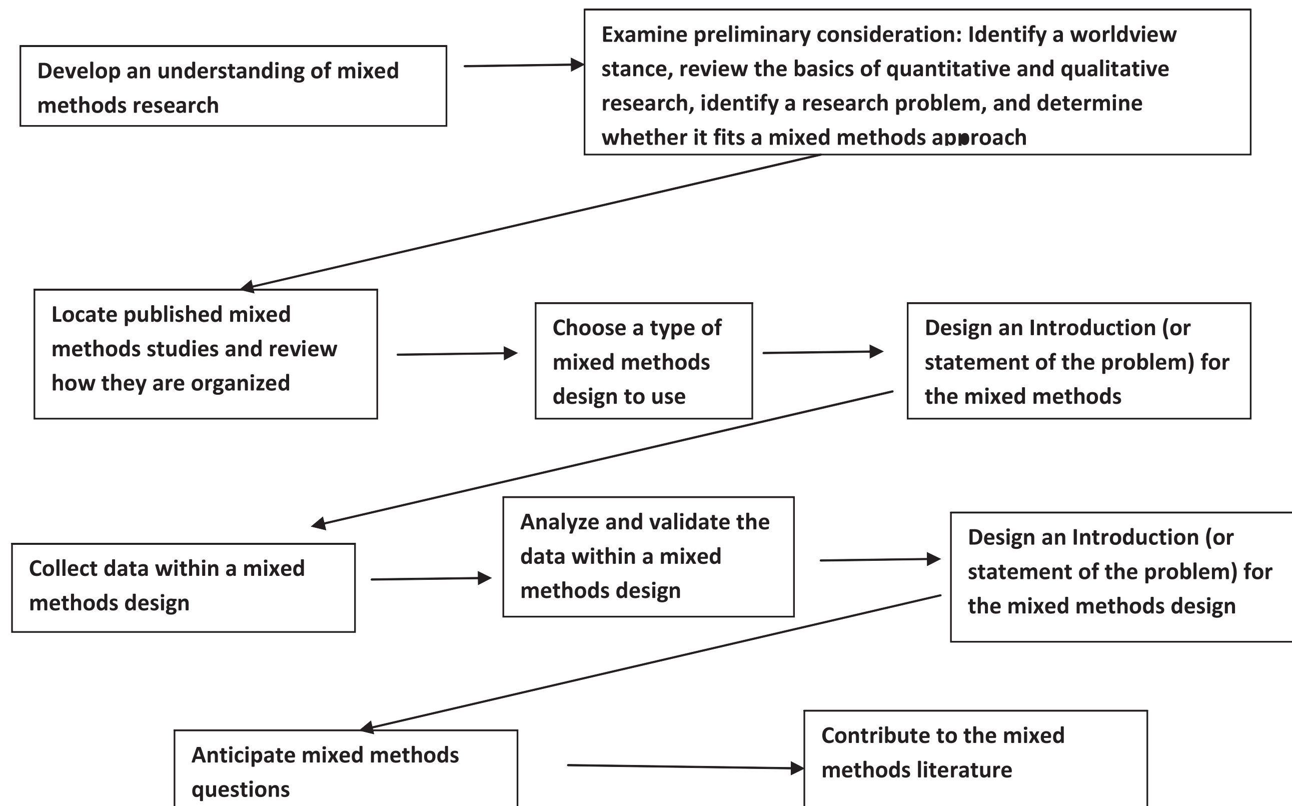


Fig. 4. Framework used for designing and conducting Mixed Methods Research

Steps Involved in Mixed Methods Research

There are various steps involved in designing and analysing mixed methods research studies.[4]

Step 1: Decide whether a mixed method research design is appropriate to answer the identified research question and to give the evidence you want to get from the research study.

Step 2: Determine the rationale for using the mixed methods research. The benefits of a mixed methods approach are particularly evident when studying new questions and initiatives or complex initiatives and interactions in natural. Greene, Caracelli and Graham [5] have defined five categories of rationales or purposes for the use of mixed methods in research studies. They are development, complementing, triangulation, expansion and initiation.

These are not mutually exclusive and may be combined in any given study.

Development: to inform the development of one method from another, using the methods sequentially for the purposes of increasing construct validity

Complementing: to explore areas of overlap and uniqueness within phenomena through the use of different methods for the purposes of enhancing, elaborating, illustrating or clarifying results and to aid in description or application of research findings

Triangulation: to crosscheck and corroborate results by the use of different types of data

Expansion: to increase the range or scope of inquiry by appropriately matching the methodology to various components of the question of interest

Initiation: to specifically discover inconsistencies and new perspectives that may be uncovered as result of employing both qualitative and quantitative methods

Step 3: Decide whether the study is quantitative dominant or qualitative dominant or both. Based on this select the research design. Plan for resources in terms of time, material and manpower.

Step 4: Decide on what type of data to be collected and what are the different methods of data collection you will adopt. Decide whether quantitative and qualitative data will be collected concurrently or sequentially. Identify tools that will integrate both qualitative and qualitative data collected. The six major data collection methods which can be used are tests, questionnaires, interviews, focus groups, observation and secondary or already existing data. Develop sampling strategies for data collection Ensure that adequate power is considered to establish inferences.

Step 5: Choose the quantitative data analysis techniques. We can use the technique of quantitizing (converting qualitative data into qualitative data) or qualitizing (converting quantitative data into qualitative data).

Step 6: Identify the data validation strategies used in both quantitative and qualitative research and mix these in such a way that it helps in the mixed methods research.

Step 7: The next step is the data interpretation and it continues throughout the study. The data interpretation and data validation go side by side. The two important strategies to be used during data interpretation are reflexivity and negative-case sampling. Reflexivity refers to self awareness abs critical self reflection on potential researcher biases which may affect the study process and results. Negative-case sampling is trying to find and examine cases which disconfirm the study expectations and explanations.

Step 8: Develop strategies for communicating the mixed methods research findings. Research report should reflex mixing and the study findings should capitalize the strengths of mixed research.

Strengths and Limitations of Mixed Method Research

The use of mixed methods research approach has its own advantages and disadvantage. The main advantage is the idea of triangulation. The validity or the outcomes of the analysis is credible and valid. This design also permits use of words, pictures and narrations during the data collection process. Quantitative aspects provide precision and qualitative aspects provide textural aspects of lived experiences. It can be used to generate and to test a grounded theory. Because of the availability of rich data, the analysis provides comprehensive answers to the research questions and hypothesis. In-depth evidences are arrived from triangulation of the results. The identified research problem is examined from multiple viewpoints which are an added strength of mixed methods research. It provides stronger evidence and more complete knowledge to inform theory and practice. Because of the additional methods used and added insights, this research approach increases the generalizability of the study findings. Since the qualitative and quantitative research approaches are used together, it yields more complete knowledge which contributes to nursing theory and practice.

The mixed methods research approach also has its own limitations. The researcher has to be competent in both qualitative and quantitative research approaches, since both are used concurrently If not, the research design will be used haphazardly. This research design is costly since more team members are needed to complete the study as well as it is more time consuming as well as expensive. It is also a difficult task for the researcher since some details remain to be fully worked out by the expert research methodologists.

Challenges

Various challenges arise while conducting mixed methods research. First of all there will be difficulties in relation to the availability of time, money and manpower with added strengths in both qualitative and quantitative approaches. Accessibility to tools and programs to store and arrange data again is a challenge placed in front while using mixed methods approach. The amount of data available from mixed methods research is enormous and so there will be difficulties in publishing these studies with word limits.[6]

CONCLUSION

Both quantitative and qualitative approaches are needed to expand knowledge and understanding of educational process and content and of its impacts. The nurse researchers need to be familiar with mixed methods approaches. Despite its value, conducting mixed methods research is not easy. It takes time and needs resources to collect and analyse the data. It complicates the procedure of research and requires clear presentation. The investigators need to be trained. But the value of mixed methods outweighs the potential difficulty of this approach.

Acknowledgement: Not applicable

Conflict of Interest: Not applicable

Source of Support: Not applicable

Ethical Clearance : Not applicable

REFERENCES

1. Tashakkori A, Teddlie C., eds. Mixed Methodology : Combining Qualitative and Quantitative Approaches.Thousands Oaks. CA: Sage Publications 1998
2. 2Creswell J. Research design: Qualitative, Quantitative and Mixed Methods Approaches. 2nd edn. Thousand Oaks,CA: Sage Publications 2003: 208-27.
3. Boswell C, Cannon S . Introduction to Nursing Research : Incorporating Evidence – Based Practice , 2011, Sudbury : Jones and Bartlett publishers
4. Johnson B, Christensen L. Mixed research : Mixed Method and Mixed Model Research Retrieved December, 1, 2011 from http://www.southalabama .edu/coe/bset/Johnson/lectures/lec14. htm
5. Greene J C, Caracelli V J , Graham W F.Toward a Conceptual Framework for Mixed Method Evaluation Designs.Educational Evaluation and Policy Analysis. 1989.11(3): 255-74.
6. Schifferdecker K E, Reed V A. Using Mixed Methods Research in Medical Education: basic guidelines for researchers. 2009. Medical Education 43: 637-644.

DOI Number: 10.5958/j.0974-9357.6.1.053

Nursing Industry: Where Rescuers become the Victims

Vijayta Doshi
Organizational Behavior Area, Indian Institute of Management, Ahmedabad, India, Dorm 34, Room 6, IIM, Vastrapur, Ahmedabad, India

ABSTRACT

The study explores the psychological and social experiences of nursing job. Research gap exists in the literature in terms of limiting emotional labour in nursing around patients, thereby neglecting the emotional labour that nurses perform with patients' relatives, doctors and other social actors. The study aimed to firstly understand the emotional labour performed by nurses with respect to patients and their relatives, doctors and the organization. Another aim was to investigate the consequences of emotional labour. The study involved in-depth interviews with nurses in Indian context. It was found that nurses face emotional dilemmas with patients, patients' relatives and organizational demands. In some cases, medication errors and turnover were found to be related to emotional labour. The study enhances the understanding about emotional labour in nursing and is one of the initial studies in the Indian context.

Keywords: *Emotional Labour, Nursing, India*

INTRODUCTION

Nurses are the front line staff in healthcare industry with significant contribution in delivering effective patient care as well as in rescuing lives. Crisis in nursing industry related to shortage of staff, and medication errors are issues of concern.

Many countries have been experiencing nursing shortage[1]. Number of nurses per thousand population in 2009 was 9.8 in US, 2.9 in Brazil, 1 in China and 1.3 in India and the gap to be filled in nursing occupation in India is 2,510,250 nurses as mentioned in a report by ASSOCHAM[2].

Another related crisis in the nursing industry is that of medication errors. Anderson and Twonsend[3] found administration errors by nurses to be 26- 32% of the total medication errors. Staff shortage has been found to have a detrimental effect on patient care and medication errors because of work overload by Bostick et al[4].

Shortage of nurses is not only because of lack of facilities or recruitment of new nurses but also due to high turnover of nurses resulting from stress, burnout and emotional work demands of nursing job as highlighted by Chang et al[5]. Similarly, medication errors are high not only because of the carelessness/ lack of skills but also due to emotional fatigue and exhaustion of nurses as mentioned by Deans[6]. There is a need to view the problems of nurses' shortage and medication errors in relation to emotional labour involved in nursing.

Emotional labour concept given by Hochschild[7] comprises of deep felt as well as surface level emotions. Deep felt emotions are those which a person actually feels whereas surface level emotions are those which a person feigns in order to comply with the demands/ expectations.

RESEARCH GAP

Research gap exists in the literature in terms of conceptualizing emotional labour in nursing around patients, thereby neglecting the emotional labour that nurses perform with patients' relatives, doctors and other social actors. The study by Liji and Manikandan[8] is the most recent and to the researcher's knowledge the only empirical study on emotional labour in

nursing in Indian context. However, they also conceptualize emotional labour of nursing related to just patients. Therefore, the current study expands the conceptualization and understanding of emotional labour in nursing. Venkatesha and Blaji[9] have appealed in their conceptual paper about the need for empirical studies on emotional labour in nursing especially in Indian context.

Nursing as Emotional Labour

Nurses face demands by patients and patients' relatives, doctors, organization and society.

Patient is the king in healthcare like customer is for any organization as mentioned by Kertesz[10]. Positioning of patient as the king creates a power difference among patients and nurses who serve them. Gray[11] mentioned that patients demand nurses to portray the caring image of 'Florence nightingale', caress them to make them feel better and put up with their aggression.

The expectations from nurses are not limited to patients. Relatives of patients undergo anxiety, fear and distress, and demands nurses' attention. Families of the patients must also receive adequate support and care because if families needs are well addressed it has a positive impact on both family well being and patient's recovery as found by Fox-Wasylyshyn et al[12].

Nurses have to perform emotional labour to live up to the expectations and demands of the doctors as well. Doctors are the dominant party in the doctor-nurse game[13]. Timmons & Tanner[14] found in their study based in UK National Health Service hospitals that nurses were expected to keep the doctors happy, not upset them, bear with doctors' aggression and bad temper. They described it as 'hostess' role of providing food, drink and light conversations.

As far as organizations' demand is concerned, Alibini and Labronici[15(p299)] conducted a study to understand the experience of being a nurse and the main theme emerged out to be "exploitation and alienation of the body of the nurse until its exhaustion". The invisible nature of emotional labour makes it under-appreciated and unvalued by organizations in economic terms[16]. Emotional work is considered as a free gift in the nursing labour said Bolton[17].

Society also considers nursing job to be menial, dirty and 'others' work[17]. Nursing job has taboos of close contact and physical intimacy with the patients and doctors[17]. A number of studies have recorded nurses' feeling that the society does not value their work and that they are considered to be low status[16].

RESEARCH QUESTIONS

1. How do nurses in the Indian context perform emotional labour (with patients, their relative, doctors and senior nurses)?
2. What are the consequences of emotional labour in nursing?

METHODOLOGY

Qualitative research approach using semi structured in-depth interviews was used to explore the research questions. Snowball sampling method was employed to identify eighteen nurses from government organizations and fourteen from private organizations in Ahmedabad, Delhi and Mumbai. The demographics of the sample are mentioned in Table1. Since the aim of qualitative research is not to 'establish' and rather is to 'understand' a phenomenon with richness, sample size of thirty two brought theoretical saturation. Theoretical saturation given by Glaser[31] is that point in data collection when no new idea or themes emerges from the data. Ethical guidelines pertaining to informed consent and confidentiality of participants' identity were maintained.

Interviews were voice recorded. In cases where permission for voice recording was not granted, short hand notes were prepared. Voice recorded interviews were transcribed. Transcripts and short hand notes were analyzed using manual coding as suggested by Charmaz[18] and Glaser[19] to isolate themes. The nurses were contacted again when the need to triangulate the data was felt. It helped in validating meanings thereby enhancing rigor in the analysis.

FINDINGS

Juggling between detachment: attachment

Nurses shared their experiences of patients expecting them to feel their feelings when they actually weren't empathetic. Nurses found difficulty in dealing with those situations because of the superficial behavior involved. They stated that they underwent depersonalization because of prolonged emotional exhaustion. After spending some time in job they got habitual of seeing people crying and dying without feeling as bad as they felt initially in job.

"A person becomes emotionally shallow when one is working in such environment constantly unless some of your family member is the patient..you become emotionally empty. Emotions do not come easily that is if a patient is dying and relatives are weeping, we don't weep and just console them that its' okay the patient was unwell, don't cry..that's it."

Still some of the nurses shared how sometimes they got emotionally attached to some patients with whom they had spent lot of time especially kids.

While patients and the human side of nurses forced them to be empathetic, their job demanded suppression of those feelings because they had to be "stable", in "control" of their emotions and "poised" otherwise they would not be able to provide proper care to the patients. Further, they suppressed their emotions so that they were able to motivate patients for their fast recovery rather than making them feel like 'patients'.

Emotions could be displaced but not physical pain

Nurses experienced frustrations because of work load and the emotional demands of work. They often vent out their work frustration on their family members.

"Stress is there because of work load. Sometimes frustration of office gets displaced at home. Sometimes the frustration gets displaced on the kid or husband or any other family member."

They hide negative emotions at workplace as one was supposed to show "professional etiquettes". Nurses could escape from the frustration but they could not escape from the damage to their physical and mental well being as some of them mentioned having psychosomatic disorders such as headache, back pain and depression.

Irksome behavior of patients' relatives

Nurses stated that they had to provide emotional support to console the relatives of the patients. Nurses felt that patients' relatives were troublesome many times. The said some patients' relatives repeatedly approached them asking same thing which irritated them but they could not express their irritation in all situations.

"Sometimes like if a patient's relative comes to us and says that patient is in pain. I say okay we are giving medicine. Then second patient comes and asks that still the pain has not gone then I say okay the effect of medicine will take at least half an hour. The third relative come, fourth come, followed by fifth. Then in such situation repeating one thing again and again results into irritation."

They felt that there was an inherent power difference between nurses and patients/ their relatives. Nurses feared complaints by the patients/ their relative and followed an implicit "professional" code of conduct- suppress or displace negative emotions such as aggression and express positive emotions such as care and empathy in limits.

No control over job

Nurses experienced overtime in their jobs which was never accounted for, neither were they given any compensation/ extra payment or leave. Some of them mentioned the reasons for Indian nurses migrating to foreign countries as- stipulated work hours and payment for overtime unlike India where there is "exploitation" of labour. Overtime was not just because of staff shortage but also because of non- punctual staff and absenteeism. In one of the nurse's words:

"Overtime happens always.. always. We have six hours duty from 8 a.m. and it's not necessary that we complete six hours and go home. Our overtime is neither counted, that we worked extra time. If you calculate our duty hours then don't know so many hours will be extra hours overtime but nobody bothers for that."

Cooperation by doctors

Nurses mentioned about the skewed doctor nurse ratio. They however were of the opinion that they worked as a team with doctors who were cooperative. This cooperation stemmed from the inter-dependence of doctors and nurse on each other given the shortage of staff. It is because of this inter-dependence that doctors never misbehaved with them in any way.

"In our profession there is lot of cooperation and we work as a team because everyone needs the other person. So we can't misbehave with each other. So, there is lot of cooperation. When we go on lunch then doctors manage the ward and work and likewise when doctors are not there, we manage. It's kind of a team work."

Social image

Nurses stated that some people considered them to be "doctor's assistant" or "helpers". They shared their unhappiness with such opinions. As said by one of the nurses:

"People think that we are just like that..doctor's assistance. They don't realize that how much effort we do in the absence of doctor. Like I told you doctors are mostly not available and at that time we only look after those patients."

Addressing the dissonance, one of the nurses working in a government hospital stated that nurses were at par with doctors in terms of salary and that slowly their social status is improving as their salary is increasing.

"People think that nurses are like helpers for doctors. Because of increase in salary such perception is no longer there. Our salary is equivalent to MBBS doctor's salary.. now the salary has increased and if one is financially good then the status symbol automatically changes."

However, they believed that society also had people who valued them. Therefore, nurses were aware about the mixed societal opinions regarding their job but were not much affected by their societal image.

Medication errors and turnover

As far as mediation errors were concerned, they did take place however not very often. They mentioned that often medication errors were either ignored or not disclosed because of consideration for workload and the legal consequences.

"It happened in front of me in ICU. I had a colleague who overdosed a baby instead of 500 units, she gave 5000 units of anti-heparin injection to the baby. The child was eight years old."

"Medication errors if happen due to workload, nurses are held responsible saying that why they did not complain in written that there were so less nurses for so many patients."

Medication errors was attributed to enhanced workload due to staff shortage or turnover of nurses. Nurses mentioned about their colleagues migrating to foreign countries as a reason for turnover. The reasons for their migration being less workload and of course better salary in foreign countries.

CONCLUSION

Nurses experienced dilemma of emotional attachment and detachment with some patients. Nurses faced emotional challenges in dealing with organizational demands such as overtime and they felt lack of control over their job. In terms of the emotional challenges with patients' relatives, nurses considered their work emotionally demanding. Given the emotional demands and organizational demands, nurses experienced stress and burnout which sometimes led to medication errors and turnover.

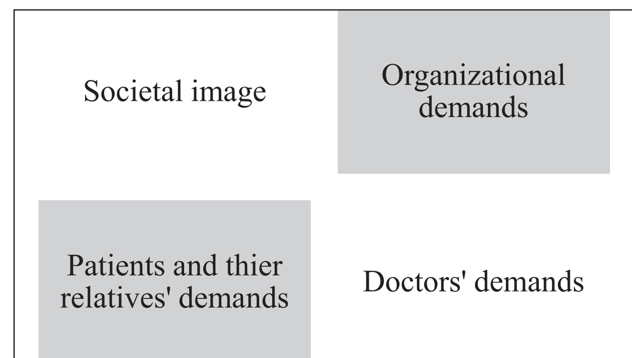


Fig. 1. Highlighted boxes indicate the problem areas

Based on the insights discussed above, the following framework is drawn

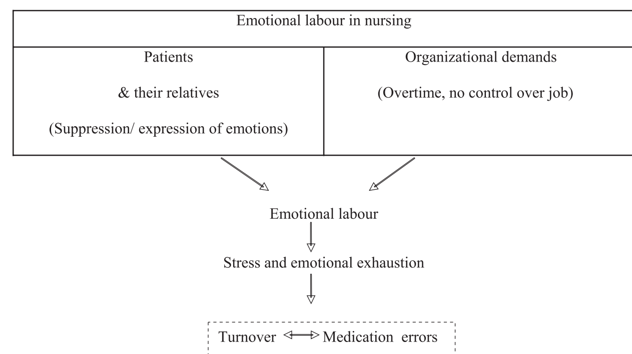


Fig. 2. Emotional labour in nursing

Some of the limitations of the study are firstly, opinions of nurses working in private versus government institutes have not been distinguished. This was so because firstly, not much difference was observed and secondly, there was unequal distribution of the two categories of nurses in the study. For future research this may be explored. Secondly, analyses was not carried out based on the departments in which nurses served because of insufficient diversity in the sample which was obtained using snowball sampling technique. Such analyses may be insightful to explore

in future since different departments may require different level of emotional engagement.

The study broadens the understanding that in nursing, emotional labour is not limited to nurse-patient interactions. The study is one of the initial contributions on understanding about the emotional labour experiences of nurses in the Indian context.

Table 1. Demographics of the sample

Demographics	(No. of nurses)	
Age	20-30	(13)
	31-40	(12)
	41-50	(7)
Education	B. Sc	(14)
	General nursing & midwifery	(18)
Marital status	Married	(19)
	Unmarried	(13)
Work experience	5 years - 22 years	
Institution type	Government	(18)
	Private	(14)
Job type	Permanent	(22)
	Contract	(10)
Working hours/ day	6 -8 hours	
Night duty	10-12 hours	
Working days/week	6 days	
Monthly in-hand salary	14000/- to 50, 000/-	

ACKNOWLEDGEMENT

The author would like to thank all the participants for their time and inputs.

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

Source of Funding: No source of funding was obtained for the study.

REFERENCES

1. Fawcett J. Nursing qua nursing: The connection between nursing knowledge and nursing shortage. Journal of Advanced Nursing. 2007; 59(1): 97–99.
2. ASSOCHAM report. Emerging trends in healthcare: A journey from bench to bedside; 2011. Retrieved on July 5, 2012 from http://www.kpmg.com/IN/en/IssuesAndInsights/ThoughtLeadership/Emrging_ trends_in_healthcare.pdf
3. Anderson P, Townsend T. Medication errors: Don't let them happen to you. American Nurse Today. 2010; 5(3).
4. Bostick JE, Rantz MJ, Flesner M K, Riggs C J. Systematic review of studies of staffing and quality in nursing homes. Journal of the American Medical Directors Association. 2006; 7(6): 366-376.
5. Chang E M, Hancock KM, Johnson A, Daly J, Jackson D. Role stress in nurses: review of related factors and strategies for moving forward. Nursing and Health Science. 2005; 7(1): 57-65.
6. Deans C. Medication errors and professional practice of registered nurses. 2005. Retrieved on 31/7/12 from http://www.ncbi.nlm.nih.gov/pubmed/16619902
7. Hochschild A. Emotion Work, Feeling Rules, and Social Structure. American Journal of Sociology. 1979; 85(3): 551-575.
8. Liji PG, Manikandan K. Sex role orientation and emotional labour among nurses. ACADEMICIA: An International Multidisciplinary Research Journal. 2013; 3(3): 65-76.
9. Venkatesh J, Balaji D. The health care initiative for emotional labors. International Journal of Education and Research. 2013; 1(1): 1-9.
10. Kertesz L. Patient is king. Studies define customers' satisfaction and the means to improve it. Modern Healthcare. 1996; 26(18): 107-8, 112-4, 116-20.
11. Gray B. Emotional labour, gender and professional stereotypes of emotional and phycial contact, and personal perspectives on the emotional labour of nursing. Journal of Gender Studies. 2010; 19(4): 349-360.
12. Fox-Wasylyshyn SM, El-Masri MM, Williamson KM. Family perceptions of nurses' roles toward family members of critically ill patients: A descriptive study. Heart and Lung. 2005; 34(5): 335–344.
13. Gordon S. Nursing against the odds. Cornell University Press: New York; 2005.
14. Timmons S, Tanner J. Operating theatre nurses: Emotional labour and the hostess role. International Journal of Nursing Practice. 2005; 11(2): 85-91.
15. Albini L, Labronici L M. Exploitation and alienation of the body of the nurse: A phenomenological study. Acta Paul Enferm. 2007; 20(3): 299- 304.
16. Small E. Valuing the unseen emotional labour of nursing. Nursing Times. 1995; 91(26): 40.
17. Bolton, S C. Who cares? Offering emotion work as a 'gift' in the nursing labour process. Journal of Advanced Nursing. 2000; 32(3): 580-586.
18. Charmaz K. The Sage Handbook of Grounded Theory. Thousand Oaks: Sage Publications, Inc; 2007.
19. Glaser BG. Theoretical sensitivity. Mills Valley, CA: The Sociology Press; 1978.

DOI Number: 10.5958/j.0974-9357.6.1.054

Effectiveness of Planned Teaching Programme on Prevention of High Risk Pregnancy among College Girls

Wansuklang Lyngdoh[1], Rev Angeline (Sr. Aileen) Mathias[2]
[1]Lecturer, [2]Professor (CNO), Department of Obstetrics and Gynaecological Nursing, Father Muller College of Nursing Kankanady P.O Mangalore-2

ABSTRACT

The concept of getting pregnant is a remarkable feeling inside the heart so that extra and safe emotional touch of the beginning of a new life in a near future needs the preventive measures to safeguard from complication. Reduction of complications and mortality of women has thus been an area of concern therefore proper education before conception especially to reproductive age group is important as we care for the future to make it safe and their capacity to communicate and reach the society.

Keywords: *Effectiveness; Planned Teaching Programme; High risk pregnancy; College girls*

INTRODUCTION

Pregnancy is a normal physiological event and it links mother and fetus together and is the normal process for regeneration. The birth of a baby is the joyous moment if it goes smoothly but for some it is not, due to the illnesses (anemia, hypertension, diabetes). Every minute of every day, somewhere in the world women die as a result of complications related to pregnancy or child birth.[1]

It has been recognized that maternal mortality and morbidity due to high risk pregnacies is a global problem. The risk of dying from pregnancy or childbirth in developing countries of the world is up to 200 times higher than in the developed countries.[2] Poor pregnancy outcome are more often observed in adolescents who have poor nutrition and low socio economic status. The high incidence of complications during pregnancy has increased the prenatal mortality. Literature surveys have shown that the cause of still birth and early neonatal deaths are poor maternal weight gain, anemia, PIH, antepartum hemorrhage and lack of knowledge.[3]

OBJECTIVES OF THE STUDY

1) To assess the knowledge of college girls regarding prevention of high risk pregnancy in a selected college in Mangalore
2) To assess the effectiveness of planned teaching program in terms of gain in knowledge score
3) To find the association between pre-test knowledge score of the college girls with selected demographic variables

Hypotheses

The hypothesis will be tested at 0.05 level of significance

H_1: The mean post-test knowledge score of college girls will be significantly higher than the mean pre-test knowledge score.

H_2: There will be a significant relationship between the pre-test knowledge score and selected demographic variables.

MATERIALS AND METHOD

Design and sample: An evaluatory approach with one group pre-test and post-test design was used for this study. The sample comprised of 100 college girls students in the final year degree who met the inclusion criteria and the sample was selected using convenience sampling technique.

Tools: The tools used were baseline proforma and structured knowledge questionnaire.

Intervention: In this study planned teaching programme related to prevention of high risk pregnancy was given for the college girls after pretest. It is systematically developed and organized and teaching aids (power points) designed for the group

to enhance their knowledge regarding prevention of high risk pregnancy.

Data collection: Pre-test was administered by using structured knowledge questionnaire and Planned Teaching Programme was given after pre-test. On the eight day post-test was conducted using the same tool. The data collected were analyzed using descriptive and inferential statistics, i.e., Paired't' test, Chi-square test and Fisher's Exact test

FINDINGS

In the study most of the college girls did not have any source of information (68%).

Table 1: Baseline characteristics. N=100

Sl. No.	Variables	Frequency (f)	Percentage (%)
1	**Age (in years)**		
	19-20	35	35
	20-21	65	65
2	**Religion**		
	Hindu	2	2
	Muslim	18	18
	Christian	78	78
3	**Family**		
	Nuclear	66	66
	Joint	34	34
4	**Dietary pattern**		
	Vegetarian	17	17
	Non vegetarian	69	69
	Mixed	14	14
5	**Family history**		
	Hypertension	17	17
	Asthma	13	13
	No history	70	70
6	**Source**		
	Newspaper	14	14
	Friends	18	18
	No information	68	68

Table 2: Frequency, percentage distribution and grading of college girls according to pre-test and post-test knowledge score on prevention of high risk pregnancy. N=100

Range of knowledge score	Range of percentage	Grade	Pre-test		Post-test	
			f	%	f	%
0-10	0-33%	Poor	26	26	-	-
10-20	68-100%	Average	73	73	-	-
20-30	68-100%	Good	1	1	100	100

Maximum score=30

Data in Table 2depicts that in the pre-test majority of the subjects (73%)were average in their knowledge score and (26%) were poor in their knowledge score. In the post-test it is proved that majority of the subjects (100%) were with good knowledge score.

Table 3: Range, Mean and Standard Deviation of pre-test and post-test knowledge score of college girls. N=100

Knowledge level	Range	Median	Mean ± SD	Mean%
Pre-test	5-21	11	10.96 ± 2.28	36.53%
Post-test	21-29	23	23.26±1.53	77.53%

Maximum score=30

Data in Table 3 shows that range of post-test knowledge score was 21-29 and that of pre-test knowledge score was 5-21. It is evident from the table that the mean post-test knowledge score($\overline{x}_2$= 23.26 + 1.53) is higher tahn the mean pre-test knowledge score ($\overline{x}_1$=10.96 + 2.28).

Table 4: Mean difference, paired 't' test value and p value between pre-test and post-test knowledge score of girls regarding prevention of high risk pregnancy. N=100

Group	Mean difference of Pre and Post test	't'value	p value
College girls	12..3	41*	0.0001*

t(99) at 0.05 level = 1.66, p< 0.05, df=99 mSignificant

The data in Table 4 shows that the mean difference was 12.3. it is evident that calculated 't'value (t(99)=41) was greater than table value (t(99) at 0.05 level= 1.66). Hence the null hypothesis was rejected and the research hypothesis was accepted. The mean difference between pre-test and post-test knowledge score was a true difference and not a chance. This indicate that PTP was significnatly effective in increasing the knowledge of college girls.

Association between pre-test knowledge and selected variables

Chi-square is used in order to find out the significance association between pre-test knowledge score and selected variables. The p value obtained were not significant at 0.05 level. Thus it is interpreted that there is no significant association between knowledge and selected variables.

CONCLUSION

The findings of the study have shown that the knowledge scores of college girls were poor before the administration of Planned Teaching Programme. The Planned Teaching Programme facilitated them to learn regarding the prevention of high risk pregnancy which was evident in post-test knowledge score, post-test measures showed significant increase in the knowledge score of the college girls. Hence Planned Teaching Programme was an effective method in improving the knowledge of college girls which was well appreciated and accepted by them.

ACKNOWLEDGEMENTS

My heartfelt gratitude to Rev. Sr. Winnifred D'Souza, M.Sc (N), Prinicpal, for her encouragement, inspiration , support as well as for providing all facilities for successful completion of the study. To the college students who participated in the study and the authorities who provided permission to conduct the study.

Conflict of Interest: Nil

Source of Funding: Self

Ethical clearance: To conduct the research study, ethical committee clearance was obtained from the Institution. Administrative permission from the Principal of different colleges was taken. Informed consent were prepared and informed consent from college girls was taken.

REFERENCES

1. Vijay M, Sarode. Does literacy influence pregnancy complications among women in slums. IJSA 2010 May;2 (5):82-94.
2. Marge B, Ravindran TK. Safe Motherhood Initiatives: Critical Issues. London: Blackwell Science; 2000.
3. WHO. Trends in Maternal Mortality: 1990 to 2008. Population and Development Review 2011 Mar;37 (1):211-214.

DOI Number: 10.5958/j.0974-9357.6.1.055

Colostomy Care: Management beyond Hospitalization Case Report

Zulekha Saleem[1], Lubna Ghazal[2]

[1]Instructor, [2]Senior Instructor, School of Nursing and Midwifery, Aga Khan University, Stadium Road, PO Box 3500, Karachi 74800, Pakistan

ABSTRACT

Colostomy formation brings lot of changes in patients' physical, social, spiritual, sexual and psychosocial health. The modified elimination pattern, after the permanent colostomy may deteriorate patients' quality of life. Lack of patient preparation for the procedure may lead to impair the domains of patient quality of life. The prior education, patient involvement and continuous facilitation of patient in his recovery period may enhance patients' ability to cope with changes in their life after permanent colostomy and enhanced their quality of life after the modified elimination pattern.

Keywords: *Colostomy, Quality of Life After Colostomy and Colostomy Care*

INTRODUCTION

Colostomy formation is a very common procedure which is performed every day in health care setups. However, it brings a major change in patient's life. Post colostomy, patient usually reports poor quality of life [1]because they are unaware about the outcomes of the procedure. Post colostomy patients' and their families' life will majorly affect physically and psychologically because they have no knowledge about the modification in the elimination pattern after the procedure. This shocking situation makes patient difficult to cope with their ostomy and live life with this modification. However, prior discussion with patient regarding their major changes in their quality of life after colostomy procedure will help them to manage their lives with the colostomy[1, 2]. This prior discussion also prepares patient after the procedure, to deal with the problem of stoma, decreases the rate of complication and enhances their adjustment with colostomy and improves quality of life.

CASE SCENARIO

Ms X, 25 years old Afghani girl, engaged with her cousin, diagnosed with Cancer of colon, admitted for laparotomy and formation of permanent colostomy. A night before the procedure, a resident assigned to this patient came and asked for an ink pad to take patient's thumb impression on the consent form. The resident requested assigned nurse to accompany him to witness the informed consent.

As this patient had language barrier therefore, the nurse tried to arrange an interpreter. The resident was in a rush; he took patient's thumb impression on the consent form and asked the nurse to sign as witness. However, he did not explain the procedure, risk benefit ratio and outcomes of this surgery on her quality of life. The assigned nurse refused to sign as a witness and she requested the resident to wait for the interpreter and provide complete information regarding the procedure. The resident disagreed and said this procedure is in the benefit of the patient so it does not matter if she understands it or not. However, after his discussion with the nurse, he assigned one of his interns to provide the needful information to the patient in the presence interpreter. The intern with his limited capacity could not provide the satisfactory information to the patient, which left patient unsatisfied and with increased anxiety. After the procedure, when she met with reality she went in shock and did not accepted herself. Due to that, she took long time in the adjustment with colostomy.

DISCUSSION

It is true that colostomy procedure reduce patient suffering and pain, but due to the not enough preparedness prior and after the procedure ends up the patient in distress[2]. They are feel depressed and frustrated in adopting with the change that occurred in their body. This leads to patients' late recovery from the procedure and later adjustment with the colostomies[2, 3]. In the scenario, the patient was very young, and engaged. Her family wanted her to get married after the treatment. Therefore, it was important that she should know about the procedure and outcomes of permanent colostomy, which would bring expected change in her quality of life particularly after her marriage. Moreover, this patient was with language barrier; therefore, more efforts were required to arrange a translator for her to make sure that she receives complete information regarding her procedure (prior and after) because in future it will impact her physical, psychological, social, sexual and spiritual aspects of her life[3,4]

Physical aspect

Sabbir et al reported[5] that ignorance about the education aspect of informed consent make difficult for the patient to manage their colostomies, which increased the rate of complications among these patients. This was expected after the surgery, initially after 24-72 hours patient may experience severe to moderate pain this might also affect her sleep and rest pattern. Moreover, due to her prolong nothing per oral status might reduce her energy level. Therefore, it was important that for initial 48 hours she should be kept pain free, hydrated well and assisted for activities. In addition, patient should be prepared to deal with her stoma and colostomy pouch. Furthermore, the physical presence of the stoma on her abdomen might make her feel uncomfortable during her mobility and to perform activities of daily living. It is important (prior surgery and post procedure) that patients should understand that the size and color of her fresh stoma will change with care and passage of time. Therefore, it is very vital that patient should be involve in stoma care as soon she copes with her pain so that when she goes home she should be able to manage her colostomy independently.

Social aspect

Patient might face more problems with the social aspects after her permanent colostomy[3, 4].The presence of her stoma refrain her from social interaction with her family and friends. The fear of leakage, gas formation in the bag and bad smell might make her uncomfortable and embarrassed among the family / friends or social gatherings. So, it is important to emphasize that these are the expected changes after colostomy. In this regard, health care professionals should educate patient and families about the adjustment and coping strategies, like modification in diet, clothing and hygiene practices. This would not only make patient comfortable by reducing infections, and skin irritations. Moreover, these strategies will help them to manage their everyday life and enhance social interactions.

Spiritual aspect

Patient might face spiritual distress for not been clean and perform religious rituals as hygiene is considered to be half faith in Islam[4] The physical cleansing is also emphasized by the Prophet who recommended his followers to perform prayers and be physically clean and smell fresh before they stand and pray in front of God[6]. The prophet has listed conditions in which hygiene or ablution is not maintained such as: presences of feces, urine, vomiting, full of mouth, flatulence, menstruation, and men's nocturnal discharge (Bukhari fil-wazu, hadith no 211; Tirmizi, fil-tihara hadith no 65). However, having colostomy makes it difficult to fulfill these requirements to perform religious practices for a Muslim. The patient should be well informed that according to the Islamic catechism (Fatwa) of the Department of Religious Affairs on this matter, "provisions are provided for disabled people regarding the factors that invalidate ablution" Moreover, to promote patient prolong prayer time, Fatwa for Ostomities, as cited in Karadag & Baykara,[4] stated that 'Department of Religious Affairs of Turkey states gas or feces excretion to pouch during praying does not disrupt worship'[p.1189]. Health care professional could teach the client colostomy irrigation technique. The patient in one of the study mentioned that after learning colostomy irrigation, he is able to manage his prayer at mosque with minimal gas discharge and smell[4.]

Sexual aspect

In this scenario, the client was engaged and her family wanted her to get married after the treatment. However, it is needed that patient and family should be educated by the length of recovery after the procedure. It is also important that her wound is healed

completely and she is competent enough to manage her colostomy before she enters to new relationship. Moreover, her husband should know about this permanent change of her wife's body. One of the study identified that women's' after the colostomy procedure mostly worried about their sexual life and relationships with her husbands[2]. Hence, this is important to emphasis the patient that having permanent colostomy does not change the desire for intimate relationship. However, the couple should be counsel regarding the caution and alternative method to satisfy their sexual needs after marriage. For that, proper referral to counselor and continuous assessment of patients' sexual health should be considered by health care professionals. Moreover, the married couple should also be informed about having a baby with the consultation of their physician.

Psychological aspect

The patients with colostomy usually have low self-esteem and altered body image due to their stoma[9]. The researchers have identified following factors that mainly affect patients' mental health these include: impaired body image, fear of incontinence, fear of odor, impaired social interaction, and impaired sexual function[2-4]. In a cross sectional study conducted by group of Iranian physician[10], highlighted higher rates of psychiatric illnesses (body image disturbance, lower self-esteem) among stoma patient especially among young women. Therefore, it is very important to aware patients and their families about these factors and their effects on mental health. As a health care professional it is essential to closely observe the symptoms of anxiety and depression among this patient in the given scenario.

CONCLUSION

In conclusion, the presence of permanent colostomy impact patient's physical, psychological, sexual, social and spiritual domain of their life. Therefore, health care professional should be vigilant to assess untold needs of the patients and provide them with appropriate education to enhance their quality of life with modified elimination pattern.

ACKNOWLEDGEMENTS

The authors are pleased to acknowledge Aga Khan School of Nursing and Midwifery.

Conflict of Interest: We do not have any Conflict of interest

Source of Funding: Not required

Ethical Clearance: Not required

REFERENCES

1. White, C. A., & Hunt, J. C. Psychological factors in postoperative adjustment to stoma surgery. Annals of the Royal College of Surgeons of England 1997; 79(1): 3.
2. Dabirian, A., Yaghmaei, F., Rassouli, M., & Tafreshi, M.Z. Quality of life in ostomy patients: A Qualitative Study. Patient Preferences and Adherence 2010; 20(11):1-5
3. Hassan, I., & Cima, R. R. Quality of life after rectal resection and multimodality therapy. Journal of Surgical Oncology, 2007; 96 (8): 684-692.
4. Karadag, A., & Baykara, Z. G. Clostomy Irrigation: An important issue for Muslim Individuale. Asian Pacific Journal of Cancer Prevention,2009; 10(6):1189-90.
5. Shabbir, M. N., Memon, Z. A. L. I., Nizami, M., & Khanzada, R. Colostomy related complications. Pakistan Journal of surgery. 2008; 24 (2): 102-104.
6. Salman, K. & Zoucha, R. Considering Faith within Culture When Caring for the Terminally Ill Muslim Patient and Family, Journal of Hospice and Palliative Nursing, 2010; 12(3): 156-163.
7. Bukari fil Wazu
8. Trimizi fil ilhaa
9. Martinez, L. Self-Care for stoma surgery: mastering independent stoma self-care skills in an elderly woman. Nursing Science Quarterly, 2005; 18(1): 66-69.
10. Mahjoubi, B., Mohammadsadeghi, H., Mohammadipour, M., Mirzaei, R., & Moini, R. Evaluation of psychiatric illness in Iranian stoma patients. Journal of Psychosomatic Research, 2009; 66(3): 249-253.

DOI Number: 10.5958/j.0974-9357.6.1.056

Morbidity and Health Seeking Behaviour of Families for Childhood Illnesses - Experiences from Coastal Kerala

Accamma Oommen[1], Manju Vatsa[2]

[1]Associate Professor, Sree Gokulam Nursing College, Trivandrum, Kerala, [2]Principal, College of Nursing, All India Institute of Medical Sciences, NewDelhi

ABSTRACT

Health seeking behaviours influence child morbidity and mortality. The present study was undertaken to identify the common morbidities among under-five children and pattern of health-seeking by families, and the factors influencing the health seeking behaviours, in a selected coastal area of Kerala.

This descriptive cross sectional survey was conducted among primary care givers (PCGs) of 138 children, with history of morbidity, recruited by total enumeration from coastal regions of Kerala, India. Interviews were conducted with PCGs during household survey using a structured interview schedule and nutritional status of children was assessed. The data were analysed using SPSS.

Results showed that average age of children was 2 years, 30% children had mild to severe malnutrition, 8.7% were not immunized for age and 26.1% were found sick during the survey. Over the counter use of drugs was common in families (67.4%) before seeking professional help. Care was sought from trained providers by 87.7% of children, allopathy (84%) being the preferred modality and 44% children were taken to government hospitals. Medical treatment was availed within 24 hours for 52 (37.7%) children only. Management of the child's illness was influenced by severity, duration and type of symptoms as cited by PCGs (87.7%).The study concluded that care seeking for childhood illnesses was appropriate but not prompt and self treatment was common.

Keywords: *Childhood Morbidities, Health Seeking Behaviours*

INTRODUCTION

Childhood mortality continues to be a major problem faced by India. Many National programmes have been implemented to improve child survival. The Child mortality report (2011) of the UNICEF shows that India (22 percent) and Nigeria (11percent) together, account for one third of under the five deaths worldwide. The under five mortality rate (U5MR), infant mortality rate (IMR), Neonatal mortality rate (NMR) in India was reported to be 63, 48 and 32 respectively.[1]

Studies from developing countries suggest that ARI and diarrhea are still the leading morbidities among children and malnutrition adds to the burden.[2-3] Delay in seeking appropriate care and not seeking care contribute to the large number of child death. Health seeking behaviour and utilization of public health care services is poor in countries of India, Pakistan, and Bangladesh which is a strong reason for the slow decline of childhood mortality rates [4-7]

Integrated Management of Neonatal and Childhood Illnesses (IMNCI) envisions that improvement in family practices, especially health care-seeking behaviours, reduce child morbidity and mortality.[8-9] Recent studies from India suggest that perceived severity of illness, educational and occupational status of parents, gender, birth order, accessibility and availability of health services, tradition influence the health seeking behaviour of families for their sick children.[10-13] Effective early management at the home level and health care-seeking on the appearance of danger signs are key strategies to prevent occurrence of severe and life-threatening childhood illnesses. Understanding the health seeking-behaviour of families, help in planning interventions for reducing childhood morbidity and mortality.[12]

Though India has high child mortality indicators, indicators of Kerala are very much different, and similar to developed countries. The U5MR and IMR in Kerala were reported to be 14 and 12 respectively.[14]Studies related to health seeking behaviours for childhood illnesses from states having higher childhood mortality rates, have been reported in the published literature from India. Only a few studies are available from areas with good indicators like Kerala. Lessons from areas with good indicators can enlighten the policymakers regarding the strategies for improvement of child survival. Also the coastal areas of Kerala reports higher malnutrition and morbidities. Hence we conducted the present study to identify the common morbidities among under five children, pattern of health-seeking by families, and the factors influencing the health seeking behaviours, in a selected coastal area of Kerala.

MATERIAL AND METHOD

This descriptive cross sectional survey was conducted in two coastal wards out of four wards catered by a sub centre in Alapuzha district in Kerala, India. One sub centre (SMC) was selected from all the subcenteres catering to coastal population in Alapuzha District, Kerala by random sampling. Two wards (ward 13 and 14) which were exclusively coastal, out of four wards, under the SMC sub centre were selected purposively. The sub centre was about four to five kilometers away from Medical College Hospital, Alapuzha.

The selected wards comprised of 834 dwelling houses, 3727 population with 212 under five children. All the households having under-five children in both the wards were surveyed by household visit along with the Accredited Social Health Activists (ASHA workers). Total enumeration was used to recruit the sample, by including the Primary Care Givers (PCG) of all children (n=138) having a history of morbidity/ mortality in the previous three months.

A semi structured interview schedule was developed and validated by experts with complete agreement. Test- retest reliability was established (r=0.96). Ethical clearance was obtained from ethics committee of Sree Gokulam Medical College and Research Foundation, Trivandrum. Permission to collect the data was obtained from the ward members of the selected wards. After obtaining informed written consent, face to face interview was conducted with the PCG of the child at their homes. The interview included questions regarding the latest illness of the child and the way in which it was managed using a pretested interview schedule. The mid upper arm circumference of child was measured to identify the nutritional status. Immunisation cards were also verified to assess immunisation coverage. The data were analysed using SPSS.

FINDINGS

Out of 212 under five children surveyed 138 (65.1 %) had a history of morbidity/ mortality in the previous three months. The sample consisted of equal number of boys and girls (69 each). The median age of the children was 26.5 months (range: 2-57 months). Majority (61.6%) of the children was first born, and mothers (93.5%) were their PCGs. Grandfathers headed 53.6% of the families, and 71% families were joint type.

More than half of the mothers (53.6%) and fathers (61.6%) were educated to high school level but 77.5% mothers were house wives. Majority of the fathers (81.9%) did fishing and mending of fishing nets, while 7.2% fathers did skilled jobs like driving and masonry. Hinduism was followed by 63.8% families in the locality. Medical College Hospital, Alapuzha, was the nearest (with in 5 km) health facility available for the treatment of childhood illnesses.

Malnutrition among children was computed using mid upper arm circumference (MUAC) based on the WHO Criteria. The average MUAC was 14.5 $\pm$ 1.53 cm (range: 10-19cm). Out of 110 children above 6 months, 77 (70%) children were adequately nourished (MUAC>13.5cm), 25 (22.7%) had mild malnutrition (MUAC of 12.5-13.5cm), 6 (5.5%) had moderate acute malnutrition (MUAC: 11.5-12.5 cm), and 2(1.8%) children had severe acute malnutrition (MUAC < 11.5 cm). It was found that 12 (8.7 %) children were not immunized for their age.

Out of 138 children who had a history of illness, 36 (26.1%) were ill at the time of survey, 85 (61.6%) within one month, 15(10.9%) within two months, 2(1.4% within three months of survey. Report by the PCGs shows that fever (41.4%) was the most common illness among children, followed by respiratory tract infections (29.8%), rhinitis (9.4%), diarrhea (7.2%) and dysentery (1.4%). Urinary tract infections(4), pyoderma(3), ear infections(2), epididymitis(1), insect bite(2), poisoning(1), falls(1), and drowning (1) constituted to10.8% (others) of illness among children.

A large majority of primary care givers (n=113, 81.2%) cited that fever was the first indication of illness in children.

On evaluating the family behaviours during illness, it was found that, management of illness started soon after the onset of illness in 60 (43.5%) children, and with increasing severity in 46 (33.3%) children (Table 1). No medical treatment was availed by 15 (10.9%) children and only 52 (37.7%) children were taken to health facility within 24 hours of onset of illness. Management was not prompt in other children who received medical treatment after 24 hours (19.6%), 48 hours (21.7%) and 72 hours (10.1%) of onset of illness.

Table 1: Distribution of children according to the time of initial management after the onset of illness N=138

Time of initial management	Frequency (f)	Percentage (%)
Not treated	5	3.6
Soon after onset of illness	60	43.5
With increasing severity of illness	46	33.3
On the next day	27	19.6
Total	138	100

Over the counter use of drugs was very common among the families, as 93 (67.4%) of the PCGs, reported that, they administered medicine by self, as soon as the illness was identified in the child. Mother usually administered the drug dose, previously prescribed for the child during an illness or about 5 ml each time. The drugs which were used commonly for self treatment were Syp. Paracetamol, Syp. Asthalin, Syp. Indominic, Syp. Salvent, Syp. Phenargan, Colicaid drops, saline nasal drops. PCGs cited that they opted for self treatment because the illness was mild, but common in children and that they knew that same treatment will be given even if they approach a provider. PCGs who self-treated fever with Syp. Paracetamol cited that, they feared that the child would develop febrile convulsions if fever is not managed appropriately.

Only twenty (14.5%) children were taken to health care providers with the onset of illness. Mothers (60.9%) were the decision makers regarding the management of child's illnesses in majority of the cases, followed by fathers (32.6%) and decisions were based on the severity, duration and type of symptoms as cited by all PCGs (87.7%) who sought health care. Allopathy was the treatment modality opted for 116 (84%) children followed by ayurveda and homeopathy for two children each, and siddha for one child and seventeen (12.3%) children were not treated outside home.

Out of 121 children who were treated outside, 44% of the children approached government hospital (with in 5 km), followed by doctors residence (31%), and private hospitals/clinics (25%). (Figure 1). The family responses showed that the reasons for opting a particular facility or provider were because it was near (36%) or to ensure the consistent treatment (22%) for the child. (Figure 2). Some PCGs found private clinics to be more convenient though expensive, as they could even approach in the evenings/any time without compromising their day's work/income. There was no significant association between health seeking behaviour and selected socio-demographic variables.

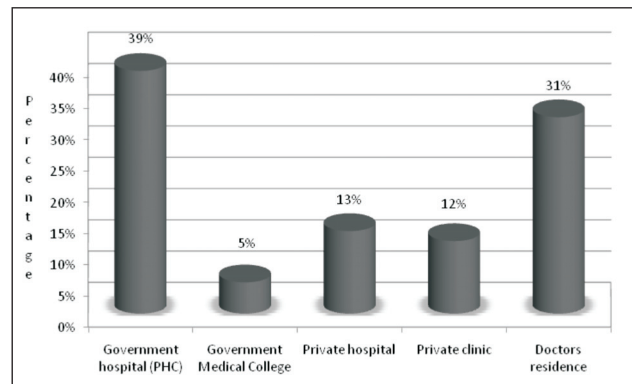


Fig. 1. Graph showing choice of health facility for childhood illnesses

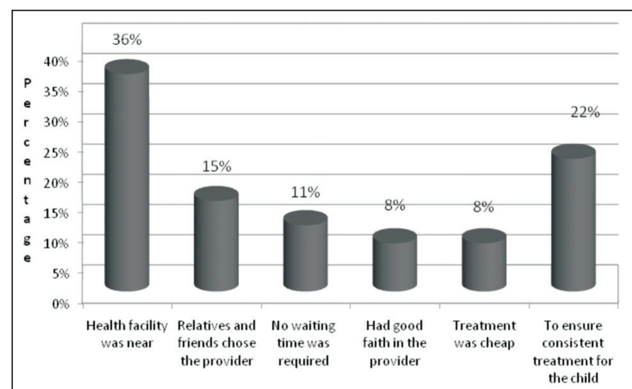


Fig. 2. Graph showing reason cited for choice of health provider

All the families approached doctors for treatment, but 33% of the children who sought treatment were given partial treatment by the families. The drugs, including antibiotics, were stopped when the symptoms subsided and only 20% of the families went for follow up after the treatment. Three children who were partially treated, developed complications and required hospitalization.

Almost all the families (90%) were satisfied with the care they received, others cited regarding bad

attitude of the care givers. Sixteen (13.2%) children required hospital admission for the illnesses during the study period. Majority of the families cited that they did not face any problem during the child's illness, and 12.3% cited delayed recovery from illness.

DISCUSSION

The average age of children was two years, consisted of equal number of boys and girls, and thirty percent were malnourished. Illness was noted in 26.1% children during the survey. Fever (41.3%) was the most common illness among children, followed by respiratory tract infections (29.7%). Previous studies report 14%, 10% and 14.6% children to be sick during survey, and fever was the common illness observed. [7,10,13]

Over the counter use of drugs was very common among the families (67.4%). Yadav SP et al reported that mother opted self treatment for febrile children up to about 72 hours due to poverty and lack of transport, in Rajasthan. [16] Mothers took decision about the management in 60% of the children in this study, whereas Jain M reported that elderly males were involved with decision making regarding health related issues in Agra. [17] Allopathy was the preferred treatment (84%) similar to findings of Levesque (83%) and Pillai et al (88%) in Kerala[11-12].

Less than half of the children (44%) were taken to the government hospital for treatment of illness. Azhar GS etal [19] reported a preference for government facilities in Aligarh where as contradictory findings were reported by Larson CP from Bangladesh who cited that 90% of people approached private providers.[18]

Neither gender differences in care seeking and management of illness, nor differences based on birth order of the child was noted during the study, which was consistent with the findings by Sudarshan MB et al from Puducherry.[13] But studies by Jain M et al from Agra[17] and Willis et al[20] from UP highlights regarding male preference during care seeking for childhood illnesses.

Care was sought almost universally from trained providers, from different systems of medicine. Present study found that 87.7%children sought care outside home, during illness, consistent with the findings of Deshmukh PR et al from Wardha (87.5%)[2] and Pokhrel S et al from Nepal (69%)[7].

CONCLUSION

The present study concluded that ailments (fever, respiratory infections and diarrhoea) were high among children residing in coastal areas but health seeking behaviour was good, as all children approached trained providers though, not much promptly. Over the counter use of drugs was common among mothers before the care was sought. Increasing severity and duration of symptoms prompted families to seek care for children during illness.

The finding of the study is limited to the verbal reports of the PCGs, as no effort was made to observe the actual practices. The study included only two randomly selected wards, in the coastal region of Kerala, limiting the generalizability of the findings. The selected area was close to a Government medical college hospital/PHC, which might have influenced the care seeking behaviour of the families.

The study enlightens regarding the need of frequent surveillance of childhood illness in the coastal areas, plan and execute interventions for promoting prompt care seeking for sick children, reduce over the counter use of drugs in children and facilitate optimum use of government hospitals.

ACKNOWLEDGEMENTS

We express sincere thanks to experts who validated our tools, ward members, Junior Public Health Nurse (JPHN), ASHA workers of SMC sub centre in Alapuzha , and all the participants of our study.

Conflict of Interest: None

Source of Funding: Self

Ethical Clearance : Ethical committee of Sree Gokulam Medical College and Research Foundation

REFERENCES

1. You D, Jones G, Wardlaw T. Levels and trends in child mortality. Geneva: UNICEF; 2011. 13p
2. Deshmukh PR, Dongre AR, Sinha N, Garg BS. Acute childhood morbidities in rural Wardha : Some epidemiological correlates and health care seeking. Indian J Med Sci 2009;63:345-54
3. Pal ID, Choudhary RN. Acute childhood illnesses and health seeking behaviour of underfive children in a village of Hoogly district, West Bengal. Int. J. Med. Public health 2012; 2(2):15-7.

4. Najnin N, Bennett CM, Luby SP. Inequalities in care-seeking for febrile illness of under-five children in urban Dhaka, Bangladesh. J Health Popul Nutr.2011 Oct;29(5):523-31.
5. El Arifeen S, Baqui AH, Victora CG, Black RE, Bryce J, Hoque DM, Chowdhury K,Begum N, Akter T, Siddik A. Sex and socioeconomic differentials in child healthin rural Bangladesh: findings from a baseline survey for evaluating Integrated Management of Childhood Illness. J Health Popul Nutr. 2008 Mar;26(1):22-35.
6. Syed U, Khadka N, Khan A, Wall S. Care-seeking practices in South Asia: using formative research to design program interventions to save newborn lives. J Perinatol. 2008 Dec;28 Suppl 2:S9-13. Review. PubMed PMID: 19057572.
7. Pokhrel S, Sauerborn R. Household decision-making on child health care in developing countries: the case of Nepal. Health Policy Plan. 2004 Jul;19(4):218-33.
8. D'Souza RM. Role of health-seeking behaviour in child mortality in the slums of Karachi, Pakistan. J Biosoc Sci .2003;35(1):131-44.
9. Government of India, Ministry of Health and Family Welfare. Integrated Management of Neonatal and Childhood illness: Training modules for medical officers. New Delhi: 2005. p. 3.
10. Gupta N, Jain SK; Ratnesh, Chawla U, Hossain S, Venkatesh S. An evaluation of diarrheal diseases and acute respiratory infections control programmes in a Delhi slum. Indian J Pediatr. 2007 May;74(5):471-6.
11. Pillai RK, Williams SV, Glick HA, Polsky D, Berlin JA, Lowe RA. Factors affecting decisions to seek treatment for sick children in Kerala, India. Soc Sci Med. 2003 Sep;57(5):783-90. PubMed PMID: 12850106.
12. Levesque J, Haddad S, Narayana D, Fournier P. Outpatient care utilization in urban Kerala.India Health Policy Plan. 2006; 21 (4): 289-301.
13. Sudharsanam MB, Rotti SB. Factors determining health seeking behaviour for sick children in a fishermen community in Pondicherry. Indian J Community Med 2007;32:71-2
14. Gupta N, Jain SK, Ratnesh, Chawla U, Hossain S, Venkatesh S. An evaluation of diarrheal diseases and acute respiratory infection control programmes in a Delhi slum. Indian J Pediatr 2007;74:471-6
15. Government of India,Ministry of Health and family welfare, National Rural Health Mission. Brief note on child health. New Delhi:2011Nov;p 8-10.
16. Yadav SP. A study of treatment seeking behaviour for malaria and its management in febrile children in the rural part of desert, Rajasthan, India. J. Vector Borne Dis. 2010 Dec;47:235-42.
17. Jain M, Nandan D,Misra SK. Qualitative assessment of health seeking behaviour and perceptions regarding quality of health care services among rural community of district Agra. Indian J Community Med. 2006 Sep;31(3):140-44.
18. Larson CP, Saha UR, Islam R, Roy N. Childhood diarrhea management practices in Bangladesh: private sector dominance and continuing inequities in care. Int J Epidem. 2006;35:1430-9.
19. Azhar GS, Amir A, Khalique N, Khan Z. A study of determinants of use of healthcare services in India. Int J Public health. 2011 Jul-sep;1(3):62-6.
20. Willis JR, Kumar V, MohantyS, Singh P, Singh V, Baqui AH et al. Gender differences in perception and care seeking for illness of newborns in rural Uttar Pradesh, India. J health popul nutr. 2009 Feb;27(1):62-71.

DOI Number: 10.5958/j.0974-9357.6.1.057

Impact of Sensitization on Knowledge and Attitude of Nurses in Tuberculosis

Anita Rani Kansal[1], Rajinder Mahal[2], D Behera[3], Neeta Singla[4]

[1]Nursing Superintendent, National Institute of TB & RD, Sri Aurobindo Marg, New Delhi, [2]Professor, Mohan Dai Oswal Cancer Hospital, Ludhiana, [3]Professor Department of Pulmonary Medicine, PGIMER Chandigarh, [4]Research Officer, National Institute of TB and RD, Sri Aurobindo Marg, New Delhi

ABSTRACT

Background: India is high TB burden, high HIV burden and high MDR TB burden country. Nurses are the backbone of any health care delivery system. Nurses knowledge and attitude is crucial for achievement of targets of TB control.

Objectives: To assess the knowledge and attitude of nurses for tuberculosis, MDR, RNTCP. To see co-relation between knowledge and attitude.

Methods: A pre-experimental research approach was used. Study was taken on 30 nurses working in various government hospitals of Delhi. Tools used for data collection were structured knowledge questionnaire and "Likert Scale for Attitude". . Tools were validated for content and reliability was established before data collection. Data was collected. Training was imparted. Post Test after training was also administered.

Finding: Mean knowledge score in pretest was 21.60 for a total of 50 question and maximum score of 50. Mean knowledge score in post test was 31.73. This difference was statistically significant at 95% confidence interval. Attitude score improved little toward positive attitude and was statistically significant at marginal level (P value = .052). This pilot study found positive relationship between knowledge and attitude. (r=.309).

Keywords: *TB -Tuberculosis, RNTCP - Revised National Tuberculosis Control Programme, MDR- Multi-drug Resistant Tuberculosis, TST-Tuberculin Skin Testing, XDR- Extensive Drug Resistant Tuberculosis, DOTS - Directly Observed Treatment Short Course*

INTRODUCTION

India is the highest TB burden country in the world, accounting for one fifth of the global incidence – an estimated 1.9 million cases annually. Death rate due to TB in India nearly 28 per 1,00,000 population which is highest death rate among all other communicable diseases and accounts for 26 percent of all avoidable adult deaths.[1]

Multi-drug resistant Tuberculosis (MDR-TB) and extremely drug resistant (XDR) in another challenge in this burden. MDR TB is defined as resistance of M. tuberculosis to Rifampicin and Isoniazid. XDR TB is defined as resistance to at least INH and Rifampicin(i.e. MDR) , and 2 more classes of second line anti TB drugs viz, any fluoroquinolone, and to at least one of the three injectable drugs (capreomycin, Kanamycin and Amikacin).[1]

There are about 3.6% of new TB patients in the world have MDR strains. Levels are much higher 20% in the previously treated for TB. About 10% of MDR cases are XDR cases. By 2013, 92 countries had reported at least one XDR case. Over 95% of TB deaths occur in low- and middle-income countries, and it is among the top three causes of death for women aged 15 to 44.[2]

Now, with emergence of MDR, XDR – TB, patients need to be hospitalized for start of second line drugs. Patients also need injectables for a long duration in outreach facilities so nurse's involvement in RNTCP has become an essential step to implement policy of

stop TB strategy under World Health Organization.

Nurses have higher risk of tuberculosis.[3] There is scarcity of literature detecting the current status of nurse's knowledge and attitude towards tuberculosis in RNTCP. The present study is planned to find present knowledge, attitude, of nurses towards tuberculosis as a diseases and RNTCP as a national programme. This study will also check the effect of short term training as knowledge and attitude will be assessed after training also.

MATERIALS AND METHOD

Objective of the Study

- To determine the knowledge, attitude of nurses related to TB, MDR and RNTCP before training and after training.
- Find the correlation between knowledge and attitude of nurses
- Find the relationship between knowledge, attitude with related factors such as age, sex, qualification, experience.

Conceptual Framework

This pilot study was based on System's Theory.

OUTPUT → PROCESS → INPUT

Input consisted of demographic characteristics of the respondents & available resources such as training. Process refers to utilization of self administered questionnaire to asses' knowledge, attitude of nurses. Process also includes imparting training. System returns the output to the environment in the form of changes of behavior in desired direction after processing of input.

A pre-experimental research approach was used. Study was taken on 30 nurses working in various government hospitals of Delhi. Hospitals were selected by convenient sampling. Tools used for data collection were structured knowledge questionnaire and "Likert Scale for Attitude". Which were developed by researcher. Tools were validated for content and reliability was established before data collection. Data was collected. Training was imparted for 8 hours on MDR, XDR, and RNTCP. Practical trainingincluded visit to MDR wards DOTS center and Montonx test Center. Post Test after training was also administered.

FINDINGS

Sample Characteristics

Out of 30 subjects 30 % were male and 70% were female, 40%, of subjects were below the age of 28. Majority of subject were staff nurse (97%) and substantial no. of subjects were having the qualification of general Nursing Midwifery. Only 40% were with B.Sc Nursing qualification. All subjects were working in hospital and about 60% had experience of more than 5 year. About 30% & subject were not exposed to any training selected to tuberculosis in entire span of working. 70% of subjects had received one training related to tuberculosis.

Findings related to Objective No 1.

(I) Finding related to assessment of knowledge of nurses regarding tuberculosis and RNTCP before and after training. (Table -1)

Table 1. Comparison of knowledge score before & after training

Domain	Mean	S.D	T- Value	P-value
Basics of T.B Post	9.93	1.972	6.11	.000*
Basics of T.B Pre	7.73			
Treatment of Drug sensitive T.B Post	7.33	2.315	8.125	.000*
Treatment of Drug sensitive T.B Pre	3.9			
Basic of Drug Resistance T.B Post	1.7	1.383	0.528	0.601
Basic of Drug Resistance T.B Pre	1.57			
Treatment of drug resistant T.B Post	3.97	1.622	5.74	.000*
Treatment of drug resistant T.B Pre	2.27			
Prevention ACMS Post	6.53	2.218	7.654	.000*
Prevention ACMS Pre	3.43			
RNTCP Post	2.27	1.591	-1.492	0.146
RNTCP Pre	2.7			
Total – Post	31.73	5.758	9.639	.000*
Total – Pre	21.6			

- Mean knowledge score in pretest was 21.60 for a total of 50 question and maximum score of 50. Mean knowledge score in post test was 31.73. This difference was statistically significant at 95% confidence interval.
- In relation the knowledge of various domains of tuberculosis, study revealed that short term training has positive effect in domains like basics of T.B; drug sensitive T.B, prevention of T.B. However change of knowledge score did not happen in drug resistant TB and its treatment and RNTCP. It seems that 8 hour training to teach MDR its treatment and RNTCP is not sufficient as these are new areas for staff nurses. Training was a part of "Nursing Development Programme" sponsored by Ministry of Health and family welfare of India and was done in Feb.2011.

Finding related to assessment of attitude of nurses regarding tuberculosis and RNTCP before and after training. (Table 2)

- Regarding attitude of nurses towards TB, MDR and RNTCP mean attitude score in Pre test was 65.93 out of 100. While post test attitude score was 71.27 out of 100. Though score improved little toward positive attitude but it was statistically significant at marginal level (P value = .052). (Table 2)

(Table 2) Comparison of attitude score before and after training

Domain	Mean	S.D	T- Value	P-value
Attitude Score post test	71.27	14.392	2.030	.052
Attitude Score pre test	65.93			

Findings related to Objective No 2.

1. This pilot study found positive relationship between knowledge and attitude. **(r = .309)**

Findings related to Objective No 3.

1) Finding related to relationship between independent variables and knowledge score and attitude score.

- Sex, age, experience, designation did not affect the knowledge and attitude score.

DISCUSSION /CONCLUSION

- The present study showed pretest average score as 21.60 out of 50 marks which is unacceptable score in nursing profession. This low score can be attributed to Multiple and extensive drug resistant tuberculosis (MDR and XDR TB) which is new to nurses. Many nurses belonged to general hospitals where MDR and XDR cases are not admitted so nurses knowledge could not be augmented from practice. Moreover in Delhi, nurses are not involved directly in RNTCP for formal training.
- Previous studies have also shown that nurses knowledge regarding tuberculosis was inadequate. A study by Singla N. et al done on 213 nurses in tuberculosis hospital and general hospital by pretested questionnaire survey showed only 40.2% of nurses working in tuberculosis hospital and 10.7% of nurses working in general hospital has satisfactory level of awareness satisfaction level was defined correct answers up to 75 % of questionnaire.[4]
- The present study has shown that training can help in improving knowledge and attitude as previous studies have also shown it.[5,6]
- Independent variables such as age, sex, experience qualification did not affect the knowledge and attitude scores. It may be due to small sample size.
- Sample size is small so generalizations cannot be made by this study.

Nursing profession has to keep pace with changing trends of diseases particularly as per need of our country. India has high burden of tuberculosis with MDR, XDR emerging as new challenges. Indian nursing council and RNTCP should collaborate to use potential of nursing force to combat this scourge.

Nurses knowledge can be augmented with the training in the Tuberculosis.

Conflict of Interest: None

Source of Support: Self

Ethical clearance: Taken from institute ethical committee

REFERENCES

1. Central TB Division, RNTCP Report 2012 Directorate General of Health Services, Ministry of Health & Family Welfare, Nirman Bhavan, New Delhi.
2. World Health Organization. Global tuberculosis report 2013. WHO/HTM/TB/2013. . Geneva, Switzerland: WHO, 2013.
3. Christopher DJ, Daley P, Armstrong L, James P, Gupta R, Prem Kumar B et al. Tuberculosis infection among young nursing trainees in south India. PLUS ONE. 2010 April 29:5 (4): e10408.
4. Singla N, Sharma PP, Jain RC. Awareness about tuberculosis among nurses working in a tuberculosis hospital and in a general hospital in Delhi, India. Int J Tuber lung Dis.1998;2(12): 1005-1010.
5. Alemany Francés ML, Moreno Guillén S, Sánchez Nieto JM, Assessment of nurses' understanding of tuberculin testing at a general hospital, Arch Bronconeumol. 2003 Feb; 39(2):62-6.
6. Messmer PR, Jones S, Moore J, Taggart B, Parchment Y, Holloman F, Quintero LM, Knowledge, perceptions, and practice of nurses toward HIV+/AIDS patients diagnosed with tuberculosis, J Contin Educ Nurs. 1998 May-Jun; 29(3):117-25.

DOI Number: 10.5958/j.0974-9357.6.1.058

A Study on Awareness of ASHA Workers of Delhi State on MCH Care & Services

Bhargavi C N[1], Asha Sharma[2]
[1]*Sister Tutor, College of Nursing, Dr. RML Hospital, New Delhi,* [2]*Vice President, Indian Nursing Council, Kotla Road, New Delhi*

ABSTRACT

The impact of NRHM and the ASHA would be meaningful when the individual ASHAs who are chosen and trained perform as an effective link worker for better use of health facilities, and basic health services. The key selection criteria such as education level, representativeness of the local community, adequate knowledge and preparedness to perform effectively are also found (1) to be extremely critical for sustainability and retention. Large number of urban areas have been completely left out or poorly targeted due to lack of sensitization among service providers and a sense of apathy towards urban poor by considering them as an "unnecessary intrusion" into the city. ASHA being a local women selected by the community is considered suitable for serving the urban population also. However not much studies were done to explore the performance, and knowledge of ASHA workers in an urban setting. Therefore the present study aimed to assess awareness of ASHAs on MCH care & Services in Delhi state and to find the association of knowledge with specific demographic variables.

Methodology: A survey was conducted in the eight community setting of Delhi at South, South East, South West, East, North East, West, North West and Central Zones. 500 ASHAs were selected randomly and were interviewed by using a structured questionnaire. Data were analysed by using SPSS and valid conclusions were drawn.

Result: Most of the ASHAs were aware about positive health behavior services on family planning, menopause, reproductive tract disease, sex education. However nearly half were not comprehended regarding counseling mothers on care during pregnancy i.e Intra Natal, Post Natal, new born care, Primary MCH services, Immunization, nutritional deficiencies and Sensitize regarding unsafe abortions & MTP. No significant difference found in the knowledge level of ASHAs with their age & educational qualification. However a significant difference was observed in knowledge level of ASHA with the years of experience.

Conclusion: The study findings indicated need for continuous & consistent training, recognition and reinforcement for better performance, motivation and also for retention.

Keywords: *Accredited Social Health Activist, Knowledge, MCH Services*

INTRODUCTION

The World Health Reports [2] highlighted shortage of skilled health workers as a factor contributing to the problem of limited infrastructure and access, in underserved areas particularly in low-income countries. The Planning Commission report on XIIth Plan showed that the urban sector lacks organized public sector infrastructure and services and health parameters in the urban population are similar or at times even worse. One strategy identified by Governments around the world is “task shifting”— a review and subsequent delegation of tasks to the “lowest” category that can perform them successfully. It is in the context of task shifting , the concept of using community members to render certain basic health services to their communities has gained momentum again.

Around the world, community health workers (CHWs) have different names and provide somewhat different services, but basically share a common

purpose as to connect the health system to people where they live[3]. Experience of working with CHWs in India in the past has been limited to small areas like selection , process, incentive, motivation [4] etc. According to NRHM State Wise Progress Report [5], about 7.8 lakhs ASHAs are in position with drug kits. These female health workers were selected from communities, trained in basic healthcare, and provided performance-based remuneration for health services accessed by members of their community.

The Ministry of Health & Family Welfare (MoHFW) has developed [6,7] a 23-day training schedule to provide the necessary knowledge & skills to women identified as ASHAs. However, rapid appraisal and data from various states [8] showed that the quantity and quality of the training in practice must be improved in order to improve the performance of ASHAs. The state's reports brought to the forefront that the ASHAs lack knowledge to perform their jobs, as most have not completed the stipulated 23 days of training as recommended by the MoHFW and recommended that an assessment of the information must be conducted to see that ASHAs have retained from theoretical and practical training before they start functioning in the field to avoid error when counsel pregnant women and mothers on healthy practices [9]. Frequent refresher trainings are crucial to ensure that the ASHA retains her skills. With this context in place, a descriptive survey has been conducted to understand the awareness of ASHA workers on MCH Services and this paper presents findings from data collected through a structured knowledge questionnaires developed by the investigator based on the guidelines developed by MOHFW for ASHA.

MATERIAL & METHODOLOGY

The study adopted a multi stage descriptive survey approach and was conducted during the period from December 2012 to April 2013in the community setting of Delhi from South, South East, South West, East, North East, West, North West and Central Zones/ districts except New Delhi . Eight sub zones were selected by using purposively primarily because of feasibility of data collection and for congenial atmosphere and better cooperation to collect the data for the study. New Delhi area was not included considering the non availability of sufficient sample size.

After obtaining administrative approval from the Authority, the Chief Medical Officer of each zone was contacted for permission for data collection. List of ASHAs in each zone was procured from Chief Medical officer and 500 ASHAs were selected randomly. Each ASHA was contacted individually and interviewed at their convenience. A pretested structured knowledge questionnaire regarding MCH services was used to collect the data. Data analysis was done by using SPSS software package.

FINDINGS / RESULTS

Demographic variables

Age distribution indicated that 37.8 % of the ASHA workers were in the age group of 20-30 and 62.2 percent of ASHAs were more than 30 years. 30 ASHAS were (6%) in above 45 age bracket. Thus age structure of the ASHA workers can be considered to be young as 81.2% below 39 years. For comparison and further analysis, the respondents according to age were grouped in to two category as age group I consisted of ASHA in 20-30 years of age and age group 2 consisted of ASHA with more than 30 years of age.

Similarly 62% of the ASHAs were having High School level education and only seven (1.4%) ASHAs were having education less than 8th standard. However 8. 2 % of ASHAs were having graduation and above qualification. For comparison and further analysis, the respondents according to educational level were grouped in to two category as Education (Edu.) group I consisted of ASHAs with education level up to 10th standard and Edu. group 2 consisted of ASHA with education level above 10th standard.

Nearly half of the ASHA (45%) were heaving 3 to 5 years of experience. For comparison and further analysis, the respondents according to experience were grouped in to two categories as Exp. group I consisted of ASHA with 1 to 24 months experience and Exp. group 2 consisted of ASHA with more than 24 months experience. The data indicated that 52.8% of ASHAs were in Experience (Exp) group 1 and 47.2 % in Exp. group 2.

Awareness of ASHAS on MCH Services.

In order to determine the level of knowledge, maximum and minimum possible score was calculated. The correct answer scored one and wrong answer scored 0. The Minimum score was 0 and maximum score was 60. The maximum obtained score by the ASHAs was 40 and the minimum obtained score was 19. The level of the knowledge of ASHAs

on MCH Services is categorized and classified as very Good (70% and above), Good (56- 69%), average (50-55%) and below average (less than 50%) as none of the respondents (ASHA) scored more than 69% . In general, the knowledge of ASHA on MCH Services found to be good.

The content of knowledge questionnaire was organized under 5 areas based on the job responsibilities of ASHA on MCH care and services as envisaged in the guideline developed by MOHFW. The study revealed that 83.4% , have comprehended correctly on the area of developing positive health behavior (services on family planning, menopause, reproductive tract disease, sex education). 67.54% succeeded in specifying correctly on child care components (diarrohea, ARI, infant & young child nutrition, micronutrient deficiencies). 59.8 % were comprehended regarding counseling mothers on care during pregnancy i.e Intra Natal, Post Natal, new born care, Primary MCH services, 49.2 % have responded correctly on sensitization regarding unsafe abortions & MTP. However 37.14% only could understand about basic reproduction, (reproductive system, fertilization & genetics).

In order to ascertain knowledge of ASHA workers on Ante natal components , schedule, post natal visit and immunisation schedule, questions related to these areas were selectively analyzed and the result showed that 98.6% of ASHAs indicated that sex determination is not a component of ante natal check up . On the other side only 43 % could correctly indicate the schedule of antenatal visit. Out of 500, 351 (70.2 %) ASHS correctly indicated about IFA tablet intake. Regarding postnatal care, 1.4% could indicate the exact time for first post natal follow up visit at the health center, where as 97.4 % could interpreted the symptoms of septic abortion rightly. 98.2 % have given correct answer on exclusive breast feeding. With regard to immunization, 23% only could answer correctly the immunizations 6 weeks of age. However only 8 (1.6%) ASHAs could understand the age for completion of primary immunization. 96 ASHAs (19.2%) correctly responded on Vitamin A supplementation.

Association of knowledge score with age, Education level and experience

An independent-samples t-test was conducted to compare the knowledge scores of ASHA with their demographic variables age, Education level and experience. The analysis is given at table - 1

Table 1: Comparison of Demographic variables with Knowledge of ASHA on MCH Services.

Variable	Group	N	Mean	Std. Deviation	t value	P value
Age	1. up to 30 years	189	35.65	2.23	0.185	0.853
	2. Above 30 years	311	35.61	2.39		
Education	Up to 10th class	320	35.72	2.56	1.19	0.07
	Above 10th class	180	35.46	1.84		
Experience.	Up to two years	264	35.87	1.57	2.50	0.00*
	More than two years	236	35.35	2.93		

Data presented in table 1 indicated that no significant difference in the knowledge level of ASHAs with their age. (p : 0.853 .> 0.05), educational level (p:0.07). However significant difference has been found in the knowledge level of ASHAs with their years of experience (p:0.00). The recently recruited (up to two years of experience) showed more awareness than the ASHAs with more than two years of experience. This may be correlated to the lack of refreshment training for ASHA .

DISCUSSION

Majority (37.8%) of the ASHA workers were in the age group of below 30 years. Similar result was observed in other studies [10, 11]. Regarding educational level, though the prescribed educational level is 8th Class, majority over a half (62%) of the ASHAs were having High School level education and only very few 8 (1.6%) were having education less than 8th standard which can be explained by the fact that selection criteria at some places has been reduced to 5th standard. Similar findings have been indicated in various studies on ASHA scheme in states. However the study finding indicated 180 (36%) were having higher education after 10th class including graduation. Unlike in other studies, the knowledge of ASHA's in Delhi was found to be comparatively good and satisfactory. However lacuna in areas of MCH services was observed in counseling mothers on care during pregnancy i.e Intra Natal, Post Natal, new born care, Primary MCH services, Immunization, nutritional deficiencies and sensitize regarding unsafe abortions & MTP. The study revealed that there is a significance difference in the knowledge of ASHA with the experience as ASHA with more than two years of experience scored less

than that of ASHAs with two years of experience. This indicates the need for consistent training, time to time evaluation, certification and reinforcement for enhancement of awareness and also for consistency in performance.

CONCLUSION

The desire to serve the community, knowledge in basic health aspects, becoming a part of the formal health system and the prestige associated with the position are found to be few reasons for becoming an ASHA other than the monetary benefit.[12] Therefore awareness regarding job responsibilities is important for meeting the objectives of the ASHA initiative. The success of the ASHA initiatives depends on regular and reliable training, monitoring & supervision.

Acknowledgement : In the spirit of immense gratitude towards the people who helped me, I here by express my heartfelt thanks to all of them for making this study possible with their intellectual energy. While pursuing this study I learned that knowledge is truly humbling; and there is no limit to it; and for making me realized that I have many people to thank. I also extend my sincere gratitude to Dr. KS Nagi for his excellent guidance in statistical analysis.

Conflict of Interest: Nil

Source of Support: Nil

Ethical Clearance: Obtained by way of undertaking to protect the rights of respondents.

REFERENCES

1. Nirupam Bajpai and Ravindra H Dholakia. Improving the performance of ASHA in India: working papers No.1, May 2011. Columbia Global Centers, South Asia, Columbia University. P:9
2. Joint Learning Initiative. Human Resources for Health: Overcoming the crisis, WHO (2004), World Health Report: Working together for health. Geneva, World Health Organization, (2006) and Lehmann U and Sanders D, Community Health Workers: What do we know about them? The state of the evidence on programmes, activities, costs and impact on health outcomes of using community health workers, Evidence and Information for Policy, Department of Human Resources for Health Geneva, WHO.(2007). Available at who.int hrh /documents /community_health_workers.
3. Background papers, National Commission of Macroeconomics and Health, 2005.
4. Maru R.M. The Community Health Volunteer scheme in India ; an evaluation, Social Science Medicine. 1983; 17 (19); 1477-83.
5. NRHM State wise Progress as on 30.06.2012 , NRHM Facility Center, MoHFW, New Delhi p:7.
6. ASHA Guidelines, Govt. of India , Ministry of Health & Family Welfare (2005)
7. NRHM Frame Work Document, Govt. of India, Ministry of Health & Family Welfare(2005).
8. Rapid appraisal of functioning of ASHA in states - reports from Orissa, Jharkhand, UP, Chattisgarh, Bihar, J & K, MP, Gujarat, NHRC, NIHFW.
9. SV Gosavi, AV Raut, PR Deshmukh, AM Mehendale , BS Garg "ASHAS' awareness & perceptions about their roles & responsibilities : A study from Rural Wardha. Original article. medind.nic.in.
10. Srivastava DK, Prakash S, Adhish V , Nair KS, Gupta S, Nandan D. A study of interface of ASHA with the community and the service providers in eastern Uttar Pradesh. Indian Jpublic Health,2009;53(3):133-6.
11. Garg P K, Anu Bharadwaj, Singh Abhishek, Ahulwalia SK, an evaluation of ASHA worker's awareness and practice of their responsibilities in Rural Haryana. National journal of Community Medicine, 2013,4(1)76-8
12. Gopalan S Saraswathy, Mohanty Satyanarayan, Das Ashis, Assessing community health workers' performance motivation: a mixed-methods approach on India's Accredited Social Health Activists (ASHA) programme: BMJ Open 2012;2:e001557 doi:10.1136/bmjopen-2012-001557.

Call for papers

The editor invites scholarly articles that contribute to the development and understanding of all aspects of Nursing Education, Care and Practice. All manuscripts are double blind peer reviewed. If there is a requirement, medical statistician review statistical content.

Invitation to submit paper: A general invitation is extended to authors to submit papers papers for publication in IJONE.

The following guidelines should be noted:

1. All articles will be accepted only by email. Send your articles at editor.ijone@gmail.com
2. The articles should be accompanied by a declaration from all authors that it is an original work and has not been sent to any other journal for publication.
3. Reference should be in Vancouver style. Send in MSWORD tormat. Maximum 3000 words.
4. As a policy matter, journal encourages articles regarding new concept and new information.

International Journal of Nursing Education
Institute of Medico-legal Publications
4th Floor, Statesman House Building,Barakhamba Road,
Connaught Place,New Delhi-110 001
Mobile:91-9971888542, Fax No: +91 11 3044 6500
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:** Half yearly (two issues per volume).

"International Journal of Nursing Education" is an international peer reviewed journal. It publishes articles related to nursing and midwifery. The purpose of the journal is to bring advancement in nursing education. The journal publishes articles related to specialities of nursing education, care and prctice. The journal has been assigned international standard serial numbers 0974-9349 (print) and 0974-9357 (electronic). The journal is covered by Index Copernicus, Poland and is included in many international databases.

Subscription Information

Journal Title	Pricing of Journals		
IJONE	Print Only	Print+Online	Online Only
Indian	Rs. 7000	Rs. 9000	Rs. 5500
Foreign	US $ 450	US $ 550	US $ 350

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.

SEND REMITTANCE TO:

Prof. R.K. Sharma, Editor

International Journal of Nursing Education

Institute of Medico-legal Publications

4th Floor, Statesman House Building,Barakhamba Road,
Connaught Place,New Delhi-110 001
Mobile:91-9971888542, Fax No: +91 11 3044 6500
E-mail: editor.ijone@gmail.com, Website: www.ijone.org

Published, Printed and Owned : Dr. R.K. Sharma
Designed and Printed : M/s Vineeta Graphics, Mobile: 9999464913, 9990005734
Published at : 4th Floor, Statesman House Building, Barakhamba Road,
Connaught Place,New Delhi-110 001
Editor : Dr. R.K. Sharma, Mobile:91-9971888542, Fax No: +91 11 3044 6500