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A Study to Assess the Effectiveness of Planned Teaching Programme on Knowledge Regarding Selected Breast Related Problems and their Management among Postnatal Women at Selected Hospital, Vadodara

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ABSTRACT

Background: **"Mother the most beautiful word on the lips of mankind"** The post-partum period which can last up to 6 months after delivery. Changes during this phase are extremely gradual and pathology is rare. Several common problems that may arise during the breast feeding period, such as breast engorgement, plugged milk duct, breast infection and insufficient milk supply, originate from conditions that lead the mother to inadequately empty the breasts. WHO study shows that 60% of women between age 40 and 69 years come to the breast problems over 10 years periods

Aims and objectives: The aim of the study is to assess the effectiveness of planned teaching programme on knowledge regarding selected breast related problems and their management among postnatal women at selected hospital, Vadodara.

Material and method: The research design Pre-experimental-one group pre-test post-test design. The research approach is a Evaluative Approach with a view to assess the level of knowledge by pre-test on breast related problems among postnatal women. In the present study 40 postnatal women from selected hospitals were selected using Simple random sampling technique.

Results: Mean percentage of pretest was 34.84 % with SD was 1.61 whereas, the mean knowledge of posttest was 18.98 and SD was 4.07 respectively. Further the effectiveness of mean knowledge was found to be 28.43 % from the pretest to posttest. The statistical pair T test was found to be 12.69*, that reflects significant effectiveness of knowledge score from pretest to posttest at $P<0.05$ significant level, revealing the effectiveness of planned teaching on selected breast problems. The knowledge of postnatal women regarding the selected breast related problems among the postnatal women's was poor before the administration of planned teaching.

Conclusion: The planned teaching was effective in all knowledge aspect in posttest. So the **hypothesis (RH1) is accepted** and **research hypothesis (RH2) is partially accepted.**

Keyword: *Assess Effectiveness, Knowledge, Planned Teaching, Postnatal women.*

INTRODUCTION

"Mother the most beautiful word on the lips of mankind"

-Khalil Gibran

Pregnancy is a very special time in a women's life. Pregnancy is the state of carrying a developing fetus (baby) within the female's body. This condition can be indicated by positive results on an over-the-counter urine test, & confirmed through a blood test, Ultrasonography,

detection of fetal Heartbeat. Pregnancy lasts for about nine months, measured from the state of the women's last menstrual period. It is conventionally divided into three trimesters, each roughly three month's long.[1]

The word "post natal" comes from Latin words: "post" which means "after" and "natal" is means "birth" .It is the period beginning immediately after the birth of a child and extending for about six weeks. The post-partum period which can last up to 6 months after delivery. Changes during this phase are extremely gradual and pathology is rare. Several common problems that may arise during the breast feeding period, such as breast engorgement, plugged milk duct, breast infection and insufficient milk supply, originate from conditions that lead the mother to inadequately empty the breasts. Incorrect techniques, not frequent breast feeding and breast feeding on scheduled times, pacifiers and food suppliers are important risk factors that can predispose to lactation problems. The adequate management of those conditions is fundamental, as if not treated they frequently lead to early weaning. These problems can be prevented if the mother empties her breast effectively. If they occur, they should be carefully and adequately approached, thus avoiding the early weaning resultant from painful and stressing situations the mother may face.[2]

Breast engorgement is one of the potential problems that may arise due to the initiation of breast feeding and usually starts from 3rd to 6th post natal day. It refers to the sense of breast fullness experienced by mothers which is characterized by swelling, tenderness, warmth, throbbing pain, low grade fever, hardness of breast tissue and heaviness.[3]

Cracked nipples or sore nipples are due to aggressive suckling by the baby particularly if the nipple is not well attached with the infant's mouth during feeding. If cracking is severe the baby should not be fed from the affected breast, which should be emptied manually or by using a breast pump. Sore nipples are probably the most common complain after child birth. They are generally reported by the 2nd day after delivery but can be improve within 5 days, by taking proper care beyond the 1st week.[4]

Plugged milk ducts are a common problem, encountered during the nursing period. This happens when one of the milk ducts becomes obstructed, causing a backup of the milk. The woman usually notice a sore, redden hard lump in one area of her breast. The woman should be taught to continue nursing, take acetaminophen, apply warm compresses and massage the sites, nurse in different positions, including on her knees to facilitate drainage of the breast and to avoid constricting clothing or bra, including underwear bras. If the site does not improve within a few days, she should contact her health care provider. [5]

Mastitis is an infection of the breast tissue. It is caused by organisms acquired from the infants nasopharyngeal or umbilical areas, which harbors colonies of the staphylococci or streptococci that develop within a few days of birth. It occurs at the end of the first week following birth. The mother develops a fever and a tender, red, firm to hard areas are felt in one of the breasts. Treatment consists of analgesics and antibiotics. If it is not too painful, the mother should be emptied after a feed, as incomplete emptying leaves stagnant of milk in the system, which may become infected. [3]

Breast abscess, the infection usually enters through a break in the skin. It is usually confined to one quadrant of the breast. The most common organism identified is staphylococcus aureus, mostly from the infant's nose or throat. The infant is usually infected from the nursery personnel. The mother will have raised temperature, tachycardia, erythematous segment of the breast, even fluctuation. It can be managed by using broad spectrum antibiotic coverage; cloxacillin, cephalexin, cefuroxime, adequate supportive brassiere, continue breastfeeding from the normal breast empty the affected breast by means of a breast pump. Surgical management is done under anesthesia by making circular incision over the areola followed by drainage.[5]

OBJECTIVES OF THE STUDY

1. To assess the existing level of knowledge of post natal women regarding breast problems.

2. To assess the effectiveness of planned teaching programme on knowledge regarding breast problems.

3. To determine association between the pretest knowledge scores with selected socio-demographic variables.

HYPOTHESIS

H1: There will be significant difference between the pre-test knowledge score and post-test knowledge score regarding management of the breast problems among the postnatal women.

H2: There will be significant association between pre-test knowledge score regarding management of the breast problems among the postnatal women with their selected demographic variables.

RESEARCH METHODOLOGY

Research Approach	Evaluatory Research Approach
Research Design	Pre Experimental Research Design
Variables	**Dependent**–Knowledge of postnatal women regarding selected breast related problems Independent- planned teaching programme regarding management of breast related problems.
Setting	Selected Hospitals, Vadodara
Population	Postnatal Women
Samples	40 Postnatal Women
Sampling technique	Simple random Sampling Technique
Tool-development	**Section 1:** Socio-demographic variables **Section 2 :** Self-administered knowledge questionnaire
Content validity	Suggestion from various experts i.e. Master in the field of Obstetrics & Gynecological Nursing, the Asst. Prof. -7, M.A (English) – 1, MA (Gujarati) – 1, Statistician – 1
Reliability	Using Karl's Person's correlation coefficient formula and the r value was 0.98 thus the tool is reliable.
Pilot study	Pilot study was conducted on 7th September 2016 to find out the feasibility of the study . The pilot study was conducted in Selected Hospitals, Vadodara. The data for pilot study was collected from 04 internship students.
Data collection procedure	The investigator selected 40 sample for the inclusion criteria for the data collection .the investigator explain the purpose of the study, then the given Pretest after 7 Days of the planned teaching on selected breast related problems & their management. Postest was conducted by using the same structured knowledge questionnaire.
Analysis of data	Consolidated and organized the collected data in a master sheet Frequency and percentage for the analysis of demographic characteristics of the sample respondents. Mean for the overall scores. Association between knowledge & pretest score and demographic variables by using paired t test & chi square.

ANALYSIS AND INTERPRETATION

Table 1: Frequency and percentage distribution in pre-test and post-test level of knowledge

Knowledge	Pre test		Post test	
	N	%	N	%
Poor	24	60 %	2	5 %
Average	16	40 %	26	65 %
Good	0	0%	12	30 %
Total	40	100 %	40	100 %

Table 1 shows about 60 % of the Postnatal Women were having poor knowledge followed by 40 % were having

average knowledge in pretest data. About 65% of the Postnatal Women were having average knowledge followed by 30% were having good knowledge and 5 % were having poor knowledge in post test data.

Table 2: Association of pretest knowledge regarding breast related problems in post natal women with selected demographic variables

Characteristics	Category	Sample	Knowledge Level				x^2 Value	P Value
			Average		Poor			
			N	%	N	%		
Age	20 - 24 Years	34	12	35.29%	22	64.71%	2.092 NS (1DF=3.84)	P > 0.05
	25 - 29 years	6	4	66.67%	2	33.33%		
	30 - 34 years	0	0	0.00%	0	0.00%		
	More than 35 years	0	0	0.00%	0	0.00%		
Religion	Hindu	32	11	34.38%	21	65.63%	2.109 NS (1DF=3.84)	P > 0.05
	Muslim	8	5	62.50%	3	37.50%		
	Christian	0	0	0.00%	0	0.00%		
	Others	0	0	0.00%	0	0.00%		
Education	No Formal Education	0	0	0.00%	0	0.00%	3.857 S (2DF=5.99)	P < 0.05
	Primary Education	31	11	35.48%	20	64.52%		
	Secondary Education	7	3	42.86%	4	57.14%		
	Higher Secondary Education	2	2	100.00%	0	0.00%		
Occupation	Housewife	40	16	40.00%	24	60.00%	Variable is Constant	Variable is Constant
	Medical Profession	0	0	0.00%	0	0.00%		
	Farmer	0	0	0.00%	0	0.00%		
	Others	0	0	0.00%	0	0.00%		
Type of Family	Joint Family	13	8	61.54%	5	38.46%	3.723 S (1DF=3.84)	P < 0.05
	Nuclear Family	27	8	29.63%	19	70.37%		
Monthly Income	Below 8000	0	0	0.00%	0	0.00%	3.441 NS2(DF=5.99)	P > 0.05
	8000 – 8999	6	4	66.67%	2	33.33%		
	9000 – 9999	31	10	32.26%	21	67.74%		
	Above 10000	3	2	66.67%	1	33.33%		
Total		**40**	**16**	**40%**	**24**	**60%**		

Table 2 shows the association between knowledge and demographic variables of Post Natal Women. Significant demographic variables are Education with χ 2 Value 3.857 (DF=2), Type of family with χ 2 Value 3.723 (DF= 1)

So for these variables research hypothesis (RH1) is accepted.The Non-Significant demographic variable is Age (years) with χ 2 Value 2.092 (DF=1), Religion with χ 2 Value 2.109 (DF=1), Monthly Income with χ 2 Value 3.441 (DF=2) So for this variables research hypothesis (RH1) is rejected. Hence research hypothesis (RH1) is partially accepted.

DISCUSSION

The pretest mean knowledge is 10.45 (34.83 %) with standard deviation of 1.61, further posttest mean knowledge found to be 18.98 (63.27 %) with standard deviation of 4.07. it indicates that there is effectiveness of knowledge score of 8.53 (28.43 %) with standard deviation of 4.25. The statistically paired T test value 12.690 relieving the effectiveness of planned teaching on knowledge regarding selected breast related problems and their management among postnatal women. However this study reveals that the planned teaching on knowledge regarding selected breast related problems among postnatal women was effective. Thus the analysis reveals that there is significant difference between pretest and posttest knowledge score of postnatal women on breast related problems. Hence the stated research hypothesis (RH1) "there is significant difference between pretest and posttest knowledge score regarding selected breast related problems among postnatal women" has been accepted.

Sources of Fund: For the research study, researchers own budget will be used.

Conflict of Interest: No actual, potential or perceived conflicts of interest have been identified. No behaviors including promoting private or business interests that place their personal gain ahead of their professional responsibilities. All egulatory college's bylaws when they advertise or promote professional services or products.

Ethical Consideration: Ethical clearance is obtained from the ethical committee and willingness will be obtained from the subject before data collection.

CONCLUSION

The finding of the presence study showed that Majority 34(85 %) of the postnatal women belongs to 20-24 years. The majority of postnatal women 32 (80 %) were Hindu. The majority of postnatal women 31 (77.5 %) were primary school education. The majority of the postnatal women 40 (100 %) belongs to house wife. The maximum number 27 (67.50 %) of postnatal women belongs to nuclear family. The majority of the postnatal women 31 (77.50 %) had monthly income Rs, 9000 - 9999/- In the pre-test mean score was 10.45+1.61 and post-test means score was 18.98+4.07. The post-test level of knowledge mean score is significantly graters than the pre-test knowledge mean score.

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Effectiveness of E-learning Module on First Aid: A Study on Student Nurses

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ABSTRACT

Introduction: A study was conducted to evaluate the effectiveness of e-learning module on first aid in terms of gain in knowledge among student nurses of selected College of Nursing in Delhi.

Method: The research approach selected was quantitative in nature and research design was with one group pre-test post-test design. Sampling was done using non-probability sampling using total enumeration sampling technique. The study was conducted in Rufaida College of Nursing, New Delhi. Sample comprised of 60 pre-licensure nurses studying in final year of course. The tools used for generating necessary data were e-learning module and structured knowledge questionnaire on first aid.

Results: Sample characteristics revealed that majority of samples (60%) were studying in B. Sc. (N) course. All the subjects had experience in handling computer/ smart phone. Only 5% subjects had previous experience of e-learning module. The relevant findings of study were mean post-test knowledge score was significantly higher than mean pre- test knowledge score, with maximum gain in area of general first aid. There was significant relationship between knowledge gain and course of study and academic performance in previous class.

Conclusion: The finding of study revealed that e-learning module was effective in enhancing the knowledge of the study subjects.

Keywords: *nursing, first aid, e-module, effectiveness.*

INTRODUCTION

In recent times, e- learning has emerged as a practical solution for learning and education in the hospital setting. e-Learning, has the potential to transform education by creating a knowledge management environment that improves access to education, while reducing scheduling restrictions which are inherent with face-to-face delivery, it also facilitates the tracking of educational initiatives and assists hospitals in meeting mandatory educational requirements[1]. The current population of learners enrolled in educational institute is the first of the "Net Generation", which has grown up in a world of instant access through text messaging and the internet. This generation works well in peer-to-peer situations, as it is a common learning mode; they are also skilled multitaskers. Educators are now faced with adapting their teaching styles to accommodate this new generation of learners.

An Orange Paper from Mather LifeWay By Jon Woodall[2] was published on e-Learning related to maturing technology brings balance and possibilities to nursing education and it was discussed that non-traditional methods like e-Learning, are needed to ensure that nurses can continually develop their knowledge and skill set in a time when nursing supply and demand for qualified nurses continue to work against hospital administrators due to the shortage of nursing school faculty. Kokal P.[3] stated there have been

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many changes to pre-registration nurse education in terms of the knowledge and skills students are expected to learn before qualification. This has caused some areas of study, including first aid training, to be cut to a minimum. Meeting competencies leaves resources strained, as cohorts of students are ever increasing and the competencies required before qualification demand labor- intensive teaching.

An educational tool such as e-learning could be a valuable tool for improving knowledge about first aid. e-learning is increasingly used in health care as a means of educating large groups of professionals[4]. A systematic review by Feng Y., Chang Y.T., Chang H.Y., Erdley W.S., Lin C.H., Chang Y.J.,.[5] has shown that the use of e-learning or 'internet-based education' is associated with a positive effect on the knowledge, skills, and behavior of healthcare professionals, as well as on patient outcomes.

Title: A study to evaluate the effectiveness of e-learning module on first aid in terms of knowledge among student nurses of selected College of Nursing in Delhi.

OBJECTIVES

- To prepare e-learning module on first aid.

- To assess the pre-test & post-test knowledge regarding first aid among student nurses.

- To determine effectiveness of e – learning module

- To determine relationship of knowledge with selected demographic variables i.e. age, course of study, academic performance in previous class.

HYPOTHESIS

H_1– The mean post-test knowledge scores of student Nurses after administration of e- learning module on First Aid will be significantly different than their mean pre- test score, as measured by structured knowledge questionnaire, at 0.05 level of significance.

H_2- There will be a significant relationship between mean post-test knowledge score of student Nurses after going through e- module on first fid and selected demographic variables i.e. Age, Course of Study, Performance in previous academic year at 0.05 level of significance.

Researcher developed the e learning module on first aid and it was named as-

"First Aid- The Vital Help". Total nine conditions, general first aid, burn, cardio pulmonary resuscitation, shock, choking, hemorrhage, snake bite, dog bite and head injury have been covered under the e-learning module.

Structured knowledge questionnaire was developed by researcher for assessment of knowledge of final year DGNM and B. Sc. Nursing students regarding first aid.

MATERIAL AND METHOD

The conceptual frame work for the present study was based on the Knowledge Translation Model developed by the Canadian Institutes of Health Research (2005)[6]. The research approach selected was quantitative in nature and research design was one group pre-test post-test design. Sampling was done using non-probability sampling - total enumeration sampling technique.

A knowledge questionnaire on first aid comprising of 50 multiple choice questions, and e – learning module on first aid was developed by researcher, and validated by seven experts from the field of Nursing Practice Nursing Education, Medical education, Expert from National Disaster Management Authority, International NGO involved in dissemination of knowledge & practice of first aid (St. John Ambulance). Reliability of Knowledge questionnaire was worked out by Kudar Richardson formula (KR.20) and it was found to be 0 .836 indicating high reliability of the tool.

After obtaining all the necessary ethical and administrative approvals and written, informed consent from study subjects, knowledge questionnaire on first aid administered online on 78 final year students studying in Diploma in General Nursing & Midwifery, and B. Sc. Nursing course in selected college of nursing in New Delhi. Study subjects were asked to choose the most appropriate answer among given options. E- learning module was administered after completion of pre-test. E-learning module was completed and post-test taken by 60 study subjects on 10th day after administration of e- learning module on first aid.

A score of 1 (one) was given for every correct response and 0 (zero) for wrong. Data collected using knowledge questionnaire was analyzed using SPSS

Version- 21 for Frequency and percentage distribution to describe sample characteristics. Mean, median, mode, range and standard deviation to describe pre & post-test knowledge of student nurses regarding first aid. Area wise mean, mean percentage, and mean percentage gain in knowledge was calculated. Z- value was computed to find out significance of difference between mean pre-test and post-test knowledge scores of student nurses regarding first aid. Chi square and fisher exact test were computed to find out significance of relationship between mean post- test knowledge scores and selected variables.

FINDINGS

Findings related to background of study subjects in terms of age, sex, course of study, experience in handling computers, hours spent using computers/ smart phone and uses of internet, are shown in table – 1.

Table - 1: Frequency and percentage distribution of sample characteristics of student nurses N= 60

Sample characteristics	Frequency	percentage
Age in years Up to 20 years 21 to25 years	18 42	30 70
Sex Male Female	- 60	- 100
Course of study DGNM B. Sc. Nursing	24 36	40 60
Experience in handling computer / smart phone Yes No	60	100
Experience in handling computer / smart phone Less than 5 years 6 – 10 years More than 10 years	30 15 15	50 25 25
Hours spent using internet daily < 1 1 to 3 >3	7 29 24	11.7 48.3 40

Previous exposure to e learning module Yes No	3 57	5 95

Analysis of data to find out effectiveness of e-learning module yielded that all the 60 study subjects showed a significant gain in level of knowledge.
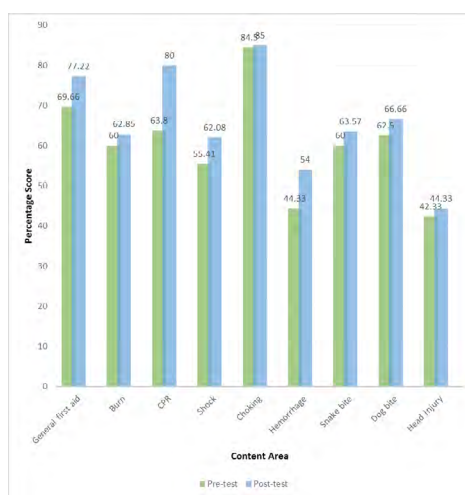
Fig -1-Bar graph showing the area wise mean percentage knowledge scores on pre-test and post-test

Data presented in figure -1 shows that there is gain in knowledge in every content area of e- learning module. Maximum gain was reported in the area of hemorrhage and minimum in content area of choking.

Z – test was computed to find out statistical significance of mean post test scores. Mean post test scores were significantly higher than mean pre-test knowledge scores as evident from "Z" value of 4.36, which is greater than tabulated value at 0.05 level of significance df=59.

Scoring key for knowledge test

• Good knowledge- a score of 70% or above

• Average knowledge – a score between 69% to 60%

• Poor knowledge – a score below 59%

Before administration of e-learning module, 12 (20%) students had poor knowledge about the topics covered in e-learning module while 26 (43.33%) had

average knowledge, followed by 22 (36.6%) had good knowledge. After administration, of e-learning module, the number of study subjects in poor knowledge group reduced from 12 to 07, in average knowledge group no. reduced from 26 to 20, while in the group of subjects having good knowledge the no. increased from 22 to 33. There was significant increase of 18.4% recorded in the group of study subjects having good knowledge of the topics covered in e-learning module, which signifies its effectiveness.

Inferential statistics were computed using Chi square test and fisher exact test, to find relationship of post -test knowledge scores with selected variables. Age had no significant relationship with post-test knowledge score, with p-value 0.834, at 0.05 level of significance. Course of study had significant relationship with post-test knowledge score, with p-value 0.004* at 0.05 level of significance. It was found that academic performance in previous class had significant relationship with post-test knowledge score, with p-value 0.01* at 0.05 level of significance.

DISCUSSION

In the present study, results revealed that, students have poor knowledge about, common requiring first aid as mean pre-test knowledge scores for hemorrhage was 44.33, while for head injury 42.33, mean pre-test score for cardiopulmonary resuscitation was 63.8. These finding indicated that students were not having sound knowledge regarding such an important life-saving procedure. After administration of e-learning module on first aid there was significant increase in knowledge regarding first aid among study subjects.

The findings of current study in relation to knowledge gain is consistent with the results of study done by Worm S. W. [7]on nurses specializing in anaesthesiology using e-learning module as a medium of education. In a study conducted by Morgulis Y., Kumar R., Lindeman R., and Velan G. [8]on medical students using e-learning module on leukaemia, it was found that, there was significant difference in mean percentage scores between groups for the post-test on leukaemia (t (42)=−3.591, P<0.001). The finding of the present study is also consistent with the study done by Gaikwad N.[9] on medical student using e-learning module on endocrinology and found that there was significant knowledge gain in the knowledge scores of study subjects increased significantly from 38.42 % (pre-test score: 11.56/30 ± 2.90) to 66.46 % (post-test score: 19.94/30 ± 6.13. In a study conducted by Mugwe P., Kamau K.J. and NyambakaO.K,[10]it was found that staff working in emergency department had inadequate knowledge on the standard first aid measures, which is consistent with the finding of present study. A systematic review was conducted by Salter S. M.[11] it was found e-learning to be effective at increasing knowledge immediately after training for all topics and in all contexts.

CONCLUSION

First aid is one of the basic skills that every person should have. It is assumed that nurses can judge the situation and while calling for help they can provide professional care to the victim, which will help to promote recovery, as well as minimize the chance of disability and death. Those who have some knowledge are expected to give life-saving first aid, student nurses threshold to help in sudden situation will be higher because the students will be familiar with the ways to help in different situations.

Now that affordable e-learning solutions exist for both computers and internet; it only takes a good e-learning tool for education to be facilitated from virtually anywhere. The intervention in form of e-learning module on first aid had shown that there had been a significant enhancement in the knowledge of participants, regarding first aid. Hence it can be concluded that e-learning module is an effective mean of enhancing the knowledge of student nurses.

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Effectiveness of Standard Operating Procedure Regarding Knowledge, Attitude and Practice of Biomedical Waste Disposal among Nursing Staff Working in Selected Hospital, Vadodara

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ABSTRACT

Background of the study: Bio-medical waste / health care waste, (the term bio medical waste is used in India and the health care waste term is used by WHO, both means the same), contains non infectious waste and infectious waste. **Aims & Objectives: 1.** Assess the pre-test knowledge, attitude and practice score regarding biomedical waste disposal among nursing staff in working selected hospital, Vadodara. **2.** To prepare and administer standard operating procedure regarding biomedical waste disposal among nursing staff working in selected hospital, Vadodara. **3.** Find out the effectiveness of standard operating procedure regarding biomedical waste disposal among nursing staff. **4.** Find the association between the pre-test knowledge, attitude and practice score with selected socio demographic variables. **Material and Method:** In this research study an evaluative research approach with pre-experimental design is used. Probability random sampling is used to select the 150 samples of nursing staff and data collection was done. Data was analysed by using descriptive and inferential statistics such as standard deviation, chi-square test and paired 't' test. **Results:** The pre-test depicts that prior to the administration of standard operating procedure, Study results revealed that the pre test score of knowledge, attitude and practice (Inadequate 56.7%, Moderate 43.3%, Adequate 0.0%: Unfavourable 60.0%, Moderate 40.0%, Favourable 0.0%: Low 65.3%, Moderate 34.7%, High 0.0%). The post-test depicts that after to the administration of standard operating procedure, the post test score of knowledge, attitude and practice (Inadequate 0.0%, Moderate 39.3%, Adequate 60.7%: Unfavourable 0.0%, Moderate 35.3%, Favourable 64.7%: Low 0.0%, Moderate 48.0%, High 52.0%) respectively. Pre and post-tests reveals that post-test level of knowledge, attitude and practice score were greater than pre-test of the study. **Conclusion:** The study findings reveals that standard operating procedure is highly effective in improving the knowledge, attitude and practice of nursing staff regarding Biomedical waste disposal.

***Keywords:** Standard operating procedure (SOP), BMW, knowledge, attitude and practice.*

INTRODUCTION

In general the bio medical waste / health care waste, (the term bio medical waste is used in India and the health care waste term is used by WHO, both means the same), contains non infectious waste and infectious waste. The infectious waste includes pathological waste, sharps waste, items contaminated with blood and body fluids and chemical, pharmaceutical waste etc. As regards to the category wise percentage of waste generation, non infectious waste is 80% , pathological and infectious waste 15% , sharps waste 1 % , chemical or pharmaceutical waste 3 % and others 1 %.[2]

Epidemiological studies indicate that a person who experiences one needle stick injury from a needle used on an infected source patient has risk of 30%, 1.8%, and 0.3% respectively to become infected with HBV, HCV and HIV. In 2002, the results of a WHO assessment

conducted in 22 developing countries showed that the proportion of healthcare facilities that do not use proper waste disposal methods ranges from 18% to 64%.[3]

Biomedical waste consists of solid, liquid, sharps and laboratory waste that are potentially infectious or dangerous. It differs from other types of hazardous waste such as industrial waste. Common producers of bio medical waste are hospitals, health clinics, nursing homes, medical research laboratories, offices of physicians, dentists and veterinarians.[5]

As per Bio- Medical Waste (Management and Handling) Rules, 1998, and as amended "Bio-medical waste" means any waste, which is generated during the diagnosis, treatment or immunization of human beings or animals or in research activities pertaining thereto or in the production or testing of biological and including categories mentioned in Schedule I. The schedule I includes human anatomical waste, animal waste, microbiology & biotechnology waste, waste sharps, discarded medicines and cytotoxic drugs, soiled waste, solid waste, liquid waste, incineration ash and chemical waste.[5]

Among all health care personnel, Nurses providing more and health services in hospitals. It has been proved that the nurses are more victims of hepatitis B and HIV infection because not handing biomedical waste properly. For the prevention of infection, Nurses should take precautions according to the centre for disease control, prevention with occupational safety and healthy administration. Universal precaution refers to an infection control system which assumes that any direct contact with patients particularly their body fluid has the potential for transmitting the diseases.[8]

OBJECTIVES

1.   Assess the pre-test knowledge, attitude and practice score regarding biomedical waste disposal among nursing staff working in selected hospital, Vadodara.

2.   Prepare and administer standard operating procedure among nursing staff working in selected hospital, Vadodara.

3.   Find out the effectiveness of standard operating procedure regarding biomedical waste disposal among nursing staff.

4.   Find the association between the pre-test knowledge, attitude and practice score with selected socio demographic variables.

HYPOTHESES

H₁: There will be significant difference between pre test and post test knowledge score regarding biomedical waste disposal among nursing staff.

H₂: There will be significant difference between pre test and post test attitude score regarding biomedical waste disposal among nursing staff.

H₃: There will be significant difference between pre test and post test practice score regarding biomedical waste disposal among nursing staff.

H₄: There will be significant association between pretest knowledge, attitude and practice score on biomedical waste disposal with selected demographic variables.

MATERIALS AND METHOD

This quantitative, pre experimental, one group pretest – posttest study was conducted in nursing staff on biomedical waste disposal, working in selected hospital, Vadodara. A total number of 150 nursing staff were selected using a method of Probability random sampling. Both genders who were studying in nursing staff and willing to participate were included in the study. But nursing staff who can't give an adequate response were excluded from the study.

A demographic data sheet, knowledge assessment questionnaire which consisted of 35 multiple choice questions with 4 responses and a Liker scale with 10 statements and practice checklist were used to assess the knowledge, attitude and Practice of nursing staff on biomedical waste disposal, which were developed after thorough review of literature. Validity was established by seeking opinion of 8 experts from the field of nursing education, medical surgical nursing. A pilot study was conducted among 15 nursing staff to establish the feasibility of study. No modifications were made in the tool or study protocol after the pilot study. Nursing staff took 20 minutes to complete the tool. Standard operating procedure of two hours containing information through lecture, education through audiovisual material was conducted and informed verbal consent was obtained

from the nursing staff.

Collected data were analyzed by using descriptive and inferential statistics at 0.05 level of significance.

RESULT

Findings of the study revealed that majority of nursing staff 53(35.3%) of the subjects belongs to age group of 23-26 years, 137 (91.3%) were female respondents, 76 (50.7%) were having clinical experience, 45(30%) of ANM education of the nursing staff, 83(55.3%) had in-service education of nursing staff.

The pre test depicts that prior to the administration of standard operating procedure majority <50%(56.7) nursing staff had Inadequate level of knowledge.5175%(43.3), nursing staff had Moderate level of knowledge and >75%(00) nursing staff had adequate level of knowledge. The post test depicts that prior to the administration of standard operating procedure majority >75%(60.0) nursing staff had adequate level of knowledge.51-75%(39.3), nursing staff had Moderate level of knowledge and <50%(00) nursing staff had Inadequate level of knowledge.

The pre test depicts that prior to the administration of standard operating procedure majority <50%(60) nursing staff had Unfavourable level of Attitude, 5175%(40) nursing staff had Moderate level of Attitude and >75%(00) nursing staff had Favourable level of Attitude. The post test depicts that prior to

the administration of standard operating procedure majority >75%(64.7) nursing staff had favourable level of Attitude, 51-75%(35.3), nursing staff had Moderate level of Attitude and <50%(00) nursing staff had Unfavourable level of Attitude.

The pre test depicts that prior to the administration of standard operating procedure majority <50%(65.3) nursing staff had Low level of Practice, 5175%(34.7), nursing staff had Moderate level of Practice and >75%(00) nursing staff had high level of Practice. The post test depicts that prior to the administration of standard operating procedure majority >75%(52) nursing staff had high level of Practice, 51-75%(48), nursing staff had Moderate level of Practice and <50%(00) nursing staff had low level of Practice.

Table 1 shows the mean pre-test knowledge value was 16.66 with S.D 4.8 and in the post-test the mean was 27.47 with S.D 3.4 & attitude pre-test mean value was 24.50 with S.D 5.5 and in the post-test the mean was 38.12 with S.D 4.1 and practice pre-test mean value was 9.88 with S.D 2.6 and in the post-test the mean was 15.37 with S.D 2.0. The calculated Knowledge 't' value was 54.06 & attitude 't' value was 41.64 and practice 't' value was 32.70, which indicates there was high level of significance at p<0.001 level between the pre and post-test level of knowledge, Attitude and Practice showing the effectiveness of Standard operating procedure in increasing the knowledge, attitude and Practice of biomedical waste disposal among nursing staff.

Table 1: - Analysis Effectiveness of SOP regarding knowledge, attitude and practice of biomedical waste disposal.

Sr.no.	Variables	Max. Score	Mean		SD		Enhancement		Paired 't' Test
			Pre Test	Post Test	Pre Test	Post Test	Mean	SD	
1	Knowledge	35	16.66	27.47	4.8	3.4	10.81	2.5	54.06*
2	Attitude	50	24.50	38.12	5.5	4.1	13.62	4.0	41.64*
3	Practice	20	9.88	15.37	2.6	2.0	5.49	2.1	32.70*

The association of the pre test knowledge score of the nursing staff with selected demographic variable such as except age, gender, clinical experience and In-service education. Evidenced that there was statistically significant association at P < 0.05. Hence the research hypothesis H4 stated that there will be significant

association between the pre test knowledge score with selected demographic variable was accepted.

The association of the pre test attitude score of the nursing staff with selected demographic variable such as except age, gender, educational qualification and In-

service education. Evidenced that there was statistically significant association at P < 0.05. Hence the research hypothesis H4 stated that there will be significant association between the pre test attitude score with selected demographic variable was accepted.

The association of the pre test practice score of the nursing staff with selected demographic variable such as except educational qualification and In-service education. Evidenced that there was statistically significant association at P < 0.05. Hence the research hypothesis H4 stated that there will be significant association between the pre test practice score with selected demographic variable was accepted.

CONCLUSION

The overall pre-test mean knowledge, attitude and practice score of the nursing staff was 16.66, 24.50, 9.88 and post-test mean knowledge, attitude and practice score of the nursing staff was 27.47, 38.12, 15.37. The post-test mean knowledge, attitude and practice score is significantly greater than the pre-test mean knowledge, attitude and practice score. So the Standard operating procedure was effective.

The association of the pre-test knowledge score of the nursing staff with selected demographic variables such as age, gender, clinical experience, In-service education. evidenced that there was statistically significant association at p < 0.05.

The association of the pre-test attitude score of the nursing staff with selected demographic variables such as age, gender, educational qualification, In-service education. evidenced that there was statistically significant association at p < 0.05.

The association of the pre-test practice score of the nursing staff with selected demographic variables such as educational qualification, In-service education. evidenced that there was statistically significant association at p < 0.05.

Conflict of Interest: Nil

Source of Funding: Self

Ethical Clearance: Yes, ethical clearance is obtained

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Community Mental Health in India: Current Scenario

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ABSTRACT

Health services in India are with under resources & particularly mental health is suffering more. WHO estimates that nearly 75% of those affected by mental illnesses do not have access to quality mental health services due to various reasons. In India there are very few national importance institutes such as NIMHANS at Bangalore, and Central Institute of Psychiatry at Ranchi, these are mostly accessible by the semi urban and urban population villagers who require more mental health services are almost deprived. WHO's estimates, there are 0.301 psychiatrists per 100,000 population, 0.166 nurses, 0.047 psychologists, and 0.033 mental health social workers. In India government run only 43 under resourced mental hospitals which are serving a large population of 1.2 billion. Although availability of mental health services has been increased in India but there is still a wide gap between existing morbidity and services available.

Keywords: *Community, mental health, depression, Indian scenario, mental illness, psychiatric problems, health services, psychiatrist, mental health nursing.*

INTRODUCTION AND BACKGROUND

"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." W.H.O.

Health services in India are with under resources & particularly mental health is suffering more. WHO estimates that nearly 75% of those affected by mental illnesses do not have access to quality mental health services due to various reasons.[1]

Government Initiatives:

National Mental Health Programme (NMHP) has been in existence since 1982 to improve the status of mental health in India with following objectives

1. To ensure the availability and accessibility of minimum mental healthcare for all in the foreseeable future, especially to the most vulnerable and underprivileged sections of the population

2. To encourage the application of mental health knowledge in general healthcare and social development

3. To promote community participation in the mental health service development and to stimulate efforts towards self-help in the community

District Mental Health Programme has been in existence India since 1996

1. To provide mental health services to the community and also integrate these services with other services.

2. Early detection and treatment of the patients suffering from mental illness within in the community itself.

3. Providing services such as hospitals and nursing homes in cities by avoiding people to go long distance for the treatment.

4. To treat and rehabilitate the patients discharged from the mental hospital within the community itself.

5. To Increase awareness about the mental health among the people.[3]

MENTAL HEALTH CARE BILL

In October 2014, government of India launched the first National Mental Health Policy to provide quality psychiatric care to about 20% of population with mental disorders by 2020.[3]

Efforts By The Non Government Organizations

1. NGO's are identifying people with disabilities

by the following ways

2. Keeping hospital or institution based clinics

3. Keeping specialized educational and rehabilitation centers in different parts of the country

4. Conducting camps

FINDINGS

Major Contributor To Burden

1. Lack of mental health services

In India there are very few national importance institutes such as NIMHANS at Bangalore, and Central Institute of Psychiatry at Ranchi, these are mostly accessible by the semi urban and urban population villagers who require more mental health services are almost deprived. They have to travel more miles to approach nearest mental health hospitals. After this stigma regarding mental disorders prevents patients and their families to approach mental health services.

2. Lack of awareness

Population of India is less aware about mental health disorders till now in most part of the country relatives took the patient to the faith healers first then after worsening of the condition they move to mental health services as second option & they count mental disorders as a matter of shame.[4]

CURRENT SCENERIO: REALITY CHECK

The prevalence of mental disorders in different groups is: 0-3 yr old children-13.8%, 4-16 yr old children-12%, Industrial workers-14-37%. WHO's estimates, there are 0.301 psychiatrists per 100,000 population, 0.166 nurses, 0.047 psychologists, and 0.033 mental health social workers. In India government run only 43 under resourced mental hospitals which are serving a large population of 1.2 billion. [2]

RECOMMENDATIONS TO IMPROVE THE MENTAL HEALTH STATUS IN INDIA

1. Support NGO's to cover population

2. Establish more rehabilitation centers

3. Avoid discrimination on the people who suffer from mental illness specially women and mentally retarded

4. Provide mass education about mental illness

5. Upgrade the existing mental hospitals

6. Motivate the people on mental health

7. Organize campaigns on mental health

CONCLUSION

Currently there has been growth of voluntary organization and NGO taking interest to deliver mental health services to the vulnerable population. Another growth is of development of private sector in psychiatric services to reduce burden from government. Although availability of mental health services has been increased in India but there is still a wide gap between existing morbidity and services available.

CONFLICT OF INTERESTS

The authors whose names are listed immediately below certify that they have NO affiliations with or involvement in any organization or entity with any financial interest (such as honoraria; educational grants; participation in speakers' bureaus; membership, employment, consultancies, stock ownership, or other equity interest; and expert testimony or patent-licensing arrangements), or non-financial interest (such as personal or professional relationships, affiliations, knowledge or beliefs) in the subject matter or materials discussed in this manuscript.

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Awareness on Prevention of Cardiovascular Health Problems among Students of Higher Secondary Schools of Chandannath Municipality, Nepal, 2015

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ABSTRACT

Background: Cardiovascular disease is a major global health problem, with the majority of the burden occurring in the developing countries. The World Health organization currently attributes one-third of all global deaths due to Cardiovascular diseases (CVD). In the South East Asia Region (SEAR) CVD accounts for 29% of all deaths and 11% of disease burden.

Objective: The study aims at assessing the awareness on prevention of cardiovascular problems among students of higher secondary schools of Chandannath municipality, Jumla.

Methodology: A descriptive cross-sectional study design was adopted to conduct the study. A total of 200 samples from two government higher secondary schools within the Chandannath municipality were taken using stratified population proportionate sampling to calculate sample from different streams and systematic random technique for sample selection. Data were collected using predesigned, pretested and validated self-administered questionnaire developed by investigator. Data was analysed through SPSS 16 and descriptive statistics (frequency, mean, median, IQR, percentage) and inferential statistics (Chi square test and Mann Whitney "U" test).

Result: The findings of the study revealed that 51% of the respondents had adequate awareness regarding cardiovascular health problems. Around three-fifth of the respondents (63.50%) were from age group (17-19) years and majority of the respondents (68 %) were female. There was association (p=0.005) between awareness and family history of cardiovascular diseases. Similarly, there was significant association between awareness and variables like age (p=0.008), exposure to mass media (p=0.025) and exposure to curricular content related to CVD (0.008).

Conclusion: The study recommends the need for detailed curriculum-based health education regarding prevention of CVDs in schools as well as motivation of the children to incorporate healthy lifestyle practices into their daily lives.

Keywords: Knowledge, practice, attitude, cardiovascular health problems.

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INTRODUCTION

The burden of non-communicable diseases is emerging as a major public health challenge for the developing countries. The most common and problematic non-communicable disease conditions are heart diseases[3], hypertension and diabetes[4]. Globally

CVDs are the first cause of mortality[2]. CVDs include coronary heart disease, cerebrovascular disease, peripheral arterial disease, rheumatic heart disease, congenital heart disease, malformation of heart structure existing at birth, deep vein thrombosis and pulmonary embolism[5].

In Nepal, it is estimated that 5.6% of people living in the mountains, 1.5% of the people from hills and 5% of the people in the plain regions suffer from CVDs[6]. Five to 20% of adults are reported to suffer from hypertension, with a lower prevalence in rural areas.(13)The mortality from coronary artery diseases (CAD) and the prevalence of CAD risk factors is rising rapidly in developing countries[7].

MATERIALS AND METHOD

A descriptive cross-sectional design among the students of higher secondaru schools of Jumla consisting of 1200 students. Stratified population proportionate sampling to calculate sample from different streams and systematic random technique for sample selection was adopted. Research tools included the socio-demographic data, assessment of awareness, practice and attitude. Content validity was established through pre-testing in 10% of sample. Data analysis was planned in SPSS 16 version through descriptive statistics (mean, median, SD, percentage) and inferential statistics (Chi square test and Mann Whiteney 'U' test).

RESULTS

Majority of the respondents (63.50%) were between 17-19 years with median age 18 and intraquartile range (IQR) 17-18. Majority (56%) had family size of 4-6 family members. Gender of the respondents was found to be female 136(68%) and remaining 64 (32%) male. Eighty percent of the respondents were Hindu and 18% were Buddhist and rest (2%) were Christians.

Table 1. Socio-demographic profile of the respondents   n=200

SN	Characteristics	Categories	Frequency	Percentage
1	Age group	⬜17	28	14.00
		17-19	127	63.50
		19-21	40	21.00
		>21	5	2.50
2	Family members	⬜4	8	4.00
		4-6	112	56.00
		6-8	65	32.50
		>8	15	7.50
3	Educational status of the parents	Illiterate	42	21.00
		Literate	158	79.00
4	Occupation of Parents	Farmer	78	35.13
		Service	36	`16.21
		Labour	21	9.45
		Business	65	29.27
		Other	22	10.00
5	Monthly Income (Nepalese Rupees)	⬜5000	10	5.00
		5000-10000	52	26.00
		10000-15000	56	28.00
		15000-20000	35	17.50
		>20000	47	24.50

Majority of the respondents (89.00%) have been exposed to curricular content of CVD, 188 (94.00%) were exposed to various mass media with the highest number responding 115 (60.00%) from radio. Only 9.00% of the respondents were having family history of CVD. At the same time, 74(37.00%) of the respondents' family used to smoke and 88(44.00%) used to take alcohol.

Table: 2. Respondents' view of Risk factors of CVDs. n= 200

SN	Description	Frequency (%)		
		Yes	No	Don't know
1	Increasing age	46(23.00)	99(49.50)	55(27.50)
2	Smoking	166(83.00)	16(8.00)	18(9.00)
3	Alcoholism	156(78.00)	35(12.50)	19(9.50)
4	Regular exercise	17(8.50)	150(75.00)	33(16.50)
5	Obesity	126(63.00)	41(20.50)	33(16.50)
6	Diabetes	80(40.00)	77(38.50)	43(21.50)
7	Physical inactivity	87(43.50)	56(28.00)	57(28.50)
8	Regular health checkup	23(11.50)	153(76.50)	24(12.00)
9	Fatty food	134(67.00)	29(14.50)	37(18.50)
10	Junk food	91(45.50)	42(21.00)	67(33.50)
11	High blood pressure	138(69.00)	31(15.50)	31(15.50)
12	Stress	130(65.00)	33(16.50)	37(18.50)
13	Nutritious food	28(14.00)	129(64.50)	43(21.50)
14	Throat infection in children	42(21.00)	47(23.50)	111(55.50)

Regarding the health behaviours as preventive measures of CVDs, respondents expressed that regular exercise, regular BP monitoring and Cessation of alcohol (81.50%, 81.00% and 80.50%) are important. Majority (72.00%) of them were aware that CVDs can be treated by medication. At the same time, majority (76.50%) of the respondents used to do exercise daily and (77.00%) used to play games daily. Food habits of the respondents included of intake of of junk food (53.50%) and fatty food (55.50%) in more than half of them. Fish and red meet consumption was among 83.50% and 77.50% respectively. Regular fruit consumption (mainly apple locally available) was consumed by 54.50% respondents daily.

Table 3. Overall awareness of CVDs among the respondents. n=200

Characteristcs	Response			
	Adequate (≥ (65.95%)		Inadequate (∠ 65.95%)	
	Frequency	Percentage	Frequency	Percentage
Awareness on prevention of CVDs	102	51	98	**49**
Median percentage of awareness (IQR) = 65.95% (62.25 – 67.44)				

Table: 4. Association of awareness of CVDs with sociodemographic variables.

SN	Characteristics	Categories	Median Awareness (IQR)/Number		p-value
			Inadequate	Adequate	
1	Age				
2	Income				
3	Education status of head of family	Illiterate	23	19	0.401(*)
		Literate	75	83	
4	Family history	Yes	4	14	0.015(**)
		No	94	88	
5	Exposed to mass media	Yes	89	100	0.025(**)
		No	9	2	
6	Exposure to curricular content of CVDs	Yes	82	97	0.008(*)
		No	16	5	
*Pearson Chi-square test ** Fisher's Exact Chi-square test *** Mann Whitney "U" test					

DISCUSSION

Exposure to the knowledge regarding the CVDs was found in majority (94.00%) of the respondents among which radio (60.00%) was the main source. This has been supported by a study conducted in the cardiac camp of Pokhara, Nepal, where commonest source of information were radio and magazines[8]. Majority of the respondents' (76.00%) did not have family history of CVDs while only (9.00%) had positive family history which is supported by a study conducted in India[9] where the family history was found among 2.90% subjects. Family history of smoking was among 74 (37.00%) in this study which supported by a study conducted in Pakistan[1] which had 74(36.00%) family history of smoking.

More than half of the respondents consume junk food and fatty food (53.50% and 55.50%) which is supported by a by a study in Pakistan[1] where 64.00% of the subjects consumed junk foods and other high calorie foods.

Significant association between the awareness and demographic variables was found in the study. The association between awareness and CVDs (p=0.015) was supported by a cross sectional study in Pokhara, Nepal. (19) Similarly there was significant association between awareness and variables like age (p=0.008), exposure to mass media (p=0.025) and exposure to curricular content of CVds (p=0.008).

CONCLUSION

The study recommends the need for detailed curriculum-based health education regarding prevention of CVDs in schools as well as motivation of the children to incorporate healthy lifestyle practices into their daily lives.

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Prevalence of High Risk Pregnancy in the Dalit Community of Chandannath Municipality, Jumla

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ABSTRACT

Introduction: WHO estimates that some 515 000 women die annually from pregnancy-related causes during the period including pregnancy and the six weeks postpartum, nearly all in the developing world[1]. Maternal death is the predominal cause of death amongst women in the 15±44 y age group, and anaemia in pregnancy is considered one of the major risk factors (Nepal Government =WorldHealth Organization, 1992; Nepal Government, 1996)[2]. Depending on the type of population and the diagnostic criteria used, gestational diabetes is said to complicate 1-16% of all pregnancies. Knowledge on possible risk factors may help reduce the maternal death in Karnali.

Objective: To find out the factors causing high risk pregnancy.

Materials and method: A descriptive cross-sectional study was carried out among the antenatal mothers of Dalit community residing in Chandannath municipality, Jumla. A total of 100 mothers were selected for the purpose of the study through snowball technique. Open ended semi-structured antenatal questionnaire was used as an instrument of study.

Statistics: Descriptive statistics was used.

Result: Majority of them were between the age group of 15-30 (55). Fifty five of the pregnancies were unplanned and 40 were below the age of 25. More than half (52) were multipara, 72 pregnant attended the antenatal clinic , 48 women had bad obstretic history (BOH), abortion being the commonest one. Eighty women had anemia of some degree and 38 had proteinuria.

Conclusion: Unplanned pregnancy, youger age, multiparity and BOH are the major factors for high risk pregnancy. Eighty and 38 women had anemia and proteinuria respectively.

Keywords: High risk pregnancy, Dalit community.

INTRODUCTION

WHO estimates that some 515 000 women die annually from pregnancy-related causes during the period including pregnancy and the six weeks postpartum, nearly all in the developing world(1).

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Maternal death is the predominal cause of death amongst women in the 15±44 y age group, and anaemia in pregnancy is considered one of the major risk factors (Nepal Government =WorldHealth Organization, 1992; Nepal Government, 1996)[2]. Depending on the type of population and the diagnostic criteria used, gestational diabetes is said to complicate 1-16% of all pregnancies[3].

Pregnancy and childbearing during adolescence, as defined by WHO, is the period of life between 10 to 19 years of age which carries considerable risk. Girls aged 15-19 are twice as likely to die from childbirth as women

in their twenties; those under 15 are five times as likely. In view of the risks associated with early childbearing, adolescent fertility rates are alarming high in many countries; in fact 12% of all births each year – total of 15 million births annually – are adolescents. This study efforts to find out the risk factors of pregnancy among the Dalit women of Jumla where anemia rate among women between 15-49 years is 33% and maternal mortality rate is 400 per 100000 population [4].

RESULTS

Majority of them were between the age group of 15-30 (55). Fifty five of the pregnancies were unplanned and 40 were below the age of 25.

Table: 1. Distribution of antenatal mothers on the basis of gravida.   n=100

SN	Gravida	Frequency
1	Primi	26
2	Multi	52
3	Grandmulti	22

Table: 2. Bad obstretic history (BOH) of the women.   n=100

SN	BOH	Frequency
1	Abortion	25
2	Still birth	14
3	Others(IUD,Preterm labour)	9

Table: 3. Distribution of antenatal mothers on the basis of anemia.   n=100

SN	Anaemia	Frequency	
1	Normal	20	20
2	Mild	46	
3	Moderate	24	80
4	Severe	10	

Table: 4. Distribution of antenatal mothers on the basis of urine analysis

SN	Urine analysis (protein)	Frequency
1	Nil	62
2	Trace	32
3	+1	6
4	+2	-
SN	Urine analysis (glucose)	Frequency
1	Nil	92
2	Trace	8
3	+1	-

DISCUSSION

There is a parallel relationship between the MMR and percent of women with anemia [6]. Globally, 51% of pregnant women suffer from anemia. In the developing countries, out of 56% of pregnant women with anemia, 7% suffer from severe anemia [5]. which supports the result of this study.

Grand multi mothers, mothers with the history of abortion and still birth are also categorized as high risk cases. This study reveals that 25 had history of abortion and 14 had history of still birth.

CONCLUSION

Unplanned pregnancy, youger age, multiparity and BOH are the major factors for high risk pregnancy. Eighty and 38 women had anemia and proteinuria respectively.

Ethical Clearance- Taken from Executive Committee of Karnali Academy of Health Sciences, Jumla, Nepal.

Source of Funding- Self

Conflict of Interest - Nil

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A Research Critique on Lived-in Experiences of Significant Others of Patients Admitted in Emergency Department at Selected Hospitals

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ABSTRACT

Aim: This qualitative study explored the experiences of significant others of patients admitted in Emergency department.

Method and materials: The research approach used in this study was phenomenology approach. Interviews were conducted with twelve significant others of patients admitted in emergency room. The study was conducted at selected hospitals at Chennai. The data was analyzed by using the colaizzi's analysis method.

Results: The results revealed that significant others of patients admitted in emergency department has lot of physical, psychological and emotional impacts. It was huge influence on them, the process of coping up depends on various factors like demographic variables, life experiences, educational status, type of family etc. There was an association between the socio demographic variables and the lived in experiences of significant others of patients admitted in emergency department. The significant others of patient's need adequate physical and psychological support about their treatment, prognosis and outcomes of the patients. This study is important for nurses working in the emergency department as it gives them importance to understand the feelings, emotions significant others of patients and to make the family members to realize and be aware of their treatment and application of holistic patient care in day to day practice not only to the patients but also the family members or care givers.

Keywords: Significant others, Phenomenology, lived experiences, Emergency department, colaizzi'

INTRODUCTION

"PAIN AND PLEASURE LIKE LIGHT AND DARKNESS SUCCEED EACH OTHER"
- Lawrence Stone

The term experience denotes the merging of two dimensions, the physical dimensions and psychological dimensions. Experiences are impossible to separate the effects of psychological factors from those of social factors of an individual Similarly.

Physical dimensions are interwoven with the psychological dimension. Experiences of an individual include thoughts, feelings, motivation, mental status, personal strength and weakness. Social experience is a part of an individual's life is affected by someone or dependent on others[1].

The Experiences of the family members in the emergency department is a crisis situation for both the patient and family members, such as a new place, new environment, new persons, and new situation. The outcome will be positive or negative depending on their emotional status of the patient and family members[2].

Emergency department /Unit is the place where the emergency treatment is given for all types of emergency cases. The word casualty/emergency unit engages with many pictures in one's mind as a strange place, pivoting alarms sounds, huge machines, invasive and noninvasive

procedures, high alert medications which cause the fear. The level of stress varies from person to person, gender to gender and in different situations and different levels.

The most valuable intervention that can be offered to any patients and their family members by effective care in various dimensions that includes verbal expressions of empathy and positive regards, as well as psychological and spiritual support.[3]

Robert (2006)[4] reported that the family members experience in the emergency room is a crisis situation for both patient and family members. He classified the crisis into two types , the first one is biological crisis and the second one is pathological crisis. When the patient enters the casualty, patient is in biological crisis. However, family members enter the casualty in pathological crisis".

Weason J.S(2007)[5] conducted an experimental study among 28 patients on effects of a brief period of counseling on the anxiety of seriously injured patient in emergency room. The family members and relatives were also included .Data was collected by interview method by(using video tape recording method) He concluded that 17(75%) of the family members/ relatives physical, emotional and psychological needs were not met by the nurses due to mass causality and insufficient time.

Holland and Zitton (2011)[6] stated that the patients or the family members who enter into the emergency unit may bring another cycle of emotional change, such as anger, denial, guilt, depression and acceptance, as well as the impact on other aspects of psychosocial functioning.

Hone camp (1995) [7]conducted a study on lived in experience of a significance of others of patients with cardiac problems using the sample size of 32. He concluded that the family members expressed that they were highly stressed and anxious on whatever the outcome will be upon emergency admission.

While working in the hospital, the investigators noted that many of the family members were found to be stressed. They were unaware of the triage system, neither proper information about the patient's health conditions, therapeutic procedures, and cost effectiveness of the medications .Most of the time,

nurses are concerned about meeting the physical needs of the patient not worrying about the family member's psychological, emotional and spiritual needs due to technological changes and advancement in the health care domain.

Nurses , always worry about alleviating physical sufferings of the patient's alone. What is our contribution address the mental suffering of the family members? How can this be rectified? Thus the new information emerges through exploration of Subjective experiences of significance others of patients who were admitted in the emergency department .This will enable the nurses to understand and gain insight on the family members / care givers feelings or experiences .This will encourage the nurses to provide support him/her with the use of constructive coping strategies.

The investigator strongly believes that the perception of significance of others of patients undergoes must be explored. This realization strongly motivates the investigator to do this research critique on lived-in experiences of significance of others of patients admitted in the emergency department. Through eliciting the lived-in experiences, it is possible to identify the patient's family members needs in all dimensions which in turn will inspire the nursing care.

Nursing is a profession [8]focused on assisting individuals, families and communities in attaining, maintaining, and recovering optimal health and function. Modern definitions of nursing define as a science and an art that focuses on promoting quality of life to the persons and families, throughout their life experiences from birth to care at the end of life. Therefore the nurses play an important role as a supporter, collaborator, and motivator in order to help the patient to have an optimal health and function.

MATERIALS AND METHOD

Qualitative study design and phenomenological approach were adopted for this study. An in- depth interview was conducted. The significant others of patient's family members, friends, and relatives within the study period, and who fulfilled the inclusion criteria were selected with the sample size of 12. Inclusion Criteria were both male and female significant of others of the patient who were admitted during the time of study period to the emergency room. Prior to

data collection, the necessary permission was obtained from the concerned authorities. Before commencing the data collection the investigator got consent from the study participants. Twelve samples significant of others who were admitted in the emergency department were chosen for the study. The procedure was explained to each participant individually, ensuring comfort and privacy. Participants were reassured that confidentiality would be maintained and the information would be utilized for research purpose only. Informed consent was obtained, and the interviews were audio-taped. An in- depth interview was done on one-on -one basis. The total time was taken for collecting the data from each participant was 30- 45 minutes. After the completion of the interview, each participant was given an opportunity to clarify their doubts.

RESULTS

Table 1. Physical dimensions frequency and percentage distribution

Percentage %	Frequency (n=12)	Physical dimension	S.no
33%	4	Healthy	1
67%	8	Unhealthy	2

Table 2. Physiological dimensions frequency and percentage distribution

SI No.	Physiological Dimension	Frequency (n=12)	Percentage
1.	Not able to sleep properly	10	83%
2.	Unabletoeatproperly	2	17%

Table 3. Psychological dimensions frequency and percentage distribution

SI. No.	Psychological dimension	Frequency (n=12)	Percentage
1.	Sad	4	33%
2.	Angry	4	33%
3.	Emotionally unstable	2	17%
4.	Frustration	2	17%

Colaizzi's data analysis framework was used to analyze the transcripts in this study. From the analysis of the data, six dimensions and fifty subthemes emerged from the experiences of significant of others of patients admitted in the emergency department. The dimensions were physical, physiological, psychological, social spiritual and economical dimensions and various suggestions given by the family members.

DISCUSSION

Physical Dimension

In physical dimensions, the major themes identified were insomnia, tiredness, body pain, headache , tiredness and inability to perform the day to day activities

"I feel giddy, tired and I have some head ache because of prolonged waiting in the outside of emergency department".

The above findings were Consistent with the study of M.Claran J.Berglan et al (2000)[8] conducted a study on lived in experience of family members experience in emergency department . Aqualitative design was used for the study. Patient's and family members have explored their experiences. He concluded that the family members explored their feelings of pain, tired, fear and restlessness.

Physiological dimension

The identified themes were Loss of appetite and sleep disturbances.

"I can't sleep well because my mother-in-law is admitted to the emergency department. I don't know what is happening with her", I have not received any information about her health status from the staff, so I am tensed".

"I don't feel like eating because I don't know what will happen to my father, whether he'll be alright or not inside the emergency department"

Miott (1992)[9] conducted a study on adjustment difficulties of family members experiences. The adjustment problem of the spouses and children of heart disease patients were explored with their defective coping mechanism. They were unable to adjust to the situation due to the stressful environment.

Psychological dimension

The identified themes were anger, fear, emotional

instability, frustration, sadness.

"This is intolerable. It is a sad situation"

"I am frustrated as I am unable to manage the household activities burdens"

"I often get angry and irritated"

"I feel troubled of having no one to express my feelings with frustrations"

"It is so sad to see my mom inside the emergency department"

Marrs (2000)[10] conducted a study on identifying the patient's perception on recovery phase by using qualitative techniques of grounded theory. 10 men and 15 women were interviewed, verbatim transcript was analyzed for major themes. The results revealed that strengthen the need for patient's concern and support with their psychosocial needs. Nurses must also consider providing support to patients in the pre- admission and recovery phase is most essential.

White (2001)[11] conducted a study on the bio-physical impact of patient's partner's experience' in casualty. A phenomenological study was conducted on 44 participants and they were interviewed separately, Sub- themes were identified from verbatim.   He concluded that partner's expressed anger, depression, and hopelessness, whereas, sadness was observed in the patients.

Social Dimension

The identified themes were Communications problems with the nurses and family members as well as lack of support . Among 12 significant of others, 10(83%) experienced communication problems with the nurses and 2 (17%) experienced that they don't have any communication problems with the nurses.

"I know I can't ask the nurses very often about my mother's condition"

"I am highly emotional and also worried about my son's prognosis"

The above study findings coincided with the study of Elizabeth (2001)[12] who studied how the patients and the significant others felt about their social support services. The findings revealed that higher level of social support was received from their peer group than from their family members

Economical dimension

The following themes were based on income, six (50%) of significant others were low socio-economic background, four (33%) were from the middle socio-economic background and two (17%) were from the high socio-economic background.

"I don't have money; I just lend some from my friends"

"We have collected some amount of money for our daughter's wedding but we had spent the money for the treatment"

Spiritual dimension

The identified themes were belief and unbelief in God among 12 significant of others, ten (83%) significant others expressed that they believed in god, two (17%) of them said they don't have any hope about the outcome.

"Still I am having a huge amount of belief in God. Without him, it would be very difficult"

"I believe in God will give another life to my mom"

The above findings were supported by Deegan (2007)[13] conducted a study on effects of spiritual believes among hospitalized patients. The findings revealed that the spiritual needs should be met by the hospital staff to enable the patient to be satisfied in all the other dimensions

G. Satisfaction with Nursing Care:

 A Significant number of patients10 (87%) they were satisfied with the level of care given by the nurses in the emergency department .However, the family members were not much considered and fail to give the information about the prognosis

Nurses are like god they took care of me well during my illness""

CONCLUSION

Therefore the findings of this study are important for

nurses working within the emergency department. The investigator was able to find out that each significant of patients are unique. Their experience and perception varied from person to person during the process. The essential step in the health care system is to elicit the significant of others of patients' experiences to enable nurses counsel them about their condition as well as the prognosis. This will help to reduce their stress and anxiety and more over, also it will help the nurses to gain their cooperation, trust and confidence of patients and their relatives.

Nurses need to expand their time not only on the patient's needs but also care about their family members needs. Nurses need to improve their communication skills, through staff development programs. Nurses can play a vital role in various aspects such as in the area of support, and counseling. They can also act as a guide to the patients and family members and also strengthen their reliance through quality care.

Conflict of Interest: There is no conflict of interest.

Source of Funding: None

Ethical Clearence: Informed written consent was obtained from the participants who were informed about the purpose and design of the study and assured that participation was voluntary and confidential.

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Effectiveness of Back Massage versus Ambulation During First Stage of Labour among Primigravida Mothers in Terms of Pain and Anxiety

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ABSTRACT

An experimental study to evaluate the effectiveness of back massage versus ambulation during first stage of labour among primigravida mothers in terms of pain and anxiety, an experimental research approach with pretest post test control group design was undertaken on 90 primigravida mothers (30 in each experimental group1, experimental group 2 and control group). Purposive sampling technique was used to select the primigravida mothers. There was a significant difference in mean pre-test and post-test labour pain scores and anxiety scores during first stage of labour among primigravida mothers. There was a positive relationship between pain and anxiety: as pain increases anxiety also increases and vice versa .It was concluded that back massage and ambulation was effective to reduce the level of labour pain and anxiety among primigravida mother during first stage of labour.

Keywords: *Back massage, Ambulation, first stage of Labour, level of pain and anxiety, primigravida mothers.*

INTRODUCTION

Labour presents a physiological and psychological challenge for women. As labour becomes more imminent this can be a time of conflicting emotions; fear and apprehension can be coupled with excitement and happiness. Tension, anxiety and fear are factors contributing towards women's perception of pain and may also affect their labour and birth experience .[1]

The study was conducted to assess the effectiveness of jasmine oil massage on labour pain during first stage of labour among 40 primigravida women. The study design adopted was true experimental approach with pre-test - post-test control group design. The demographic Performa were collected from the women by interview and Visual Analogue Scale was used to measure the level of labour pain in both the groups. Data obtained in these areas were analyzed by descriptive and inferential statistics. A significant difference was found in the experimental group (t 9.869, p<0.05). A significant difference was found between experimental group and control group. A Study concluded that there was a significant reduction of labour pain among experimental group.[2]

An experimental study was conducted in Mangalore, the study comprised of 40 primigravida mothers and they were grouped as experimental and control through randomization, experimental group received ambulation, the other group did not. Pain was assessed through Visual Analog Pain Scale and observational checklist was used to assess the outcome of labour there was a significant difference in duration of first stage of labour between the experimental and control group but no significant difference in overall outcome of labour. The mean pain score for experimental group was (6.8) which was less than the main pain score of control group. The findings of the study revealed that ambulation was effective to reduce the intensity of labour pain among primigravida mothers. [3]

The study aimed to determine the effect of massage on pain of labour in nulliparous women admitted to

hospital. This was a single blind clinical trial, random purposive sampling method was used. massage n=32, 30 min of regular massage ,firm and steady at the back of effleurage received in each phase of labour 3-4cm , 5-7cm ,8-10cm . Pain measured before and after 30 min intervention by using visual analog pain scale. Mean pain intensity in both the groups was significantly different in three phases of labour and this study indicated that back massage reduces intensity of pain in first stage of labour.[4]

A study was carried out to evaluate the effect of massage therapy on relieving pain and its harmful sequel such as anxiety during labour. Sixty nulliparous women selected randomly who were expected to have a normal childbirth in the Jiroft city hospital. Cases were randomly assigned to experimental (n=30) and control (n=30) groups. The experimental group received massage intervention. The intensity of pain and anxiety between these two groups were compared in the latent phase (cervix dilated 3-4*cm*), active phase (cervix dilated 5-7*cm*) and transitional phase (cervix dilated 8-10*cm*) of labour. Findings suggest that massage is a cost effective nursing intervention that can decrease pain and anxiety during labour and nurse's intervention to perform massage could have positive effect on delivery experience. It is suggested that massage is useful for decreasing pain and anxiety during labour .[5]

One unique aspect of childbirth is the association of this physiologic process with pain and discomfort. However, the experience of pain during labour is not a simple reflection of the physiologic processes of parturition. Instead, labour pain is the result of a complex and subjective interaction of multiple physiologic and psychological factors on a woman's individual interpretation of labour stimuli. An understanding of labour pain in a multidimensional framework provides the basis for a woman-centered approach to labour pain management that includes a broad range of pharmacologic and non pharmacologic intervention strategies. [6]

OBJECTIVES

The study attempted

i) Assess and evaluate the level of pain and anxiety during 1st stage of labour among primigravida before and after administration of back massage.

ii) Assess and evaluate the level of pain and anxiety during 1st stage of labour among primigravida before and after ambulation

iii) Find out the relationship between level of labour pain & anxiety among primigravida after administration of back massage and ambulation

Hypothesis:-

H1: There will be a significant difference in mean pre-test and post-test pain scores of primigravida in experimental group1 dilatation during 1st stage of labour after administration of back massage as measured by visual analog scale at 0.05 level of significance at

a) 3-4 cm dilatation

b) 5-7cm dilatation

H_2: There will be a significant difference in mean pre-test and post-test anxiety scores of primigravida in experimental group1 during 1st stage of labour after administration of back massage as measured by C.D Speilberger's State Anxiety Scale at 0.05 level of significance at

a) 3-4 cm dilatation

b)   5-7 cm dilatation

MATERIAL AND METHOD

An experimental research with pretest posttest control group design and quantitative approach was selected to carry out the study. The study population comprised of all normal primigravida with selected minor disorders who will be admitted in the selected hospital of Himachal Pradesh. The sample size of the study was 90 primigravida mothers during the first stage of labour. The purposive sampling technique was used with non - random assignment in experimental group 1, experimental group 2 and control group.

Table No:1. Schematic presentation of research design

GROUP	AT 3-4 CM DILATATION			AT 5-7 CM DILATATION		
	DAY-1 PRE TEST ASSESSMENT	**DAY-1 INTERVENTION**	**DAY-1 POST TEST ASSESSMENT**	**DAY-1 PRE TEST ASSESSMENT**	**DAY-1 INTERVENTION**	**DAY-1 POST TEST ASSESSMENT**
Experimental group- 1 Back massage N=30	Level of pain and anxiety before treatment.	Back massage for 30 min at cervical dilatation of 3-4 cm	Level of pain and anxiety after treatment	Level of pain and anxiety before treatment	Back massage for 30 min at cervical dilatation 5-7 cm	Level of pain , anxiety after treatment
Experimental group- 2 Ambulation N=30	Level of pain and anxiety before treatment	Ambulation for 30 min with rest period of 15 min after 15 min walk (at cervical dilatation 3-4 cm)	Level of pain and anxiety after treatment	Level of pain and anxiety before treatment	Ambulation for 30 min with rest period of 15 min after 15 min walk (at cervical dilatation 5-7 cm	Level of pain, anxiety after treatment
Control group N=30	Level of pain and anxiety	-----------------	Level of pain and anxiety	Level of pain and anxiety	…………………	Level of pain , anxiety

Table no: 2. Summary of Data Collection Tools and Techniques Depicted.

S.NO	TOOL	PURPOSE	TECHNIQUE
1	**PART-A** Interview Schedule	To collect demographic data data.(history and personal data)	Interviewing
	PART-B Structured Record Analysis	For assessment of labour	Record analysis
2.	Visual Analog Scale	To assess the intensity of labour pain among primi gravida mothers during first stage of labour	Observation
3	CD Speilberger's State Trait Anxiety Inventory	To assess the anxiety level of primi gravida mothers during first stage of labour	Interviewing

The tool consists of three sections. In Section-1: (Part –A): Consist of Structured Interview Schedule to know demographic data (Part –B): Labour Assessment. In Section-II: Consists of observation schedule for assessing pain. The standard Visual Analog Scale was used. In Section-III: Consists of interviewing schedule for assessing the anxiety level of the primigravida mothers during first stage of labour. The standard anxiety scale was used. (Speilberger's State Trait Anxiety Inventory).

FINDINGS

The percentage wise distribution of demographic variables of all primigravida mothers with first stage of labour revealed the highest percentage (65.66%) of the sample were in the age group of 20-25years, (95.55%) of them were Hindu, (42.22%) of them had higher secondary education. Majority (80%) of primigravida mothers were house wives, (87.78%) were booked case, (91.11%) had no history of any medical illness, (30%) had no previous information about therapies used in labour and (62.22%) Of Primigravida mothers Had Nausea during Pregnancy. Majority (57.78%) of sample were in their 37-38 weeks of period of gestation and (69%) of them onset of labour was spontaneous.

The Mean post-test pain scores of experimental group 1 at 3-4 cm dilatation were (3.96) which was lower than the pre-test pain scores (6.30) and the obtained mean difference (2.33). The mean post -test pain scores of experimental group 1 at 5-7 cm dilatation was (4.86 6) which was lower than the pre-test pain scores (8.03) and the obtained mean difference (3.166). There is

significant difference in mean pre-test and post -test pain scores of experimental group 1. The mean post -test pain scores of experimental group 2 at 3-4 cm dilatation was (4.033) which was lower than the pre-test pain scores (6.166) the obtained mean difference (2.133) and the mean post -test pain scores of experimental group 2 at 5-7 cm dilatation was (5.066) which was lower than the pre-test pain scores (8.033). There is significant difference in mean pre-test and post -test pain scores of experimental group 2. This shows that the intervention ambulation was effective to reduce the pain.

Figure no: 1. Intensity of pain scores during first stage of labour among primigravida mothers at 3-4 cm dilatation in
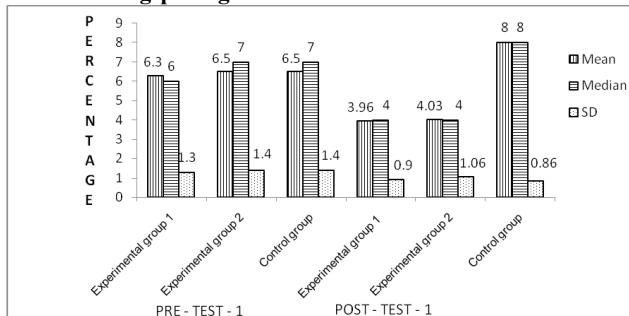
experimental and control group

The mean post -test anxiety scores of experimental group 1 at 3-4 cm dilatation was (40.93) which was lower than the pre-test anxiety scores (64.90) the obtained mean difference (23.96), and the mean post -test anxiety scores of experimental group 1 at 5-7 cm dilatation was (42.63) which was lower than the pre-test anxiety scores (65.3), the obtained mean difference (22.66), This shows that the intervention back massage was effective to reduce the anxiety

Figure no: 2. Intensity of anxiety scores during first stage of

labour among primigravida mothers at 5- 7 cm dilatation in experimental and control group.

The mean post -test anxiety scores of experimental group 2 at 3-4 cm dilatation was (43.23) which was lower than the pre-test pain scores (66.43) the obtained mean difference (23.20), and the mean post -test anxiety

scores of experimental group 2 at 5-7 cm dilatation was (42.80) which was lower than the pre-test anxiety scores (64.73) .The obtained mean difference (21.93). This shows that the intervention ambulation was effective in reducing the anxiety.

There was a positive correlation at 3-4 cm dilatation as evident from "r" value (0.613) and 5-7 cm dilatation "r" value (0.332) which were found to be statistically significant as evident from "r" value for df 28 at 0.05 level of significance. This shows that there is a significant relationship between pain scores and anxiety among primigravida mothers in experimental group1.

There was positive correlation at 3-4 cm dilatation as evident from "r" value (0.501) and 5-7cm dilatation "r" value (0.468 which were found to be statistically significant as evident from r value for df (28) at 0.05 level of significance. This shows that there is significant relationship between pain scores and anxiety among primigravida mothers in experimental group 2.

The mean post -test pain scores at 3-4 cm dilatation in experimental group1 was (3.96) which was lower than the post -test pain scores of experimental group 2 (4.03) and control group (8.06) was found to be statistically significant as evident from the 'F' value 187.461 for df (2) at 0.05 level and also the mean post -test pain scores at 5-7 cm dilatation in experimental group 1 was (4.86) which was lower than the post -test pain scores of experimental group 2 (5.06) and control group (8.53) was found to be statistically significant as evident from the 'F' value 159.695 for df (2) at 0.05 level. These are revealed that back massage is more effective than ambulation to reduce pain among primigravida mothers during first stage of labour.

The mean post -test anxiety scores at 3-4 cm dilatation in experimental group1 was (40.9) which was lower than the post -test pain scores of experimental group 2 (43.2) and control group (67) was found to be statistically significant as evident from the 'F' value 163.348 for df (2) at 0.05 level. And also the mean post -test anxiety scores at 5-7 cm dilatation in experimental group 1 was (42.63) which was lower than the post -test pain scores of experimental group 2 (42.80) and control group (70) was found to be statistically significant as evident from the 'F' value 485.441 for df (2) at 0.05 level. These are revealed that back massage is more effective than ambulation to reduce anxiety among

primigravida mothers during first stage of labour.

CONCLUSION

Both back massage and ambulation are effective to reduce the pain and anxiety among primigravida mothers during first stage of labour. But the effectiveness of back massage was found to be more. There was a significant correlation between pain and anxiety scores of the primigravida mother of experimental groups 1 and 2. Back massage and ambulation can be used as a non - pharmacological intervention and recommended as a pain relief measure during first stage of labour.

Conflict of Interest – No Conflict

Source of Funding- Self

Ethical Clearance – Obtained from Dr. RP Government Medical College, Kangra at Tanda, Himachal Pradesh.

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A Study to Assess the Level of Stress and Coping Strategies Adopted by Higher Primary School Teachers in Selected Schools at Mangalore

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ABSTRACT

Background: Teaching is one of the most significant and visible profession in the world. All other professions in the society have their bases in the profession of teaching. The experience of work stress can alter the way the person feels, thinks, and behaves, and can also produce changes in their psychological, physiological and behavioral functions. Actual sources of work related stress among teachers remain far from clearly established norms.

Objectives: To assess the level of stress and coping strategies among higher primary school teachers and to find out the relationship stress and coping.

Methodology: Descriptive survey design was used for the study. The study was conducted in 5 higher primary schools. Purposive sampling technique was used to select the school and the sample. The sample consisted of 50 primary school teachers. Data was collected by administering stress rating and coping rating scale.

Results: The findings showed that 54% of the sample had moderate stress and 90% had good coping and 10% had very good coping. Statistically there is significant negative correlation between the mean stress score and coping score at 0.05 level of significance as the obtained 'r' value (-0.349) is higher than the table value (0.279). Therefore, it can be inferred that as coping increases stress reduces. Karl Pearson correlation was used to find out the correlation.

Conclusion: The findings showed that as coping increases stress reduces. There was no significant association between baseline variables with mean stress core and coping score.

***Keywords:** Primary school teachers, coping, stress.*

INTRODUCTION

The new millennium brought with its fast changes marked revolution in knowledge, information, explosion and the associated acceleration of changes in social structure, technology, occupations and organizations making for an increasingly complex living environment, placing high demands on an individual's capacity to adapt. Thus there is difficulty for individuals to cope with the prevailing environment of fast-changing situation that causes disequilibrium in the body and mind resulting in stressful situations. It is very common for human beings to encounter stress both at the work place as well as at home. More than 70% of the diseases are said to be stress related[1].

Today mental disorders stand among the leading cause of diseased disability in the world. One in four (25%) people in the world will be affected by mental or neurological disease at some point in their lives. Being 'stressed' as a universal phenomena reflecting in each aspect of life cycle, was identified as a major cause of attrition among all categories of people. Although stress affects the biophysical and emotional well being of the

people, it varies with age, gender, mental capabilities, and environmental conditions. Stress has been defined as a process, which causes or precipitates individual to believe that they are unable to cope up with situation facing them and the feeling of anxiety, tension, frustration, and anger, which results from the recognition that they are failing in some ways and situation is getting out of control[2].

Stress affects the body in a variety of ways. For example stress can reduce enjoyment of occasion, can cause mood changes and can cause severe health problems. Over time stress is related to several chronic medical conditions such as high blood pressure, migraine headaches, and a variety of other medical conditions. Since everyone has a unique response to stress, there is no "one size fits all" solution to managing it. No single method works for everyone or in every situation. So experiment with different techniques and strategies, it is helpful to think of the four as Avoid, Alter, Adapt and Accept.[3]

OBJECTIVES

1. To assess the level of stress among higher primary school teachers as measured by a rating scale.

2. To assess the coping strategies adopted by higher primary school teachers using a rating scale.

3. To find out the relationship between stress and coping strategy of higher primary school teachers.

4. To find out the association between stress and coping with selected demographic variables (gender, age, religion, marital status, type of family, personal income, education, years of teaching experience, no. of students in the class, and location of the school).

MATERIALS AND METHOD

A descriptive survey design is adopted for this study. Purposive sampling technique was used to select the school as the sample. Sample consisted of 50 higher primary school teachers selected from 5 higher primary schools. The tool consisted of stress rating scale and coping rating scale. the tool was prepared by the investigator and content validity of the tool was established by giving it to experts. Reliability of the tool was found to be 0.77 for stress rating scale and 0.8 for coping scale. The tool was administered to the sample in their respective schools for getting permission from school authorities and informed consent from the participants.

RESULTS

Out of the 50 sample 53 (70%) had studied up to B.Ed, 16% D.Ed, 14% were postgraduates. With regard to marital status 72% were married and 28% were unmarried. More than half (52%) of the sample had work experience of more than 10 years and only 4% had less than one year experience.

Table 1: Frequency and percentage distribution of selected demographic variables of higher primary school teachers   n=50

Sl. No.	Demographic variables		Frequency	Percentage
1.	Marital status			
	a.	Married	36	72
	b.	Unmarried	14	28
	c.	Any other	0	0
2.	Education			
	d.	D. Ed.	8	16
	e.	B. Ed.	35	70
	f.	Any other (M.Sc./MA)	7	14
3. 1. 1.	Teaching experience			
	g.	Less than 1 year	2	4
	h.	1 – 5 years	14	28
	i.	6 – 10 years	8	16
	j.	Over 10 years	26	52

The maximum stress score in the scale was 90. The mean stress score of the sample was 32.9 ± 9.834. More than half (54%) of the sample had moderate stress and the score ranged between 30-59, 46% had mild stress.
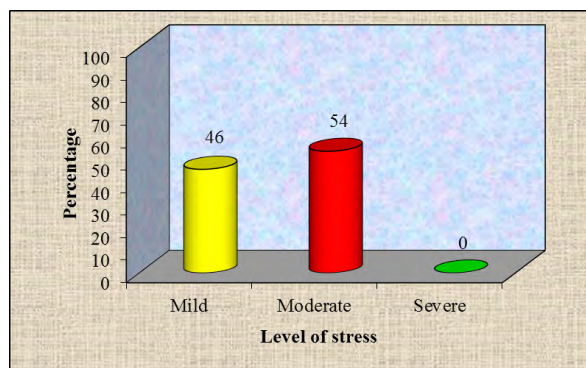
Figure 1: Distribution of sample according to their level of stress

With regard to coping the maximum score in the tool was 60. Majority of the sample (90%) had good coping and 10% had very good coping. The mean score was 32.38 ± 4.98.
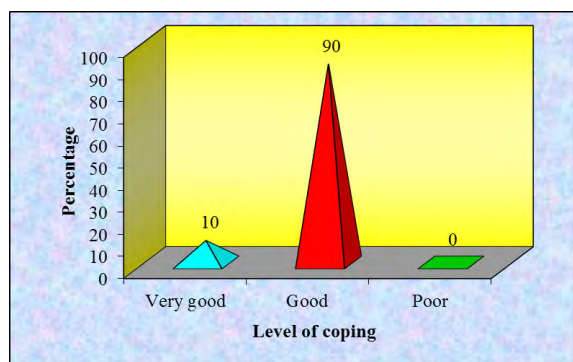
Figure 2: Distribution of sample according to their level of coping

Relationship between mean stress score and mean coping score was tested using Karl Pearson coefficient 'r' test. It was found that there is a significant negative correlation between stress score and coping score. The obtained value -0.349 was higher than the table value (0.279, p ≤ 0.05). This shows that as coping mechanism increases stress decreases.

Table 2: 'r' test showing relationship between mean stress score and mean coping score

Variable	Median	Mean	SD	r	P
Stress	31.50	32.90	9.834	-0.349	0.013
Coping	32.00	32.38	4.981		

r_{48}=0.279, P≤ 0.05

There was no significant association of demographic variables with mean stress score and coping score.

DISCUSSION

The findings of the present study revealed that 54% of the sample had moderate stress and 90% of them had good coping. A study conducted to determine the job stress among primary school teachers in southwest Nigeria showed that 73% reported headaches and other health problems. In order to cope with stress 61.9% of teachers said they watch TV programmes, 58.9% listen to music, 53.3% talk with friends, and 51.7% pray to cope with job stress. The finding was similar to current study.[4]

A study was conducted on teachers in Swaziland showed that teachers were moderately stressed by their work. There was a weak relationship between the level of work-related stress and the demographic variables of gender, marital status, and qualifications. Age had a moderate significant relationship with the level of work-related stress for the sample.[5] In the present study there was no significant association between demographic variables and mean stress and coping score.

It is evident from the findings of the present study and other studies that teaching in higher primary school is stressful as majority of them experienced moderate level of stress. Findings also revealed that some type of coping was present in higher primary school teachers.

CONCLUSION

Teaching profession causes some kind of stress to the teachers as they spent most of the time in the school and also have the responsibility of their home. The vast changing and advanced technology demands that teachers have to be update in their knowledge. The many subjects and the number of children they have to deal with make the person stressful. Teachers have to be encouraged to make use of leisure time activities and find time for relaxation. Those have good coping mechanism have less stress compared to people those who do not find time for relaxation. The present study findings showed that there is a negative relationship between mean stress score and mean coping score. Hence it can be said that as coping level increase, stress level will decrease.

Conflict of Interest – Nil

Ethical Clearance : Ethical clearance is obtained from the ethical committee of Athena college of Nursing Mangalore.

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Effectiveness of Video Assisted Teaching on CPR (Cardiopulmonary Resuscitation) for Children among Student Nurses

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ABSTRACT

Recent studies have shown that emergencies like asphyxia, shock, respiratory arrest and drowning are quite common in children. The survival rates of the children who are affected depends on how initial lifesaving procedures are delivered during the emergencies. CPR is such a measure that can save life in any emergency.

Materials and method: An evaluative approach was used to assess knowledge regarding CPR for children. Pre-experimental one group pre-test and post-test research design was used. The sample comprised of 100 student nurses. The sample were selected by purposive sampling technique. Permission was obtained from the principals and administrators in selected nursing institutions at Tumkur. The data collection process had done from four selected nursing institutions. On first day, self-administered knowledge questionnaire was given and knowledge regarding CPR for children was assessed. On the same day video assisted teaching regarding CPR for children was conducted for a period of one hour after pre-test. Eighth day, the investigator administered post-test and assessed their knowledge on CPR for children.

Result: The study showed that the student nurses have moderately adequate knowledge regarding CPR for children. The pre-test mean knowledge score was 15.26 with standard deviation of 3.41. There was a marked gain in mean knowledge score after administration of video assisted teaching was 33.69 with standard deviation of 1.96.The difference in mean knowledge score was statistically significant at 0.05 level 't' value =45.302.There was significant association between the pre-test level of knowledge on CPR for children with selected socio-demographic variables.

Conclusion: The findings of this study support the need for conducting an awareness programme on CPR for children to the student nurses. The study proved that the student nurses has improved their knowledge after administration of video assisted teaching. Such teaching programme can be carried out in the hospital and community to improve the knowledge of student nurses.

Keywords: Video assisted teaching, CPR for children, student nurses.

INTRODUCTION

CPR is a lifesaving procedure that is performed when a child's breathing or heartbeat has stopped, as in cases of drowning, suffocation, choking, or injuries. CPR is a combination of rescue breathing, which provides oxygen to a child's lungs and chest compressions, which keep the child's blood circulating.[1] Cardiopulmonary resuscitation (CPR) in children is a widely promoted practice that is actively taught to the general public as well as medical, nursing, and paramedical personnel.[2]

CPR procedure is carried out by the doctors, registered nurses, trained nurses and other health personnels to prevent from the cardiac arrest and respiratory arrest. CPR is important to perform when a child stops breathing or heart stops beating. Performing effective CPR keeps the blood oxygenated and keeps the

brain supplied with the oxygen it needs to stay alive and avoid damage.[3]

The AHA states that, in the absence of CPR, a victim's chance of survival drops 7 to 10 percent for every minute that lapses between collapse and medical intervention. Every year, there are 294,851 cardiac arrests treated outside of the hospital in the United States. About 80 percent of all cardiac arrests that occur out of the hospital happen in homes, which emphasize the importance of all capable individuals being trained to perform CPR in pediatrics.[4]

By WHO in India, perinatal asphyxia is one of the common causes of neonatal mortality. Data from National Neonatal Perinatal database suggest that perinatal asphyxia contributes to almost 20% of neonatal deaths. [5]

CPR is indicated for any person who is unresponsive with no breathing or only gasps as breathing as it is most likely that they are in cardiac arrest. If a child still has a pulse, but is not breathing (respiratory arrest), artificial respirations are more appropriate. CPR will restore breathing and blood circulation of oxygen-rich blood to the brain. Without oxygen, permanent brain damage or death can occur in less than 8 minutes. [6]

CPR for children can be performed by one rescuer and two rescuers. When one rescuer performs CPR, the ratio of compressions to ventilations is 30:2 and it is performed at a rate of 100 compressions per minute. Two-rescuer CPR should be performed with one rescuer positioned at the chest area and the other positioned beside the victim's head. The compression-ventilation ratio is 5:1, with a pause for ventilation of 1 ½ to 2 seconds consisting primarily of inspiration. [7]

Hence the investigator felt that there is need to educate the student nurses regarding CPR for children by administrating video assisted teaching to promote knowledge of CPR for children.

Video assisted teaching provides directed learning, which improves the ability of learning. It enables the participants to understand the topic in easiest way. So the investigator selected video assisted teaching programme to impart the knowledge regarding CPR (cardiopulmonary resuscitation) for children to the student nurses.

Objectives of the study:

• To assess the knowledge on CPR (Cardiopulmonary Resuscitation) for children among student nurses.

• To evaluate the effectiveness of Video assisted teaching on CPR for children among student nurses by comparing pre-test and post-test knowledge score.

• To find the association between the pre-test level of knowledge with selected socio-demographic variables.

MATERIALS AND METHOD

An evaluative approach has been used to assess knowledge regarding CPR (Cardiopulmonary Resuscitation) for children among student nurses. Pre-experimental one group pre-test and post-test research design was used. The sample comprised of 100 student nurses. The sample were selected by purposive sampling technique. Permission was obtained from the principals and administrators in selected nursing institutions at Tumkur. The data collection process had done from four selected nursing institutions i.e. total 100 student nurses who were studying in III GNM course. On first day, self-administered knowledge questionnaire was given to the student nurses on knowledge regarding CPR for children was assessed. On the same day video assisted teaching regarding CPR for children was conducted for a period of one hour after pre-test. Eighth day, the investigator administered post-test and assessed their knowledge on CPR for children.

FINDINGS

Organization of findings:

The data collected from the student nurses has been organized and presented under the following headings:

Section I: Frequency and percentage distribution of the socio-demographic variables.

Section II: Analysis of pre-test and post-test knowledge on CPR for children among student nurses.

Section III: Effectiveness of video assisted teaching on CPR for children.

Section IV: Association between the pre-test level of knowledge with selected socio-demographic variables.

Table 1: Overall knowledge score on CPR (Cardiopulmonary Resuscitation) for children: Pre-test n=100

Questions	Mean	SD	Mean % of Knowledge
Overall pre-test Knowledge	15.26	3.41	38.15

The above table 1 shows that the overall mean knowledge scores of student nurses are found to be 15.26% with standard deviation of 3.41.

Table 2: Overall knowledge score on CPR (Cardiopulmonary Resuscitation) for children: Post-test n=100

Knowledge	Mean	SD	Mean % of Knowledge
Overall post-test Knowledge	33.69	1.96	84.225

The above table shows that the overall mean knowledge scores of student nurses are found to be 33.69% with standard deviation of 1.96

Table 3: Comparison of pre-test and post-test knowledge score of student nurses on CPR (Cardiopulmonary Resuscitation) for children.   n=100

Area of Knowledge	Pre-test		Post-test		Paired t-test
	Mean	SD	Mean	SD	
Definition of CPR	1.06	0.58	2.00	0.00	16.126
Indications of CPR for children	2.50	0.67	5.23	0.47	32.534
Emergency equipment	1.81	0.94	4.37	0.68	21.034
Methods of CPR for children	3.25	0.69	6.07	0.77	25.967
Steps preceding CPR for children	2.32	0.78	4.65	0.69	21.895
Location of CPR compression sites	1.17	0.51	2.47	0.56	18.112
Important points to follow during CPR for children	1.54	0.69	3.21	0.56	18.565
Complications of CPR for children	0.50	0.75	1.8	0.45	19.384
Signs of success of CPR for children	0.30	0.07	0.96	0.15	16.78
After care of the patient	0.81	0.72	2.93	0.29	27.565

S-Significant at 0.05 level of significance, df =99

Table 4: Determination of overall mean knowledge score on pre-test and post-test knowledge score n = 1 0 0

Knowledge	Pre-test	Post-test	Mean of difference	Paired t-test
Overall mean knowledge score	15.26	33.69	4.07 (SD=4.07)	45.302*

*Significant at 0.05 level of significance, df =99

To find the significance difference between pre-test and post-test level of knowledge of student nurses, the following research hypothesis was stated:

•   H$_1$- There will be significant difference between pre-test and post-test knowledge score regarding CPR for children among student nurses.

This hypothesis was tested using paired 't' test.

From the above table 4 the overall mean knowledge score of pre-test was 15.26 and post-test was 33.69 and mean difference was 18.43 with standard deviation of 4.07. The obtained 't' value 45.302 is greater than the table value at 0.05 level of significance. Therefore "t" value is found to be significant. It shows that there will be significant difference between pre-test and post-test knowledge score of student nurses regarding CPR (Cardiopulmonary Resuscitation) for children. Therefore the research hypothesis is accepted.

Table 5: Association between pre-test level of knowledge with selected socio-demographic variable.

Variables		No. of student nurses(n)	Level of knowledge		P value	df	Chi-square test(χ^2)
			Below median	Above median			
Age	19-20 years	25	16	9	0.557	2	0. 344
	21-22 years	75	43	32			
	23 years and above	-	-	-			
Gender	Male	8	7	1	0.087	1	2.920
	Female	92	52	40			
Religion	Hindu	46	30	16	0.338	3	2.171
	Christian	50	26	24			
	Muslim	4	3	1			
	Others	-	-	-			
Place of residence	Rural	66	37	29	0.405	1	0. 693
	Urban	34	22	12			
Type of family	Nuclear	94	56	38	0.973	2	0. 001
	Joint	6	3	3			
	Extended	-	-	-			
Previous knowledge regarding CPR for children	Yes	100	-	-	-	1	-
	No	-					
Received training on CPR for children	Yes	-	-	-	-	1	-
	No	100					
Source of information	Books	94	55	39	1.000	3	0.000
	Journals	-	-	-			
	Internet	-	-	-			
	Others like T.V, radio	6	4	2			

The above table shows that χ^2 value computed between the pre-test level of knowledge of student nurses regarding CPR for children with selected socio-demographic variables. Variables of age (χ^2=0. 344), gender (χ^2=2.920), religion (χ^2=2.171), place of residence (χ^2=0.693), type of family (χ^2=0.001), previous knowledge regarding CPR for children (χ^2=0.00), received training on CPR for children (χ^2=0.00) and sources of information (χ^2=0.000) were significant at 0.05 level. Thus it can be interpreted that there is a significant association between the pre-test level of knowledge with selected socio-demographic variables such as age, gender, religion, place of residence, type of family, sources of information on CPR for children. Therefore the research hypothesis is accepted.

CONCLUSION

Majority of the student nurses 75(75%) were in the age of 21-22 years .Majority of the student nurses were 92(92%) female and 8(8%) were male. Majority of the student nurses 50(50%) were Christians, remaining 46 (46%) were Hindus and 4 (4%) were Muslims and none of them from others. Majority of the student nurses 66(66%) were residing in rural area and remaining 34(34%) were residing in urban area. Majority of the student nurses 94(94%) were from nuclear family, 6(6%) were from joint family and none of were extended family**.** The data shows that the entire student nurses 100(100%) were having previous knowledge regarding CPR for children. The data depicts that no student nurses 100(100%) were received training on CPR for children before. Among the student nurses majority of them 94(94%) were having sources of information from books, 6(6%) from others like T.V, Radio, Heath personnel and none of the student nurses were having from journals and internet.

The maximum mean knowledge score obtained in the pre-test by student nurses is found in the area of methods of CPR for children (3.25) with standard deviation of 0.69 and followed by indications of CPR for children (2.50) with standard deviation of 0.67, steps preceding CPR for children (2.32) with standard deviation of 0.78 and least mean knowledge score (0.30) is found in the area of signs of success of CPR for children with lowest standard deviation of 0.07 and the overall mean knowledge scores of student nurses are found to be 15.26% with standard deviation of 3.41.The

maximum mean knowledge score obtained in the post-test by student nurses is found in the area of methods of CPR for children (6.07) with highest standard deviation of 0.77 and followed by indications of CPR for children (5.23) with standard deviation of 0.47 and least mean knowledge score (0.96) is found in the area of signs of success of CPR for children with lowest standard deviation of 0.15 and the overall mean knowledge scores of student nurses are found to be 33.69% with standard deviation of 1.96. By comparing the pre-test mean knowledge score and post-test mean knowledge score was finding effective. So video assisted teaching on CPR for children among student nurses was effective.

The overall mean knowledge score of pre-test was15.26 and post-test was 33.69 and mean difference was 18.43 with standard deviation of 4.07. The obtained't'value 45.302 is greater than the table value at 0.05 level of significance. Therefore "t" value is found to be significant. It shows that there will be significant difference between pre-test and post-test knowledge score of student nurses regarding CPR (Cardiopulmonary Resuscitation) for children. Therefore the research hypothesis is accepted.

Association between the pre-test level of knowledge of student nurses regarding CPR for children with selected socio-demographic variables. Variables of age (χ^2=0. 344), gender (χ^2=2.920), religion (χ^2=2.171), place of residence (χ^2=0.693), type of family (χ^2=0.001), previous knowledge regarding CPR for children (χ^2=0.00), received training on CPR for children (χ^2=0.00) and sources of information (χ^2=0.000) were significant at 0.05 level. Thus it can be interpreted that there is a significant association between the pre-test level of knowledge with selected socio-demographic variables such as age, gender, religion, place of residence, type of family, sources of information on CPR for children. Therefore the research hypothesis is accepted.

influenced its outcomes.

Ethical Clearance: Informed consent was obtained from the Administrators/ Principals and Participants of the respected nursing institutions before conducting the data collection and maintained the confidentiality and anonymity of the subjects and information gathered.

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Factors Influencing Headache Severity in Patients with Chronic Tension Type Headache attending Tertiary Health Care Facility

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ABSTRACT

Background: Chronic tension type headache (CTTH) produces disability among children, adolescents and adults resulting in poor quality of life with adverse socio-economic impact among patients and their family. Awareness on headache severity and various associated factors is essential for appropriate management.

Objective: To assess the severity of headache and its various influencing factors among patients of CTTH.

Method: A cross sectional study was conducted in a tertiary care center North India to assess the severity of headache and its associated factors in patients of CTTH. Using consecutive sampling techniques, 169 patients who were diagnosed with CTTH, treated with analgesics or/and betablockers were recruited after taking informed written consent. Wong Backer Foundation Pain intensity scale was used to assess the severity of pain.

Results: A pain severity score of six out of ten was reported by 56% of the patients followed by score of eight by 37% of the patients and the mean pain score reported by the patients was 6.62 ± 1.16. Significantly more patients of CTTH who are married (p=0.037), had duration of illness less than two years (p<0.001) and who were treated with only analgesics (p<0.001) reported higher severity of headache.

Conclusion: Patients with CTTH experience moderate to high severity of headache. Higher pain score was reported by patients who are married, had shorter duration of illness and were treated with only analgesics. To aid in appropriate pharmacological and non-pharmacological management, it is important for nurses to monitor the severity of headache in patients with CTTH and identify patients who are at risk for severe headache.

Keywords: *Chronic tension type headache, Pain characteristics, Pain severity, Medication overuse headache*

INTRODUCTION

Chronic tension type headache (CTTH) is one of the common cause of hospital visits among adolescents and adults. CTTH   produces disability among children, adolescents and adults resulting in poor quality of life with adverse socio-economic impact among patients and their family[1]. Awareness on headache severity and various associated factors will aid in appropriate management[2-4].

CTTH is affecting 0.5 to 4.8% of the worldwide population and is an umbrella term used for a group of headache disorders[1,5,6]. According to International Headache Society, CTTH is defined as the occurrence of

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bilateral tension type headache (TTH) at a frequency of ≥15 days per month with pressing or tightening quality, mild to moderate intensity, lasting hours to days or unremitting and not worsening with routine physical activity but may be associated with mild nausea, photophobia or phonophobia[7].

Though it is believed that CTTH is due to the muscle tension in head, neck or face, the exact cause of CTTH is not known and is found to be associated with some stimulating or precipitating factors like poor vision, stress, hunger etc[8,9]. CTTH is reported to affect the activities of daily living, increase stress, reduce quality of sleep and increase medication overuse of the patient and may affect the quality of life of caregivers[10,11]. Self-medication is common in patients with CTTH due to easy availability of over the counter drugs[12,13]. Medication overuse may chronify the headache leading to medication overuse headache (MOH) with a cycle of intensified analgesic use, its side effects and long-term disability[14,15].

The perception of severity of headache by the patient must be assessed in patients with CTTH to identify patients at high risk for disability and poor quality of life[16]. Various factors such as demographic and clinical factors may influence the severity of headache[17-19]. Hence present study was conducted with the objective of monitoring the severity of pain and it's influencing factors among patients of CTTH.

MATERIALS AND METHOD

A cross sectional study was conducted in a tertiary care center North India to assess the severity of headache and its associated factors in patients of CTTH. Using consecutive sampling techniques, 169 patients who were diagnosed with CTTH, treated with analgesics or/and betablockers were recruited in the study. Informed written consent was taken from the patients. Wong Backer Foundation Pain Intensity Scale (Figure 1) was used to assess the severity of pain[20]. The pain scale described as face 0 (doesn't hurt at all), face 2 (hurts just a little bit), face 4 (hurts a little bit more), face 6 (hurts even more), face 8 (hurts a whole lot) and face 10 (hurts as much as you can imagine). Patients were asked to report the maximum pain experienced on Wong Backer Foundation Pain Intensity Scale during or prior to one week of assessment.

Figure 1: Wong Backer Foundation Pain Intensity Scale

Appropriate descriptive and inferential statistical measures were used for analysis. Chi square test was used to assess the association between severity of pain and categorical variables of the patients.

RESULTS

Table 1: Distribution of patients with CTTH based on demographical and clinical variables

n=169

Demographic and clinical variables of patients		Mean+SD or f (%)
Age		45.18+10.93
Gender	Females	96(57)
	Males	73(43)
Marital status	Unmarried	15(9)
	Married	143(85)
	Divorced	5(3)
	Widowed	6(4)
Type of family	Nuclear	99(59)
	Joint	70(41)
Education	Illiterate/ Primary	1(0.6)
	Secondary	21(12.4)
	Higher-secondary	55(32.5)
	Graduation &above	69(40.8)
Occupation	Student/unemployed	75(44.4)
	Unskilled laborer	17(10)
	Salaried/Self employed	64(38)
	Retired/Pensioner	13(7.7)
Monthly income (Rs./ month)	10000-15000	30(17.8)
	>15000	139(82.2)
Habitat	Rural	18(10.7)
	Semi-urban	22(13)
	Urban	129(76.5)
Illness duration	6 months-1 year	7(4.1)
	>1yr-2yrs	70(41.4)
	>2yrs-3yrs	60(35.5)
	>3yrs	32(18.9)
Medications	Analgesics	60(35.5)
	Analgesics and betablockers	109(64.5)

Sociodemographic and clinical profile of patients with CTTH enrolled in present study is given in table 1. Mean age of the patients was 45.18+10.93 years ranging from 18 years to 72 years. Out of 169 CTTH patients studied, 96(57%) were females, 75(44.4%) were salaried or self-employed and 82.2% had monthly family income more than 15,000/-. Approximately half of the patients i.e. 69(40.8%) were graduate and above graduates and 55(32.5%) of them were having education up to higher secondary. Most of the patients were married (85%) and urban inhabitants (76.5%). Duration of CTTH since diagnosis was between one years to two years in 70(41.4%) of the patients. Most of the patients (64.5%) were treated with both analgesics and beta blockers and rest of them (35.5%) were only on analgesics.

n=169
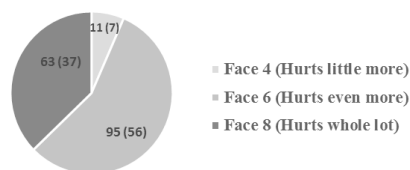
Figure 2: Severity of headache in patients with CTTH

Headache severity of patients with CTTH during and one week prior to assessment is shown in figure 2. The mean pain score reported by the patients was 6.62+1.16. with a range of four to eight. A pain severity score of six out of ten was reported by 56% of the patients followed by a score of eight by 37% of the patients and a score of four by only 7% of the patients.

Table 2: Association of selected factors with headache severity   **N=169**

Variables of patients with CTTH		Pain severity			☐2 (p value)
		4	6	8	
Age	18-40 years	3(5)	41(68)	16(27)	7.73(0.1)
	41-60 years	8(8)	46(48)	43(44)	
	60 years	0(0)	8(67)	4(33)	
Gender	Females	7(7)	60(63)	29(30)	4.75(0.09)
	Males	4(5.5)	35(48)	34(46.5)	
Marital status	Unmarried	0(0)	13(87)	2(13)	10.22(0.037*)
	Married	9(6)	75(52.5)	59(41.5)	
	Divorced/ widowed	2(18)	7(64)	2(18)	
Type of family	Nuclear	8(8)	58(59)	33(33)	2.14(0.34)
	Joint	3(4)	37(53)	30(43)	
Education	Illiterate& primary	2(9)	11(50)	9(41)	2.94(0.57)
	Upto Higher secondary	5(6.5)	40(51)	33(42.5)	
	Graduation and above	4(6)	44(64)	21(30)	
Occupation	Student/unemployed	5(7)	37(49)	33(44)	4.15(0.66)
	Unskilled laborer	1(6)	9(53)	7(41)	
	Salaried/Self employed	4(6)	42(66)	18(28)	
	Retired/Pensioner	1(8)	7(54)	5(8)	
Monthly Income (Rs)	10000-15000	4(13)	13(43.5)	13(43.5)	4.04(0.13)
	>15000	7(5)	82(59)	50(36)	
Illness duration	6 months-2 year	3(4)	12(16)	62(80)	113.97(<0.001*)
	>2yrs	8(9)	83(90)	1(1)	
Medications	Analgesics	1(2)	6(10)	53(88)	103.74(<0.001*)
	Analgesic and Betablockers	10(9)	89(82)	10(9)	

Association of socio-demographic variables and clinical variables of patients with headache severity is shown in table 2. Headache severity on Wong Backer Foundation Pain Intensity Scale reported by patients with CTTH ranged from four to six. Significantly more patients with CTTH who are divorced or widowed i.e. 18% had reported lower headache severity of four as compared to 6% of the unmarried or none of the married patients. Significantly more married patients i.e. 41.5% reported higher headache severity of eight as compared to13% patients who are unmarried and 18% divorced or widowed (p=0.017).

Higher headache severity of eight was reported by significantly more patients with duration of illness less than two years i.e. 80% as compared to only 1% patient with illness duration more than two years (p<0.001). Most of the patients (90%) with illness duration more than two years had reported headache severity of six. When higher headache severity of eight was reported by 88% of the patients on analgesics, only 9% of patients on both analgesics and beta blockers had reported the same (p<0.001). Most of the patients (82%) who are on both analgesics and beta blockers had reported headache severity of six.

Other variables of the patients such as age, gender, type of family, education, family income and occupation did not show any significant influence on pain severity.

DISCUSSION

Present study aimed to assess the severity of headache and associated factors among patients with CTTH. Similar to previous reports[1,21], mean age of the patients in present study was 45.18+10.93, majority of them were females, married and employed. Though exact causes and mechanism of CTTH is unclear, stress is considered to be one of the primary triggering factor in these patients. Stress could be high among females who are married and employed as they need to balance professional responsibilities along with family responsibilities[1,5,6,21].

Headache severity in patients with CTTH in literature is reported as moderate to severe[22,23]. In present study, the patients with CTTH reported moderate severity of 6.62+1.16 out of ten. But a headache severity score of eight was reported by 37% of the patients is of important concern to the nurses and other health professionals as the severity of the headache affects the working hours and work efficiency of the patients with neurological and neurosurgical diseases[1,5,21-24].

Several factors influencing severity of headache were analyzed in present study. Similar to previous studies[1,5,21], females were found to have more prevalence of CTTH in present study. Previous literatures show that headache characteristics including frequency, duration and severity are similar in both male and female patients[17,18]. Similarly, there was no association elicited between gender and severity of headache in our study.

Significantly higher headache severity was reported by patients who were married as compared to patients who were unmarried and divorced. CTTH is however considered to be a stress related disorder[13,25-27] and stress related to meeting role expectation from the family members, stressful interpersonal relationship[28], conflicts between family members, poor coping and lack of time for self-care could explain the reason for higher severity of headache among patients with CTTH who are married. The association between marital status and CTTH may be probably related to the occurrence of stressful life events or significant life changes[14,21,28].

As reported in literature[29,30], significantly higher headache severity was reported by patients who had duration of illness less than two years. Significantly higher headache severity was also reported by patients who were only on analgesics as compared to patients who were on both analgesics and beta blockers. On diagnosis of CTTH, pharmacological management is initiated with analgesics. Efficiency of analgesics such as acetaminophen or NSAIDS in controlling headache in patients with CTTH is uncertain[12,31]. Inefficiency of these drugs in managing the symptoms leads to medication overuse during this period, stress as well as disability and may adversely influence the headache severity in patients with CTTH. It is reported that frequent self-medication other than the prescribed analgesics is a common practice among patients of CTTH. This may lead to initiation of betablockers or tricyclic antidepressants to reduce the pain and improve well-being of the patients. Hence, most of the patients would be prescribed with any of these drugs for better pain control along with analgesics as the illness progresses and become more chronic. Pharmacological management also should be modified as per the severity

of the pain reported by the patients to avoid medication overuse and their side effects[29,30,32].

CTTH has its repercussions on the individual, their family, work, social relations and activities of daily living. It also may impair interpersonal relationship within family, workplace and society. CTTH is not only affecting the family and social system, but also have an important consequence in the public health system. High average appointments made in various health facilities due to CTTH substantially increases the medical prescription[1,5,17,21].

The findings of the study show the importance of pain monitoring in patients of CTTH which can be done by nurses using simple and inexpensive techniques. As CTTH is related to stress, patients can be taught about coping strategies to cope with stressors, relaxation techniques, problem solving and conflict management techniques to improve their interpersonal relationship[23,33].

CONCLUSION

The tension type headache is one of the prevalent disabling condition which is proven to have repercussions on patients' quality of life and their family roles as well as social roles. Patients with CTTH experience moderate to high severity of headache and was reported more by patients who are married, had shorter duration of illness and were treated with only analgesics. To aid in appropriate pharmacological and non-pharmacological management, it is important for nurses to monitor the severity of headache in patients with CTTH and identify patients who are at risk for severe headache.

Conflict of Interest: There was no conflict of interest.

Ethical Clearance: Taken from AIIMS (ND) Ethics Committee

Source of Funding: Self

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A Descriptive Study to Identify the Breastfeeding Problems among Postnatal Mothers in Justice K.S. Hegde Hospital, Mangalore

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ABSTRACT

There are many complications associated with breastfeeding, which include engorgement, breast tenderness, sore or painful nipples, plugged ducts and infection of the breast (mastitis). A descriptive study conducted to identify the breastfeeding problems among 100 postnatal mothers at Mangalore. The purposive sampling technique was used to select the participants and the study revealed that the majority of them were hindus between 18-25 years, 72% of them were homemakers, 61% primi mothers, 67% had a normal delivery and 87% had information about breastfeeding through the parents. There is no significant association between the breastfeeding problems and demographic variables. There is no significant association between the breastfeeding problems and demographic variables.

Keywords*: Breastfeeding problems, Postnatal mother.*

INTRODUCTION

Breastfeeding has been recognized as the best possible sole source of nutrition in Infants by the American Academy of Pediatrics. It has many benefits to both infant and mother[1].

Breastfeeding problems are common among the primi mothers and can be very challenging for the mother and infant. The anxiety accompanies primi mothers breastfeeding in addition to underestimating the intensity of newborn care can contribute to breastfeeding difficulties[2]. There are many complications associated with breastfeeding, which include engorement, breast tenderness, sore or painful nipples, plugged ducts, and infection of the breast (mastitis)[3].

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Limited information and experience about the breastfeeding among postnatal mothers is the most universal problem[7]. So investigator interested to initiate the childbirth education to especially primi mothers to prevent the breastfeeding complications.

METHODOLOGY

Research approach: Quantitative research approach.

Research design: Descriptive research design was adopted to this study.

Setting: The study was conducted in Justice K.S.Hegde Hospital,Deralakatte.

Population: The population selected for the study comprises women after delivery admitted in the postnatal ward

Sample/Sampling techniques: The convenient sampling technique was adopted to select 100 postnatal mothers.

1. Instrument/method of data collection: a) demographic proforma to analyze the baseline variables.

b) Structured Checklist of breastfeeding problems among postnatal women consists 28 items.

DATA COLLECTION METHOD

To conduct the research study, the investigator obtained formal written consent from the authorities of the hospital, prior to the data collection and obtained ethical clearance. The investigator assured confidentiality to the participants to get the cooperation and explained the purpose of the study to the participants.

RESULTS

Table No.1: Distribution of the samples according to demographic characteristics

Demographic variables		Frequency	Percentage
Age	18-25	51	51
	26-35	39	39
	36 and above	10	10
Religion	Hindu	65	65
	Muslim	33	33
	Christian	2	2
Income(in rupes)	<10,000/-	81	81
	10,000-20,000	19	19
Education:	Primary	29	29
	Highschool	40	40
	PUC	31	31
Occupation:	Cooli	28	28
	Home maker	72	72
Parity	Primi	61	61
	Multiparity	36	36
	More than five	3	3
Mode of delivery	Normal delivary	67	67
	Caesarean section	33	33
Sex of the baby	Male	54	54
	Female	46	46
Condition of the mother after delivery	Good	99	99
	Bad	1	1
Condition of the baby after the birth	Good	99	99
	Bad	1	1
Birth weight of the baby	<2 kg	22	22
	2-3 kg	43	43
	3-4 kg	26	26
	>4kg	9	9
Source of information about breastfeeding	Friends	1	1
	Parents	87	87
	Midwives	12	12
Newborn admitted in NICU	Yes	30	30
	No	70	70
Newborn fed with other than breastfeeding	Yes	29	29
	No	71	71
Initiation of Breastfeeding	Within half an hour	65	65
	Within one hour	14	14
	After one hour	21	21

The Frequency, percentage distribution of the score on breastfeeding problems among postnatal mothers.

100% of the mothers had no problems of bleeding nipples, 98% of the mothers had no problems of fissures in the areola or nipple, 82% of the mothers have no problem of Milk squirts out when baby starts to feed, 80% of the mothers had no problem of getting upset at feedings, 74% of the mothers had no feeling pain when milk comes in, 97% of the Babies didn't wants to nurse on one breast, 99% of the mothers had no symptoms of flu, 96% of the mothers had no red bumps on breast, 86% of the mothers had good experience of breast feeding. 88% of the mothers have not felt tensed and overwhelmed, 86% of the mothers had no difficulty in combining work and breastfeeding, 80% of the mothers not felt very tired, 88% of the mothers comfortable in positioning the baby, 77% of the mothers have not felt embarrassed when nursing, 58% of the babies were active during breast feeding, 88% of the mothers had no leaking breasts, 89% of the babies had no difficulty in latching on, 83% of the mothers had no breast engorgement, 99% of the mothers had no breast infection, 97% of the babies were not reluctant to nurse due to fussiness, 72% of the babies were not breast fed frequently, 82% of the Mothers have not believed that she had inadequate milk, 97% of the mothers family had encouragement, 99% of the mothers had no twins, 98% of the mothers had no breast mass, 95% of the mothers had no nipple size problems, 88% of the mothers had no big breast and 94% of the mothers had no nipple retraction.

Table No: 2: The association between the breastfeeding problems with selected demographic variables using chi-square test or Fishers exact test.

Demographic variables		< median	>median	Chi-square value	'p' value
Age in years :	18-25	**29**	22		.358
	26-35	18	21	2.165	
	36 and above	7	3		
Religion:	Hindu	38	27		
	Muslim	16	17	2.90	.207
	Christian	0	2		
Monthly income(in rupees):					
	<10,000/-	42	39	.792	.448
	10,000-20,000/-	12	7		
Education:	Primary	14	15		
	Highschool	22	18	.605	.743
	PUC	18	13		
Occupation:	Cooli	19	9	3.01	
	Home maker	35	37		.118

There is no significant association between the breastfeeding problems and demographic variables. There is no significant association between the breastfeeding problems and demographic variables.

Comparison between primi and multipara indicates that there was no much of differences between primi and multipara with regards to breast feeding problems.

Table No: 3: Comparison of breastfeeding problems among primi and multipara postnatal mothers chi-square test or Fishers exact test will be used.

	Frequency	Mean	Standard deviation	't' value	P value
Para - 1	61	24.44	3.13	1.128	.262 'p' value >0.05 there is no difference in parity
para - 2	39	25.10	2.65		
Total	100				

Comparison between premium and multiplier indicates that there was no much of difference between primary and multipara with regards to breast feeding problems.

DISCUSSION

The study was conducted on 100 postnatal mothers to elicit the breastfeeding problems during first week of hospital stay.

The study findings were as follows: Majority (51%) of the women were between the age group of 20-25 years. Highest percentage (65%) of the respondents were Hindus, 81% of the women had the family income between Rs.5,000 and Rs.10,000, 40% of the postnatal mothers had high school education, 72% of the mothers were home makers, 61% of them were primipara mothers, 67% of the mothers had normal vaginal delivery, with respect to gender, 54% were male babies. 43% of the newborn's birth weight was between 2.5 to 3.0 kg, 87% of the mother's parents were the source of information regarding the breast feeding, and 43% of the mothers have initiated the breast feeding within half an hour.

In the findings of the study shows that 100% of the mothers had no problems of bleeding nipples, 98% of the mothers had no problems of fissures in the areola or nipple, 82% of the mothers have no problem of Milk squirts out when baby starts to feed, 80% of the mothers had no problem of getting upset at feedings, 74% of the mothers had no feeling pain when milk comes in, 97% of the mothers were feeding their babies from both the breasts. 96% of the mothers had no red bumps on breast, 86% of the mothers had good experience of breast feeding. 88% of the mothers have not felt tensed and overwhelmed, 86% of the mothers had no difficulty in combining work and breastfeeding, 80% of the mothers were not tired, 88% of the mothers were comfortable in positioning the baby, 77% of the mothers have not felt embarrassed when nursing, 58% of the babies were active during breast feeding, 88% of the mothers had no leaking breasts, 89% of the babies had no difficulty in latching on, 83% of the mothers had no breast engorgement, 99% of the mothers had no breast infection, 72% of the babies were breast fed on demand, 82% of the Mothers have believed that she had adequate milk, 97% of the mothers had good family support. 98% of the mothers had no breast mass, 95%

of the mothers had no nipple size problems, 88% of the mothers had no big breast and 94% of the mothers had no retracted nipples.

The findings were consistent with the observational study conducted at the Government Medical College Hospital, Chandigarh to identify problems of breastfeeding from birth till discharge on 840 mothers and the results were 30.4% mothers had problems related to breastfeeding during the first week of postnatal period and 80% of these were in the first 48 hours of delivery. The problems were more in younger and primiparous mothers. Initiation of feed within the first one hour of birth was only seen in 26.1%. None of the mothers who delivered by caesarean section fed the baby in the first one hour, rather 39% mothers fed their babies for the first time after 4 hours of delivery. Problems that were encountered during hospital stay were nipple anomaly in 26.1% mothers; engorged breast, sore or cracked nipples in 25% mothers; perception of 'not enough milk' in 37.5% mothers; and multiple problems were faced by 11.3% mothers. Perception of 'not enough milk' was the most common problem faced by both primi and multiparous mothers. Engorged breast, sore nipple was more in first time mothers.

CONCLUSION

This study looked at the breastfeeding problems among the mothers and newborn during the hospital stay. In this study all postnatal mothers who were admitted during the data collection period were included in the study and majority of mothers had no breast feeding problems. This may be due to a good family support system in India where most of the mothers are taken care of by their family members especially parents and grandparents. However the study was limited to one particular setting and further research can be done to generalize the findings. Awareness programs on postnatal care with emphasis on breastfeeding issues will encourage all mothers to detect at the earliest any breastfeeding problems and to seek advice. Childbirth education programs will also enhance exclusive breastfeeding for six months as per WHO recommendations.

Ethical Clearance – Obtained from Institutional Ethics Committee, Nitte Usha Institute of Nursing Sciences, Nitte University on 16th January 2016.

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Effectiveness of Individually Packed Sterile Guaze versus Drum Packed Gauze on the Incidence of Surgical Site Infection (SSI) in Surgical Ward AIIMS, New Delhi

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ABSTRACT

Nosocomial infections are a major cause of morbidity and mortality. They are also one of the leading causes of death. The major cause of nosocomial infections is due to poor quality of health service delivery by the health care providers.

Hospital-acquired infections increased the burden of disability and emotional stress of the patient and may reduce the quality of life. The economic costs are considerable because it leads to financial lost as it increased length of stay for infected patients. Most of the hospital-acquired infections are avoidable and preventable through proper care

Objectives : To determine the Effectiveness of Individually Packed Sterile Guaze versus Drum Packed Gauze on the incidence of Surgical Site

Method: During the study period only the individually packed sterile guaze was used for surgical wound dressings. The incidence of SSI was measured as per the report of Health Care Associated Infection (HCAI) Rate, Main hospital AIIMS

Findings : The incidence of SSI has been reduced after using the single or individually packs guaze for caring of the surgical wound.

Conclusion: The results show that there was steady decline in the surgical site infection (SSI) after the administration of Individually Packed Sterile Guaze.

Keywords: Surgical Site Infection (SSI), Packed Sterile Guaze, Drum Packed Gauze

BACKGROUND

Infection has always been a feature of human life and sepsis in modern surgery continues to be significant problems for healthcare practitioners across the globe.SSI are a real risk associated with any surgical procedure and represent a significant burden in terms of patient morbidity and mortality, and cost to health services around the world.[1]

Imperfectly sterilized dressings are a likely cause of unexplained wound infections and epidemic and sporadic puerperal sepsis.[2]

Surgical wards (D7) of AIIMS are supplied with cotton and guaze packed in the drum and the sterile guaze is picked up with cheatle forceps. The sterility of the cheatle forcep is not guaranteed and sometimes the lid of the drum in which the sterile guaze are kept, are left open and even touched by the patients or their relatives with a bared hand which makes them unsterilized. The same unsterilized guazed are used for dressings of the wound which increased the chance of SSI. The advantage of single-use packaging materials is prevention of migration of microorganisms. Single-use packaging systems offer maximum safety, sterility and efficiency, therefore every medical device which needs to be sterilised has to be packed.[3]

The used of the cheatle forcep and drum has been obsolete in many hospitals in India and is replaced by

individually packed sterile guaze. If this individually packed sterile guaze and cotton is used, it could be new steps towards reduction of SSI as well as HAI in our reputed hospital. Over a period of 4 years, the technical sub-committee of The laboratories, Belfast City Hospital, Belfast, discarded all drums, cheatle forceps resulting in contribution to the prevention of infection[4]

Therefore this study was carried out to find out whether individually packed guaze for dressing of wounds will reduce the incidence of SSIs

MATERIAL & METHOD

Preparation and implementation of Individually Packed Sterile Guaze : Self sticking brown envelop

of three different size made by 100 Gsm, craft paper 22cmx27 cm ,13 cm x 22cm, 8x10 cm with a quantity of 18000 each was indented for the purpose of packing Gamzi, cotton pad and guaze piece respectively. The indented items were issued on 31/07/15. Packing of gamzi, cotton pad and guaze piece with the brown envelop was started at D7 from august 2015 and continued till October 2015.

Traditionally drum packed guaze were used for Surgical wound dressing which was replaced by individually packed guaze. All the staffs were instructed to use only the individually packed sterile guaze for surgical wound dressings during the study period. The incidence of SSI was measured as per the report of Health Care Associated Infection (HCAI) Rate, Main hospital AIIMS.

FINDINGS

Table 1: Incidence of SSI before and after Intervention

Sl. no	Month/ year	Total no of major surgeries (Unit I)	SSI		Total no of pathogens isolated
			No	%	
Before Intervention (Use of Drum Packed Gauze)	June 2015	79	5	6	Acb(1), PSA(4), MRSA(1)
	July 2015	80	6	7.5	Acb(1), E.coli (4), MRSA(1),MSSA(1),PSA(1), kleb pneumonaie (1)
After Intervention (Use of Individually Packed Sterile Guaze)	August 2015	97	6	6	Staphylococcus (1),enterococcus faecalis (1), SCN(1), E.coli (2)
	September 2015	71	6	8.4	Acb(2),enterobacter(1), E.coli (2),MSSA(1)staph cog-ve (2)
	OCTOBER 2015	78	3	3.8	MSSA(2), PSA(1),KLEB OXYTOCA (1), Acb(1)

Table 1 show that there was steady decline in the incidence of surgical site infection (SSI) after the administration of Individually Packed Sterile Guaze.

DISCUSSION

One important risk factors for Surgical Site Infections (SSI) is asepsis [5], therefore Aseptic technique is essential for all nurses, regardless of their branch or field of practice.

Aseptic technique is considered most appropriate in acute care hospital settings, for patients at high risk for infection, and for certain procedures such as sharp instrumental wound debridement.[6-8]

Principles of aseptic technique is increasingly recognized as being integral to all branches of nursing and essential for safe and competent practice[9].

This study agreed to the importance of using aseptic technique in care of surgical wounds. The present practice of using cotton and guaze packed in the drum is against the principle of aseptic technique which states that Sterile object becomes unsterile when touched by unsterile objects, Sterile items that are out of vision are considered unsterile and any package that appears

already open is considered unsterile. The cotton and guaze from the drum is picked up by cheatle forcep whose sterility is not guaranteed and sometimes the lid of the drum in which the sterile guaze are kept ,are left open and even touched by the patients or their relatives with a bared hand which makes them unsterilized. The same unsterilized guazed are used for dressings of the wound which increased the chance of SSI. The principle of aseptic technique also clearly states that when there is doubt, throw it out, there should be no compromise on sterility.[10]

If individually packed sterile guaze and cotton is used, it could be new steps towards reduction of SSI because it is a single use and once the pack is open the health care providers know that sterility is compromise and discard it. It also enables health care provider to check for the expiry date as the expiry dates can be written on the outer package.

The present study concludes that there is a reduction in the incidence of SSI after the used of sterile dressing in the form of individually packed sterile guaze and cotton and supports that Aseptic technique and dressings have been recommended for post-operative management of wounds for 24-48 hours. [11]

CONCLUSION

Based on the present study and our clinical experience, the incidence of Surgical Site Infections **(SSI)** has been reduced after using the single or individually packs guaze for caring of the surgical wound.

Recommendations

a. Nosocomial infections- implications for packaging

Sterile barrier systems materials are a vital part of the medical device for the hospital and industry. Budgeting on packaging materials is the wrong thing to do. After all, we are talking about the safety of the patient .[3]

Conflict of Interest – none

Source of Funding- self

Ethical Clearance – This study was approved by the ethics committee of AIIMS in New Delhi.

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Effect of Nutritional Intervention among Children with Protein Energy Malnutrition

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ABSTRACT

Protein Energy Malnutrition [PEM] is one of the prime nutritional and health problem in India. The PEM leads to poor growth and high levels of morality among children under two years, which is a major cause of 30% of death among under five children.

Method:- The research was carried out in two phases ; in first phase cross sectional design and an evaluative research approach with quasi experimental one group pretest posttest design was used. In second phase of the study the sample of 520 children attending in selected anganwadies were selected by multistage sampling technique. The tools used for the data collection were demographic proforma, observation record, dietary practice assessment questionnaire, questionnaire to find out the factors contributing to PEM and problem assessment checklist.

Result:- Findings of the study revealed that the mean weight at the time of pretest for Children was 9. 962± 1.288 and was increased to 10.159 ± 1.318 during the posttest 1. The mean weight at post test 2 was 10.57 ± 1.298. it revealed a difference in mean weight before and after the intervention (p<0.001). There was association found between PEM & selected demographic variables like age (χ^2 = 10.087, p<0.05), education of mother (χ^2 = 17.476, p<0.05) and occupation of father (χ^2 = 12.592, p<0.05)

Conclusion:- The nutritional intervention was effective in gaining the weight among the children. Nurse educators and administrators should take the responsibilities for conducting the structured teaching program on prevention and management of PEM among community and anganwadies.

Keywords:- *Nutritional intervention program, protein energy malnutrition , children*

INTRODUCTION

Children are priceless resources and if the nation neglect there health it could become nation of unhealthy citizens. Nutrition of under-five children are of paramount important because it can lead to long lasting effect on the mental and physical health of children. India faces the burden of deceases in which nutritional deficiencies are most common.[1]

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Nutrition forms the most predominant influence on the development of the growing child. Human survival has always dependent upon food and hence nutrition has determined his place of living and his way of living. Malnutrition accounts for more than fifty percent of all infant mortality in developing countries especially in the below five years age group.[2]

Protein Energy Malnutrition (PEM) has been identified as a major health and nutritional problem in India. It occurs particularly in weaklings and children in early years of their life. It is not only an important cause of childhood morbidity and mortality but leads to permanent impairment of physical and possibly of mental growth of those who survive.[3] The current concept of PEM is that its two forms ; kwashiorkor

and marasmus. PEM found to account for about four million deaths in children. It is still the first killer disease (54%) followed by acute respiratory infection (20%) and diarrhea (18%) in the global perspective.[4]

Achieving and maintaining child health is a challenge for parents, care givers, pediatricians, nutritionists and public health specialists and for all those who care for the being of the future generations. A healthy child is not only a child with no clinically apparent illness, but a child with adequate physical development both in terms of achieved size, acquired motor skills and adequate in neurological and emotional development.[5]

The prevalence of PEM varies across the states and Kerala rates low (27%). This is to be viewed with serious concerned and necessary steps are to be taken to analyze the situation and arrive at feasible solutions. Understanding the nutritional status of children far reaching implication for the better development of future generations.[6]

Malnutrition is a curable problem. It is not always due to shortage of foods, too often there is starvation in midst of plenty. The family place an important role in shaping the food habits and these habits are passed from one generation from another. The present study aimed to determine the effect of nutritional interventional program on children with Protein Energy Malnutrition

OBJECTIVES

1. Identify the current dietary practices of children

2. Identify the severity of PEM among children

3. Determine the effectiveness of nutritional intervention programme to the children with PEM

4. Determine the association of severity of PEM with selected demographic variables.

MATERIALS & METHOD

The research was carried out in two phases. In first phase survey approach and research design was cross sectional design. An evaluative approach with quasi experimental one group pretest post test design was used in second phase of the study. The samples of 520 children attending in selected anganwadis were selected by multistage sampling technique. The independent variable in this study was the nutritional intervention programme to mothers of children attended in selected anganwadis of Kottayam District.

The dependent variable was the nutritional status of children as measured by checking the body weight. Data was collected in the respective anganwadis where the children attended. The following tools viz: demographic proforma, dietary practice assessment questionnaire and observation record were used to collect data from children. Demographic proforma and dietary practice assessment questionnaire were administered to all the mothers and the data on demographic variables of subjects, dietary and factors contributing to PEM were assessed. Observation record was used by the investigator to assess the weight of the child as per age. Then the nutritional intervention programme was administered to mothers. After the intervention post test was conducted after 3 months and 6 months to measure the weight of children.

RESULTS

Table 1(a): Current dietary practices of children

N=520

Variables (n=520)	Frequency	Percentage
Breast milk as first feed	414	79.6
Use of artificial feeds	54	49.5
Type of artificial feeds used		
Naan	34	48.6
Lactogen	86	51.4
Exclusive breast feeding	377	72.5
Frequency of feeding		
Hourly	2	0.4
Every 3 hour	45	8.7
Demand feedings	167	32.1
3 times a day	306	58.8
Manage feeding diarrhoea		
Stop weaning foods	126	24.2
Continue breast feeding	284	54.6
Consult doctor	110	21.2
Initial weaning food		
Cereals	301	57.9
Fruit juices	81	15.6
Commercially available foods	25	4.8

Most of the children (79.67) were fed with breast milk as their first diet and 49.5% used artificial feeds. On an average 51.4% children were fed with lactogen as their first food. Majority (72.5%) of children were given exclusive breast feeding upto six months. 54.6% of mothers continued breast feeding even at the time of weaning diarrhea. 57.9% of children were introduced with cereals as their initial weaning food

Table 1(b): Current dietary practices of children

N=520

Variables (n=520)	Fre-quency	Percen-tage
Family pattern diet started at		
<1 year	146	28.1
1-2 year	297	57.1
2-3 year	77	14.8
Meal timings of the family		
3 times /day	193	37.1
3 times /day with snacks	250	48.1
4 times /day with snacks	77	14.8
Food items in the diet of the child		
Cereals/ millets/pulses	126	24.2
Milk/fruits/ green leafy vegetables	97	18.7

Cont... **Table 1(b): Current dietary practices of children N=520**

Nuts/oilseeds/eggs/meat	24	04.6
All the above	273	52.5
Cleaning of feeding vessels		
Wash with soap and water	204	39.2
Wash with warm water	177	34.0
Wash with boiled water	51	9.8
Boil the container for ten minutes	88	16.9
Washing vegetables before cutting	437	84
Periodically deworm the child	343	66
Walks barefooted outside	237	45.6
Store water in closed vessels	463	89

Above data presented majority of children (57.1%) started family pattern diet at 1-2 years of age. 48.8% were currently feeding at least three times in a day with snacks in between. 39.2% of mothers clean the vessels used for feeding with soap and water. On an average 52.5% of children include all food groups in their diet. Majority (84%) were used to wash vegetables before cutting. 66% of children were periodically dewormed. On an average 54.4% children used to walk barefooted outside. Most of the families (89%) stored water in closed vessels

Table 2: Severity of PEM before and after the intervention

Severity (n=520)	Pretest		Posttest 1		Posttest 2	
	f	%	F	%	f	%
Normal	275	52.88	285	54.81	379	72.88
Grade I	146	28.08	164	31.54	139	26.73
Grade II	97	18.65	70	13.46	2	0.38
Grade III	2	00.38	1	0.19	-	-

Before intervention 245 children had PEM. Of these 146 belonged to grade I and 97 belonged to grade II. After the intervention (after 3 months) the prevalence of PEM was 45.19 (235). Of these 164 were in grade I and 70 were in grade II. After 6 months the PEM reported among 27.12% of the children

Table 3(a): Multiple comparisons by using Boneferronic adjustment

Observation (n=245)	Mean difference	Standard error	P value	95% CI for the difference difference
Pretest & posttest 1	0.197	0.02	< 0.001	0.149 to 0.245
Posttest 1 & Posttest 2	0.607	0.03	< 0.001	0.535 to 0.680
Pretest & posttest 2	0.417	0.021	< 0.001	0.3591 to0.461

From the above table it is clear that mean difference in pretest and posttest 1 was 0.197 ± 0.02 and increased to 0.607 ± 0.03 in posttest 1 and in posttest 2 ,0.41 ± 0.021. The p values are less than 0.05 and hence there is a difference in weight before and after interventions

Table 4(a): Association between severity of PEM with respect to Age, Gender and Education of parents

Variable (n=520)	Normal (n=275)	Grade 1 (n=146)	Grade II &III (n=99)	χ^2	p value
Age in years					
2-3	72	44	42		
3-4	140	74	43	10.087	0.039*
4-5	63	28	14		
Gender					
Male	150	83	59	0.425	0.809
Female	125	63	40		
Education of father Education of father					
Illiterate	35	25	14		
Primary	91	44	29	3.107	0.795
Secondary	119	57	42		
Diploma/ Degree	30	20	14		
Education of mother					
Illiterate	20	11	5		
Primary	108	31	33	17.476	0.008*
Secondary	121	78	46		
Diploma /Degree	26	26	15		

*significant

The above table it is clear that the obtained chi square value for age ($\chi^2=10.087$, p< 0.05) and education of mother ($\chi^2=17.476$, P<0.05) were higher than the table value ($\chi_{(4)}^2 =9.488$, $\chi_{(6)}^2 =12.592$) at 5% level of significance. Thus the null hypothesis H_{o3} with respect to age and education of mother was rejected indicating significant association between these variables.

Table 4(b): Association between severity of PEM with respect to Occupation of parents and Monthly income

Variables (n=520)	Normal (n=245)	Grade I (n=146)	Grade II & III (n=99)	χ^2	p value
Occupation of father					
Physical worker	162	87	64		
Govt.Job	18	21	12	13.04	0.043*
Private job	62	23	14		
Self employed	31	11	07		
Occupation of mother					
Physical worker	17	12	08		
Govt.job	43	23	13	3.281	0.915
Private job	96	46	39		
Self employed	36	16	10		
Unemployed	83	49	29		
Monthly income					
10000 -19999	39	13	12	4.491	0.611
5000-9999	29	22	12		
2500- 4999	35	22	13		
1000- 2499	167	82	60		

The data presented above indicated that for occupation of father the obtained chi square value (χ^2=13.04) was higher than the table value ($\chi_{(6)}^2$=12.592) at 5% level of significance. Therefore null hypothesis H_{03} was rejected in terms of occupation of father

DISCUSSION

The present study revealed that most of the children (58.8%) currently feeding at least 3 times a day. Majority of children (56.5%) reported poor dietary practice. Regarding the consumption pattern of nutrients 66.3% of children had inadequate nutrient consumption. A similar study was conducted on food consumption pattern of mothers and children were obtained using the food consumption score (FCS) based on dietary diversity, food frequency and the relative nutritional importance of nine different food groups. These data reflected that 20% of children had acceptable food consumption pattern, 34% children had poor food consumption and 46% had borderline food consumption pattern.[7]

It was observed that in pretest the grades of malnutrition were 28.087%, 18.65% and 0.38% belonged to grade I, grade II and grade III malnutrition respectively. In first post test 31.54% had grade I PEM. 13.46% had grade II PEM and 0.19% had grade III PEM. In second post test. With regard to PEM, 26.73%, 0.38% respectively had grade I and grade II PEM. A similar study was conducted by Mukhopadhyay reported that 20% of children had moderate PEM and 15.9% had severe PEM where as 64.1 children were normal.[8]

In the present study there was a difference in mean weight for each comparison in pretest and posttest I, posttest 1 and post test 2 and pretest and post test 2. A similar study was conducted by Maheswari revealed that overall observations showed there was high in weight gain for all the age group after 4th observations in experimental group.[9]

It was observed from the study that there was association between severity of PEM and variables like age , education of motherland occupation of father. The finding supported the study conducted by Bhalani and Kotecha in vadodhara city among children of less than

five years reported that prevalence of malnutrition was much higher in the lower age groups of 12-35 months.[10]

CONCLUSION

As evidenced by this study, the nutritional status of children can be expected to improve once education on proper nutrition is combined with other health programmes and delivered through the ICDS programme or the primary care system. Mother's literacy had a much higher impact than father's literacy on better nutritional status of children. Occupation of father also had a beneficial effect in protecting children from malnutrition. Age groups have an impact on the prevalence of protein energy malnutrition. A Multi-pronged approach like maternal and child health care, nutrition education and growth monitoring etc. will be beneficial to combat the problem of malnutrition.

Conflict of Interest:- None

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Ethical Clearance:- Ethical approval taken from NITTE University, Mangalore

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Preparedness and Practice of Forensic Nursing in Kenya

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ABSTRACT

Forensic nursing has not been adopted in Kenya despite the fact that nurses work in settings requiring this knowledge. The Nursing Council syllabus calls for lectures in forensic nursing but lectures have neither been developed nor are there educators prepared to teach the unit. This study evaluated the preparedness and practice of forensic nursing in Kenya. It adopted a descriptive cross-sectional study design. Self-administered questionnaires, a focused group discussion and a key informant interview were utilized to collect data among 116 randomly sampled nurses from three hospitals and ten nurse educators. Quantitative data was analyzed using the SPSS version 20.0 and results presented using mean, standard deviation, and frequency distribution. *P* values of 0.05 or less were considered significant. Qualitative data was analyzed using thematic analysis. The results indicated majority of the nurses had no training on forensic nursing science whatsoever even though they handle forensic patients on a daily basis. The nurses perceived training needs for forensic nursing practice included: advanced health assessment, evidence collection and documentation, forensic psychiatry, gender violence, legal implications of forensic nursing, theory and practice in forensic nursing. From these findings it can be concluded that Kenyan nurses lack skills needed to care for forensic patients and they would like to be trained in forensic nursing.

Keywords: *Kenya; forensic nursing; forensic nursing practice; forensic nursing roles*

INTRODUCTION AND BACKGROUND

Forensic nursing is an essential specialty of nursing because it extends the traditional nursing practice with medical-legal aspects of potential or actual client problems. The International Association of Forensic Nurses defines forensic nursing as the application of nursing science to public or legal proceedings[1]. Forensic nurses investigate real and potential causes of morbidity and mortality in a variety of settings; provide care to victims, the accused and perpetrators of crime[2]. Their responsibilities include conducting forensic assessment, and photo documentation, knowing how to properly recover and preserve evidence from suspects and/or victims, testifying in court as a fact or expert witness, and serving as a bridge between healthcare and legal systems[1]. Therefore forensic nurses serve as a bridge between the criminal justice system and the healthcare system.

In 1997 the Joint Commission on the Accreditation of Healthcare Organization, published guidelines that requires all staff members be educated to identify victims of abuse, violence and neglect, and be able to collect and safeguard physical evidence associated with unknown or potential criminal acts.

Consequences of the violence are seen by healthcare professionals as they render care to the injured in emergency departments (ED), operating theatres, and gynecological wards daily. As nurses are usually the first healthcare professionals to see patients, speak with their family members, handle personal property and collect laboratory specimens[3]. Such actions can be extremely

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important to the different categories of forensic patients who are treated in the various healthcare settings worldwide.

All nursing roles in the subspecialties of forensic nursing are investigative in nature and require specific knowledge of aspects of the law and expert witness skills. Forensic nurses are involved in investigating the underlying causes of injury or death in many settings. Historically, schools of nursing had been less than responsive to the health needs of inmate populations in the education of nurses[4]. This is an issue that urgently needs to be addressed in countries where there is no formal forensic education because it presents many unique challenges that complicate the work of a forensic nurse who lacks this specialized knowledge.

Primary care providers are frustrated by what they perceive as an "extra" social responsibility, and that they could quickly become overwhelmed in caring for "non-medical" issues[5]. Additionally, health care providers have expressed concern regarding their inadequate preparation, uncertainty on how to proceed if maltreatment is disclosed, and frustration with the inability to ensure positive outcomes for victims[6]. Thus, the forensic nurse should not be a part of the trauma team, but rather performs a separate task in the photo-documentation, recovery, preservation, and security of evidence related to the forensic patient in coordinated efforts with those who are providing medical interventions[2].

There is no documented history of the true beginnings of forensic nursing in Kenya in published literature. Today, forensic nursing across Kenya primarily focuses on working with patients who require mental health services, or are in some way connected to the criminal justice system. Kenya needs to consider the broader aspect of forensic nursing because research has indicated that forensic nursing education can be beneficial for improving forensic patient care[7]. Forensic nursing education is a vital link in the development of clinical acumen required for responding to the forensic circumstances encountered in their daily practice[2]. Historically, the existence of a significant gap between the health and justice systems has been created by the absence of forensic knowledge in traditional nursing education in Kenya. Consequently, the failure to recognize forensic situations such as the Post-Election

Violence in 2007/2008 often results in the loss and destruction of evidence and the lack of successful prosecution of the perpetrators. This consequence produces a negative outcome: Justice denied for victims.

Nurses in Kenya should be aware of the constant changes occurring in society because these changes ultimately determine what nursing services must be provided and how they should be provided. These changes have vast implications on how Kenyan nurses are educated in preparation for their roles as nurse specialists and practitioners.

MATERIALS METHOD

The study adopted a descriptive cross-sectional research design. The study was carried out in three purposively selected referral hospitals in Kenya, which accommodate the vast majority of forensic patients.

Mathari Teaching and Referral Hospital

This is a 700 bed capacity facility located in Nairobi Kenya. Of the 700 beds 350 are occupied by civil patients and the remaining 350 are occupied by patients under legal custody. Currently, it is the largest psychiatric hospital and the main psychiatric referral and teaching hospital in Kenya. The Maximum Security Unit of this hospital caters for patients under legal custody.

Kenyatta National Hospital

This is an 1800 bed capacity facility with six thousand members of staff of whom 1600 are nurses. The hospital is the major training facility for health care personnel in various disciplines both at undergraduate and post-graduate levels. It is the largest referral hospital in East and Central Africa.

Nairobi Women's Hospital

This is a 222 bed capacity facility focused in women's and children's healthcare. A non-profit organization, the Gender Violence Recovery Centre (GVRC), is based in the hospital. The Centre provides treatment to survivors of rape and domestic violence

The population of this study consisted of one hundred and sixteen nurses working in the hospitals named above, ten nursing lecturers from selected public and private universities at the time of study and a key

informant from the Nursing Council of Kenya.

Multistage sampling technique was utilized and this entailed use of different sampling strategies. In the first stage the selected hospitals were purposively sampled because they are referral hospitals in Kenya, which accommodate the largest numbers of forensic patients and they also handle more problematic and challenging forensic cases. In the next stage, the sample was stratified by hospital while the size of strata was determined by sampling proportionate to size of the hospital. Eventually simple random sampling technique was utilized to select the participants to be included. A self-administered semi-structured questionnaire was used to collect both quantitative and qualitative data from 116 respondent nurses. A focus group guide was developed based on the study objectives to determine lecturers' awareness, preparedness in teaching forensic nursing and forensic nursing aspects to be included in the curriculum formulated by the researcher. A key informant interview was conducted with the registrar of the Nursing Council of Kenya.

Quantitative data was coded and entered into the Statistical Package for Social Sciences (SPSS) version 20.0. Qualitative data was analyzed using thematic analysis where themes were identified based on the responses of the respondents.

FINDINGS

This study evaluated the preparedness and practice of forensic nursing in Kenya. The distribution of respondents per hospital was as follows: Kenyatta National Hospital 64.5%(76), Mathari Hospital 25.9%(30) and Nairobi Women's Hospital 8.6%(10). These three hospitals are referral hospitals, which cater to the majority of forensic patients in Kenya. Majority of the respondents reported that they were unaware of forensic nursing specialty even though they handled forensic patients on a daily basis. This is in agreement with the findings of Sugg & Inui who revealed that many healthcare providers feel they lack sufficient knowledge to adequately assist victims of crime[5]. This could be attributed to the fact that forensic nursing was not included in nursing curricula until 2011. Therefore the nurses might not have introduced to the specialty while in training and yet they were posted in clinical settings where this knowledge is required.

The findings also revealed that the lecturers involved in the focused group discussion had little awareness about forensic nursing. For instance a respondent from a public university said that "…*as much as I have had heard about forensic nursing through the media I feel that I am incompetent in teaching forensic nursing…*". Her sentiments were echoed by another lecturer from private university who informed the group that "*…anything to do with forensics should be handled by the law enforcement officers…*". This assertion culminated into a protracted discussion where other group members agreed with another member stating that "*forensic nursing is better practiced in developed countries due to the proper systems in place*". These findings contravene the guidelines on scope and standards of forensic nursing practice[8] which requires that nurses offering forensic nursing education should acquire skills and knowledge appropriate to specialty area, practice setting, role, or situation.

Overall with regards to training in forensic nursing, a significant majority of the practicing nurses had not received any training on forensic nursing science. Additionally, the lecturers unanimously reported that they were inadequately prepared to cover the required 22 contact hours on forensic nursing as stipulated in the Nursing Council of Kenya syllabus. The concerns raised by the nurses and lecturers about preparedness to practice in forensic settings were corroborated by the key informant who affirmed that the reported lack of preparedness is what prompted the NCK to issue a directive requiring forensic nursing content to be included in all BScN curricula in the country.

The aforementioned responses by the study subjects are in agreement with Reid and Glasser[6] who articulated that health care providers have expressed concern regarding their inadequate preparation, and frustration with the inability to ensure positive outcomes for victims of violent crimes. This highlights the existence of a significant gap that has been created by the absence of forensic knowledge in traditional nursing education in Kenya. With increased cases of violence being reported in Kenya today, the lack of knowledge in forensic nursing could impact the way forensic patients are handled negatively.

The practicing nurses reported that they were inadequately prepared in various aspects of forensic

nursing namely: evidence collection, documentation and caring for victims of different types of violence in general. A general observation from the respondents was that this should be dealt with by the law enforcement officers. The lecturers shared similar sentiments as their practicing nurse counterparts. In the focused group discussion one lecturer asked "*…How do I teach something that I have never been taught before?…*". This triggered further discussion within the group and another lecturer opined "*…Maybe we should be trained first before being asked to teach… *". This sentiment gained a nod of approval from the other lecturers who were present in the discussion reaffirming inadequate preparedness. This observation contravenes the requirement by the Commission for University Education (CUE) standards and guidelines. The requirements stipulate that lecturers teaching undergraduate programmes should be holders of Master's degree, and lecturers for graduate and post graduate programmes should have doctoral degrees[9]. In light of the set standards it is clear that the lecturers tasked with the responsibility of teaching forensic nursing at undergraduate level should have acquired Masters level training in Forensic Nursing.

The practicing nurses expressed concern that the curriculum was lacking important components that they felt would be important in preparing them to care for forensic patients. A significant majority of the respondents indicated that the nursing curriculum used in training them is not effective in developing forensic skills. Owing to the reported unpreparedness by the respondents it was evident that most nurses had difficulties identifying a forensic patient and were uncomfortable in dealing with victims of violence. This is in agreement with Cabelus[10] who explains that a number of critical issues related to education, training, and professional development go unresolved in forensic nursing. This is an indication that nurses in Kenya are posted to work in settings that require knowledge in forensic nursing even though they have not been trained on the same.

A significant majority of the practicing nurses, the lecturers and key informant indicated that forensic training is an important aspect in nursing in Kenya. With regards to aspects of forensic nursing that the respondents wish to be trained on, there were varied areas of interest and some of the responses were as follows: "*…I do not have any training on evidence collection and documentation…*" This concern was supported by another respondent who asserted "*…I have never collected any forensic evidence despite working with victims of crime…*". Another added "*…I find documenting assessment findings of victims of violence challenging....*". Concerning the handling of victims of violence one respondent offered "*…Patients whose diagnosis have legal implications should be handled by the law enforcement officers…*" Another area of concern was on forensic psychiatry where a respondent asserted "*…I am extremely terrified of mentally ill offenders…*" and further added "*…I wish I could be trained on how to care for the mentally ill offenders…*".

The aforementioned sentiments offered by respondents highlight the areas that nurses required training on as follows: advanced health assessment, evidence collection and documentation, forensic psychiatry, gender violence, legal implications on forensic nursing and theory and practice in forensic nursing. The key informant further indicated that most nurses reported that they were lacking capacity in evidence collection and documentation, nursing theory and practice and chain of custody of evidence collected. This is in agreement with Lynch[11], who asserted that nurses in Kenya require a solid forensic education as a vital link in the development of clinical acumen required for responding to the forensic circumstances encountered in their daily practice.

CONCLUSIONS

Based on the findings of this study the researcher draws the following conclusions,

1. Nurses practicing in Forensic settings in Kenya are not adequately trained to practice in forensic settings based on their current training.

2. The nurses' perceived training needs included: advanced health assessment, evidence collection and documentation, forensic psychiatry, gender violence, forensic pathology, legal implications on forensic nursing, theory and practice in forensic nursing.

3. Majority of the nurses had a positive attitude towards forensic nursing in that they reported that forensic nursing is an integral component in the practice of nursing care in Kenya.

Conflict of Interest: None

Source of Funding: Self

Ethical Clearance: Approval to conduct the study was sought from the University Of Nairobi School Of Nursing Sciences. Clearance to carry out this study was sought from Kenyatta National Hospital/ University of Nairobi Ethics and Research Committee (KNH/UON-ERC). Permission to access and enroll the study participants was obtained from the Medical Superintendent/CEOs of the three hospitals. Consent was obtained prior to enrollment by reading the contents and then signing on the form to approve. Confidentiality was ensured by excluding identification details on the study tools.

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Effect of Selected Muscle Stretching Exercises on Primary Dysmenorrhoea among Student Nurses

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ABSTRACT

Background: Primary dysmenorrhoea is a painful menstrual flow in the absence of any pelvic pathology. The scientific evidence display that exercises are helpful to reduce the menstrual pain. Stretching exercise are being done to improve the elasticity of muscle and achieve comfortable muscle tone and also increase the thresh hold of pain.[1] **Objective:** To assess the effectiveness of selected muscle stretching exercises on primary dysmenorrhoea. **Material and method**: A Quantitative approach with experimental with multiple time series design was used to assess the effectiveness of selected muscle stretching exercises on primary dysmenorrhoea. Sixty seven student nurses with primary dysmenorrhoea were selected from Himalayan College of Nursing by using non probability purposive sampling technique and subjects were randomly assigned into Experimental group (n=33) and Control group (n=34). Muscle stretching exercises taught to the experimental group and practiced for 8 weeks (6 days/week, for 10 minutes daily) at hostel. Menstrual pain intensity was assessed by using Numerical pain rating scale. The post-test was conducted after 8 weeks of intervention. **Result:** After 8 weeks of muscles stretching exercises, the intensity of dysmenorrhoea was reduced from 5.48±1.41 to 4.33±1.31 in the experimental group (p<0.05). In the control group, no significant reduction of pain was observed at the level of < 0.05. **Conclusion**: The study concludes that stretching exercises are effective in reducing pain intensity among student nurses with primary dysmenorrhoea. The present result suggested that selected muscle stretching exercises can be used as a non pharmacological method for pain relief in dysmenorrhoea.

Keywords: Primary Dysmenorrhoea, Menstrual health, Muscles stretching exercises.

INTRODUCTION

Dysmenorrhoea or painful menstruation is a common gynaecological problem that affects adolescents and women of reproductive age in their daily activities. It is the common cause of absenteeism in school and colleges among adolescent girls.[1] Dysmenorrhoea is categorized into two types: primary dysmenorrhoea and secondary dysmenorrhoea. Primary dysmenorrhoea occurs when there is no pelvic pathology and Secondary dysmenorrhoea is menstrual pain associated with an identifiable gynaecological diseases.[2]

The incidence has shown that the prevalence of dysmenorrhoea worldwide is with rates ranging from 15.8 to 89.5% with higher prevalence rates reports in adolescent population. The findings of the study by A K Agarwal and Anju Agarwal in 2010 showed a high prevalence of dysmenorrhoea, that is, 71.96% among adolescent girls of Gwalior.[3] In recent times, George and Bhaduri[4] concluded that dysmenorrhoea (87.87%) is a common problem in India. In Uttrakhand the prevalence of dysmenorrhoea was 65% as reported by Juyal R, Kandpal. S (2010)[5]. Dysmenorrhoea has been estimated to be the greatest cause of time lost from work and school in the United States.[4] One of the easy method that can be used in the prevention of dysmenorrhoea

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is exercise. Stretching is a form of physical exercise in which a specific muscle or tendon is flexed or stretched to improve the muscle's felt elasticity and to achieve comfortable muscle tone. Stretching is also used therapeutically to alleviate cramps. As the health care is moving toward complementary and alternative therapy in managing of many problems, the researcher is interested in studying the effectiveness of muscle stretching exercise on primary dysmenorrhoea, which is an alternative therapy to reduce menstrual pain and decrease the absenteeism of the adolescent girls.

The aim and objectives of the study was to assess the effectiveness of muscle stretching exercises on primary dysmenorrhoea among student nurses.

MATERIALS AND METHOD

Quantitative approach with experimental with multiple time series design was used to assess the effectiveness of selected muscle stretching exercises on primary dysmenorrhoea. Data was collected at Himalayan College of Nursing, Jolly Grant, Dehradun, Uttrakhand from December 2014- January 2015. 70 female student nurses were selected by using non probability sampling technique and randomly assigned into two experimental (35) and control group (35). Student with regular menstrual cycle with primary dysmenorrhoea were included. Student nurses with history of any systematic diseases, traumatic injury, any other gynaecological diseases were excluded. Numerical pain rating scale was used to measure the severity of dysmenorrhoea. Before data collection participants were explained about the procedure and purpose of the study & written informed consent was obtained. Pre-interventional data was collected by using self reporting questionnaire related to socio-demographic characteristics and menstrual characteristics. Dysmenorrhoea score was assessed by using numerical pain rating scale at the onset of menstrual bleeding, after six hours and after12 hours of

menstrual bleeding. Experimental group was performed muscle stretching exercises for 8 weeks (6 days /week, daily for 10 minutes). Stretching exercises included exercises in the abdomen, pelvic and groin region. The subjects were requested to perform the exercise at hostel regularly. Furthermore they were instructed to avoid performing stretching exercises during the periods. Participant's performance was controlled from time to time by the researcher in hostel and maintaining a diary for daily attendance for exercise performance. Control group was requested not to take part in any exercise programme up to the end of the study. The muscle stretching exercises were:

1. Forward bending from the hip joint, duration for 5 seconds and repetition was 10 times.

2. Heel raise (bilateral) alternatively and repeats for 20 times.

3. Half squatting position for 5 seconds; then raised body and repeats 10 times.

4. Bend and touch left ankle with right hand and right ankle with left hand. Repetition 10 times for each side.

5. Knee to chest bending and reached to chin, repetition was 10 times.

6. Abdominal contraction for 10 seconds and repeated 10 times.

In the middle of the study, two participants from experimental and one participants from control group were drop out due to personal problem. Final analysis was done for 67 sample (Experimental group = 33, Control group = 34). After 8 weeks of intervention data was collected. Descriptive and inferential statistics were used to describe the results of the study.

RESULTS

Table No 1: Frequency and percentage distribution of selected personal variable of student nurses (n=67)

S.N	Personal variable	Experimental Group (N=33)		Control Group (N=34)		"t" value	'p' value
		F	%	F	%		
1.	**Age (in year)**					0.83	0.18
	18- 20	23	69.7	21	61.8		
	21- 23	10	30.3	13	38.2		
2.	**Height(in cm)**					0 .59	0.88
	144- 152	11	33.3	9	26.5		
	153- 161	20	60.6	21	61.8		
	162-170	2	6.1	4	11.8		
3.	**Weight(kg)**					0.9	0.93
	39- 46	8	24.2	9	26.5		
	47- 54	22	66.7	20	58.8		
	55- 62	3	9.1	5	14.7		
4.	**BMI (kg/cm2)**					0.06	0.87
	< 18.5	4	12.1	4	11.8		
	18.5- 24.99	27	81.8	29	85.3		
	> 25	2	6.1	1	2.9		
5.	**Dietary habits**					-	0.41
	Vegetarian	7	21.2	11	32.4		
	Non vegetarian	26	78.8	23	56.6		
6.	**Age at menarche (in years)**					1.01	0.3
	12- 14	26	78.8	27	79.4		
	>14	7	21.2	7	20.6		
7.	**Length of menstrual Cycle**					0.57	0.56
	25- 27 days	2	6.1	3	8.8		
	28- 30 days	31	93.1	29	85.3		
	>30 days	0	0	2	5.9		
8.	**Duration of bleeding**					0.92	0.35
	3-5 days	30	90.9	34	100		
	>5 days	3	9.1	0	0		
9.	**Blood loss in each cycle**					-	0.72
	Scanty (1-2 pads/ day)	13	39.4	10	29.4		
	Normal (3-4 pads/ day)	18	54.5	21	61.8		
	Heavy (> 4 pads/ day)	2	6.1	3	8.8		
11.	**Onset of menstrual pain**					-	0.01
	Before onset of menstruation	13	39.4	7	20.6		
	At the onset of menstruation	16	48.5	26	76.5		
	After onset of menstruation	6	12.1	21	2.9		
12.	**Duration of pain**					-	0.99
	1 day	15	45.5	16	47.1		
	2 days	16	48.5	15	44.1		
	3 days	2	6.1	3	8.8		
13.	**H/o of passage of clots**					$\chi 2=$ 0.32	0.85
	Yes	23	69.7	23	67.6		
	No	10	30.3	11	32.4		

Table no. 1 showed the frequency and percentage wise distribution of selected personal variable of student nurses. The result depict that more than half (65.7%) of the student nurses were in the age group of 18-20 years followed by those in age group of 21-23 years (34.3%) and the mean age of the participants was(19.91±1.17). Majority (83.6%) of sample were categorised under normal body weight in both experimental and control group i.e. between 47- 54 kg. 79.1% students had attained menarche between 12-14 year of age. Most of the student nurses in both experimental and control group were reported that they had menstrual cycle between 28-30 days and the duration of bleeding was between 3-5 days.

Regarding the onset of menstrual pain, more than half (62.7%) of the student nurses had the onset of pain with beginning followed by 29.9% student had before onset of menstrual bleeding with 1-2 days of duration.

Homogeneity of the sample was tested by computing independent 't' test. The p value is significant at p<0.5 level. The data showed that both groups are homogenous in relation to their personal variable.

Table No. 2:   Comparison of pre and post-test level of dysmenorrhoea scores at different times of interval between experimental and   control group   n = 67

Time of menstrual pain assessment	n	Mean± SD		F Value	'p' value
		Pre-test	Post test		
Experimental group At the onset of menstruation After 6 hrs of menstruation After 12 hrs of menstruation	33	6.75±0.26 5.69±0.36 4.18±0.35	5.12±0.21 4.51±0.30 3.42±0.29	160.62	0.001
Control group At the onset of menstruation After 6 hrs of menstruation After 12 hrs of menstruation	34	6.14±0.29 5.70±0.24 4.11±0.34	6.08±0.31 5.47±0.25 4.11±0.31	2.93	0.96

Table -2: depict the comparison of pre and post-test level of mean dysmenorrhoea score at three different times of interval in experimental and control group. Results revealed that there was no significant difference in the mean with SD in control group at three different times of interval from pre-test to post test (p >0.05). In experimental group dysmenorrhoea score at the time of menstruation, six hours after menstruation, and 12 hour after menstruation were significantly reduced from the pre-test to post test (p<0.001).

It was found that after 8 weeks of muscle stretching exercises the mean dysmenorrhoea score with SD was reduced in experimental group compare to control group.

Table No-3:   Effectiveness of muscle stretching exercises by comparing post-test level of dysmenorrhoea score within the group   n=67

Group GGGGG Group	n	Post-interventional dysmenorrhoea score Mean ±SD	MD	't' Value	'p' Value
Experimental group	33	4.33±1.31	0.90	3.14	0.002 (s)
Control group	34	5.22±1.01			

Table no. 3 shows the significant difference in mean post-test level of dysmenorrhoea score between the groups at p<0.002 level of significance. It shows the effectiveness of muscle stretching exercise on primary dysmenorrhoea.

DISCUSSION

Findings of different studies have shown that therapeutic exercises and physical activity was related with reduced incidence of dysmenorrhoea, whereas in some of studies did not demonstrate such a correlation statistically.[6, 7,10] The findings are similar to those of various researcher. Shahnaz Shahr-jerdy et al[7] (2012) concluded that stretching exercises are effective in reducing pain intensity, pain duration, and the amount of painkillers used by girls with primary dysmenorrhoea. Abbaspour et al (2006) also concluded that the exercise can decrease the duration and severity of dysmenorrhoea and also use of the sedative tablets in high school girls. Kristina S Gamit et al conclude that stretching exercises are effective in reducing pain in young females with primary dysmenorrhoea. This improvement may be due to the increase in the blood flow and metabolism of the uterus during exercise which may be effective in the reduction of dysmenorrhoea symptoms. A study done by Dawood MY (2006) has shown that therapeutic exercise can increase the secretion of endorphins from the brain, and these materials in turn raise the pain threshold of the body. Daley AJ (2009) stated that contracted ligamentous bands in the abdominal region were the causative factor for physical compression of nerve pathways and their irritation, so the proposed series of stretching exercise was considered very effective. Limitations of the study were that investigator has to rely on the participants for performing muscle stretching exercises for 8 weeks at hostel. The impact of muscles stretching exercises on dysmenorrhoea has not been fully investigated only intensity of dysmenorrhoea was measured after intervention.

CONCLUSION

Life style plays an important role in remaining healthy. Today we are not involved much in physical activities. Regular muscles stretching exercise play an important role in reducing the intensity of dysmenorrhoea. Nurses should acquire thorough knowledge about the problems related to dysmenorrhoea among adolescents girls and should have in-depth knowledge regarding the benefits of muscles stretching exercise for the adolescents girls having dysmenorrhoea.

Based on the findings of this study it can be suggested that there is a beneficial impact of stretching exercise on intensity of dysmenorrhoea. According to the results of this study, performing 8 weeks of selected stretching exercises reduces pain intensity, in student nurses with moderate- to-severe primary dysmenorrhoea during the menstruation cycle. Whether or not the effects of exercise could be long-term should be the subjects of further research.

Conflict of Interest – Nil

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Assess the Effectiveness of an Interventional Package on Level of Stress among Mothers of Baby Admitted in NICU

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ABSTRACT

The aim of this study is to assess the effectiveness of an interventional package on level of stress. Pre experimental one group pre-test – post-test research design was adopted. 30 mothers of baby admitted in NICU of Dhiraj Hospital, Vadodara were selected as sample by convenience sampling technique. The collected data was tabulated and analyzed using descriptive and inferential statistics. In pre-test 13.33% of the mothers were having moderate Parental stress, 86.67% mothers were having severe Parental stress. Which is been reduced after administration of an interventional Package so, the result found that 30% of mothers had mild Parental stress, 63.33% of mothers had moderate Parental stress and only 6.67% of mothers had severe Parental stress. Researcher has found paired t test value = 34.40 with df : 29 is more than the table value = 1.699at 0.05 level of significance. So it reveals that interventional package is effective Association between Pre test Parental Stress and demographic variable: age of the mothers, length of hospital stay, education of mothers are non significant at 0.05 level of significance. Whereas the association between level of NICU, family type with pre testParental stress score are significant at 0.05 level of significance.

Keywords: *Stress; Effectiveness; Interventional Package; Mothers; baby; NICU*

BACKGROUND

Children are a gift of GOD, Currently many countries have given the importance to family cantered care where mother or family stays at the child's bed side for the entire time of the hospitalization and participates in the process of taking care of the child. Therefore to facilitate this relationship between mother and her new born in NICU requires high attention. During the experience of NICU posting, researcher came across many mothers who had undergone stress and inquiring about their newborn. The researcher therefore, felt the need to conduct this kind of study. Nurses working in NICU can impart profound interventions to those needy mothers to cope with such a stressful situation and so that they can enjoy motherhood with satisfaction.[1]

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Nearly 27 million babies are born in India each year, this counts 20% of global births .Out of this 1 million die before completing the first four weeks of life. From 2010 the rate of NICU admission increases day by day, among them about 40% are treated in NICU settings and die on the first day of life. NICU has highly stressful environment for the mothers, the majority of the mothers with babies admitted in NICU face possibility of losing them and causes stress to mothers of baby admitted in NICU.[2]

In this modern world everyone experiences stress at least occasionally in their life. Different ways are there to conceptualize it. It results in many destructive effects among individual, and so it is important to understand its nature to make proper interventions which can mitigate its effects. This study focuses one of those potentially stressful life events: birth of a baby who is then cared under Neonatal Intensive Care Unit (NICU).A NICU is a unit of hospital specializing in the care of ill, premature, low birth weight newborn or infants. The very first idea of having a specialized intensive care unit for neonates

was successfully implemented in 1960. Since then, doctors, nursing personals are able to save lives of many desperately ill newborns. [3]

Parental stress resulting from experience with infant hospitalization in the NICU is well documented. Stress is emanating from the birth of baby who needs care under NICU environment has to receive considerable attention and is associated with concurrent parental anxiety and stress. notably the NICU experience is connected with long term parent emotional problem especially for mothers it matters a lot, though it's not limited to the period of NICU stay, but can also affect the psychology of mother after getting discharged from hospital. Based on current knowledge, evaluation of mother is must during newborn stay of NICU to assess current response to stress associated with the NICU experience and to manage the stress at early stage.[4]

Therefore it is important to reduce the stressors in mothers of newborn receiving care in NICU. So to reduce this stress and to boost child care, to enhance bonding between child and mother, to return her smile back, Researcher has planned to assess the level of stress, with the help of Self-Modified Parental stress scale: (PSS:NICU) and developed an interventional package consists of wholestic bundle of information regarding NICU setup, Counseling of Mothers and demonstration techniques of deep breathing exercise which is to be implemented on mothers of newborn babies admitted in NICU for reduction of stress of mothers of baby admitted in NICU.

MATERIAL AND METHOD

OBJECTIVES OF THE STUDY

1. Assess the level of stress among mothers of baby admitted in NICU by pre test.

2. Assess the effectiveness of an interventional package on level of stress among mothers of baby admitted in NICU by post test.

3. Find out the association between level of stress of mothers of baby admitted in NICU with their demographic variables.

HYPOTHESIS

H_1: There will be significant difference between pre interventional and post interventional level of stress among mothers of baby admitted in NICU.

ASSUMPTION

• Stress is common among mothers when their neonate is admitted to the NICU.

• Nursing interventional package may reduce the level of stress among mothers of baby admitted in NICU.

VARIABLES

Variable are qualities and quantities, properties, or characteristic of people things or situation that change:

• **Independent variable:** Interventional package

• **Dependent variable:** Level of stress of mothers of baby admitted in NICU

• **Demographic variable:** Age of mother, Education of mother, Length of Baby's stay in NICU, Baby's level in NICU, Family type.

Pre experimental one group pre-test – post-test research design was adopted to achieve the goal of the study. The tool consists of two parts: First part consists demographic data of the sample and second part consists of Self Modified Parental Stress Scale. 30mothers of baby admitted in NICU of Dhiraj Hospital, Vadodara were selected as sample by convenience sampling technique.

THE TOOLS USED IN COLLECTION OF DATA:

Data collection was planned through interview schedule.

Part 1: Demographic data sheet consists of demographic variables:

A semi structured questionnaire is planned to collect the demographic variables, which includes 5 variables. They are maternal age, Length of baby's Hospitalization, Education of mother, In NICU baby is kept under, Type of Family

Part 2: Modified parenting stress scale

Modified parental stress scale is prepared for measuring the level of stress of mother of baby admitted in NICU. It consists of 18 items. Items are arranged in

the form of likert type scale, having 5 options for each item.

Scoring for the tool: 1 = Strongly disagree 2 = Disagree 3 = Undecided 4 = Agree 5= Strongly agree. To compute the negative item's parental stress score, items 1, 5, 6, 7, 8, 17, and 18 should be reverse scored as follows: (1=5) (2=4) (3=3) (4=2) (5=1)Classification of score: Mild stress: 18-41,Moderate stress: 42-65, Severe stress: 66-90

FINDINGS

Table I: Frequency and percentage Distribution of demographic variables of mother

1	AGE OF MOTHERS	Frequency	%
	A) ≤ 20 Years	5	16.67%
	B) 21-25 years	17	56.67%
	C) ≥26 years	8	26.66%
2	LENGTH OF BABY'S STAY IN NICU		
	A) 0-5 days	16	53.34%
	B) 6-10 days	7	23.33%
	C) 11 days and above	7	23.33%
3	EDUCATION OF MOTHRS		
	A) No formal education	0	0%
	B) Primary education	16	53.34%
	C) Secondary education	8	26.66%
	D) graduate	6	20 %
4	IN NICU BABY IS KEPT UNDER		
	A) Level 1	12	40%
	B) Level 2	10	33.34%
	C) Level 3	8	26.66%
5	TYPES OF FAMILY		
	A)Nuclear family	4	13.33%
	B) Joint family	20	66.67 %
	C) Extended family	6	20 %

Inference: Above mentioned table highlights that 56.67% mothers belong to age group of 21-25 age, 53.34% mother's baby are hospitalized in NICU for 0-5 days time period, 53.34% mothers are having education till primary school, 40% mothers' baby are in level-1 , 66.67 % mothers live in joint family,

Table 2: Assessment of level of stress of mothers (PRE-TEST)

PARENTAL STRESS SCORE		
	FREQUENCY	**PERCENTAGE**
Mild stress = 18-41	0	0.0%
Moderate stress= 42-65	4	13.33%
Severe stress=66-90	26	86.67 %

Inference: Above table presents that 4 mothers (13.33%) are having moderate stress and 26 mothers (86.67%) are having severe stress level and none of them is having mild stress level

Table 3: Assessment of level of stress of mothers (POST-TEST)

PARENTAL STRESS SCORE		
	FREQUENCY	**PERCENTAGE**
Mild stress = 18-41	9	30 %
Moderate stress= 42-65	19	63.33%
Severe stress=66-90	2	6.67 %

Inference: Above table Represents that 9 mothers (30%) sample are having mild stress, 19 mother (63.33%) sample are having moderate stress and only 2 mothers (6.67 %) are having severe stress.

Table 4: Effectiveness of an interventional package on level of stress on mothers of baby admitted in nicu

Variables		Mean	Mean difference	SD	SE	t-value	significance
STRESS SCORE	**Pre-test**	76.30	31.37		0.97		
	Post-test	44.93		5.31		34.40*	S

*t (0.05, 29) = 1.699

Inference: This table Depicts mean, standard deviation of pre-test and post-test with the mean difference, SD, SE, paired't' value and p value, df value of pre-test and post test stress scores. It indicates that there is significant difference between pre interventional and post interventional level of stress among mothers.

H_1: There will be significant difference between pre interventional and post interventional level of stress among mothers of baby admitted in NICU

To test the hypothesis, paired 't' test was used. The outputs were depicted in the above table. The table reveals that there is significant difference between pre interventional test stress score and post interventional test stress score test score with 0.05 level of significant at df= 29. Calculated 't' (34.40) is greater than the tabulated 't' (1.699) hence hypothesis is accepted. And an interventional package is effective

Table 5: Association between pre test stress score with demographic variables

S.N	Variables	Scores which falls at Median and Above	Scores which falls below the Median	Total	X²	df	Level of significance
1	AGE (IN YEARS)						
	A) ≤ 20 years	1	4	5			
	B) 21- 25 years	7	10	17			
	C) ≥26 years	0	8	8	4.85	2	NS
	Total	8	22	30			
2	LENGTH OF BABY'S STAY						
	A)0-5 days	8	8	16			
	B) 6-10 days	3	4	7			
	C) 11 days and above	0	7	7			NS
	Total	11	19	30	5.4	2	

Cont... **Table 5: Association between pre test stress score with demographic variables**

3	EDUCATION OF MOTHER						
	A) No formal	0	0	0			
	B) Primary	4	12	16			
	C)Secondary	3	5	8			
	D)Higher Secondary	4	2	6	2.9	3	NS
	Total	11	19	30			
4	IN NICU BABY IS KEPT UNDER						
	A) level- 1	9	3	12			
	B) level- 2	2	8	10			
	C) level-3	0	8	8	13.41	2	S
	Total	11	19	30			
5	TYPES OF FAMILY						
	A) Nuclear	0	4	4			
	B) Joint	8	12	20			
	C) Extended	3	3	6	13.85	2	S
	Total	11	19	30			

Inference: The obtained X^2 value in age, length of stay, education of mothers variables are less than the table value of X^2 at 0.05 level of significance. Hence the obtained X^2 value is non significant. . and the level of NICU and family type variables obtained x^2 value is more than the table value at 0.05 level of significant. Hence there is significant association between those selected demographic variables and pre-test parental stress score of mothers of baby admitted in NICU**.**

CONCLUSION

Pre-test and post-test Parental stress score indicate that there was reduction in level of stress of mothers of baby admitted in NICU, Dhiraj Hospital, Vadodara. Hence it indicated that an interventional package is effective.

Conflict of Interest – There is no conflict of interest.

Source of Funding- self

Ethical Clearance – before starting the research study the ethical clearance was been taken from the university committee.

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A Study to Assess the Utilization Regarding Integrated Child Development Services (ICDS) among Women in Ernakulam District, Kerala

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ABSTRACT

Objective: To assess the utilization regarding Integrated Child Development Services (ICDS) among women. **Study design**: Descriptive survey. **Materials and method**: A sample size of 100 women from Ernakulam district, Kerala. **Statistical analysis used:** Frequency and percentage to describe sample characteristics and utilization of ICDS services. **Results:** Out of 100 women, 84 % were utilizing any one of the ICDS services and 16% were not utilizing any ICDS services. **Conclusion:** Accurate information and encouragement from health personnel will further help to improve the utilization regarding ICDS services.

Keymessages: An integrated package of services will help in the holistic development of the child.

Keywords: *Utilization, health checkup, supplementary nutrition, non-formal education, immunization, health education, referral services*

INTRODUCTION

The integrated child development scheme (ICDS) was launched in 1975, to provide an integrated package of services for the holistic development of the child.[1] The beneficiaries are children below 6 years, pregnant and lactating women in the age group of 15 to 45 years.[1] The scheme aims to improve the nutritional and health status of vulnerable groups through providing a package of services including supplementary nutrition, pre-school education, immunization, health check-up, referral services and health education.[1]ICDS is a multi-sectoral program and involves several government departments. The program services are coordinated at the village, block, district, state and central government levels. These services are provided through community based anganwadi centres.[1]

India is the home to the largest child population in the world. "The development of children is the first priority on the country's development agenda, not because they are the most vulnerable, but because they are our supreme assets and also the future human resources of the country".[1]

A significant proportion of these children lives in economic and social environment which impedes the child's physical and mental development.[1]These conditions include poverty, poor environmental sanitation, disease, infection, inadequate access to primary health care, inappropriate child caring and feeding practices etc.[1]The real shock lies in the fact that all these lives could be saved with better child care facilities. Fifty per cent of the total under-five mortality is due to malnutrition.[1]

The aim of the study was to identify the utilization regarding ICDS services among women. This study will further help in creating awareness among women and to improve the health status and utilization of services

MATERIALS AND METHOD

The present study was a descriptive survey analysis done among 100 women residing in Ernakulam district, Kerala. The study used convenient sampling technique. Structured utilization questionnaire was used to collect data. The content validity of the tools were obtained. Tool was translated to Malayalam and pretesting was done on 5 women, to determine the clarity of items. The

reliability of the instrument was tested by administering the tool to 10 women. The reliability coefficient of the knowledge questionnaire was r = 0.87. Pilot study was conducted among 20 women to assess the feasibility and practicability. The data was collected after obtaining formal administrative permission from District Medical Officer, Child Development Project Officer (CDPO), Block Development Officer and Institutional Ethical Committee. Informed consent were obtained from the participants. The data collection was done in month of October 2016 to February 2017. The obtained data was tabulated and analyzed using the statistical package SPSS 17 version for windows. Findings were described using frequency and percentages.

RESULTS

Section 1: Description of sample characteristics

Table 1 shows that out of 100 women, 52 % belonged to the age group of 26-30 years and 99% were married and living with their husbands. 75 % had education upto SSLC, 40 % were house wife, 56 % were belonged to joint family, 81% were Hindu's and 42 % had a monthly income between Rs.3001 to 6000. 98 % women were aware about ICDS services and among that 74% houses were visited by anganwadi teacher.

Table 1: Frequency and percentage distribution of samples characteristics (n = 100)

SI. No	Sample characteristics	Frequency (f)	Percentage (%)
1	Age (in years)		
	18-25	37	37
	26-35	52	52
	36-45	11	11
2	Marital status		
	Married	99	99
	Widow	01	01
	Divorced	00	00
	Living separately	00	00

Cont... **Table 1: Frequency and percentage distribution of samples characteristics (n = 100)**

3	Education		
	Uneducated	00	00
	Up to SSLC	75	75
	PUC	16	16
	Diploma/Graduate	06	06
	Post graduate & above	03	03
4	Occupation		
	House wife	40	40
	Coolie worker	20	20
	Unprofessional	16	16
	Professional	24	24
5	Type of family		
	Nuclear	44	44
	Joint	56	56
6	Religion		
	Christian	19	19
	Hindu	81	81
	Muslim	00	00
7	Monthly income (in rupees)	42	42
	Upto 3000	28	28
	3001– 6000	20	20
	6001 – 9000	10	10
	More than 9000		
8	Aware about ICDS programme	98	98
	Yes	02	02
	No		
9	Anganwadi worker visited you	74	74
	Yes	26	26
	No		

Section 2: Description of utilization of ICDS services

Data was collected from 100 women by using a structured questionnaire.

Table 2: Utilization of ICDS services (n=100)

Category	Utilized		Not utilized		Total	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Women having children below 6 years of age	84	84	16	16	100	100

The data presented in the table 2: shows that out of 100 women having children below 6 years of age, 84 % were utilizing any one of the ICDS services and 16% were not utilizing any ICDS services.

Table 3: Utilization of ICDS services by women having children below 6 years of age (n=100)

Utilization of ICDS services	Frequency (f)		Percentage (%)	
	Yes	No	Yes	No
1. Supplementary nutrition	76	24	76	24
2. Health checkup and referral services	55	35	55	35
3. Immunization	76	24	76	24
4. Non-formal education	72	26	72	26
5. Health education	44	56	44	56

The data presented in table 3 reveals that out of 100 women reveals that, 76 % were utilized supplementary nutrition, 55 % were utilized health checkup and referral services, 72 % were utilized non-formal education, 44 % were utilized health education, 76 % were utilized immunization services. Remaining number of children were immunized from private sector, so the percentage of utilization of immunization were 100%.

DISCUSSION

A comparative study was conducted to identify the pattern of utilization of selected maternal and child health services before and after the commissioning of integrated child development services scheme at Rural Project Kathura, Haryana. First survey was conducted in the year 1976 and repeated survey was conducted in 1979. Health check up utilized by children < 6 years increased from 28.2% to 92% and in pregnant and lactating mothers increased from 18.7% to 38%. Supplementary nutrition utilized by children < 6 years increased from 8% to 50% and in pregnant and lactating mothers increased from 0% to 25%. There was a marked reduction in prevalence of severe degrees of malnutrition in children (below 6 years of age) from 17.6 to 8.4 per cent attributable to delivery of a package of services and interventions. Immunization utilized by pregnant mothers increased from 1% to 50%. The utilization of supplementary nutrition, health check up and immunization increased significantly in pregnant women, lactating mothers and children.

A cross-sectional study was conducted in East Delhi to assess the utilization of ante-natal care services among mothers. Data was collected from 276 mothers using a semi open ended questionnaire. 75% mothers were aged between 20-30 years. 75% of them went for registration at one of the medical care centers. Around 27.5% of the births were of first birth order and 46% of the total live births were 3+ birth order. Every 7th child born was the study area belonged to 5+ birth order. Around 70% of the deliveries took place at homes and 82% of these home deliveries were conducted by village trained dais. Mothers who did not register at any of the medical care centres are mostly illiterate, coming from poorer strata of population, below 25 years of age and bearing 3 or more children. Most of these unregistered mothers did not receive iron and folic acid tablets and TT immunization and finally delivered at home.

A study was conducted in Tamil Nadu to assess the impact of the preschool education component of the ICDS on the cognitive development of children in the age group of 3–5 years. The study design used was case control (ICDS attending children vs Non-ICDS). Data was collected from 300 children using structured standardized Home Stimulation Inventory and Hema Pandey's Cognitive Development tests. Results of the study revealed the ICDS Anganwadi attendance had positive influence on the cognitive development of children. The mean cognitive score of the attenders was 40.7 as against a mean score of 30.3 in the case of non-attenders.

A study was conducted on awareness and utilization of ICDS services among pregnant (106) and lactating women (177) in Haryana. Awareness of women regarding services provided by ICDS was mainly for 2 areas viz, nutrition (50%) and immunization (70%). Less than 25% of women were aware of rest of the services viz, nonformal education and health checkup.

The study showed that in subcentre areas beneficiaries were less aware of location and staff of anganwadi centre (AWC) and that they visited AWC less often as compared to their counterparts in non-subcentre areas. Utilization of services was more in non-subcentre area than subcentre area.

A study was conducted in Delhi among 1243 children in the age group of 7–13 years on long term nutritional effects of ICDS. Anganwadi attendance score, age, sex of the child and education status of the father showed statistically significant association with malnutrition. Children who attended anganwadis were nutritionally better than who did not attend anganwadis during their childhood, regarding the physical development.

Conflict of Interest: Nill

Source of Funding: Self

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Effectiveness of Healthy Eating and Active Lifestyle Intervention Program (Healip) on Physiological and Biochemical Parameters among Children with Obesity at Selected Schools in Chennai – A Pilot Study Report

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ABSTRACT

Children are the future mankind, healthy children becomes healthy adult. A nation's health depends on the health of the children. Ensuring their healthy growth and development is primary concern of the parents. Childhood obesity is an alarming major public health concern.

Objectives: 1. To assess the Physiological and Bio chemical parameters among children with obesity in control and experimental group.

2. To evaluate the effectiveness of HEALIP (Healthy Eating and active lifestyle intervention Programme) on Physiological parameters and Bio chemical among children with obesity in experimental group.

Methodology: True experimental research design with two group pre test post test control group design was adopted for the study. Children who fulfill the inclusion criteria were selected as a sample. A total of 20 children with obesity were selected and randomly allocated into study and control group. The study group received HEALIP intervention post test was done for the both groups. Data was analyzed by using descriptive and inferential statistics.

Results: Child Weight and BMI score respectively reduced from baseline to post-intervention ($p < 0.01$). There was significantly difference in the physiological parameters, ($p < 0.05$). There was significantly difference in the biochemical parameters, ($p < 0.005$). There was significantly improvement in the HEALIP intervention on maintaining the physiological and biochemical parameters.

Keywords: *physiological parameters, biochemical parameters, HEALIP intervention, obesity, School children.*

INTRODUCTION

Obesity has become one of the major issues, not only in developed countries but also in developing countries. In India it is turning one of the major health problems. A decade back we found very few children were overweight as well as obese in our country, today the scenario has changed to great extent. In India, the prevalence rate of overweight and obesity among children/ adolescents is markedly increased[1].

There are certain factors contributing to this epidemic associated with childhood obesity. Lack of physical activity, Heredity, family history of obesity and socioeconomic status. Today's environment plays a major role in shaping the habits and perceptions of children and adolescents, exposure to sedentary life style, lack of exercise, increasing indoor game activities, usage of computers are the common trends adopted by today's generation[2].

Obesity affects the general as well as systemic health

of an individual. It increases the risk of subsequent morbidity, with increased prevalence of hypertension, type II diabetes mellitus, dyslipidemia, left ventricular hypertrophy, non-alcoholic steatohepatitis, obstructive sleep apnea, and orthopedic and psychosocial problems, accelerates dental development, and decreases masticatory performance.[3,4,5.]

Since adult obesity is a key risk factor for lifestyle-related morbidity and mortality,it is important to develop effective interventions for treating obesity in childhood[6]. Various studies done in India from 2002-2012 indicates a rising trend in the prevalence of overweight and obesity in children and adolescents[7,8] . Many interventions has been followed to treat the childhood obesity hence HEALIP intervention will supports to maintain their physiological as well as biochemical parameters which focuses on the diet, physical activity , complication prevention, and parental involvement The aim of the present study is (1)To assess the Physiological and biochemical parameters among children with obesity in control and experimental group.

(2)To evaluate the effectiveness of HEALIP (Healthy Eating and active lifestyle intervention Programme) on both groups.

MATERIALS AND METHOD

Participants: This study was carried out among children with obesity, age group of 12 to 18 years, both sexes of Chennai city, South India, St,Mary's school, and Nehru school with 20 samples. The samples were selected and randomly allocated to study and control groups based on the inclusion criteria. Informed consent and oral consent was obtained from the mothers of children for their participation in the study. This study was approved by the Institutional Human Ethics Committee of Saveetha University .Data collection was carried out after discussing with the experts

Inclusion and exclusion criteria: Children's mothers who agreed to participation of their children and gave the informed consent were included. Children who were absent at the time of data collection, who fail to fulfill the criteria, who were provided incomplete data, the child's BMI reduced due to medical prescribed diet ,and the child who is already in weight reduction progamme , were excluded.

The data was collected by the following phases:

Phase I: Sample selection based on BMI

On the first day- The children weight, height and BMI was measured. The children were instructed to stand by on bare foot by using the portable electronic weighing scale; calibration of the machine was done before it was used. Height was measured by using the stature meter attached to the wall. Each participant were instructed to stand straight, with mass equally distributed between the feet until the reading was stabilized, then the height was measured and recorded. Body Mass Index (BMI) was calculated by the weight in kilograms divided by the square of the height in meters (kg/m^2).

Phase II:

On the next day blood pressure, fasting blood sugar and post prandial was monitored: Blood pressure was measured in the left arm to the nearest 1mmHg using an electronic machine . *Fasting blood sugar was monitored* by instructing the sample to avoid coffee , tea and breakfast on the day of data collection procedure ,made the participant to sit in comfortable position, explained the procedure to the participant, clean the needle prick area with alcohol swab and completely made the skin to dry before prick, after pricking the finger with one drop of blood placed on the test strip and recorded the results .Before using the Glucometer the calibration was done and verified. Allowed the participant to take over the breakfast after 2 hours same method was followed to collect the post prandial blood sugar, both values were recorded.

Phase III : On the 3rd day, of demographic variables of age of child, gender educational status, religion, occupation of the parent , type of family ,area of residence , monthly income, family history of obesity ,exposure to secondary diseases, were assessed by self administered questionnaire .

Phase IV: On the 4th day for the experimental group children received HEALIP intervention which includes Dietary Objectives, physical activities, complication prevention, and involvement of the parents in the child measurement program. Dietary Objectives (Healthy Eating Habits) includes positive encouragement of the children on healthy eating habits, 24 hours dietary recall and menu planning was done for the each participant based on their recommended

dietary allowance. Healthy food habits, tips for eating healthy foods, Eating an healthy balanced diet which includes fewer processed foods , regular meals focusing on breakfast, concentration on eating fresh meals, Increasing   intake of fruits, vegetables and water, replacing the snacks with healthier alternatives such as low fat and sugar, to reduce the amount of salt and sugar added in foods and beverages was explained and encouraged the children/parents to move positively towards healthy eating habits .A diet recording sheet was monitored by the researcher by observing the children's intake of food items .

Phase V : Physical Activity Objectives (Active lifestyle intervention programme); encouraged the children to increase their physical activity like brisk walking for 30-45 minutes daily, running for 20-30minutes, continuous cycling for 20-30 minutes, or jumping rope exercise for 20-30 minutes . Every day after school, made the samples to do all these vigorous activities for 30- 40 minutes were monitored by the researcher and recorded into low, moderate, and high physical activity based on their MET values .

Phase VI : on the following week the structured teaching program was organized on Complication prevention in obesity by using power point presentation and verbal interaction around 45 minutes for the experimental children as well as to their parents. Teaching program and PowerPoint presentation includes ,meaning of obesity, classification, causes and their complication such as diabetes, hypertension, coronary heart diseases, liver diseases, dyslipedemia, renal diseases, gynecological abnormalities, osteoarthritis, fatty liver cirrhosis, gall balder diseases, phlebitis, optical disorders, behavioral and learning disabilities and their preventive measures were enforced for the children. Intervention description booklet was   printed in Tamil and English and distributed for their future reference.

Phase VII: Parental involvement**:** On the 2nd month, a notification was sent to the parents of the experimental group to make involve themselves in their child measurement programme. A monthly monitoring health card regarding child's progress in physiological and biochemical parameters was given to their parents. So that the parents may aware about the Childs health concern, and also discussed about their involvement at home environment such as avoiding the child from over eating, oily foods and encouraging the child to do physical activity regularly . Doubts were clarified to the parents. With the help of class teacher the children's were instructed to bring their parents for regular meetings, in that way the HEALIP intervention was carried out.

Phase   VIII: physiological   and   biochemical parameters were measured by using same procedure for control group without HEALIP intervention.

Phase IX : After 120 days, post test was carried out for both experimental and Control groups. Height, weight, BMI, blood pressure, fasting and post prandial blood sugar was measured for both group .

Phase X : At the end of the study (after the completion of the experiment)

HEALIP intervention for a period one month and the education on complication prevention and detailed intervention booklet was given to the parents as well as the children of the control group.

Statistics : All the data obtained were tabulated. Descriptive and inferential statistics were used to present the data and analysis was carried out using Statistical Package for the Social Sciences (SPSS) version 15.

RESULTS

Table 1: Effectiveness Of Healthy Eating Active Lifestyle Intervention Program (HEALIP) On Physiological Parameters (Height,Weight,BMI)Among Control and Experimental Group In pre and Post Test.

S.No	Parameters	Groups	Mean ±SE	Significance Unpaired t Test		Significance Paired T Test	
				Con-Exp Pre test	Con-Exp Post test	Control Pre –Post test	Experimental Pre –Post test
1.	Height	Con-Pre test	149.6±2.2	t=-0.580	t=-0.580	t=0	t=0
		Con-Post test	149.6±2.2	P =0.559	P = 0.569	P=1	P=1
		Exp-Pre test	151.6±2.6				
		Exp-Post test	151.6±2.6				
2.	Weight	Con-Pre test	75.4±3.3	t=-0.422	t=-0.043	t=1.964	t=5.635
		Con-Post test	74.8±3.3	P =0.579	P = 0.966	P=0.082	P=<0.001
		Exp-Pre test	77.4±4.1				
		Exp-Post test	74.6±4.1				
3.	BMI	Con-Pre test	33.8±1.3	t=-0.167	t=-0.696	t=1.958	t=3.724
		Con-Post test	33.6±1.3	P =0.853	P = 0.496	P=0.082	P=0.002
		Exp-Pre test	33.5±1.1				
		Exp-Post test	32.3±1.2				

Table 1 illustrates Within the Height of experimental group and control group in post- test shows no significant reduction t=-0.580 and p=0.569 . Weight of experimental group and control group in post- test also had significant reduction t=-0.427 and p=0.966 value. BMI of experimental group and control group in post- test had significant changes t=0.696 and p=0.496 value. HEALIP Intervention shows significantly effective in reducing physiological parameters of p=<0.01in the experimental group.

Table 2: Effectiveness Of Healthy Eating Active Lifestyle Intervention Program(HEALIP) On Physiological Parameters(Systolic Blood Pressure And Diastolic Blood Pressure) Among Control And Experimental Group In pre and Post Test.

S.No	Parameters	Groups	Mean ±SE	Significance Unpaired t Test		Significance Paired T Test	
				Con-Exp Pre test	Con-Exp Post test	Control Pre –Post test	Experimental Pre –Post test
1	Systolic Blood Pressure	Con-Pre test	126.7±4.1	t=-0.603	t=-1.758	t=-1.702	t=-2.085
		Con-Post test	123.9±3.9	P =0.554	P = 0.096	P=0.123	P=0.067
		Exp-Pre test	123.1±4.3				
		Exp-Post test	11.56±3.1				
2	Diastolic Blood Pressure	Con-Pre test	74.2±3.7	t=-0.237	t=-1.663	t=-0.772	t=-1.125
		Con-Post test	75.7±2.6	P =0.816	P = 0.114	P=0.460	P=0.145
		Exp-Pre test	75.4±3.8				
		Exp-Post test	69.8±2.4				

Program(HEALIP) On Physiological Parameters(Systolic Blood Pressure And

Diastolic Blood Pressure) Among Control And Experimental Group In pre and Post Test.

Table 2: Revealed that within the experimental and control group of systolic and diastolic blood pressure (Physiological parameters) in post test had   significant differences. Systolic blood pressure of experimental group and control group in   post- test had significant differences t=1.758 and p=0.0957 value. Diastolic blood pressure of experimental group and control group in   post- test shows t=1.663 and p=0.114 value. HEALIP Intervention shows significant effectiveness   in maintaining the physiological parameters of p=<0.001.

Table 3: Effectiveness Of Healthy Eating and Active Lifestyle Intervention Program(HEALIP) On Bio chemical Parameters(Fasting Blood sugar And Post prandial blood sugar) Among Control And Experimental

S N o	Parameters	Groups	Mean ±SE	Significance Unpaired t Test		Significance Paired T Test	
				Con-Exp Pre test	Con-Exp Post test	Control Pre –Post test	Experimental Pre –Post test
1	FBS	Con-Pre test	108.5±4.2	t=3.502	t=6.779	t=2.281	t=2.030
		Con-Post test	100.7±3.8	P =0.003	P = <0.001	P=0.049	P=0.074
		Exp-Pre test	86.5±1.7				
		Exp-Post test	79.1±1.7				
2.	PPBS	Con Pre test	131.3±2.6	t=2.552	t=4.565	t=2.097	t=4.890
		Con-Post test	129.7±2.8	P =0.018	P = <0.001	P=0.065	P=<0.001
		Exp Pre test	118.9±4.0				
		Exp Post test	111.0±2.9				

Group In pre and Post Test. Table 3. Revealed that within the experimental and control group of Fasting and post prandial blood sugar (Bio chemical parameters)in post test shows significant changes . Fasting blood pressure of experimental group control group in   post- test had significant changes t=6.449 and p=0.045 value . Post prandial blood sugar of experimental group and control group in post- test had significant changes t=4.569 and p=0.024 value. HEALIP Intervention shows significantly effective in maintaining the bio chemical parameters of p=<0.0 1

Table 4: Physiological (Height, Weight, and BMI)and Bio chemical Parameters (Fasting Blood Sugar And post prandial Blood Sugar) Among Control And Experimental Groups In The   Pre –Test and Post -Test

S No.	Parameters	Groups	Mean ±SE	Significance Unpaired t Test		Significance Paired T Test	
				Con-Exp Pre test	Con-Exp Post test	Control Pre –Post test	Experimental Pre –Post test
1	Height	Con-Pre test	149.6±2.2	t=0.580	t=0.580	t=0 P=1	t=0 P=1
		Con-Post test	149.6±2.2	P =0.554	P = 0.569		
		Exp-Pre test	151.6±2.6				
		Exp-Post test	151.6±2.6				
2.	Weight	Con-Pre test	75.4±2.0	t=0.422	t=0.043	t=1.964	t=5.035 P=<0.001
		Con-Post test	74.8±2.0	P =0.578	P = 0.966	P=0.082	
		Exp Pre test	77.4±4.1				
		Exp Post test	74.6±4.1				
3.	BMI	Con-Pre test	33.8±1.3	t=0.167	t=0.696	t=1.958	t=3.724
		Con-Post test	33.6±1.3	P =0.869	P = 0.496	P=0.092	P=0.002
		Exp-Pre test	33.5±1.1				
		Exp-Post test	32.3±1.2				
4	Systolic Blood Pressure	Con-Pre test	126.7±4.1	t=0.603	t=1.758	t=1.702	t=2.085
		Con-Post test	123.8±3.9	P =0.554	P = 0.096	P=0.123	P=0.067
		Exp-Pre test	121.1±4.0				
		Exp-Post test	115.6±3.1				
5		Con Pre test	74.2±3.4	t=0.237	t=1.663	t=0.772	t=2.325

DISCUSSION

The present study is to evaluate the impact of the HEALIP intervention on physiological and Biochemical Parameters among children with childhood obesity in Chennai, India. Childhood overweight and obesity are global problems that are on the rise due to modernization in lifestyle(dietary habits and physical activity). Height ,weight, BMI, blood pressure and blood glucose level, shows significant difference in post test of both groups whereas pre test had no significant changes.

This study was supported by Sonya Jagadesaran et al (2015)conducted a study on Prevalence of Overweight and Obesity among School Children and adolescents in Chennai.He concluded that the prevalence of obesity was significantly higher in private compared to government schools(IOTF criteria)[9]. And M Watson, Lindsey et al conducted a study Owen Service evaluation of the GOALS family-based childhood obesity treatment intervention during the first 3 years of implementation .which results in small improvements in child BMI z-score[10].

CONCLUSION

The findings of the study concluded that obesity children are at risk group for developing diseases like diabetes, hypertension, and cardiovascular disease, dyslipidemia, obstructive sleep apnea, and orthopedic and psychosocial problems[11].An integrated program on HEALIP intervention was effective in maintaining physiological and bio chemical parameters by promoting healthy diet, physical activity that helps the muscles to consume excessive glucose stored in the body which leads to healthy life and encouraging the parents to become good role model by participating in their regular child measurement program.

Conflict of Interest: No Conflict of interest to declare.

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Prevalence of Psychological Morbidity among Medically Ill Patients

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ABSTRACT

Physical and Mental health are two sides of a coin and both are interdependent. A nurse who is responsible for total health care of a person must take care of the emotional aspect also. **Objectives:** to determine the prevalence of psychological morbidities (Distress, Depression, Anxiety and Somatization) among medically ill patients. **Method:** A descriptive correlational survey research design was used. Samples were 210 medically ill patients admitted in Rajaji Govt Hospital, Madurai. Sampling technique used was stratified random sampling technique. Data collection procedure was self-structured interview method and tool used for data collection was 4DSQ (4 Dimensional Symptom Questionnaire, Terulin et al, 2008) descriptive and inferential statistics were used for analysing data. **Results:** 73 % of the samples had low distress. Around 75 % of the samples had low depression; an overwhelming majority of samples 97 % had low anxiety and samples who had low level somatization were 93 %. There was a significant positive correlation between distress & depression (r=0.8) distress & anxiety (r = 0.30) distress & somatization (r=0.54) depression & anxiety (r=0.42) depression & somatization (r=0.57) and anxiety & somatization (r=0.39). **Conclusion:** Nurses who works in general health settings must consider the psychological care of medically ill patients also.

Keywords: Psychological morbidity, Prevalence, Medically ill patients, Distress, Depression, Somatization, Anxiety.

BACKGROUND OF THE STUDY

"Mental Health in Primary Care: Enhancing Treatment and Promoting Mental Health" forms the theme of **World Mental Health Day 2009**. The objectives seek to recognize the need to integrate mental healthcare into mainstream healthcare to ensure universal access. This assumes all the more importance in the light of the recent prediction made by the **World Health Organization**, that in the next two decades, **Depression** is likely to be the number one illness affecting millions of people worldwide[1]. It stresses the importance of identifying and treating mental illness in general health settings. Mental health disorders continue to be a serious and expensive global health issue, affecting peoples of all ages and from all cultures and socio-economic status. Every medical and surgical problem is accompanied by some emotional problems[2]. The nurse who spends her considerable time with the patient cannot afford to ignore this aspect of an illness. Often patient suffers from psychological problems than actual physical pain, because of the intimate relationship of the body and mind. It is difficult for anything to affect the body without affecting the mind[3]. There is a need for complete database for the prevalence of psychological morbidity among medically ill patients that will help the care provider to render a holistic care.

MATERIALS AND METHOD

A descriptive correlational survey research design was used for the present study. Stratified random sampling technique was adopted for selecting samples. Data was collected by means of self-structured interview method and tool used for data collection was 4DSQ (4 Dimensional Symptom Questionnaire, Terulin et al,

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2008) descriptive and inferential statistics were used for analysing data.

RESULTS

Table 1: Distribution of samples according to psychological morbidity   (n = 210)

Variables	Low		Moderately High		Very High	
	f	%	f	%	f	%
Distress	153	73.00	56	26.50	1	0.50
Depression	157	75.00	48	23.00	5	2.00
Anxiety	203	97.00	6	3.00	0	0.00
Somatization	195	93.00	15	7.00	0	0.00

Table 1: shows the frequency and percentage distribution of samples according to the psychological morbidity.

A little less than three fourth of the samples 153 (73.00%) had low distress, Three fourth of the total samples 157 (75.00%) had low depression. An overwhelming majority of the total samples 203 (97.00%) had low anxiety and with regard to somatization majority of the samples 195 (93.00%) had low somatization.

Table 2: Frequency distribution of samples according to diagnosis   (n = 210)

	Distress			Depression			Anxiety			Somatization		
	Low	Moder-ately High	Very High	Low	Moderately High	Very High	Low	Moderately High	Very High	Low	Moderately High	Very High
Cardiac	17 (56.60)	12 (40.00)	1 (3.40)	15 (50.00)	13 (43.40)	2 (6.60)	29 (96.70)	1 (3.30)	0 (0,00)	25 (83.40)	5 (16.60)	0 (0.00)
Respiratory	21 (70.00)	9 (30.00)	0 (0.00)	28 (93.40)	2 (6.60)	0 (0.00)	30 (100.00)	0 (0.00)	0 (0,00)	28 (93.40)	2 (6.60)	0 (0.00)
Nephrology	24 (80.00)	6 (20.00)	0 (0.00)	24 (80.00)	6 (20.00)	0 (0.00)	30 (100.00)	0 (0.00)	0 (0.00)	30 (100.00)	0 (0.00)	0 (0.00)
Gastro-Enter ology	24 (80.00)	6 (20.00)	0 (0.00)	23 (76.70)	6 (20.00)	1 (3.30)	30 (100.00)	0 (0.00)	0 (0.00)	29 (96.70)	1 (3.30)	0 (0.00)
HIV / AIDS	24 (86.60)	4 (13.40)	0 (0.00)	27 (90.00)	3 (10.00)	0 (0.00)	30 (100.00)	0 (0.00)	0 (0.00)	30 (100.00)	0 (0.00)	0 (0.00)
Neurology	23 (76.70)	7 (23.30)	0 (0.00)	21 (70.00)	6 (20.00)	3 (10.00)	28 (93.40)	2 (6.60)	0 (0.00)	26 (86.70)	4 (13.30)	0 (0.00)
Endocrinology	18 (60.00)	12 (40.00)	0 (0.00)	18 (60.00)	12 (40.00)	0 (0.00)	25 (83.40)	5 (16.40)	0 (0.00)	26 (86.70)	4 (13.30)	0 (0.00)

Table 2: explains the distribution of samples according to psychological morbidity and medical diagnosis.

• With regard to patients who have cardiac disorders an overwhelming majority of samples 29 (96.70%) had low anxiety and next to it were low somatization 25 (83.40%).. one half of the total samples with cardiac disorders had low depression 15 (50.00%). Low distress was present in 17 (56.60%) of the samples.

• In Samples who had respiratory disorders, all the samples were suffering from low anxiety 15 (30.00%). Samples with low depression and low somatization were 28 (93.40 %). Low anxiety was seen in 21 (70.00%) samples.

• Among those samples who suffer from renal disorders low anxiety and low somatization were common psychological problems in all samples 30 (100%). Low distress and low depression was seen in 24 (80.00%) of total samples.

• Psychological morbidity among patients with gastroenterology related disorders shows that all samples

had low anxiety 30 (100%). Low somatization was next major problem in 29 (96.70%). Low distress was found in 24 (80.00%) of samples and low depression was 23 (76.70%).

• Low anxiety and low somatization were seen in all samples with HIV / AIDS 30 (100%). Next to it was low depression 27 (90.00%). Samples with low distress were 24 (86.60%).

• Low Anxiety was the most common psychological entity 28 (93.40 %). Samples with low somatization were 26 (86.70%). Little above one third of total samples 23 (76.70%) had low distress and 21 (70.00%) of total samples had low depression.

• An overwhelming majority of total samples with endocrinology disorders have low somatization problems 26 (86.70%). Next to it was 25 (83.40%) samples with low anxiety. Low distress and low somatization was seen in 18 (60.00%) of total samples.

Table 3: Correlation between the variables of psychological morbidity among medically ill patient

(n = 210)

Variables	'r' value	'p' value
Distress & Depression	0.82	0.000
Distress & Anxiety	0.30	0.000
Distress & Somatization	0.54	0.000
Depression & Anxiety	0.42	0.000
Depression & Somatization	0.57	0.000
Anxiety & Somatization	0.39	0.000

The above table reveals the Correlation between the variables of psychological morbidity among medically ill patients. There was a statistically significant correlation between all variables under the study. It was noted that high correlation was present between distress & depression ('r' = 0.82, 'p' value 0.000).

DISCUSSION

Medical and surgical inpatients often have psychiatric conditions that require psychiatric consultations[4]. it is now widely accepted that psychiatric disorders are common in the general hospital. Studies show that up to 65 % of medical inpatient have psychiatric disorders[5].

Kunal Kumar, Abhinit Kumar, Prakash Chandra, and Hari Mohan Kansal (2016) conducted a study to determine the point prevalence of depression and anxiety in patients suffering from tuberculosis. Total of 100 consecutive cases were included who were already diagnosed with tuberculosis after applying inclusion and exclusion criteria. Tools used were General Health Questionnaire 12 (GHQ-12), Beck Depression Inventory (BDI-II) and Hamilton Anxiety Rating Scale (HARS). Out of 100 cases, 74 cases found to be having psychiatric symptoms, in which 35 cases were suffering from depression and 39 were suffering from anxiety[6].

Haverkamp GL, Torensma B, Vergouwen AC and Honiq A (2015) Prevalence of psychological distress w as assessed using the extended Kessler-10 (EK-10) in 904 patients in a Dutch general teaching hospital. Of 904 patients, 585 were native Dutch patients and 319 were immigrant patients. The prevalence of psychological distress in native compared to immigrant patients was 54% and 66% respectively, with especially high prevalences among Turkish and Moroccan immigrant patients. The crude OR for prevalence of psychological distress for immigrant patients versus native patients was 1.7 (95% CI 1.2-2.2) and for first versus second generation immigrant patients 2.1 (95% CI 1.2-3.5). After full adjustment ORs were 1.7 (95% CI 1.2-2.3) and 2.2 (95% CI 1.2-4.1) respectively[7].

Anthony W. McGuire, Emanuela Ahearn, and Lynn V. Doering (2015) reviewed the current literature regarding psychological distress in patients with cardiovascular disease (CVD). Relevant and current (2005–2015) studies were retrieved by a series of searches conducted in the PubMed and PsychINFO databases using Boolean terms/phrases along with manual extraction from the reference lists of pertinent studies. Narrative and tabular summaries of the findings are reported. Results show there is a vast literature on psychological distress and CVD. Depression is the most common disorder studied followed by anxiety and posttraumatic stress disorder. Physiologic mechanisms linking psychological distress to CVD are well theorized. Screening for psychological distress in CVD is recommended[8].

Solomon H. Tesfaye and Girma T. Bune (2014) cross-sectional study was conducted. Interviews were

conducted with 500 patients initiating ART at Dilla Referral Hospital. Generalized psychological distress was measured using the Hospital Anxiety and Depression Scale (HADS). The prevalence of generalized psychological distress among the population of this study was 11.2% (HADS≥19). Factors independently associated with generalized psychological distress were moderate stress (OR=6.87, 95% CI 2.27–20.81), low social support (OR=10.17, 95% CI 2.85–36.29), number of negative life events of six and above (OR=3.99, 95% CI 1.77–8.99), not disclosing HIV status (OR=5.24, 95% CI 1.33–20.62), and CD4 cell count of <200 cells/mm^3 (OR=1.98, 95% CI 0.45–0.83) and 200–499 cells/mm^3(OR=3.53, 95% CI 1.62–7.73)[9].

ZG Rukundo, S Musisi,and N Nakasujja (2013) done a study to determine the prevalence, types and associations of psychiatric morbidity as seen among adult in-patients on medical and surgical wards of Mbarara Regional Referral hospital as a prototype Ugandan regional referral hospital. This was a cross sectional descriptive study. Psychiatric diagnosis was arrived at by administering the Mini International Neuropsychiatric Interview (MINI) as the diagnostic instrument. Of the 258 participants in this study, 109 (42%) met criteria for at least one DSM IV psychiatric diagnosis. Only 6% of all the psychiatrically diagnosed patients were recognized by their treating doctors as having mental illness[10].

Rodrigue M L'akoa. Jean Jacques N N. Yixin F, Félicien E N and Christopher K (2013) Interviews were conducted with 100 newly diagnosed HIV-infected patients at three referral hospitals of Yaoundé. Depression was assessed using the nine-item Patient Health Questionnaire (PHQ-9). A positive depression screen was defined as PHQ-9 score greater than 9. The overall prevalence of depressive symptoms was 63% (95% CI: 53.2 to 71.8), the majority having symptoms corresponding to moderate depression. Multiple logistic regression analysis showed that probable depressed patients were more likely than those who were not depressed to have had experience of alcohol abuse (OR: 19.03, 95% CI 3.11-375.85; p=0.0083), and a 100 CD4 cells/mm3 fewer was associated with a 2.9 times increase of the odds of probable depression (95% CI 1.88-4.84; p<0.0001)[11].

Fava GA, Porcelli P, Rafanelli C, Mangelli L, and Grandi S (2010) cross-sectional study was to done assess the prevalence and characteristics of anxiety disorders in the medically ill. A sample of 1,660 medical patients was recruited from different medical settings in different periods from 1996 to 2007. All patients underwent detailed semistructured interviews with the Structured Clinical Interview for DSM-IV (SCID) and the Structured Interview for Diagnostic Criteria for Psychosomatic Research (DCPR). Results revealed Generalized anxiety disorder was the most frequent anxiety disturbance (10.3%) and was associated with DCPR somatization syndromes, Type A behavior, and irritable mood. Panic disorder with agoraphobia and agoraphobia without history of panic disorder had almost identical prevalence (about 4.5%), but differed in some patterns of somatization. Agoraphobia without panic attacks was related to illness denial, persistent somatization, anniversary reactions, and demoralization. Much lower prevalence rates were reported for social phobia and obsessive-compulsive disorder[12].

CONCLUSION

The current study serves as an eye opener for the nursing professionals to include psychological aspects of assessment and care in the general health settings. Nurses who care the medically ill patients should be well equipped to carry out mental status examination and diagnose the common mental morbidities and they should refer it immediately for further psychiatric treatments.

Conflict of Interest – Nil

Source of Funding – Self

Ethical Clearance – Before the conduction of main study. Ethical permission was obtained from the Ethical Committee of Sacred Heart Nursing College, Madurai. Tamil Nadu.

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A Study on the Relationship between Blood Glucose Level and Depressive Symptoms among the Antenatal Women in the Selected Hospitals at Mangalore

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ABSTRACT

Introduction: Antenatal period is a maturational milestone in women .The physical as well as emotional changes that occur during pregnancy can lead to mood swings. Where the antenatal woman is not able to cope up with the changes and these can lead to depressive symptoms. National institute of mental health reported that 10-15 % of woman have depression worldwide . International diabetes federation reported that 15% of women are diagnosed as gestational diabetes [1].

Objective: The aim of the study was to find the relationship between the blood glucose level and depressive symptoms among antenatal women.

Materials and method: A Cross sectional design was adopted with 100 study participants. The data was analysed by using Chi square and Fishers Exact test to assess the association and Pearson co relation was used to assess the relationship between blood glucose level and depressive symptoms.

Results: The study results revealed that 76% of the study participants had mild depressive symptoms and 13% of them had moderate depressive symptoms. There was a weak linear negative relationship between overall depressive scores and blood glucose level among antenatal woman (r=-.381). However the fishers exact test results shows that there was a significant association between depressive symptoms and blood glucose level (p=>0.0001). The study findings conclude that there is a significant association between depressive symptoms and blood glucose level.

Conclusion: Antenatal period is a crucial period so it is necessary to differentiate the normal phenomenon and depressive symptoms to reduce the risk of mental disability

***Keywords:** Blood glucose level, Depressive symptoms, gestational diabetes, and Antenatal depression*

INTRODUCTION

Major depressive disorder (MDD) is projected to be one of the leading contributors to burden of disease globally by 2020[2]. 350 million people live with depression and it is the leading causes of disability worldwide. Global studies revealed that 41.9% woman are having depressive disorder. Studies also estimated that 7 to 20% of antenatal women are affected by antenatal depression.[2] Indians are among the world's most depressed according to a World Health Organization-sponsored study, results revealed that 9% of people in India have extended period of depression and around 36% of the people suffer from Major Depressive Episode (MDE).[3]

So the investigator has investigated about the prevalence of depressive symptoms among antenatal women and relationship between depressive symptoms and GCT results is discussed in order to investigate the

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scientific base.

NEED OF THE STUDY

Antenatal period is a maturational milestone in women .The physical as well as emotional changes that occur during pregnancy can lead to mood swings. Where the antenatal woman is not able to cope up with the changes and these can lead to depressive symptoms unfortunately the antenatal woman fails to identify the symptoms. The depressive symptom which is experienced by antenatal women also has influence on family and the society A cross-sectional study was conducted in turkey to examine the association between blood glucose level and depression among 177 women with gestational ages ranging from 24 to 28 weeks. The subjects were screened with the 50 g oral glucose challenge test. Beck Depression Inventory was used to assess the depressive symptoms among the subjects. The study revealed that depression level was higher in women with abnormal glucose results (44.3%) than in women with normal glucose results (21.7%). The study finding concludes that depression may be associated with blood glucose tolerance in pregnant women. [4] There are research evidence supporting the relationship between depressive symptoms and blood glucose level. Hence the present study aims to explore the relationship between blood glucose level and depressive symptoms among antenatal women.

OBJECTIVES

1.   To assess the blood glucose level and depressive symptoms among antenatal women of gestational period between 24 to 28 weeks.

2.   To find the relationship between blood glucose level and depressive symptoms among antenatal women of gestational age between 24 to 28 weeks.

3.   To find the association between Blood glucose level, depressive symptoms of the antenatal woman with selected demographic variables

HYPOTHESIS

H1: There will be a significant relationship between GCT and depressive symptoms

H2: There will be a significant association between GCT and selected demographic variables

H3: There will be a significant association between depressive symptoms and selected demographic variables.

ASSUMPTIONS

This study assumes that

1. There may be a relationship between depressive symptoms and GCT

DELIMITATIONS

1.   This study is delimited to the subjects who have been reported in hospitals at Mangalore.

RESEARCH METHODOLOGY

Research approach – Quantitative approach

Research design- Descriptive/cross sectional

Setting of the study-The study was conducted in selected hospitals at Mangalore

Population- Antenatal woman between 24-28 weeks with GCT results

Sampling technique- Non probability sampling

Sample size-100 Antenatal woman between 24-28 weeks with GCT results in selected hospital Mangalore

CRITERIA FOR SAMPLE SELECTION

Inclusion criteria

Antenatal mothers who are

Age between 20 to 35 years

Primi and multi Para mothers.

Gestational week between 24 to 28 weeks

Exclusion criteria

Antenatal mother who have

Complicated   pregnancy   like   hypertension, antepartum haemorrhage

Diagnosed case of other psychiatric and medical illness

DATA COLLECTION INSTRUMENTS

Part 1- Demographic proforma

Part 2- Rating scale to assess depressive symptoms among antenatal mothers

DATA COLLECTION PROCEDURE

Data were collected from 15/10/2015 to 30/12/2015. To conduct the study a formal written permission was obtained from the selected Hospital Mangalore. Subjects who met the inclusion criteria were selected by purposive sampling technique and then Informed Consent was obtained from the study participants Confidentiality was maintained .Subjects were explained about the objectives and purpose of the study.

RESULTS

SAMPLE CHARACTERISTICS

• Among 100 antenatal women 54 women are between age group 20-25 years, 3 women are between 26-30 years, 12 women are between 31-35 years, and 2 women are between 36-40 years.

• Educational qualification of 19 women had primary education, 42 women had high school education, 25 had women PUC education, and 14 women were graduates and above.

• 32 women belong to Hindu religion, 53 women belong to Muslims religion and 15 women belong to Christian's religion.

• Majority of women were house wife i.e. 85 women and others were employed i.e. about 11 women.

• About 51 women belong to nuclear family, 40 women belong to joint family and 9 women belong to extended family.

• About 17 women had less than Rupees 5000 annual income, 55 women had between Rupees 5001-10,000, 23 women between Rupees 10,001-15,000, 4 women between Rupees15,001-20,000 and 1 woman had more than Rupees 20,001.

• 56 women were from rural area and 44 women were from urban area

• 88 woman duration of marriage was less than 5

years and 22 women was more than 5 years

• About 25 women had normal BMI, 45 women were overweight and 35 women were obese.

DISTRIBUTION OF DEPRESSIVE SYMPTOMS AND GCT RESULTS

• The distribution of depressive symptoms among the 100 mothers i.e. 11 was asymptomatic and 89 were symptomatic. Of which76 showed mild symptom and remaining were moderately symptomatic. None of the mother had severe depressive symptoms

• About 84 mothers had normal GCT results and 16 mothers had abnormal GCT results.

RELATIONSHIP BETWEEN DEPRESSIVE SYMPTOMS AND GCT RESULTS

The relationship between depressive symptoms and GCT results were analysed by Pearson correlation and the "r" value was -0.381 and the p value = < 0.001. Hence there was a negative linear relationship between depressive symptoms and GCT results at the 5% level of significance. These results reveal that there is a weak relationship between depressive symptoms and GCT results.(r is near to 0)

ASSOCIATION BETWEEN THE GCT RESULTS AND SELECTED DEMOGRAPHIC VARIABLES.

Association between the GCT results and selected demographic variables were analysed by using Chi-square and Fishers exact test. The P value of Income (p = 0.001) ,Weight (p= 0.004) and BMI (p = 0.009) is less than 0.05 And hence these variables are associated with GCT results at the 5% level of significance.

ASSOCIATION BETWEEN THE DEPRESSIVE SYMPTOMS AND SELECTED DEMOGRAPHIC VARIABLES.

Association between the depressive symptoms and selected demographic variables was analysed by using Chi-square and Fishers exact test. The P value of Religion(p=0.032) Income(p=0.039) is less than 0.05 And hence these variables are associated with depressive symptoms at the 5% level of significance.

ASSOCIATION BETWEEN DEPRESSIVE SYMPTOMS AND GCT RESULTS

The association between depressive symptoms and GCT results were analysed by using fishers exact test (p=<0.0001) which is less than 0.05 and hence these variables are associated at the 5% level of significance.

LIMITATIONS OF THE STUDY

• The study was limited to only 100 antenatal women in selected hospitals.

• Gravida of the mothers was not considered. Since it was not the objective of the study to compare the gravida

• Pre pregnancy weight of the mothers was not assessed

• The data collection instrument were not standardized but it was prepared by the investigator, validity and reliability was established

RECOMMENDATIONS

• A cross sectional study can be conducted on a larger sample for   generalization of the findings.

• A comparative study can be conducted for primi and multi gravida mothers

• An interventional study can be conducted for antenatal women with abnormal GCT results.

CONCLUSION

Antenatal depression as well as gestational diabetes mellitus is been affecting the physical and psychological health of the woman which are contributing to burden of disease. Since these both are the leading cause for disability among women of child bearing age.it is necessary to take essential steps to prevent as well as to find the cause for their occurrence in women.

Source of Funding: Self

Conflict of Interest: Nil

Ethical Clearance: Ethical clearance obtained from Nitte Usha institute of nursing sciences institutional ethics committee

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A Descriptive Study to Assess the Adequacy of Nursing Measures Carried Out to Minimize the Pressure Ulcers During Peri-operative Period

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ABSTRACT

Peri- operative period is a crucial period for the patients undergoing surgeries. patient safety is important to prevent intra-operative complications. Medical personnel are challenged with preventing skin injury in the perioperative environment due to prolonged periods of patient immobility, compromised circulatory function under anesthesia, and preexisting conditions of many surgical patient populations. While great strides have been made in protecting the patient from skin injury, it is an issue that still needs to be addressed. These skin injuries may result in extended hospital stay, increased medical costs and prolonged morbidity. The healthcare facility may also incur financial and legal ramifications from these injuries. A descriptive study was conducted to identify the adequacy of nursinig measures carried out to minimize the pressure sores during peri-operative period. A total of 40 staff were selected for the study by convenient sampling technique.the overall adequacy of the nursing measures carried out by nurses to minimize the pressure ulcer was (84.97%) which is good.

Keywords: Nursing Measures, Pressure Ulcers, Peri- operative Period.

INTRODUCTION

Prevention is better than cure.

'Perioperative' refers to the total surgical experience and includes pre-, intra- and postoperative phases of the patient's surgical journey (Phillips, 2004). Turner et al (2000) identified that the perioperative environment is potentially one of the most hazardous of all clinical environments. Patient and staff safety is paramount throughout the perioperative environment and a proactive clinical risk management strategy involves assessing, identifying, controlling, monitoring, reducing and evaluating risks to improve the quality of care delivered (Wilson, 2000). Within the intra operative phase, the patient is vulnerable and totally reliant on peri-operative nurses and other members of the team to ensure that they come to no harm.

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Medical personnel are challenged with preventing skin injury in the perioperative environment due to prolonged periods of patient immobility, compromised circulatory function under anesthesia, and preexisting conditions of many surgical patient populations. While great strides have been made in protecting the patient from skin injury, it is an issue that still needs to be addressed. These skin injuries may result in extended hospital stay, increased medical costs and prolonged morbidity. The healthcare facility may also incur financial and legal ramifications from these injuries

Margareta Lindgren, Mitra Unosson, Ann-margret krantz, an Anna-christina ek, (june 2005)[5] in their study on pressure ulcer risk factors in patients undergoing surgery mentioned that the patients undergoing surgery are immobile and unable to change position. They cannot feel the discomfort prolonged pressure will causebecause of the sedation and anaesthesia. They may thus be at high risk of developing pressure ulcers (Kemp et al. 1990) During surgical procedures, the surgical team is responsible for positioning the patient in a way that optimizes surgical exposure while still protecting the

patient from harm. Poor surgical positioning of patients and misuse of positioning devices and equipment pose serious risks to patient safety; these include skin breakdown, irreparable nerve damage, ischemia, and even, in some instances, death. Surgical staff must understand the physiologic effects of positioning and know how to use positioning devices and equipment. Steps that must be taken include preoperatively assessing the patient to identify patient factors that may affect his or her response to positioning, conducting an evaluation of the chosen position, ensuring consistent documentation, and performing a postoperative patient evaluation. Surgical staff must understand the physiologic effects of positioning and know how to use positioning devices and equipment.

Statement of the problem:

A descriptive study to assess the adequacy of nursing measures carried out to minimize the pressure ulcers during peri operative period by the OR nurses of CMC, VELLORE.

OBJECTIVE OF THE STUDY

1. To assess adequacy of the nursing measures carried out by nurses to prevent the pressure ulcers during peri-operative period.

Hypothesis:

1. Adequacy of nursing measures will minimize the occurrences of pressure ulcers.

METHOD

A Descriptive design was chosen to assess the nursing practices by nursing personnel to prevent the pressure ulcer during the peri-operative period. The study was conducted in the Main operation theatre of Christian Medical College, Vellore, a multi specialty, tertiary medical care centre which has got 24 operating rooms , where 70 to 80 surgeries are being performed everyday. All the nursing personnel working in the OR was the population. Nursing staff who are working in main operating room who fulfilled the inclusion criteria was selected as samples. The convenient sampling technique was used to select the sample. The investigator identified the staff who was circulating for the surgery who fulfills the inclusion criteria. Forty samples were collected. The tool used for data collection was an

observational check list prepared by the investigator which consists of 10 questions was used to observe the nursing practice. Each aspect which was done was given 1 mark and item which was not done was given 0 mark respectively. The data was collected from Monday to Friday from 7.30 am to 4.30 pm. First week the data was collected in General surgery OR, 2nd week orthopedic and trauma OR, and 3week in urology OR. Each aspect which was done is given 1 mark and items which is not done was given 0 mark respectively.

90 %to 100% - very good

70% to 90% - - good

< 70%   - average

Validity and reliability of the tool:

The validity of the instrument was established with the guidance and opinions of experts in Nursing field. The instrument is constructed in English only.

Data collection procedure:

The data was collected for 3 weeks starting from 2.7.14 to 23.7.14 for 5 days a week, 8hrs a day. The first week from Monday to Friday 7.30 am to 4.40pm the investigator went to the general surgery operating rooms , the 2nd week the orthopedic and trauma OR was selected, and the 3rd week the urology surgery operating room was selected. The investigator observed in a non-participatory method.
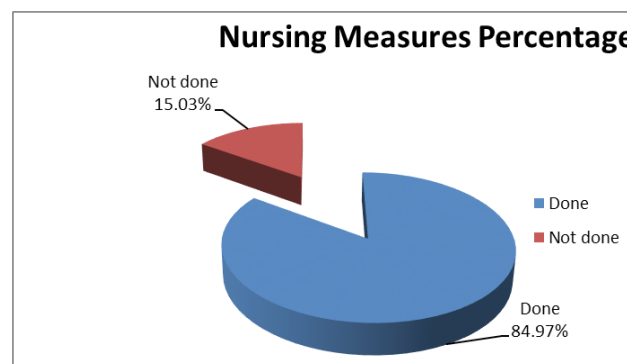
RESULTS

Figure 1: shows that 84.97% had carried out the nursing measures to prevent the pressure ulcers and 15.03% had not carried out the nursing measures.

DISCUSSION

A total of 40 staff were selected for the study by convenient sampling technique. Majority of the staff

31(77.5%) were more than 2 years of experience, 97.5% were GNM. Aronovitch, Sharon [1] did the study nationally on introperatively acquired pressure ulcerprevalence with 1128 patients found that Forty percent of those surveyed underwent a procedure lasting approximately 3 hours and 33% underwent surgery lasting more than 5 hours. As the length of surgery increased, so did the percentage of patients with pressure ulcers. Most patients had at least 1 co-morbid condition (78%). The risk of intra-operative ulcerations increases as surgical time increases.

Mary Beth O'Connor[3] in her article nursing interventions among surgical patients illustrated that the Use of devices to reduce risk OR nurses use a static-free, non-shearing transfer board to prevent skin damage as the patient moves from the gurney to the surgical table, and back to the gurney at the end of the procedure. Once the patient has been transferred to the surgical table, the OR nurse redistributes and optimizes pressure by placing positioning devices—which offer support, diminish pressure, and avoid friction and shearing—beneath and around the patient. Positioning devices may include pressure redistribution mattresses, a fluid immersion surgical surface (used for patients with extremely poor skin integrity), gel pads and positions, conforming ("memory") foam, and wedges. For patients expected to lose a lot of blood, the nurse places moisture absorption pads under the patient. When prepping the patient x^2 with antiseptic solution, the nurse ensures that no fluid or moisture reaches the bedding. In this study the use of adequate position articles used (100%), and also used rollers to transfer the patients (100%).

Kelly Cristina Scarlatti et al [2] in their study on Pressure ulcers in surgery patients incidence and associated factors found that there was an association between the ventral position and a greater number of PUs, adding up to 37 (50%) ulcers, with most occurring on the chest (9 – 12.1%), eyelids (6 – 8.1%), breasts and knees (4 cases [5.4%] each). Among the lesions that occurred in this position , 27 (36.4%) were stage I; nine (12.2%), were stage II, and one (1.4%) was stage III. In this study also only 14 (35.0%) staff had assisted while positioning the patient.

Assisting in positioning the patient is an important factor to prevent the pressure ulcers.

In this study the overall adequacy of the nursing measures carried out by nurses to minimize the pressure ulcer was (84.97%) which is good.

CONCLUSION

Positioning the patient correctly to enable easy surgical access requires coordination and cooperation from the whole team. Manual handling regulations recommend that the team involved undertake a risk assessment for the moving and positioning of each individual patient, and that relevant aids and methods are used to reduce patient movement and potential injury to both staff and patients (Turner et al, 2000). An assessment will include the physical condition of the patient, nature of the intervention and individual patient needs (NATN, 1998). When positioning patients, consideration should be given to avoiding nerve and joint injury, avoiding mechanical trauma such as shearing, friction burns and damage to soft tissue, and ensuring that at all times the anaesthetized patient is physically well supported.

Nerve injuries are an outcome of poor positioning, with direct pressure resulting in ischemia to that area: e.g. radial nerve injury can occur if the arm is left hanging over the edge of the operating table; ulna nerve injury due to compression by an inappropriately placed arm support; and fibular nerve injury due to compression when using the lithotomy poles. Perioperative nurses must therefore ensure that mechanical aids and supports are padded and used appropriately (Stoker, 2002).

When positioning patients, consideration should be given to avoiding nerve and joint injury, avoiding mechanical trauma such as shearing, friction burns and damage to soft tissue, and ensuring that at all times the anaesthetized patient is physically well supported. Peri-operative nurses must therefore ensure that mechanical aids and supports are padded and used appropriately (Stoker, 2002). Shearing forces can occur when moving the patient on the operating table, resulting in tissue damage, which may go undetected. The use of gel mattresses or similar pressure-relieving adjuncts can redistribute the pressure across a wider area (O'Reilly, 2001). Total operating room time was also a significant predictor of pressure ulcers. Specifically, a 1-hour increase in time in the operating room increased the risk for pressure ulcers by 1.07 (OR, 1.07; 95% CI, 1.03-1.11; $P <$ .001). In addition, patients who received vasopressors during their hospital stay were 33% more likely to acquire a pressure ulcer than were patients who

did not receive vasopressors. Patients who had a history of diabetes were 49% more likely to acquire a pressure ulcer than were patients without such a history.

According to patina s. Walton-Geer,[4] Positioning is a crucial component of surgical care. A patient's body must be positioned adequately on an OR bed and proper body align -ment must be maintained to lessen the potential risk of skin injuries Hence the staff should assists in positioning the patient, ensure that the mattress is in good condition, adequate and appropriate positioning articles are used, care has to be taken to the pressure areas with well padding, and ensure that the skin is dry after the skin preparation.

Ethical Consideration: permission obtained from college and from the Head of the department

Conflict of Interest: Nil

Source of Funding: Self

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Current Status of End Stage Renal Disease in India – A Narrative Review

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ABSTRACT

End-stage kidney disease (ESRD)is the widely prevalent non communicable disease in India. It also contribute to the major cause of loss of life. **Objective:** This narrative review aimed at to find the current status of ESRD in India. **Methodology:** An elaborative literature search was conducted among peer reviewed and indexed journals with different terminologies in the different data bases like CIHAL, MEDLINE, PUBMED. Study surveyed about 316 studies and the findings were concluded from 11 survey studies. **Results:** Three of the 11 studies reported diabetes mellitus and hypertension are the major cause of ESRD. Early identification and treatment can prevent this complication. The exact magnitude of the burden of chronic kidney disease or end-stage kidney disease is not known because of lack of accurate registries' and failure of reporting systems. One of the population-based study the incidence of ESRD would be 152 per million population. **Conclusion:** Prevalence of ESRD is rapidly increasing in India due to the hike in the counterpart contribution of diabetes and hypertension.

Keywords: End-stage kidney disease, current status, Non communicable disease.

INTRODUCTION

The burden of non-communicable disease (NCD) has increased in recent years and it is estimated that over 40% of all deaths are due to NCD. The exact magnitude of the burden of chronic kidney disease or end-stage kidney disease is not known. An Indian population-based study determined the crude and age-adjusted ESRD incidence rates at 151 and 232 per million population, respectively. It would mean that about 220,000–275,000 new patients need dialysis every year. It is estimated that there are about 55,000 patients on dialysis at any one point of time in India, and the dialysis population is growing at the rate of 10–20% annually.

MATERIALS AND METHOD

This was a narrative review aimed at to assess the current status of ESRD in Indian population. An extensive literature search on ESRD related studies as an outcome of diabetes and hypertension was reviewed. Review was conducted in the data base of CINHAL, PUBMED and MEDLINE using the MeSH words ESRD,CKD, chronic kidney disease, outcome of ESRD, Etiology of ESRD.

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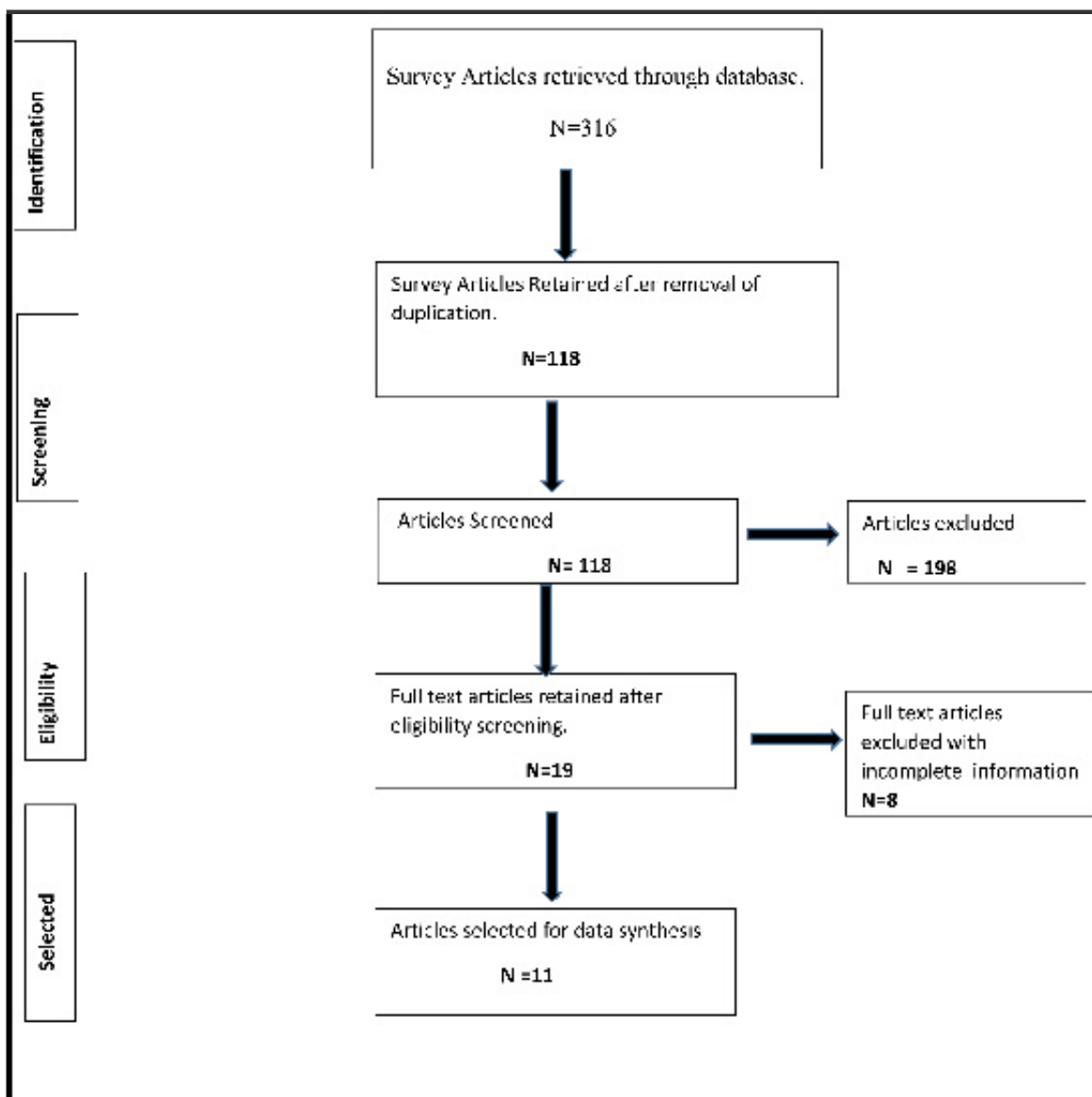
Fig No:1 Prisma Chart showing Review Article Process

Sampling Criteria:

1. Study participants with 18 years and above.

2. Only survey designs

3. Indian survey studies

RESULTS

Preliminary search retrieved a total of 318 articles. Finally only eleven studies were included for the data synthesis according to the art eligibility criteria. Details are described in table no.1

Table No.1 Characteristics of Review Articles.

Author/Year	Design/ Materials	Objective/ Variable	Sample size	Population	Results
P. P. Varma 2015	Cross sectional survey to assess microalbuminuria in early stages of CKD and calculated GFR by MDRD and CKD-EPI equations. Prevalence of chronic kidney disease in India - Where are we heading?	CKD prevalence	3396	Healthy government employees of Delhi.	Population was relatively younger (35.64 ± 8.72 years) but diverse age group. 13–15% were diagnosed to have undiagnosed hypertension and 1.53% diabetes. Prevalence of CKD as 13–15.04% with stage 1, 2 and 3 as 6.62%, 5.40% and 3.02% respectively.
Hargovind T. et.al	Estimated glomerular filtration rate (eGFR) was calculated by MDRD formula. eGFR	ESRD prevalence and associated factors	2350	semi-urban population of Gujarat	CKD was found in 20.93% and eGFR <60 mL/min/1.73 m^2 was noted in 8.29% of participants. The prevalence of CKD peaked after the seventh decade of life in both genders. There was no significant difference in the prevalence of CKD between coastal and non-coastal regions, however, obesity, hypertension and diabetes were more common in the coastal belt, whereas stone burden was greater in the non-coastal region.
R.Rajesh et.al	Cross-sectional, observational study with Glomerular filtration rate [GFR] <60 ml/min/1.73 m2or albumin creatinine ratio [ACR] ≥ 30 mg/g or ≥ 3 mg/mmol or both). The blood/plasma and urine samples, were collected for estimation of hemoglobin A1c, microalbuminuria, serum creatinine, urine creatinine	CKD prevalence	3043	Nationwide, multi-centric study	The mean age was 53.4 (± 11.9) years, with a mean body mass index of 27.3 (± 4.8) kg/m2. Both micro and macro vascular complications were reported. In the studied population with T2DM, 47.8% had mildly decreased, 15.1% had mild to moderately decreased, and 1.8% had severely decreased GFR respectively. As per ACR categorization, 61.3% had normal to mildly increased ACR, 25.6% with moderately increased and 7.2% with severely increased ACR were seen. 48.4% prevalence of CKD in T2DM patients.
SR Gedela, Ratna Mahendru, Sougat Ray 2014	Cross sectional study Estimation of urinalysis, hematological and biochemical parameters including Se Creatinine. Glomerular Filtration Rate was estimated by MDRD formula	Prevalence of ESRD and its indicators l	2075	Industrial population at Visakhapatnam	The mean age of the population was found to be 50.31 yrs with SD 7.62. Smokers constituted 26.26% of the population. Historically only 19.7% of the people had past history of hypertension, 12.87% had diabetes mellitus, and only 0.72% had any history of renal disease. 12.4% of the population were found to be having diabetes and 49.7% found to be having hypertension. Proteinuria was found in 12.5% of the population. Anemia was found in 4.1% of the population. As per the estimated GFR, 6% of the population were found to be having CKD (GFR < 60%).
Sheela P. Haveri, Sebastian NM , Jesha M M , Arya S. Nath 2014	Cross sectional survey BMI, BP, Blood parameters	Prevalence of ESRD and associated factors and burden of it.	735 adults above the age of 20	Vettathoor Panchayat rural population in northern Kerala	The prevalence of any stage of chronic renal failure was 4.8% and renal failure was 3.6% of adult population. Hypertension and diabetes which increases the risk for chronic renal disease are present in most of the cases and the risk was many times more when both were present (adjusted odds ratio = 22.3)

Y. J. Anupama and G. Uma 2014	Cross sectional survey Anthropometric measurement Fasting blood sugar serum creatinine Glomerular filtration rate was estimated (eGFR) (MDRD) formula (eGFR) and the Cockcroft-Gault (CG) equation corrected to the body surface area (BSA).	ESRD prevalence and to find the association with risk factors	2091	Rural population in the south interior part of Karnataka, India	Mean age was 39.88 ± 15.87 years. The subjects were predominantly young with more than 70% aged below 40 years. There was a female preponderance with females constituting (54.43%) of the population. The prevalence of diabetes in this study was 3.82%. Of the 80 subjects found to have diabetes, only 34 (42.5%) were aware of their diabetic status. Forty-six were newly detected to have diabetes. Hypertension was seen in 702 (33.62%) subjects of whom only 106 (15.07%) subjects gave a history of hypertension indicating that nearly 84.93%% were unaware of their hypertensive status. Prevalence of CKD taking both decreased GFR and proteinuria into consideration was found to be 6.3% by MDRD criteria and 16.69% by CG-BSA method.
GK Modi and V Jha 2014	Cross sectional survey. ESRD incidence was estimated for four consecutive calendar years (2002–2005) by assessing haemoglobin, blood urea, creatinine,BMI,	Prevalence of ESRD and related factors	572 029	36 of the 56 wards of the city of Bhopal.	Total of 346 new ESRD patients were diagnosed during the study period. Average crude and age-adjusted incidence rates were 151 and 232 per million population, respectively. The mean age was 47 years, and 58% were males. Diabetic nephropathy was the commonest (44%) cause of ESRD. This study highlights the emergence of diabetic nephropathy as the major cause of ESRD in India.
Singh et.al 2013	Cross sectional survey Demographic details, Anthropometric details, Urine albumin, serum creatinine and sugar.	CKD prevalence and related risk factors	6120	Adults of North India, North west India, Central India,Western India, South west India, South east India.	The overall prevalence of CKD in the SEEK-India cohort was 17.2% with a mean eGFR of 84.27 ± 76.46 versus 116.94 ± 44.65 mL/min/1.73 m2 in non-CKD group while 79.5% in the CKD group had proteinuria. CKD was higher in males across all stages of CKD Prevalence of CKD stages 1, 2, 3, 4 and 5 was 7%, 4.3%, 4.3%, 0.8% and 0.8%, respectively. The highest prevalence of CKD was observed in Visakhapatnam, Andhra Pradesh (46.8%), Kanpur, Uttar Pradesh (41.7%) and Delhi (41%). The lowest prevalence was observed in Mysore and Bangalore in Karnataka state (4.2% and 4%, respectively). The most common risk factors and other characteristics among the subjects diagnosed with CKD were hypertension (64.5%), anemia (40.7%) and diabetes (31.6%).
Galemi M.et.al 2013	Cross sectional survey BMI, Serum creatinin and Urine albumin	ESRD prevalence and related factors	2535	south area of Kolkata	Dipstick proteinuria was positive in 7.7% of subjects. In a subsample of high risk subjects with hypertension or urine dipstick proteinuria $\geq$1+, albumin-creatinine ratio (ACR) of 30–300 and $\geq$300 mg/g in 23.5% and 2.1%, respectively. Lower prevalence of CKD stages 3 to 5 and 4.1% in total prevalence.

Rajapurkar M.M,et. Al 2012.	Cross sectional survey. The data collected included etiology of CKD, anthropometric data, serum creatinine, presence of diabetes, hypertension and cardiovascular disease, history of indigenous medication use and management details at the time of reporting.	CKD prevalence and etiological factors	52,273	Adult patients South, North, West and East zones .	Of the 52,273 adult patients, 35.5%, 27.9%, 25.6% and 11% patients came from South, North, West and East zones respectively. The mean age was 50.1 ± 14.6 years, with M:F ratio of 70:30. Patients from North Zone were younger and those from the East Zone older. Diabetic nephropathy was the commonest cause (31%), followed by CKD of undetermined etiology (16%), chronic glomerulonephritis (14%) and hypertensive nephrosclerosis (13%). About 48% cases presented in Stage V; they were younger than those in Stages III-IV. Diabetic nephropathy patients were older, more likely to present in earlier stages of CKD and had a higher frequency of males; whereas those with CKD of unexplained etiology were younger population.
Agarwal SK, Dash SC, Irshad M, Raju S, Singh R, Pandey RM. 2009	Cross sectional survey. Adopted multi-stage cluster sampling method in the South Zones of Delhi. The individuals contacted responded to a detailed questionnaire, and had a physical examination, a dipstick urine test for albumin and sugar and a blood test for serum creatinine.	Prevalence of chronic renal failure in adults in Delhi, India	4972	Delhi	A serum creatinine >1.8 mg% defined renal failure. A repeat test for serum creatinine was done after 8-12 weeks to confirm chronicity of renal failure. If it was >1.8 mg% after 3 months in the absence of reversible factors, CRF was diagnosed. heir mean age was 42+/-13 years; 56% were males. the prevalence of CRF in that adult population was 0.785% or 7852/million.

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Analysis of Multiple Choice Questions: Item Difficulty, Discrimination Index and Distractor Efficiency

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ABSTRACT

Background: The quality of the multiple-choice questions (MCQs) used in educational measurement depends on their difficulty index (DIF I), discrimination index (DI) and distractor efficiency (DE).

Aim: The study is aimed at analyzing the single response MCQs of an Anatomy course in an undergraduate nursing program and finding the relationship between the DIF I and DI.

Material and method: The 48 MCQs and 144 distractors used in a summative exam after completion of 15 credit hours of an Anatomy course, attended by 56 students in a College of Nursing in Saudi Arabia, were analyzed.

Results: Twenty-four out of 48 MCQs had average DIF I (30-70%), 29 items (60.40%) had excellent DI (>0.35) and 10 (20.83%) were good items (DI=0.25-0.34). When the two indices were combined, there were 23 'ideal' questions. The mean DIF I and DI were 67.50 and 0.44 respectively. There were 107 (74.30%) functional distractors in all. The proportion of items having 0,1,2 and 3 non-functional distractors (NFDs) were 50%, 27.08%, 18.75% & 4.17% respectively, with a mean DE of 74.30%. There was a significant negative correlation between the DIF I and DI (r=-0.721; p<0.01), showing that with increasing difficulty index, the ability to discriminate between the high and low achievers decreased.

Conclusion: Generating high-quality items is an important aspect of the educational assessment. Analyzing items and banking them for future use will enhance the quality of assessment. The results of the study will provide an opportunity to change the way MCQs are developed and used in educational assessment.

Keywords: *Item analysis, Difficulty Index, Discrimination Index, Distractor Efficiency, Nonfunctional Distractors*

INTRODUCTION

Appropriate use of assessment strategies is a challenge to educators. Assessment, integral to learning involves an appraisal of student learning and feedback for improving teaching-learning experiences. It is commonly known that assessment drives learning[1].

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Carefully constructed tests by educators will enhance educational functions. Increasingly multiple choice questions (MCQs) are used for assessing students' performance. Therefore, there is a growing concern about the quality of the tests that are used for assessment.

A wide range of content and objectives on a large number of students are assessed through MCQs [2]. Not all educators agree with the use of this format. Few concede that it is time-consuming and challenging to develop MCQs for measuring higher cognitive skills [3]. Others are of the opinion that MCQs focus on recall rather than comprehension, application and analysis of course-related information[4]. Unfortunately,

examination items testing factual and conceptual items are reported to be high in medical and nursing settings. In a baccalaureate nursing program, over 91 % of all MCQs used for educational assessment were of recall /comprehension level types [5]. For tests to be valid, they must be well-constructed, reflect the desired cognitive functions to be assessed and be devoid of flaws.

Flawed items are unsuitable for assessing the intended domains and consequently affect the quality of the test. Further, the performance of high – achieving students are not appropriately reflected in comparison to the borderline students when the items are flawed [2]. Teachers can reduce item flaws and improve the quality of items by following the principles of item- writing and analysis of the item's performance.

Effective MCQs possess appropriate difficulty level and the ability to discriminate between performers and non- performers [5]. An item analysis enables identifying the quality of MCQs based on difficulty index (DIF I), discriminating index (DI) and distractor efficiency (DE). Clues and errors influence the ease or difficulty of an item. Sayyah et al in an assessment of 37 exams (1793 items) of the faculty of Nursing and Midwifery, reported 17.7% of exams had item difficulty less than 0.30 and 25.9% were over 0.70 [6]. Average item difficulty lies between 30 and 70 %. Those items with a DI of >0.24 have good to excellent discrimination ability [7]. According to Haladyna, more than half the test items that educators develop do not produce the intended results[8]. Items on teacher generated - tests therefore need to be studied. [9]; poorly and ineffectively answered items can be removed from further use thereby making the test more effective [2].

Examining distractor performance in teacher-generated tests is of interest. High-quality MCQs require well-written options, with effective distractors. To be efficient, these options should be based on common misconceptions [10]. Functional or efficient distractors are chosen by more than 5% of examinees[11,12]. Placing implausible distractors are of little use. Therefore framing plausible distractors and reducing the number of non-functional distractors (NFDs) improves the test quality.

Since teacher-generated tests are widely used for assessment, it is important to determine the quality of test items, and bank high-quality items. The objectives of the descriptive analysis were 1) to identify the quality of the test items by determining the difficulty index (DIF I), discriminating index (DI) and the distractor efficiency (DE); and 2) to find the relationship between DIF I and DI.

MATERIALS AND METHOD

The descriptive, analytical study was conducted in a College of Nursing of a Governmental University in Saudi Arabia. The 48 single answer MCQs of an Anatomy exam conducted in the year 2015 were analysed. The 15- credits Anatomy course spanned over a semester in the second year of the Baccalaureate Nursing program. The exam answered by 56 students, included other forms of objective items also. Each MCQ comprised of a stem and four options: one key and three distractors. The correct answer was awarded one score, and the incorrect response or un-attempted item was given zero, with no negative marking. The score ranged from 0-48 which was aggregated when computing the final score.

Data Collection and Analysis

Permission to conduct the study was obtained from the Vice Dean of the College of Nursing. Because the study was not done on human subjects, Institutional Review Board approval was not sought. All 56 answer scripts were retrieved in February 2017 and coded. A total of 48 MCQs and 192 options (48 correct answers and 144 distractors) were assessed, to identify the DIF I, DI and DE.

The high and low group comprised of 27% of students in each group. The DIF I was computed using the formula H+L/Nx100, where H and L are the correct responses in the high and the low groups, and N is the total number of examinees in both groups. Values between 30% and 70% are acceptable, with lower values reflecting the higher difficulty and vice versa. The DI computed using the formula DI=H-LX2/N expresses the power of the item to differentiate between the high and the low achievers, and ranges between 0 and 1. Greater values indicate higher discrimination power. An item with a DI>0.35 is considered to be 'excellent', 0.25-0.34, to be 'good', 0.15 – 0.24, to be 'marginal' and <0.15 to be 'poor' [7]. A negative DI (less than zero) indicate that low achievers answer the item more correctly than high achievers. This is possibly due to item flaws or

inefficient distractors.

Distractor efficiency (DE) is calculated on the basis of the number of NFDs in an item and ranges from 0-100%. NFDs are those options other than the key when selected infrequently by the respondents (<5%), and do not perform their function. An item with no NFDs has a DE of 100%. When the item has one, two or three NFDs, the DE will be 66.66%, 33.33% and 0% respectively.

RESULTS

Total 48 MCQs and 192 options (48 correct answers and 144 distractors) were analyzed. The scores obtained in the exam ranged from 8-47. The mean and standard deviation (SD) of the DIF I (%), DI and DE (%) were 67.50 ±14.33, 0.44 ± 0.19 and 74.30 ±30.16 respectively.

Difficulty and Discrimination Indices: Of the 48 items, 24 items (50%) were good and had average difficulty (DIF I=30-70). When the DI was assessed, most items were either excellent (n= 29; 60.40%) or good (n=10; 20.83%) with DI above 0.24. Items with a DI below 0.25 were either marginal or poor. (Table 1). Only one item had a negative DI.

Table 1: Distribution of Items in relation to DIF I and DI

Parameters	Items	Percentage	Interpretation	Mean SD
Difficulty index (DIF I)				**67.50 (±14.33)**
>70	24	50	Easy	
30-70	24	50	Good	
<30	0	0	Difficult	
Discrimination Index (DI)				**0.44 (± 0.19)**
>0.35	29	60.40	Excellent	
0.25-0.34	10	20.83	Good	
0.15-0.24	3	6.25	Marginal	
<0.15	6	12.50	Poor	

To be acceptable, an item should have an average difficulty of 30-70 and a discrimination index of not less than 0.25. When the two indices were combined, there were 23 (47.91%) 'ideal' items.

Distractor Analysis: Almost three fourth of the 144 distractors (n=107; 74.30%), were functional with a choice frequency of >5%. The remaining (n=37; 25.70%) were NFDs.

Distractor efficiency varied among the items. Overall out of 48 items, 24 items had functional distractors (DE = 100%). The DE for the remaining 24 items varied between 0% and 66.66%. A little over one-fourth of 48 items i.e.13(27.08%) had one NFD (DE=66.66%), and nine items (18.75%) had two NFDs (DE=33.33%). A very small proportion of items (4.17%) had 0% DE. (Table 2). The overall mean and SD of the DE was 74.30 and 30±0.16 respectively.

Table 2: Distractor Analysis: Distribution of Items and Non functional Distractors

NFDs	Distractor Efficiency	Number of items	Percentage
0 NFDs	DE=100%	24	50.00
1 NFD	DE=66.66%	13	27.08
2 NFDs	DE=33.33%	9	18.75
3 NFDs	DE=0%	2	4.17

Correlation between Discrimination index and difficulty index

Pearson's correlation between DIF I and DI showed a significant negative correlation (r= -0.721; p < 0.01); two-tailed. This indicates that with increasing difficulty value (easier the item), the power of the item to discriminate between high and low achievers is decreased.

DISCUSSION

The item analysis of 48 MCQs of an Anatomy examination was conducted, to determine the DIF I, DI and DE. Item analysis enables test paper setters to identify the quality of the items used for student assessment. Further, identifying ideal questions and developing an item bank for future assessment will enhance the quality of the assessment in education.

The DIF I of an item depicts the ease or difficulty of an item. Fifty percent of items (24 items) had average difficulty. Similar findings were reported in a Community Medicine examination wherein, 24 out of 50 items had good to excellent DIF I [13]. The mean DIF I in our study was 67.50 (±14.33), well within the acceptable range of 30-70. Mitra reported the mean difficulty of multidisciplinary summative exams between 64% and 89%[14]. As the complexity of exams increases, the difficulty level of the items also increases. Our exam measured factual content in Anatomy, which might explain why 50% of the items were easy. The remaining 50% of items in our study had average difficulty; a higher percentage of (65%) was reported in a physiology exam in a medical setting [15]

The mean DI (0.44) was acceptable; collectively, more than 80% of the items were either excellent or good; only one item had negative DI. In a Physiology exam for medical students, 62% of items were reported to have excellent DI[12]. Discrimination ability is an important index that provides information on the ability of the item to discriminate between the high and the low performers. Items that discriminate poorly must be examined for possible deficiencies and may either be modified or discarded.

A combination of the two indices in our study revealed 23 'ideal' items that constituted almost 50% of the test items. Our study found a higher proportion of ideal items in comparison with other studies that reported only 15 ideal items out of 50 items [13].We found a larger number of items appropriate for item banking.

Overall, we found nearly three-fourth of all distractors (74.30%) had 100% DE and were functioning. The remaining over one-fourth (25.70%) were NFDs. Similar to our study findings, medical education settings have reported 75.8% to 89.6% of functional distractors.

Distractors are analyzed to determine their usefulness in tests. When distractors do not perform as expected, they must be removed from the test. Our study found a low percentage (25.70%) of NFDs. Haladyna and Downing reported higher percentage (over 38%) of NFDs that subsequently required elimination [16] Contrary to our findings, only 11.4% NFDs were reported among 50 MCQs and 150 distractors in a medical setting [13]. In an assessment of seven test papers of undergraduate nursing students, that had 514 items and 1542 distractors, Tarrant found only 52.25% of distractors were functioning [11].

Item-wise distribution showed that only 50% of all items had functioning distractors or a DE of 100%. A higher percentage of items (70%) with NFDs were reported in a medical setting [13] Kolte reported 47.5% items had 100% DE in a Physiology exam of first years MBBS students [15]. On the contrary, lower percentage of items (19.3%) with 100% DE was reported by Sayyah et al. [6]

Of concern in our study is the high proportion of items (50%) with NFDs. It was not surprising to have a large number of items with NFDs in an examination where training of faculty in item generating is required. One must expect 50% of the items for teacher- generated tests [8]. Faculty often use implausible distractors when they find it difficult to develop good distractors.

When we have a large number of implausible items in a test, it is worth examining the number of distractors to be used in future assessments. Flaws in MCQs affect the performance of the students.

Our study found a significant negative correlation between the DIF I and DI, signifying that with increasing ease of an item, the discriminating power of the item decreases. Items with lower DI should be assessed for ambiguity, clues and even wrong keys. Our items

had four options: one correct answer (key) and three distractors. For improving any test, it is not the number of distractors, but the plausibility of the distractors that need focus. Evidence supports the use of three options. A meta-analysis of multiple questions with three options, over 80 years of research, shows that three options are appropriate[17]. One can examine if there is a need to increase or decrease the number of distractors. Teachers must use evidence to improve the quality of tests they construct.

Strength and Limitations

To the best of our knowledge, this is the first study conducted in the basic sciences course of the Nursing program in Saudi Arabia, to analyse items of a faculty-generated exam. The number of examinees on whom the test was administered was small in number. Further studies on larger student population will help to improve the assessment strategies in the undergraduate Nursing curriculum. The outcomes observed in this study is limited to one exam in one course and does not reflect other academic courses. Since we have not randomly selected the test, there is an element of sampling bias. Results from this study highlight the importance of analysing items after test administration and using the results to develop test banks.

CONCLUSION

Generating high-quality items and developing test banks is an important activity in the educational assessment. Analysing the items, to identify quality MCQs and banking them will enhance the assessment techniques. Items that fail to discriminate students need to be modified. Distractors that do not serve the purpose must be discarded. Faculty training in item generation will enhance the quality of the test items. The results of this study will help to change the way MCQs are developed and used in the educational assessment. It will provide the basis for modifying the assessment strategy in the curriculum.

Conflict of Interest: None declared

Source of Funding: Self

Ethical Clearance: Institutional Review Board approval was not sought because the study did not deal with human subjects.

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Prevalence of Low Back Pain among Nursing Students Compared to Physical Therapy, and Engineering Students in the United States

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ABSTRACT

The study aimed to determine the prevalence of low back pain (LBP) among nursing students at various recall time points and compare the rates with physiotherapy (PT) and engineering students. Data were collected from 214 undergraduate and graduate students using a prevalence questionnaire via REDCap. LBP prevalence rates were found to be high at all recall time points in all the three disciplines. Nursing students had similar 12-month, 30-day and 7-day LBP prevalence rates as the PT students while the engineering students had the lowest prevalence rates at all the time points. Students from all three disciplines attributed the majority of their LBP to prolonged sitting. In addition, lifting patients and sports activities were also listed as other major causes for their LBP. Lack of awareness of correct sitting posture ($p<.01$) and Body Mass Index (BMI) ($p<.01$) were the significant predictors of LBP among students. These results suggest that prevalence of LBP is high among professional students and LBP was more prevalent among the nursing and PT students.

Keywords: *Engineering; Low back pain; Nursing; Physical therapy; Prevalence; Students*

INTRODUCTION

Low back disorders continue to be one of the major work-related hazards facing nurses and a number of research studies have examined prevalence of low back pain (LBP) among registered nurses[1,2]. However, information on LBP prevalence among nursing students is limited to few studies [3-6] and no studies have been reported among nursing students in the United States. Also, limited literature report is available comparing the LBP prevalence between nursing students and students from other disciplines. Therefore, it is important to determine the prevalence of LBP for nursing students in the US and compare it with students from other disciplines namely, physiotherapy (PT; another professional involved in direct patient care and lifting patients) and engineering with no direct patient care responsibilities to gain an understanding of difference in LBP prevalence among different students.

AIMS & OBJECTIVES

The aim of this survey was to determine the LBP prevalence of nursing students and compare with LBP prevalence among PT and engineering students. The study also aimed to assess the characteristics of LBP and its association with awareness about body mechanics. We hypothesized that LBP prevalence will be higher in nursing students compared to PT and engineering students, and LBP will be associated with lack of awareness about proper body mechanics.

METHOD

Design, Setting and Sample

The convenience sample was derived from third and

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fourth year nursing students, fourth year engineering students and all three years of PT students in a university in Midwest United States. Students needed to be aged between 18-35 years to be included in the study. The exclusion criteria included a history of spinal or orthopedic surgeries, spinal trauma or fractures of large joints within the last one-year.

Instruments

Information was collected on demographics, LBP characteristics, participants' previous work experience and current job status. The LBP prevalence was assessed using prevalence questionnaire, based on methods from similar prevalence studies[3-5]. It included items on anticipated cause, intensity, duration, radiation of pain and LBP experiences at various time points to capture the 7-day, 1-month, 12-month, and lifetime prevalence. We also inquired about participant's knowledge of proper sitting, standing and lifting/patient care. The Oswestry Disability Index (version 2.0) was used to assess the disability due to LBP. Data was collected via online survey using REDCap[7], which is a secure web application for building and managing online surveys and databases.

Data management & statistical analyses

Statistical analysis was completed using SPSS, version 23.0. Chi-square test & ANOVA were used to compare various variables. Hierarchial multivariate logistic regression analysis was used to determine potential predicting variables for LBP. We used an alpha level of .05 for all statistical tests.

FINDINGS

A total of 214 students from Nursing, PT, and Engineering disciplines participated in the study. About 34% of the sample was constituted by nursing students (n=73), 41% by the PT students (n=87) and 25% by the engineering students (n=54).

Student characteristics and work experience

The majority of participants were female (56%). The differences in gender distribution across the disciplines were significant ($\chi^2 = 66.7$, d.f. = 2, $p<.001$), with predominance of females in nursing, almost equal distribution in PT and predominance of males in engineering disciplines (Table 1). Mean age of the students was 22.9 ± 2.46. Despite reaching statistical significance ($p<.05$), the actual difference in mean age among the groups was quite small.

A majority of students (89.3%) had previous work experience within the last five years and 55.2% of them currently had other jobs. The three groups differed significantly in the type of their previous work (manual work-heavy/moderate/light or sedentary) ($p<.001$) and their current job status ($p<.05$) (Table 1).

Table 1: Student Characteristics and Work Experience

Student groups	Total [n=214]	Nursing [n=73]	PT [n=87]	Engineering [n=54]	F / χ^2value	p-value
Age [mean ± SD]	22.9 ± 2.46	22 ± 2.55	24.1 ± 1.94	22.1 ± 2.34	2.01 (df-14)	.018*
Gender Male Female	95 (44.4%) 119 (55.6%)	8 (11%) 65 (89%)	42 (48.3%) 45 (51.7%)	45 (83.3%) 9 (16.7%)	66.75 (df-2)	p<.001*
BMI [mean ± SD]	23.8 ± 3.50	22.6 ± 3.29	24.3 ± 3.20	24.7 ± 3.86	1.19 (df-94)	.182
Previous work experience (last 5 yrs) Yes No	191 (89.3%) 23 (10.7%)	67 (91.8%) 6 (8.2%)	74 (85.1%) 13 (14.9%)	50 (92.6%) 4 (7.4%)	2.71 (df-2)	.258

Cont... **Table 1: Student Characteristics and Work Experience**

Type of previous work experience					
Heavy manual	21 (11%)	8 (11.9%)	4 (5.4%)	9 (18%)	
Moderate manual	91 (47.6%)	46 (68.7%)	33 (44.6%)	12 (24%)	44.37 (df-6)
Light manual	50 (26.2%)	12 (17.9%)	27 (36.5%)	11 (22%)	.001*
Sedentary	29 (15.2%)	1 (1.5%)	10 (13.5%)	18 (36%)	
Current job status* **Yes** **No**	116 (55.2%) 94 (44.8%)	45 (64.3%) 25 (35.7%)	49 (56.3%) 38 (43.7%)	22 (41.5%) 31 (58.5%)	6.39 (df-2) .041**

*p<.001   **p<.05 ***n=210

Awareness of principles of body mechanics

The three student groups differed significantly in awareness about the selected aspects of correct body mechanics, namely, sitting posture, standing posture, mechanism of lifting objects and transferring patients. In comparison to nursing and engineering students, a higher proportion of PT students were aware of correct standing & sitting posture (p<.001), back strengthening exercises (p<.001) and correct mechanism of lifting objects (p<.01). However, there was no significant difference in awareness of the correct mechanism of transferring patients between the nursing and PT students (Table 2).

Table 2: Student Awareness of Body Mechanics

Selected aspects of body mechanics	Nursing n(%)	PT n(%)	Engineering n(%)	χ^2 value	p value
Correct standing posture	47(64.4%)	85(97.7%)	35(64.8%)	33.07(2)	p<.001*
Correct sitting posture	65(89%)	87(100%)	45(83.3%)	14.03(2)	.001*
At least 2 back strengthening exercises	27(37%)	86(98.9%)	32(59.3%)	71.92(2)	p<.001*
Correct patient transferring techniques	71(97.3%)	87(100%)	***	2.41(1)	.120
Correct mechanism of lifting objects	73(100%)	87(100%)	51(94.4%)	9.01 (2)	.011**

*p<.001   **p<.05 ***Not applicable

To determine if knowledge about various aspects of body mechanics is associated with LBP, chi- square tests were performed. Lack of knowledge of proper sitting posture was the only aspect that was significantly associated with LBP ($\chi^2 = 7.690$, d.f. = 1, $p=.006$).

LBP prevalence

The LBP prevalence rates of the nursing students were high; lifetime (70%), 12-month (68.4%), 30-day (46.5%) and 7-day (31.5%) (Fig.1). With the exception of the lifetime prevalence, nursing and PT students had equal LBP prevalence rates for 12 months and 30 days. Engineering students had the lowest LBP prevalence rates at all time points. The prevalence rates across the groups were not statistically significant: lifetime ($\chi^2 = 2.68$, d.f. = 2, $p= .262$), 12-month ($\chi^2 = 1.42$, d.f. = 2, $p= .492$), 30-day ($\chi^2 = 2.75$, d.f = 2, $p= .252$) or 7-day ($\chi^2 = 1.34$, d.f. = 2, $p= .51$).
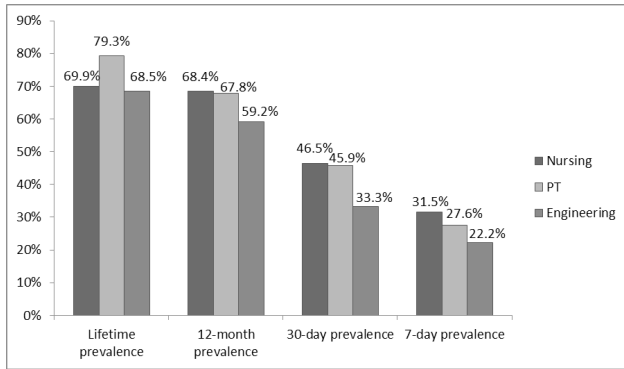
Fig 1: Lifetime, 12-month, 30-day and 7-day LBP Prevalence Among Student Groups

LBP: Characteristics impact & causes

Students who reported having LBP within the last 12 months were asked about the details of LBP episodes in terms of duration, frequency, characteristics and causes (N=141). Majority of the students - nursing (42%), PT (52.5%) and engineering (47%) - reported that within the last 12 months, their worst episode of LBP lasted < one-week. A large proportion of the students - nursing (64%), PT (50%) and engineering (47%) - reported that they had more than three episodes of LBP over the last year. Among the student sample, the majority of students across all disciplines experienced mild to moderate pain and did not experience radiating pain. Almost half of nursing students (48%) required analgesics whereas lesser proportion of PT (20.3%) and engineering (28.1%) students used analgesics for pain control. This difference across the disciplines was found to be statistically significant (χ^2 = 9.803, d.f = 2, *p*=.007). Nursing students reported higher disability due to their LBP than the other two groups (p=.02).

Sitting for prolonged periods of time was reported as the most common cause for LBP (Fig. 2). Nursing students reported sports activities, lifting patients, and excessive bending (including prolonged standing) as the other causes. Engineering students also reported sports activities second to prolonged sitting as the cause of LBP. PT students reported prolonged sitting and sports activities equally causing LBP.
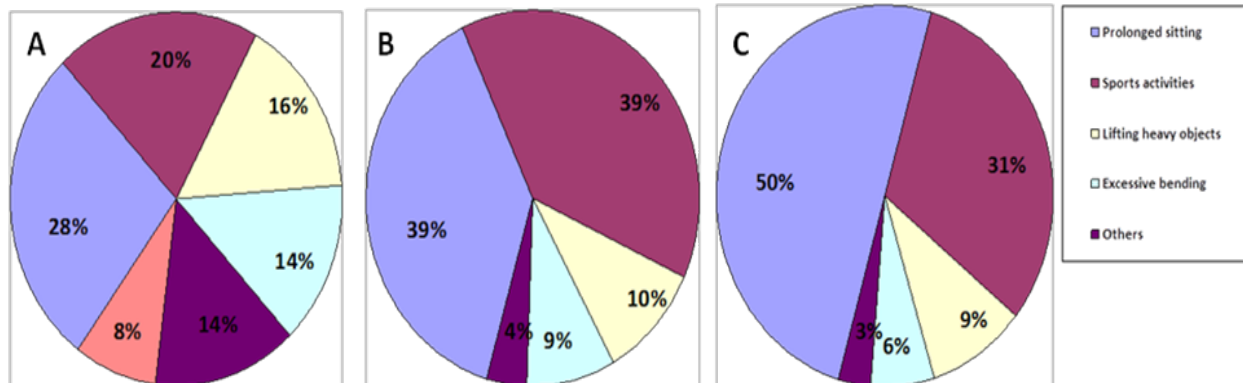
Fig 2: Causes of LBP within 12 Months

Causes of LBP reported by nursing (A), physiotherapy (B), and engineering students (C)

Predictors of LBP

Hierarchical multivariate logistic regression showed that BMI > 25kg/m^2 (*p*=.002) and lack of awareness about proper sitting posture (*p*<.001) were significant predictors of LBP among the students (Table 3). The model explained between 14.2 % to 20.6% of the variability in LBP prevalence (model χ^2 = 28.61, d.f. = 7, *p*<.001).

Table 3: Hierarchical Multivariate Logistic Regression

Included	Odds Ratio	95% CI	p value
Previous work experience	0.84	0.25-2.81	.782
Current job status	0.58	0.28-1.18	.134
BMI >25 kg/m²	4.74	1.77-12.65	.002*

***Cont...* Table 3: Hierarchical Multivariate Logistic Regression**

Study program:			
Nursing	Reference	Reference	Reference
PT	1.37	0.53-3.54	.504
Engineering	0.76	0.30-1.87	.553
Lack of awareness: proper lifting mechanisms	0.54	0.01-23.94	.753
Lack of awareness: proper sitting	10.26	2.69-39.10	p<.001**
Lack of awareness: proper standing	1.01	0.40-2.56	.977
Lack of awareness: back exercises	0.48	0.20-1.15	.102

R^2 = .142 (Cox& Snell), .206 (Nagelkerke)

*p<.01   **p < .001

Regression was done using statistically and clinically significant predicting variables after controlling previous and current work status

DISCUSSION

This was the first study to report LBP prevalence among nursing, PT, and engineering students in the United States.

LBP prevalence, causes and severity among nursing students

The study showed that the LBP prevalence is high among professional students in the United States, with well over half of the students reporting LBP in the past year. Nursing and PT students had similar 12-month and 30-day LBP prevalence while lifetime prevalence was highest in PT students and 7-day prevalence was highest in nursing students. The engineering students had lowest LBP prevalence at all-time points. Comparison of these results with other studies could not be systematically done because of differences in survey methodology (particularly recall time and level of nursing students). The 12-month LBP prevalence rate of the nursing students (68.4%) in our study cohort was higher than LBP prevalence rates reported from Hong Kong (18%)[3] but closer to Australia (71%)[4]. The lifetime prevalence rate of LBP (69.9%) in our study was found to be almost similar to that of nursing students in Australia (79%)[4] but considerably higher than in Pakistan (41%)[5].

Comparisons of LBP between nursing and other disciplines have not been extensively reported. The lifetime LBP prevalence of nursing was reported to be lower than medical students in one study in Pakistan[5]. To the best of our knowledge, this is the first study to compare the prevalence rates of nursing students with another group of health professional students (PT) where patient lifting is common and with non-health professional students (engineering). Although statistically insignificant, higher LBP prevalence rates among nursing students as compared to other disciplines warrant future in-depth studies.

Another important finding was that sitting was self-reported as number one cause of LBP followed by sports activities. Further, the majority of the nursing students perceived lifting patients as a variable associated with LBP. Considering that 40% of the nursing students experienced more than four episodes of LBP during the 12-month period and 60% of them required medical advice or analgesics for their LBP, further exploration into the activity levels of nursing students along with their awareness and practice of body mechanics are of paramount significance.

The impact of LBP on students was determined by the data on LBP severity and requirement of analgesics and medical advice. Around 32% of the respondents with LBP in the last 12 months required analgesics for their back pain and around 16% sought medical advice. The significantly higher disability score of nursing students suggest a negative impact of LBP among them as compared to both healthcare students (PT) and non-healthcare students (Engineering).

Aspects of body mechanics

Higher proportion of PT students reported awareness

about selected aspects of body mechanics than nursing and engineering students. These differences among the three disciplines were statistically significant. When compared to nursing and engineering, PT students have extensive exposure to body mechanics in their curriculum. Although both nursing and PT students are involved in patient care and perform direct patient transferring and lifting, the focus on body mechanics in nursing curriculum is disproportionately limited.

BMI and LBP

Another significant predictor of LBP among students was being overweight (BMI > 25kg/m^2) ($p<.001$). This finding was in contrast to other published studies that reported no association between BMI and LBP among students[8]. However, a recent study has reported an increase in lumbosacral angles in individuals with raised BMI, which might result in biomechanical changes in the lumbosacral spine and increase the incidence of LBP[9]. A BMI of more than 25 kg/m^2 in combination with lack of awareness regarding correct sitting posture, were found to be significant predictors of LBP among students, as explained by our logistic regression model.

CONCLUSION

The study aimed to determine the prevalence of LBP among nursing students at different recall time-points and compare them with PT and engineering students. Very high prevalence rates were reported by nursing students with lifetime prevalence of 70% and 12-month prevalence of 68.4%. Nursing and engineering students were less aware about selected aspects of body mechanics than the PT students but compliance to these aspects was self-reported as poor among all three disciplines. The most frequent cause reported, for the LBP, across the disciplines, was prolonged sitting followed by sports activities. BMI > 25kg/m^2 and lack of awareness about proper sitting techniques were significant independent predictors of LBP among the students. Further exploration into awareness and practice of body mechanics among nursing students are of paramount significance.

LIMITATIONS

A potential bias remains if there are different back pain characteristics in students who did not volunteer to participate. A certain degree of caution should be taken to generalize the findings as our study is limited to one university and may not represent other regions in the US. Since it is a cross-sectional survey, there is a potential for recall bias and survey responders to overestimate their LBP symptoms.

Conflict of Interest: None

Source of Funding: Self

Ethical Clearance: The ethical approval for the study was obtained through the University Institutional Review Board and consent was obtained from all participants.

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Writing the Hypothesis in Research

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ABSTRACT

In our everyday life we often make guesses, as to why certain things or events happen. Some of these guesses may be influenced by our beliefs, observations and experiences. We also try to relate these events to find a conclusion. What we do is, we make hypothesis, but we don't name it as hypothesis. When we do research we too have to relate our variables under study. These relationships are all predictions because we are still searching and nothing is clear. But to have a direction in the study we have to generate hypothesis by relating variables under study. What does Hypothesis mean? Hypothesis state the expected relationship between the independent variable (the presumed cause or antecedent) and the dependent variable (the presumed effect or outcome) within a population. Hypothesis, ideally, should be based on sound, justifiable rationales because if prediction does not express an anticipated relationship, it cannot be tested.

Keyword: *Hypothesis, Types of hypothesis, Testing hypothesis.*

INTRODUCTION

"It's a formal statement of the expected relationships between two or more variables in a specified population" (Nancy and Grove, 2007)[1]. "It's a prediction about the relationship between two or more variables" (Polit and Beck, 2004)[2]. It's what the researcher believes will happen in their research study.

When a relatively new area is being investigated, the researcher may have to turn to logical reasoning or personal experience to justify the predictions. Thus hypothesis furnishes proof that the researcher has sufficient background knowledge to enable him/her to make suggestions in order to extend existing knowledge. It also gives direction to an investigation. It structures the next phase in the investigation and therefore furnishes continuity to the examination of the problem. It can be tested verifiable or falsifiable. It is considered valuable even if proven false.

How to develop hypothesis? From where does it comes? Two basic types of logical reasoning's, inductive and deductive help researchers to derive hypotheses. Inductive reasoning is going from specific observation towards generalizations. For example, Sunita is a girl, she is honest, so all girls in this world will be honest. "Qualitative studies are an important source of inspiration for inductive hypothesis" (Polit and Beck, 2004)[2]. Whereas in deductive reasoning we deduce from generalizations for attaining specific observations. Theories play an important role here. As theories cannot be tested directly, "through deductive reasoning, a researcher can develop hypothesis based on general theoretical principles. Deductive hypothesis have as starting point theories that are applied to particular situations" (Polit and Beck, 2004)[2]. For example, all girls in the world are honest, so Sunita is a girl, and so she will be honest. Thus by above process one can develop a hypothesis to be empirically tested.

The use of hypothesis in quantitative studies tends to induce critical thinking and to facilitate understanding and interpretation of the data. In qualitative studies, researchers do not begin with a hypothesis in part, because there is usually too little known about the topic to justify a hypothesis. Qualitative researchers want the inquiry to be guided by observations and in depth interviews, to know the participants' viewpoints rather than by their own.

WORDING OF HYPOTHESES

A good hypothesis is worded in simple, clear, and concise language. It is cumbersome to include conceptual or operational definitions of terms directly

in the hypothesis statement; it should be specific enough so that readers understand what the variables are and whom researchers will be studying. "A clearly stated hypothesis includes the variables to be manipulated or measured, identifies the population to be examined and indicates the proposed outcome of the study" (Nancy and Grove, 2007)[1]. "Hypothesis should be worded in the present tense" (Polit and Beck, 2004)[2]. Researchers make predictions about relationships that exist in the population. The relational aspect of the prediction is embodied in the phrases such as more than, less than, greater than, difference, related to, associated with, or something similar.

Before formulating your research hypothesis, read about the topic of interest to you. From your reading, which may include articles, books and/or cases, you should gain sufficient information about your topic that will enable you to narrow or limit it and express it as a research question. The research question flows from the topic that you are considering. Research question is what For example:

"There will be significant difference in labour outcome in upright position and dorsal recumbent position among second para mothers during second stage of labour".

Above hypothesis is from a study to assess the effectiveness of upright position over dorsal recumbent position on labour outcome during labour among second para mothers. Thus because of the word *'difference'* one will get a clear idea that because of different positioning during labour (cause) labour outcome (effect) is being affected.

When you write in a form of sentence showing the relationship between variables becomes your hypothesis. Let us have some examples of hypothesis in table I:

Table I

For example:
"There will be significant difference in labour outcome in upright position and dorsal recumbent position among second para mothers during second stage of labour".
 Above hypothesis is from a study to assess the effectiveness of upright position over dorsal recumbent position on labour outcome during labour among second para mothers. Thus because of the word *'difference'* one will get a clear idea that because of different positioning during labour (cause) labour outcome (effect) is being affected.

TYPES OF HYPOTHESES:

DIRECTIONAL AND NON DIRECTIONAL OR

DESCRIPTIVE HYPOTHESiS:

Directional hypothesis are one that specifies not only the existence but the expected direction of the relationship between variables. The use of terms such as positive, negative, less, more, greater, decrease, higher etc. indicates the direction of the relationship between the variables. Directional hypothesis are never phrased as a question, but always as a statement. Directional hypothesis always express the effect of an independent on a dependent variable. For example, there will be significant difference between height and weight of a person. So difference exists between height and weight. It can be either, as the height increases weight increases or as the height increases weight decreases. So we have a direction.

A non directional hypothesis is one, where the relationship between the variables is present but does not predicts the nature of direction. It happens when the researcher doesn't have any evidence to show relationship between the variables. Non directional hypothesis ask a specific question regarding some phenomenon or predicting something. For example, we might want to study this research question: what are the social and economic factors of children's with obesity? Non directional hypothesis are always phrased in the form of a question regarding some aspect of the research. Let us have an example in table II:

For example:

"Post-test mean score of nurses after undergoing planned teaching programme will be higher than those of their mean pre-test knowledge score".(Chandramani.B.N, 2003)[7]

The above hypothesis is from a study to assess the nursing care needs of the patients with organophosphorous poisoning admitted in selected hospitals with a view to develop and evaluate the effectiveness of planned teaching programme for nurses on care of patients with OP poisoning. Above hypothesis is showing a direction that if there will be planned teaching programme than post-test mean score is going to increase. Thus researcher can plan an effective planned teaching programme keeping in mind that it has to increase the samples knowledge.

Table II

> For example:
>
> *"Post-test mean score of nurses after undergoing planned teaching programme will be higher than those of their mean pre-test knowledge score".(Chandramani.B.N. 2003)[7]*
>
> The above hypothesis is from a study to assess the nursing care needs of the patients with organophosphorous poisoning admitted in selected hospitals with a view to develop and evaluate the effectiveness of planned teaching programme for nurses on care of patients with OP poisoning. Above hypothesis is showing a direction that if there will be planned teaching programme than post-test mean score is going to increase. Thus researcher can plan an effective planned teaching programme keeping in mind that it has to increase the samples knowledge.

SIMPLE AND COMPLEX HYPOTHESES

For example:

"There will be significant difference in labour outcome in upright position and dorsal recumbent position among second para mothers during second stage of labour"(Mekwan.Sudha.V, 2010)[8].

Above hypotheses is from a study to assess the effectiveness of upright position over dorsal recumbent position on labour outcome during labour among second para mothers. We can see that researcher wants to study two different positions during labour upright position (IV) and dorsal recumbent (IV) position which are going to have effect on labour outcome (ID) is being affected. Thus we have two independent variables and one dependent variable under study.

Simple hypothesis is a hypothesis that expresses an expected relationship between one independent and one dependent variable. A complex hypothesis as the name suggest is complex in nature i.e. prediction of a relationship between two (or more) independent variables and/or two (or more) dependent variables. Complex hypotheses some-times are referred to as multivariate hypothesis because they involve multiple variables. Let us have an example in table III:

Table III

> For example:
> *"There will be significant difference in labour outcome in upright position and dorsal recumbent position among second para mothers during second stage of labour"(Mekwan.Sudha.V, 2010)[8].*
>
> Above hypotheses is from a study to assess the effectiveness of upright position over dorsal recumbent position on labour outcome during labour among second para mothers. We can see that researcher wants to study two different positions during labour upright position (IV) and dorsal recumbent (IV) position which are going to have effect on labour outcome (ID) is being affected. Thus we have two independent variables and one dependent variable under study.

NULL AND RESEARCH HYPOTHESIS

Hypothesis are sometimes classified as being either research hypothesis or null hypothesis.

Research hypothesis (also referred to as substantive, declarative, or scientific hypothesis) are statements of expected relationships between independent and dependent variables. Null hypothesis (or statistical hypotheses) state that there is no relationship between the independent and dependent variables. "If the null hypothesis is not stated, it is implied, because it is the converse of the research hypothesis" (Kelinger and Lee, 2000)[4]. "Null hypothesis becomes important because the sampling distribution and statistic can be only computed when the hypothesis is in null form" (Bhaduri and Farrel, 1979)[6]. It also states that all samples are random samples from a single population. And you are attempting to negate that statement. For example, no significant difference in pregnancy outcome will be demonstrated for auxiliary nurse midwives exposed to one month training and those not exposed to one month training. For the above study we have randomly selected the two different groups of samples from same population and after the training we hope that our samples are still random. If the group exposed to the training has not changed, our null hypothesis will be accepted and if change has occurred it shows that our samples are not random anymore and we reject the null

H_1: *"There will be significant difference in labour outcome in upright position and dorsal recumbent position among second para mothers during second stage of labour".*

H_0: It symbolizes null hypotheses. If above hypothesis is our experimental hypothesis than our null hypotheses will be:

H_0: *There will be* 'no' *significant difference in labour outcome in upright position and dorsal recumbent position among second para mothers during second stage of labour".*

Thus because of the word *'no'* significant difference one will get a clear idea that because of different positioning during labour (cause) labour outcome (effect) is not being affected. This has to be proved by statistical testing.

hypothesis. Let's have another example in table IV:

Table IV

H₁: *"There will be significant difference in labour outcome in upright position and dorsal recumbent position among second para mothers during second stage of labour".*

    H₀: It symbolizes null hypotheses. If above hypothesis is our experimental hypothesis than our null hypotheses will be:

    H₀: There will be '**no**' significant difference in labour outcome in upright position and dorsal recumbent position among second para mothers during second stage of labour".

    Thus because of the word '*no*' significant difference one will get a clear idea that because of different positioning during labour (cause) labour outcome (effect) is not being affected. This has to be proved by statistical testing.

TESTING HYPOTHESIS

Testable hypotheses are one that contains variables that are measurable or able to be manipulated. Hypothesis are formally tested through statistical procedures; researchers seek to determine through statistics whether their hypothesis have a high probability of being correct. Researcher should know which test of significance is appropriate to the data. Selection of test always depends upon type of data available, nature of population, sampling technique, sample size and the hypothesis to be tested. "Hypothesis are never proved through hypothesis testing; rather, they are accepted or supported" (Polit and Beck, 2004)[2]. Findings are always tentative. If we are able to generalize the findings, then greater confidence can be placed in the conclusions.

For an example, suppose we hypothesized that short mothers' are more prone to have obstructed labour than tall mothers'. By chance, researcher drew sample of mothers' in which short mothers' had more cases of obstructed labour than tall mothers. Could researcher able to conclude, that definitively height is related to labour? This example illustrates the difficulty of using observations from limited samples to generalize to a population. Other issues, such as the accuracy of the measures, the effects of uncontrolled extraneous variables, and the validity of underlying assumptions prevent researchers from concluding with finality that hypothesis are proved.

For testing hypothesis it is necessary to set the level of significance. Level of significance means the maximum risk of error a researcher willing to run to accept or reject the hypothesis. Conventional significance levels for testing the hypotheses are .05, or .01. After setting the level, researcher applies the statistical test and obtains results. It's now compared with the table value. If the test result falls above the table value we accept the research hypothesis and if it falls below we reject the research hypothesis. Whether the null hypothesis is rejected or the research hypothesis is accepted, all must be determined in advance, before the observations are collected or inspected. If these criteria are determined later, when the data to be tested is already known, the test is invalid.

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Effectiveness of Care Bundle Approach on Level of Chemotherapy Induced Peripheral Neuropathy and Quality of Life among Patients Receiving Chemotherapy

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ABSTRACT

Chemotherapy-induced peripheral neuropathy (CIPN) is a significant, debilitating symptom directly related to the administration of neurotoxin chemotherapy for the treatment of cancer. CIPN compromises quality of life and results in pain or discomfort. Peripheral neuropathy is the end result of peripheral, motor, sensory, and autonomic neuron damage secondary to neurotoxic chemotherapy agents. Thus, the purpose of this investigation was to examine the outcomes of a care bundle approach such as structured, supervised exercise program, massage therapy and health education on home safety measure in reducing symptoms of CIPN and improving overall QOL. A total of 20 individuals actively in chemotherapy treatment participated in this investigation. The EORTC QOL and Leeds Assessment of Neuropathic Symptoms and Signs questionnaires, followed by a CTCAEV scale evaluation were administered both before and after the intervention. Results revealed that care bundle approach helped attenuate symptoms of CIPN. Overall QOL was significantly improved, and troublesome symptoms related to CIPN significantly decreased ($p < 0.05$). Thus we assert that exercise is an effective tool in managing symptoms of CIPN.

Keywords: *Neuropathy; Chemotherapy; Exercise programs; Neuropathic symptoms*

INTRODUCTION

The most common neurological side effect of chemotherapy is chemotherapy-induced peripheral neuropathy (CIPN), which occurs when the **peripheral nervous system** is damaged [1.] This effect appears to be dose and duration dependent, and is most often caused by the chemotherapy agents Docetaxel, Paclitaxel, or Vinorelbine. Damage to the peripheral nervous system pathways results in neuropathic pain[2], producing symptoms described as stabbing, burning, or electric shock-like sensations, leading to impairments in daily activities, including walking, sleep, and work [3,4.]

Because the exact mechanism of CIPN is not fully understood, pharmacological treatments are largely ineffective[5]. Some therapies provide modest improvements in neurological function. However, in most instances, these agents are associated with additional negative side effects for cancer patients, such as cardiac conduction defects and increased chemotherapy resistance [6-8.] Thus, other interventions that address the symptoms of CIPN should be investigated.

One intervention that has produced promising results in populations with diabetic peripheral neuropathy is exercise rehabilitation [9-11.] Exercise appears to support nerve health, producing both acute and long term benefits. Short-term exercise stimulates endothelium-dependent vasodilatation and endoneurial blood flow [12]. Likewise, the shear stress that results from long term increased blood flow increases vasodilation

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[12.] In a previous investigation, our lab surveyed the current exercise behaviors of individuals experiencing symptoms of CIPN. Only 15% of patients surveyed were currently meeting the recommended levels of **physical activity**. Yet, these physically active patients reported a significantly higher quality of life (QOL) and experienced less pain than their sedentary counterparts [13,] lending some credibility to the hypothesis that an exercise intervention would be beneficial in attenuating symptoms of CIPN and improving the overall QOL of cancer patients. However, it was unknown if the sedentary patients refrained from exercise because of the symptoms of CIPN or some other factor. Thus, the purpose of this investigation was to examine the outcomes of a structured, supervised exercise program in reducing symptoms of CIPN and improving physical fitness and overall QOL.

OBJECTIVES

1.   To assess the level of chemotherapy induced peripheral neuropathy among patient receiving chemotherapy.

2.   To assess the effectiveness of care bundle approach on chemotherapy induced peripheral neuropathy and quality of life among patient receiving chemotherapy.

3.   To associate the selected demographic variables with posttest level of chemotherapy induced peripheral neuropathy and quality of life among patient receiving chemotherapy drug.

HYPOTHESIS

H1: There is a significant reduction in the level of chemotherapy induced peripheral neuropathy score among patients receiving chemotherapy in Experimental group after receiving care bundle approach.

H2: There is a significant improvement in the quality of life among patients receiving chemotherapy in Experimental group after receiving care bundle approach.

RESEARCH METHODOLGY

Research Design : Quantitative approach – True Experimental Research Design

Samples	Group	Pretest	Intervention	Post test		
			X	End of 1st month	End of 2nd month	End of 3rd month
Randomisation	Experimental Group	O1	Care bundle Approach	O2	O3	O4
	Control Group	O5	Routine care	O6	O7	O8

VARIABLES

Independent variable: Care bundle approach

Dependent variable: Level of chemotherapy induced peripheral Neuropathy.

Setting: The study will be conducted at Guru Hospital, Madurai. It is a 100 bedded hospital. Approximately 50-60 out patients are attending the OPD. It has general ward ,specialward,ICU.It has 30 inpatient chemotherapy beds.

Population: All   cancer   patients   receiving chemotherapy as their treatment.

Sample: Patients receiving chemotherapy who admitted in Medical chemotherapy ward at Guru Hospital Madurai and who meets inclusion criteria was selected as a sample for the study

Sampling technique:

Simple random sampling technique

Sample size: The sample size was 10 in experimental group and 10 in control group

CRITERIA FOR SELECTION OF SAMPLE

Inclusion criteria:

• Patients who will be medically diagnosed as cancer.

• Both male and female patients

• Patients with the age group of 20 years – 75 years

• Patients receiving chemotherapeutic agents which cause neurotoxic effects like taxanes (paclitaxel, docetaxel), the vinca alkaloids (vinorelbine), the platinum analogues (cisplatin, carboplatin), and the antimetabolites (capecitabine).

• Patient receiving chemotherapy cycle per week for atleastone hour duration.

• Patient receiving treatment weekly and every 3 weeks (ie 7 and 21 days) for at least 16 – 24 weeks ie 6 courses.

• Patient with grade level of I, II & III.

Exclusion criteria:

• Patients who are not willing to participate in the study

• Patients who are not able to perform basic activities of daily living such as walking

• Patients who show cognitive disorders or severe emotional instability

• Patients who are physically challenged

• Patient with acutely ill

• Patient with co-morbid diseases that might hamper physical exercise (e.g. heart failure, chronic obstructive pulmonary disease (COPD), orthopaedic conditions and neurological disorders like Cerebro vascular accident and diabetes mellitus.

• **VARIABLES:**

(a)Study variable:

• **Independent variable:** Care Bundle Approachwhich is performed collectively to reduce the level of Chemotherapy Induced Peripheral Neuropathy and improve the quality life of patients receiving chemotherapy,the three care bundles areStrength and Balance training exercises ,Massage therapy ,Health education on protective Home safety measures.

• **Dependent variable:** The level of Chemotherapy Induced Peripheral Neuropathy and improve the quality life of patients receiving chemotherapy.

(b)Attribute variable: Socio-demographic variables which include age, Gender, marital status, education, family income, Residence, Occupation status,etc**.,**

(c) Clinical variable Performa: To assess the clinical variable such Body BMI, cancer type, cancer stage, status of chemotherapy, purpose of chemotherapy, surgery, DM, Non-pharmacologicalinterventions, chemotherapeutic agent.

Description of the tool

A.DemographicVaribles

B.CTCAE Neuropathy Assessment Scale

C.LANSS(Leed Assessment of Neuropathic Signs and symptoms) pain scale

D.Knowledge questionnaire on Home safety Measures.

E.EORQTC Quality of life Scale

Ethical consideration: Ethical approval was obtained from the Scientific Review board and Institutional ethical committee of Saveetha University. Informed consent was obtained from the Director of Guru Hospital and also written assent was obtained from the patients.

Pilot Study Data Collection

• The pilot study was conducted after approved from Institutional Ehtical committee member from September 2016 to November 2016 at Guru Hospital,Madurai.

• Prior permission was got from director of the Guru Hospital,atMadurai,for conducting the pilot study.

• The informed consent received from

the patients.

- Totally 10 patients who were receiving chemotherapy and met the other inclusion criteria were selected as sample for the study and among them 10 samples for experimental group and 10 samples were control group were selected by random allocation.

- The researcher obtained demographic and clinical variables.

- Baseline clinical Evaluation was done, based on base line demographicdataandbase line physical examination was done.

- Administered the chemotherapy to the patient.

- Assessed for emerging or worsening neuropathy during and after administration of chemotherapy and the pretest evaluation was done by assessing the peripheral neuropathy by CTCAE Neuropathy Assessment Scale based on criteria such as touch, vibration in the hands/feet, muscle strength of the upper/lower extremities and tendon reflexes before chemotherapy

- The patient with the grade level of I,II and IIIrd was selected for the study.

- Neuropathic pain was assessed by LANSS Scale and quality of life by using EORQTC Quality of life Scale and assessment of knowledge by knowledge questionnaire on protective house hold recommendations.

- The interventions was started for the experimental group on that same day and asked the patients to do the 7 type of exercises which is done for 25-35 minutes twice a day i.e. (with a frequency of four sets of 10 repetitions) such as finger roll, finger taps, ankle circle, standing heel to toe, standing side leg, calf rise, calf stretch and movement performed in elimination gravity, movement performed in against gravity, movement performed in minimal resistance, movement performed in maximum resistance with against gravity for 3 months during the entire course of chemotherapy.

- Massage therapy was given for 10 minutes twice a day for 3 months during the entire course of chemotherapy using the method of kneading and efflurage in the feet and the palm of patients receiving chemotherapy.

- Health education was given with the use of ppt on protective household modification for 10 minutes starting from the first cycle of chemotherapy and thereafter positive reinforcement will be given up to the end of the six courses of chemotherapy.

- Control group patient received the routine care.

- The post test level of CIPN, Quality of life, NeuropathicPain and knowledge of patient about home safety measures was done at the end of each cycle of chemotherapy (ie last day of each cycle of every week(1st ,3rd ,7th ,11th week)the level of CIPN was assessed by NCI-CTCAEV Neuropathy scale, Neuropathic pain by LANSS scale, Knowledge on Home Safety Measures by Knowledge Questionnaire and quality of life by EORQTC Quality of life scale and assessment of knowledge by knowledge for experimental and control group.

Data Analysis and Statistical Methods Used

S.No	Data Analysis	Method	Remarks
1.	Descriptive	Mean and standard deviation	To describe the demographic variables, level of CIPN and quality of life
2.	Inferential	Independent t test	To compare the level of CIPN and quality of life between the treatment group and control group
		Paired t Test	To determine the effectiveness of CBA on the level of CIPN and quality of life within the group
		Mann – Whitney U test	To compare the groups by percentage changes in the variables
		Chi-Square test	To associate the selected demographic variables with the level of CIPN and quality of life
		ANOVA Test	Comparison of sensory symptoms and motor symptoms in the intervention group and control group at the end of 4th , 8th & 12th week

DISCUSSION

The aim of the study is to assess the effectiveness of Care Bundle Approach in reducing the effect of CIPN and improving the QOL among cancer patients receiving chemotherapy at selected hospital, Madurai.

The onset, severity, characteristics and duration of clinical manifestation of CIPN are highly variable, but are typically characterized by a glove – and – stocking distribution and sensory loss in the hand and the foot and in some cases motor and autonomic dysfunction.These symptoms are difficult to treat and significantly impact the Quality of life and functional ability in patients.

The investigator findings that unpleasant skin sensations and sensitivity related to neuropathic pain, inadequate knowledge on protective household activities, low level of well being, statistically shown in the Table : 2,3,4,5,6,7,8,9 were consistent with the previous investigation work of wonders KY (2014) examining the severity of neuropathic signs and sympyoms, assessing the knowledge on Household protective mechanism and QOL .

Thus primary findings of this investigation , that strength and balance training exercises,massage therapy and health education on home safety measures positively impact the neurological symptoms is clinically significant.

With neuropathy, muscle mass atrophies and leads to significant decrease in muscular strength.It also appears to affect distal muscle groups more so than proximal muscles. Researchers have reported

Improvement in muscle strength following moderate resistance exercise program,massage therapy in turn it improves the Quality of Life.

Though the study involved a small sample, it is the first exercise intervention focused on the amelioration of CIPN. This pilot data provides preliminary evidence that persons who engaged in a home-based strength training exercise program ,massage therapy and education intervention on protective household modifications following chemotherapy for cancer may experience fewer neuropathic symptoms, better physical functioning , and experience improved quality of life after the completion of therapy, as compared to those in an attention control group.

The outcome of the present investigation which was shown in Table 10 – 19 supports the results of earlier studies of James .A. Bovaird (21014) demonstrating that exercise enhances quality of life in persons with cancer and improves sensory function in persons with chemotherapy peripheral neuropathy .

In light of the findings and the literature review surrounding this topic , it seems feasible to assume that a supervised exercise program would provide a beneficial effect on QOL and pain associated with CIPN.

SUMMARY AND CONCLUSION

Twelve weeks of supervised exercise training attenuated symptoms of CIPN, significantly improved overall QOL, and decreased troublesome symptoms related to CIPN ($p<0.05$).Although this investigation produced promising results for individuals with CIPN ,it was not with limitations. Namely there was a low adherence rate. Also noteworthy that adherence rates were similar to that of healthy population. Future study in this fitness parameter with a large sample should also be done.While the underlying mechanism is unknown, theories center around the expression of cytokines should be further explored. Since neuropathic pain associated with CIPN is one of the more difficult types of pain to treat, and in light of the findings that pharmacological treatments often bring about unwanted side effects, we assert that exercise is an effective tool in managing symptoms of CIPN.

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To Assess the Effectiveness of Planned Teaching Programme on Knowledge and Practices Regarding Menstrual Hygiene among the Adolescent Girls in Selected Govt. School of Delhi

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ABSTRACT

Onset of menstruation is one of the most important changes occurring among the girls during the adolescence. In existing Indian culture\milieu, there are several traditions, myths, misconceptions, mystery and superstition prevailing about menstruation these issues need to be managed at an early age. A study to assess the effectiveness of planned teaching programme on knowledge and practices regarding menstrual hygiene among the adolescent girls. The aim of the study: 1) to assess the knowledge and practice regarding menstrual hygiene among the adolescent girls before and after the structured teaching programme. 2) To determine the association of pre-test knowledge with the selected demographic variable. Research approach was evaluatory and descriptive; research design was pre-test and post-test. A sample of 100 adolescent girls was selected using purposive sample technique. A semi structured questionnaire tools were used to evaluate the knowledge and practice. Descriptive and inferential statistic in term of mean, standard deviation and paired 't', Karl Pearson ® and one way ANOVAs test were used for analyzing the data. The finding revealed that the mean difference of post intervention showed a significant difference in knowledge and practice regarding menstrual hygiene (t=13.92,p<0.05and t=17.40,p<0.05 respectively). Over all knowledge score is increased from 8% to 55% and practice score also increased from 20% to 58%. Majority of girls received information from the mother. Hence the study concluded that structured teaching programme on knowledge and practices' regarding menstrual hygiene among the adolescent girls is very effective.

Keywords: *Assess; Effectiveness; Planned Teaching Programme; Knowledge; Practices; adolescent girls; Menstrual Hygiene.*

INTRODUCTION

Onset of menstruation is one of the most important changes occurring among the girls during the adolescence. The first menstruation occurs between 11-15 years with a mean age of 13 year. Girls reach physical maturity earlier at 9 to 10 years of age, in existing Indian culture\milieu, there are several traditions, myths, misconceptions, mystery and superstition prevailing about menstruation that appear to be a major hurdle for advancement of the knowledge of the subject[1].

WHO defined adolescence as the age group of 10-19 years; it is approximately one fifth of the world's population. It can be distinguished as early adolescence 10-13 years; middle adolescence age 14-16 years, late adolescent age 17-20 years. A woman goes through several developmental milestones that greatly influence her reproductive health. Puberty is a period of transition between childhood and adulthood, a time of profound biologic, intellectual, psychosocial and sexual maturity[2].

There are many contributing factors that make up personal hygiene with the main ones being bathing, oral care, hair care, nail care, wound care, cleansing of personal utensils, menstrual hygiene in women is preventing to infection. Personal hygiene as it says is personal. Everybody has their own habits and standards that they have been taught or that they have learnt from others. It is essentially the promotion and continuance of good health.[3]

NEED FOR THE STUDY

In order to grow as women, girls have to live healthy, productive and dignified lives. Good practices are essential that they are able to manage menstrual bleeding effectively. This requires access to appropriate water, sanitation and hygiene services, including clean water for washing clothes used to absorb menstrual bleed and having a place to dry them, having somewhere private place to change clothes or disposable sanitary pads, facilities to dispose of used clothes and pads access to information to understand the menstrual cycle and how to manage menstruation hygienically[4].

J. Annamma 2008 in the olden days, menstruation was perceived as unclean or embarrassing, extending even to the mention of menstruation both in public and in the private. Different cultures viewed menstruation differently. Menstruation and menstrual practices were clouded by taboos and socio-cultural restrictions. The taboo was so great that not only the woman herself suffered uncleanness, but anyone who touched her was considered to be unclean. A woman was not allowed to offer prayer or to perform other religious activities like fasting, going to temples/mosques/churches, light the holy lamps or incense sticks, offer food to Brahmins/ Priests, etc. Sexual intercourse with husband was strictly prohibited during menstrual periods. Menstruating women in the past were given a period of rest from all household activities, was physically and socially isolated and forbidden to prepare food. [5]

Nowadays, girls are having menarche at an early age as compared to previous times. The customs and practices of the past are not followed these days. Women are not confined to their homes nor are they restricted to work. They move out of the house for education, jobs, and travel a lot. They are allowed to do everything normally, including taking daily baths or showers; exercising, dancing and playing sports are all fine. Women are always on the move, are more beauty conscious and they looking for more convenient means to provide them comfort during menstrual periods. Hence, they need more education on hygienic health practices. Menstruation and menstrual practices are still clouded by taboos and socio-cultural restrictions resulting in adolescent girls remaining ignorant of the scientific facts and hygienic health practices, which sometimes result into adverse health outcomes.[6]

Thus investigator felt the need to take up a study to access the effectiveness of structured teaching programme on knowledge and practice regarding knowledge and practice regarding menstrual hygiene.

STATEMENT OF THE PROBLEM

"A Quasi-Experimental study to assess the effectiveness of planned teaching program on knowledge and practice regarding menstrual hygiene among the adolescent girls in selected Govt. School of Delhi".

OBJECTIVES

• To assess the knowledge and practice regarding menstrual hygiene among the adolescent girls before and after the structured teaching program.

• To find the co-relationship between pre-test knowledge and pre-test practice regarding menstrual hygiene among adolescent girls.

• To determine the association of pre-test knowledge and practice with the selected demographic variables.

HYPOTHESES

The following hypotheses will be tested at 0.05 level of significance

H_1: There will be difference in knowledge and practice regarding menstrual hygiene among the adolescent girls before and after structured teaching program.

H_2: There is a relationship between the knowledge and practice regarding menstrual hygiene among the adolescent girls.

H_3: There is an association of pre-test knowledge and practice with selected demographic variables.

REVIEW OF LITERATURE

Literature related to:

• Knowledge of reproductive system, puberty and menstruation

• Menstruation hygiene and practice

• Social taboos related to menstrual hygiene.

Knowledge of reproductive system, puberty and

menstruation

A study was conducted on knowledge regarding puberty and menstruation among adolescent girls in U.P. 504 samples were selected and structured teaching questionnaire was administered. The result showed that half of the girls did not know that menstruation blood comes from uterus or vagina. 84.9% of girls stated that it is dangerous to swim or run during this period. Out of 462 girls who had attained their menarche, 64.9% stated that their first source of information related to menstruation was their mother.[7]

Related to knowledge and practices regarding menstrual hygiene:

Adhikari P et al (2007)A study was found that they were not properly maintaining the menstrual hygiene. Only 6.0% of girls knew that menstruation is a physiologic process, 36.7% knew that it is caused by hormones 94% percentages of them use the pads during the period but only 11.3% dispose it. Overall knowledge and practice were 40.6% and 12.9% respectively.[8]

Literature related to menstrual hygiene practices

J. Keerti, Y. Pravin, (July-Sept; 2013) A study was conducted at centre of Katuri Medical College and Hospital, Guntur, Andhra Pradesh and sample were 360 adolescent girls. Age of attainment of menarche ranged from eleven to sixteen years. Only 36.19% girls were aware regarding menstruation prior to the attainment of menarche. Mother was found to be the first source of information regarding menstruation in 61.29% of girls. 34.63% girls reported use of old cloth for protection during menses.[10]

Ramchandra C. Goyal (2010). The study was conducted byRamchandraConcluded that majority of the girls received the information regarding menstruation from their mothers (41%), followed by Media (24%) and friends (19%). Of the girls who developed genital tract infections, 66% used cloth. 37% girls do not disclose about their menstruation. Cleanliness of external genitalia was unsatisfactory. Hence it is important to educate the girls with scientific knowledge and dispelling their myths and misconceptions thereby encouraging safe and hygienic practices for safeguarding themselves against various infections.[11]

RESEARCH METHODOLOGY

• **Population:** Adolescent girls in the age of 10 - 13 years (early adolescent girls) who attained menarche.

• **Sample:** Girls studying in 6th to 8th who age is 10-13 years standard who attain menarche.

Sample criteria:

• **Inclusion criteria:**

• Adolescent girls in the age group of 10-13years.

• Adolescent girls who can read English/Hindi.

• Adolescent girls who have attained menarche

• Adolescent girls who are willing to participate in the research study.

• Adolescent girls who are available at the time of time of data collection.

Exclusion criteria:

• Adolescent girls who have not attained menarche.

• Adolescent girls who are not willing to participate in the research study.

• Adolescent girls who are not available at the time of time of data collection.

Sample size:

• 100 adolescent girls.

• **Sampling technique:** Purposive Sampling Technique

• **Independent variable:** structured teaching program.

• **Dependent variable:** knowledge and practice of adolescent school girls regarding menstrual hygiene.

Data collection process

• Step i.   Investigator introduced herself to student.

• Step ii. Administration of pre-test by giving questionnaire on knowledge and practice.

• Step iii. Administration of structured teaching program regarding menstrual hygiene and practice.

• Step iv. Administration of post test on knowledge and practice regarding menstrual hygiene.

ANALYSIS AND INTERPRETATION

Section 1: Distribution of adolescent girls based on socio demographic variable.

Table: **n=100**

S.no.1	**Religion**	**Frequency**	**Percentage**
	Hindu	82	82
	Muslim	14	14
	Christian	4	4
	Other	0	0
S.no.2	**Education Status Of Mother**	**Frequency**	**Percentage**
	Illiterates	41	41
	Primary	31	31
	Secondary	10	10
S. no.3	**Type Of Family**	**Frequency**	**Percentage**
	nuclear family	62	62
	joint family	38	38
	extended family	0	0
S.no.4	**Monthly Income Of Family**	**Frequency**	**Percentage**
	Rs.5000	71	71
	Rs.5001 to Rs.10000	20	20
	Rs.10001 to Rs.15000	6	6
S.no.5	**Age Of Menarche**	**Frequency**	**Percentage**
	8 to 9 yrs	6	6
	10 to 11 yrs	22	22
	12 to 13 yrs	55	55
S. no.6	**Received Information On Menstruation**	**Frequency**	**Percentage**
	mass media (TV, newspaper, magazines)	6	6
	health personal	8	8
	Mother	76	76
	other (school, teacher, sister, relatives)	10	10

This table shows:

• Distribution based on religion shows that 82% of the adolescent were Hindu, 14% of the adolescent were Muslim and 4% of the adolescent were Christian

• Distribution based on Mother's education of adolescent girls was 41% illiterate, primary education 31% had completed secondary education 10% had completed and high school education was 18% had completed.

• Type of family distribution shows that 62% of adolescent girls live in nuclear family and 38% of adolescent girls live in joint family.

• Family income distribution shows that 71% adolescent girls had Rs.5000 monthly income and 3%

adolescent girls had above Rs. 15001monthly income.

• Menarche age distribution Shows those 55% adolescent girls had menarche 12 to 13 years of age and 6% of adolescent girls had menarche 8 to 9years of age.

• Distribution of adolescent girls based on Received Information on Menstruation shows that 76% girls received information from and 6% from mass media.

Section 11 A in order to test the effect of the planned teaching on knowledge, the hypotheses' H_1, 'There will be significant difference in knowledge regarding menstrual hygiene of adolescent girls before and after structure teaching program. Is stated and tested value t= 17.115 and tabulated value t= 1.98 Degree of freedom is 99 and p value is 0.05 the tabulated value is greater than tabulated value hence research H_2 is accepted. Thus teaching programme is effective regarding menstrual

using paired't' test.

Significant difference in pre-test and post-test knowledge sores. n=100

Knowledge	Mean	SD	Df	T	p
Pre	7.89	2.85	99	19.879**	0.05
Post	13.92	1.43			

Table revealed that the mean pre-test score is 10.10± 3.74 SD and the mean of post-test score is 17.40± 2.22 SD, which shows that there is difference in the mean practice core. In order to test the hypothesis paired't' test was done. The calculated

SECTION 111 B Analysis of practice of adolescent girls based on over all practice regarding menstrual hygiene before and after planned teaching programme. n=100

Practice	distribution of adolescent			
	Pre test		Post test	
	Frequency	Percentage	Frequency	Percentage
Poor	42	42	16	16
Average	38	38	26	26
Good	20	20	58	58

Table shows that in pre- test the 42% adolescents had poor practice, 38% had average practice, and 20% had good practice regarding menstrual hygiene among adolescent girls. The post-test shows that 16% had poor practice, 26% had average practice and 58% had good practice and regarding menstrual hygiene among adolescent girls.

SECTION 1V in order to test the co-relationship between the knowledge and practices regarding menstrual hygiene among the adolescent girls. The hypothesis H_3 'There is a relationship between knowledge and practice regarding menstrual hygiene that is analyze by Karl person correlation (r)

CORRELATIONS BETWEEN KNOWLEDGE AND PRACTICE			
		Knowledge	Practice
KNOWLEDGE	Pearson Correlation	1	.065
	Sig. (2-tailed)		.524
	N	100	100
PRACTICE	Pearson Correlation	.065	1
	Sig. (2-tailed)	.524	
	N	100	100
P <0.05			

SECTION 1V in order to test the co-relationship between the knowledge and practices regarding menstrual hygiene among the adolescent girls. The hypothesis H_3 'There is a relationship between knowledge and practice

regarding menstrual hygiene that is analyze by Karl person correlation (r).   Table reveal that knowledge score is r = .065 and practice score is r = .524 that shows Karl Pearson coefficient test 'r" value is positive. When r value is found between (+.4 to +.6) that   means positive co relationship between knowledge and practice regarding Menstrual hygiene. Hence H$_{3 \text{ is}}$ accepted.

DISCUSSION

The study finding reveals that the mean post-test knowledge score is13.92± 1.43 SD was higher than their mean pre-test knowledge scored is 7.89± 2.85 SD. The calculated' value (t= 19. 879) at 0.05 level was greater than the table value (T=1.98). The practice score is17.40± 2.22 SD was higher than their mean pre-test practice scored is 10.10± 3.74 SD. It was indicating that the gain in knowledge was not by chance and there is significant gain in knowledge and practices of adolescent's girl through planned teaching programme regarding menstrual hygiene. Out of 100 adolescent girl's knowledge was increased from 8% to the 55% regarding menstrual hygiene, and practices were also increased from 20% to the 58% regarding menstrual hygiene.

CONCLUSION

The main Conclusion drawn from this present study is that before teaching programme most of the adolescent girls had an inadequate knowledge regarding menstrual hygiene. After giving Structured Teaching Programme, majority of the adolescent girls had gain adequate knowledge and practice regarding menstrual hygiene. It is reveals that Structured Teaching Programme regarding menstrual hygiene will surely change the knowledge and practice of adolescent girls and can reduce the incidence of reproductive and urinary tract infections. Therefore, adolescent girls should have sound knowledge on menstrual hygiene that improves their menstrual hygiene practice.

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