

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

Volume 7

Number 3

July-September, 2015

# International Journal of Nursing Education



[www.ijone.org](http://www.ijone.org)



# International Journal of Nursing Education

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

[www.ijone.org](http://www.ijone.org)

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

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**Institute of Medico-legal Publications**

4th Floor, Statesman House Building, Barakhamba Road,  
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## Printed, Published and owned by

Dr. R.K. Sharma

**Institute of Medico-legal Publications**

4th Floor, Statesman House Building, Barakhamba Road,  
Connaught Place, New Delhi-110 001

## Design & Printed at

M/s Vineeta Graphics, Subash Colony, Ballabgarh, Faridabad

## Published at

**Institute of Medico-legal Publications**

4th Floor, Statesman House Building, Barakhamba Road,  
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# Effect of Use of Birthing Ball on the First and Second Stage Labour Outcome among Primigravidae

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## ABSTRACT

A quasi experimental study was conducted to know the effectiveness of use of Birthing ball on the first and second stage labour outcome among primigravidae in a selected hospital at Mangalore from 11th Nov to 14th Dec 2013.

**Objectives:** The aim of the study was to compare the first and second stage labour outcome between primigravidae Using and Not Using Birthing ball and to identify the Satisfaction level of primigravidae on the use of Birthing ball.

**Methodology:** A quasi experimental research design was used to find the effect of Birthing Ball on first and second stage of labour. The 40 primigravidae (20 each in Using and Not Using Birthing ball), were recruited for the study using purposive sampling technique. The data was collected using Partograph, Observation checklist and Checklist on satisfaction level. Descriptive and inferential statistics were used for the analysis of the data.

**Results:** The Mean duration (hours) of first and second stage of labour among the primigravidae Using Birthing ball (6.4Hours) was significantly lower than the primigravidae Not Using Birthing ball (9.2 Hours). Majority of primigravidae Using Birthing ball had normal vaginal delivery(17,85%) and none of them had instrumental delivery. Maximum Primigravidae were highly satisfied (85%) after the use of Birthing Ball.

**Conclusion:** Birthing ball is effective in decreasing the duration of labour among primigravidae and also most of them have undergone normal vaginal delivery.

**Keywords:** *Birthing ball, Primigravidae*

## INTRODUCTION

The birth of a child is one of the most significant events in a woman's life. Practices associated with the birthing process are, therefore, important to the woman's health and well-being as well as the successful outcome of her pregnancy.<sup>1</sup>

Pregnant women and those in labour often find a birth ball indispensable throughout the process. The positioning allowed by the ball helps alleviate much of the pain and discomfort present throughout the last trimester and during birth. Sitting on the ball both before and during active labour can help baby move downward and assume the optimal position for

birth. Leaning on the ball throughout labour helps alleviate back pressure and lets you pelvis rock from side to side, helping to relieve labour pains and encourage baby's descent. It also allows birth attendants easy access back massages or to perform the double hip squeeze.<sup>2</sup>

The Birthing Ball can facilitate position changes and be used as a comfort tool for women in labor. A woman can sit on it and rock or lightly bounce to decrease perineal pressure. She can also lean over the ball, allowing the baby to hang down. The ball size that generally works best with labouring mothers is 65 cm. This size may vary somewhat depending upon the

user’s height. Women who are tall, 5' 10" or taller, may prefer the larger 75cm ball.<sup>3</sup>

**MATERIALS AND METHOD**

A quasi experimental research design was used to find out the effectiveness of Birthing ball on the first and second stage of labour outcome from 11<sup>th</sup> Nov to 14<sup>th</sup> Dec 2013 in Father Muller Medical College Hospital Mangalore, which is a 1250 bedded hospital and with well established birthing room services were 8-10 deliveries are conducted per day with total 220-240 deliveries per month in 2013. 40 primigravidae were recruited by purposive sampling technique and randomly allocated, 20 each in experimental (using Birthing Ball) and control (Not Using Birthing Ball) group. Primigravidae with more than 2cm cervical dilatation, high risk pregnancy, hip surgery and symphysis pubis dysfunction were excluded from the study.

Written permission was obtained from the concerned authorities before the data collection. Prior to the data collection the investigator familiarized her with the subjects and explained the purpose of the

study. The investigator assured confidentiality of their response and a written consent was obtained from each subject. The baseline proforma was completed from the clinical record and the information provided by the subjects. The subjects who met the inclusion criteria were recruited to use birthing ball. Women used birthing ball for minimum of 30 minutes intermittently until 4cm cervical dilatation. Partograph was used to record duration of first and second stage labour, descent of fetal head, colour of liquor, Fetal Heart Rate and mode of delivery. Then an observation checklist on labour outcome was completed using the data obtained from partograph. Satisfaction checklist was administered to the woman who used birthing ball. The collected data was analyzed using the SPSS package.

**RESULTS**

The findings of the study revealed that the Mean duration (hours) of first and second stage of labour among the primigravidae Using Birthing ball was significantly lower (6.4 hours) than the primigravidae Not Using Birthing ball (9.2 hours).

**Table 1: Parameter of first stage of labour outcome**

N=40

No	Parameters	Using Birthing Ball(n=20) Mean ± SD	MD	Not Using Birthing Ball (n=20)Mean ± SD	'P' Value
1	<b>Duration of Cervical dilatation</b>				
a	Latent phase (1-4cm)	3.18 ± 0.36	0.9	4.1 ± 0.6	0.0001*
b	Active phase (4-10cm)	3.7 ± 0.47	1.7	5.4 ± 0.71	0.0001*
2	Descent of fetal head upto "0" station	6.4 ± 0.14	2.8	9.2 ± 1.4	0.0001*
3	Fetal Heart rate	142.4 ± 4.4	2.4	140 ± 3.8	0.7
4	Duration of first stage of labour	6.4 ± 0.14	2.8	9.2 ± 1.4	0.0001*

Table 1 depicts the duration of cervical dilatation during the latent and active phase among the primigravidae who used Birthing Ball was lower than who did not use Birthing Ball whereas there was no significant difference in Fetal Heart Rate among the woman using and not using Birthing Ball. The mean duration of descent of fetal head upto "0" station among the primigravidae using Birthing Ball was significantly lower (6.4 hours) than the primigravidae Not using Birthing Ball (9.2 hours). Birthing ball works

with gravity to encourage baby’s descent into the pelvis.

The colour of liquor was "CLEAR" for most of the primigravidae Using and Not Using Birthing ball (16, 80%)

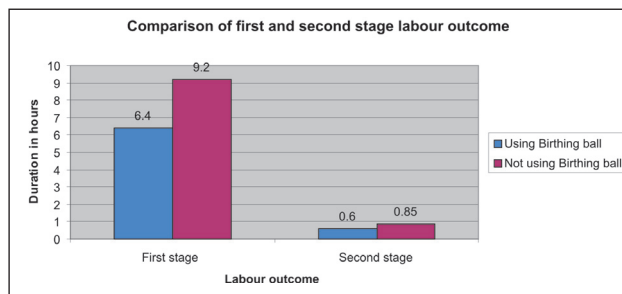
Data in Table 2 shows that the mean duration (hours) of second stage of labour among primigravidae Not Using Birthing ball is higher (0.85 hours) than the primigravidae Using Birthing ball (0.63 hours). Thus Birthing ball improves the progress of labour.

Majority of the primigravidae Using Birthing ball promotes Spontaneous Normal Vaginal Delivery had normal vaginal delivery (17, 85%) and none of (Table 3) them had instrumental delivery. Thus Birthing ball

**Table 2 : Duration of second stage of labour outcome**

N=40

No	Parameters	Using Birthing Ball (n=20)Mean ± SD	MD	Not Using Birthing Ball (n=20)Mean ± SD
1	Duration of second stage of labour	0.63 ± 0.3	0.22	0.85 ± 0.43



Bar diagram showing duration of first and second stage labour among primigravidae using and not using birthing ball

From the fig, it's evident that the duration of labour among primigravidae not using birthing ball was higher (9.2 hours) than the primigravidae using birthing ball (6.4 hours).

**Table 3 : Mode of Delivery**

N=40

Parameters	Using Birthing Ball (n=20)		Not Using Birthing Ball (n=20)	
	Frequency	Percentage	Frequency	Percentage
Normal Vaginal delivery	17	85%	15	75%
Caeserean Section	3	15%	3	15%
Instrumental (Ventouse/Forcep)	-	-	2	10%

**Table 4: Satisfaction Level after the use of Birthing Ball**

N=20

Scoring	Frequency	Percentage
Highly Satisfied	17	85%
Satisfied	03	15%
Not Satisfied	-	-

Maximum primigravidae (17, 85%) were highly satisfied after the use of Birthing ball.

**CONCLUSION**

Birthing ball allows a natural back and forth swaying movement and encourages the relaxation of muscles used during labour, it also speed up dilation and effacement improving the progress of labour.<sup>3</sup>

Like many areas of modern obstetric practice, exercising during labour for women to deliver has become controversial. Exercises on a ball can help baby turn and move into the birth canal. Midwives and

doulas have been using exercise balls for decades as a way to help speed up dilation and move the baby down into the pelvis and assist in finding a comfortable birthing position.<sup>2</sup>

**Acknowledgement:** My heartfelt thanks to the Principal, Vice Principal, Teaching Faculty of College of Nursing, participants and My Colleagues.

**Conflict of Interest:** Nil

**Source of Funding:** Self

**Ethical Clearance:** Obtained from institutional ethical clearance committee.

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# Coronary Artery Disease Related-Knowledge among University Nursing Students in Jordan

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## ABSTRACT

The purpose of this study was to identify the level and the predictors of coronary artery disease knowledge among university nursing students in the north of Jordan. A descriptive, cross-sectional design was used to determine the CAD knowledge for a convenient sample of 470 nursing students. The results showed that the mean of the CAD knowledge was ( $M=10.20$ ,  $SD=7.54$ ). The total regression model significantly  $F(9, 460)=9.12$ ;  $P<0.001$  explained 60% of the variance in CAD knowledge. Grade Point Average, educational level and income significantly explained 25%, 19% and 16% of the variance in the knowledge respectively. More interventional studies and specific educational programmes should be adopted in nursing curriculum in Jordanian universities to enhance nursing students' CAD knowledge.

**Keywords:** Coronary Artery Diseases, Knowledge, Nursing Students, Jordan

## INTRODUCTION

Coronary artery disease (CAD) is the main leading cause of death accounting for 40% of CVD's deaths and 15% of total death in Jordan in 2012.<sup>1</sup> In addition, it is considered the leading cause of death in the United States among men and women.<sup>2</sup> Nursing professionals including nurses and nursing students are considered an integral part in enhancing cardiac information to meet the learning needs for patients with CAD.<sup>3-4</sup> Being an integral part of health care team, students are expected to possess a good level of knowledge regarding different aspects of cardiac education. There are different teaching areas for cardiac patients that may include anatomy and physiology of the heart, lifestyle modification, medications and exercise.<sup>5</sup>

Providing cardiac patients with adequate knowledge help them to understand the disease process and promote adherence to healthy lifestyle.<sup>6-7-8</sup> Therefore, having knowledge about cardiac disease that promotes adherence to healthy lifestyle may aid in preventing the cardiac diseases complications.<sup>9-10</sup> In contrast, low level of knowledge may have a

negative consequences like more disease complications and decreased adherence to healthy lifestyle.<sup>9-11</sup> Knowledge about cardiac diseases was low in numerous studies.<sup>12-13-14</sup> However, there is a scarcity in the studies that tackle the knowledge about CAD among university nursing students in Jordan. Therefore, it is important to determine the knowledge about CAD among University nursing students.

In Jordan, there is no formal Certified Cardiac Educator in most hospitals to provide cardiac education while, it is considered one of the staff nurses roles. So, nurse's knowledge about cardiac diseases is very important. This nurse's knowledge is a reflection of what they learned about cardiac while they were nursing students. In addition, when nursing students are updated in their CAD related-knowledge, they would be able to assume most important prevention actions in their regular lives. However, searching various databases indicated that there is a scarcity of studies that assessed the student's knowledge about CAD in Jordan. Accordingly, the purposes of this study were: to assess CAD related-knowledge among university nursing students in the north of Jordan and

to identify the significant predictors of CAD related-knowledge.

While there were few studies that measured the level of knowledge about CAD among patients in Jordan<sup>7,11</sup> and among health adults in the community<sup>17</sup>, no studies examined the knowledge among nursing students. In addition, the sample, the setting, design and the tool were different from what were used in this study. To sum up, CAD knowledge was mainly evaluated among patients with cardiac diseases, while there is no study that assessed CAD knowledge among nursing students. In Jordan, CAD is a main distress due to its great prevalence and mortality rate. In addition, determining the factors that affect Jordanians' knowledge about CAD is a very important part that may help decrease the prevalence of CAD in Jordan. The results of the current study may also help provide the chance to conduct other national and international studies that help indicate early recognition and appropriate intervention to CAD.

## MATERIALS AND METHOD

A cross-sectional descriptive design was used to determine the level of CAD related- knowledge among a convenient sample of university nursing students in Jordan. In addition, this design was used to examine the most significant predictors of CAD related-knowledge. This study was carried out in a Faculty of Nursing in the north of Jordan. This Faculty offers the baccalaureate nursing programme which is accredited at the national and international level. This nursing programme a 4-year programme requiring 132 credit hours to be completed.

### Instrument

A self-administered questionnaire was utilized to collect the required data to accomplish the purposes of the study. The questionnaire contained two sections, section one was the demographic, which composed of a checklist and gap filling questions type concerning all variables like age, gender, family monthly income, educational level, work, marital status, grade point average (GPA), any relatives having CAD and if the participants attended any workshop about CAD.

The second part of the questionnaire was a CHD awareness and knowledge questionnaire measured the knowledge about CAD.<sup>13</sup> The first question of the

knowledge questionnaire assessed participant' understanding of the pathophysiology of CAD. The second and the third questions examined awareness of the leading cause of death for both men and women. Next were a set of twenty true or false questions determined the general knowledge of CAD, including its causes, risk factors, symptoms, and treatment. An overall knowledge score was calculated by counting the number of right answers, with a probable range from 0 to 23, and higher scores showing greater knowledge about CAD. The content validity index (CVI) was 0.86 indicated that the tool was valid and assessing what was supposed to assess. The internal consistency for the items in the tool was assessed and the results indicated that the Cronbach's alpha coefficient was 0.89 in the current study.

### Data collection Procedure

The Research Committee for Protection of Human Subjects of the Faculty of Nursing approved the study. Then, the students, who agreed to participate, received a questionnaire package. A cover letter including a summary of the study, the participant's rights, and the researcher's contact information was included with the questionnaire package. The participants were encouraged to complete the questionnaire and returned it as soon as possible to the researcher. The interactions between the students were maintained at the minimum level during filling the questionnaire. The data collection took place in the class.

### Ethical Consideration

The Research Committee for Protection of Human Subjects of the Faculty of Nursing reviewed and approved the study. Prior to data collection, a written informed consent was obtained from all the students in the study. The students were informed that they had the right to withdraw from the study at any time without any effect on their achievement. In addition, the procedure of data collection process was explained to all students. Student's participation in the study was totally voluntary and they were assured that their answers will be confidential. All questionnaires were discarded after study completed.

## FINDINGS

A convenient sample of nursing students (N=470) involved in current study. The mean of student's age

was 20.89 years (SD=1.62). Family monthly income mean was 740 Jordan Dinar. The GPA for the whole sample was 72.11. Approximately 68% of the sample was females (N=319). Students were almost equally distributed in the four educational categories. Most of the students were unemployed (N=430) and single (N=440). Approximately 15% of the students have relatives with CAD (N=70). No student reported to have cardiac problems. Only 5% (N=24) had attended a workshop about cardiac diseases. The sample characteristics are presented in Table 1.

Coronary artery disease related-knowledge mean in the current study was (M=10.20; SD=7.54) with actual range from 4 to 16. To identify the significant predictors of CAD related-knowledge among nursing students, standard linear regression was utilized.

The results showed that the overall multiple regression, including all predictors was statistically significant. Multiple  $R = .79$ ,  $R^2 = .62$ , adjusted  $R^2 = .60$ ,  $F(9, 460) = 9.12$ ;  $P < 0.001$ . This shows that 60% of variance in knowledge was explained by all predictors.

The t ratio for each predictor was tested to assess the variance explained by each single predictor. Grade Point Average was a statistically significant predictor of knowledge when other predictors were statistically controlled  $t(460) = 3.20$ ;  $P < 0.001$ . Twenty-five percent was the variance explained by GPA. The slope for the raw score of GPA was .55, demonstrating a .55 increase in knowledge for one score increase in GPA. In addition, the results indicated that educational level was a significant predictor of knowledge  $t(460) = -2.23$ ;  $P < 0.001$ . Approximately 19% of the variance in the CAD knowledge was explained by educational level of nursing students. The slope for the raw score for educational level was .25, demonstrating a .25 increase in knowledge for one unit transfer from lower to the higher in educational level. Also, family monthly income was a significant predictor  $t(460) = 2.20$ ,  $P < 0.001$  and explained 16% of the variance in the CAD knowledge. The slope for the raw score of family monthly income was .15, demonstrating a .15 increase in knowledge for one Jordanian Dinar increase in monthly income.

**Table 1: Sample characteristics; mean (M); standard deviation (SD) and percent (%) for the nursing students**

(N=470)

Variables	Range	M (SD)	N	%
Age (Years)	18.00-26.00	20.89 (1.62)		
Family monthly income	400-1200 JD	740.(14.13)		
<b>Gender</b>				
Male			151	32
Female			319	68
<b>Educational Level</b>				
First Year			110	23.40
Second Year			115	24.46
Third Year			120	25.54
Forth Year			125	26.60
<b>Work Status</b>				
Work			40	8.50
Not Working			430	91.5
Grade Point Average	60-88	72.11 (4.93)		
<b>Marital Status</b>				
Single			440	93.60
Married			30	6.40
<b>Relatives with Cardiac Diseases</b>				
Yes			70	85
No			400	15
Attended Workshop			24	5

**Table2: Standard multiple linear regression to determine the significant predictors of CAD related-knowledge among nursing students**

(N=470)

Predictor	b (Unstandardized coefficients)	B (Standardized coefficients)	variance	t	P value
Grade point average	0.55	0.41	0.25%	3.20**	<0.001
Family monthly income	0.15	0.35	0.16%	2.20**	<0.001
Age	0.88	0.11	0.016%	0.47	0.22
Gender	-1.11	-1.10	0.021%	-0.22	0.51
Work	-3.44	-0.54	0.006%	-0.79	0.24
Education level	0.25	0.63	0.19%	2.23*	<0.001
Marital Status	1.33	0.14	0.001%	0.41	0.68
Relatives with Cardiac diseases	3.97	0.13	0.003%	2.94	0.32
Attended Workshop	4.65	0.04	0.018%	4.19	0.42

\*p d" 0.05 level (2-tailed)

\*\*p d" 0.001 level (2-tailed)

## DISCUSSION

The results indicated that the level of CAD related-knowledge was poor. This finding is consistent with the results of other studies<sup>8,12,14,17,18</sup> which showed that the level of CAD knowledge was low among healthy adults and among patients with cardiac diseases. Although no studies were conducted in Jordan that determined the level of CAD related-knowledge among nursing students, different international studies were conducted among university students. A multicenter cross-sectional descriptive study was conducted and a convenient sample of 200 health adult of non-medical students were recruited. The authors indicated that the level of the CAD knowledge was not adequate and the students graded the smoking as the significant risk factors for CAD development.<sup>17</sup> However, no nursing or medical students participated in this study. A lack of continuous education, workshop and specific cardiac educational program could be considered as an important explanation for the low level of CAD knowledge among university nursing students in the current study. Other results indicated that the application of health education programme is an important factor that could help improve CAD knowledge.<sup>7,15</sup>

The results of the current study showed that Grade Point Average, educational level and family monthly income were the significant predictors of CAD related-knowledge and explained a 60% of the variance in knowledge among nursing students in the present study. Up to the author knowledge, there is no research

study conducted and addressed the demographic factors affecting nursing students' level of knowledge about CAD. However, the findings of the current study are consistent with the findings of other studies<sup>3,15,16</sup> which showed that some demographic variables are significant factors that affect CAD related knowledge among healthy adult and patients with CAD.

A national study was conducted to assess the level of diabetes knowledge among university nursing students, the results indicated that GPA was a significant predictor of diabetes knowledge.<sup>19</sup> The result of the current study could be due to that the GPA is reflection of what the student learned in the class with a higher GPA may indicate a higher level of achievement and knowledge. In addition, the educational level of the students was a significant predictor and explained 19% of the variance in knowledge. The family monthly income has a significant effect on knowledge and explained a 16 % of the variance in knowledge. These results are consistent with the findings of<sup>3,8,20</sup> which showed that these demographics have a positive relationship with knowledge among patients with CAD. The finding that higher monthly income is correlated with higher level of knowledge could be due to the point that the students with higher monthly income may have more opportunities to acquire knowledge through internet, conferences and other media. In addition, it might be that people who have higher income level are more motivated to ask for information on healthy living behaviors.



The use of cross-sectional descriptive design is major limitation that may affect the internal, external validity of the findings. It is necessary to replicate the current study using more rigorous design to determine the level and the factors affecting CAD knowledge using a larger heterogeneous randomly selected sample to enhance the generalizability of the findings. In addition, limiting the study to the north of Jordan and collecting the data from only one educational setting is considered another limitation. It is valuable to replicate the study using multicenter cluster sampling in a variety of educational settings.

The current study has a vital implications to nursing since nurses knowledge is a reflection of what they taught during their education process in the university. Therefore it is important to modify the nursing programme in Jordanian Universities to include a well developed and specific cardiac education to improve students' knowledge. Ultimately, patients knowledge may be improved by which the health outcomes will be positively affected.

### CONCLUSION

The results of the present study showed a low level of CAD related-knowledge among university nursing students in the north of Jordan. This may direct the nursing educators attention toward the adoption and integration of specific cardiac education programme in nursing curriculum. The results of the current study indicated that GPA, educational level and family monthly income are important factors that affect knowledge about CAD.

**Acknowledgement:** The author would like to thank the study participants and AL-ALBayt University.

**Conflict of Interest:** Nil

**Funds:** The study received no funds

**Ethical Clearance:** The Ethical Research Committee of the Faculty of Nursing reviewed and approved the study

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# Effectiveness of Structured Teaching Programme Regarding Exclusive Breastfeeding among Lactating Mother at Selected Hospitals of Vadodara

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## ABSTRACT

**Introduction:** Exclusive breastfeeding is an unequalled way of providing ideal food for the healthy growth and development of infants. The major causes for the mortality and morbidity among infants are malnutrition, diarrhea, infection, lack of awareness and misconception among mothers regarding exclusive breastfeeding. This study was conducted to assess the knowledge and awareness and misconception among mothers regarding Exclusive breastfeeding. This study was conducted to assess the effectiveness of structured teaching programme on knowledge regarding Exclusive Breastfeeding.<sup>1</sup>

**Aims and Objectives:** The study aimed at assessing the existing knowledge of lactating mothers regarding exclusive breastfeeding, determine the effectiveness of structured teaching programme, to associate the post test level of knowledge regarding exclusive breastfeeding with selected demographic variables.

**Material and Method:** An evaluative research approach with pre-experimental design was used. The sampling technique used was non - probability convenient sampling. Data was collected from 60 lactating mothers from selected hospital at Vadodara. Data collection was done from 8-11-2013 to 18-11-2013. Permission taken from the medical superintendent and Medical director of selected Hospitals was obtained prior to data collection process. The tool consist of section : 1 Demographic profile, section :2 - knowledge regarding exclusive breastfeeding consisting 24 items. The reliability of the tool was established by using spearman brown split half method. Hence the tool was found to be reliable. Data was analyzed using descriptive and inferential statistics Descriptive statistics used were frequency, mean, range and standard deviation. The data was also presented graphically.

**Results:** Result of study indicate that The comparison of the mean pre-test(10.73) and post-test (18.73) knowledge score was found to be significant ( $t = 59.05, t < 0.05$ ) hence hypothesis was accepted this indicate that the structured teaching programme regarding exclusive breastfeeding was effective.

**Interpretation and Conclusion:** The study findings revealed that structured teaching programme was highly effective in improving knowledge of exclusive breastfeeding among lactating mothers.

**Keywords:** Assess, Effectiveness, Knowledge, Structured Teaching Programme, Exclusive Breastfeeding

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## INTRODUCTION

*Newborn baby has only three demands. They are warmth in the arms of its mother, food from her breasts, and security in the knowledge of her presence. Breastfeeding satisfies all three.*

Grantly Dick

In Christianity, Adam and Eve were said to be the first man and the first woman. Adam was created first, and Eve from Adam's rib. Then life of women has established with the accomplishment of different roles in which the vital act is the motherhood and thus the commencement of the generations has instituted. Pregnancy is a unique, exciting and often joyous time in a woman's life, as it highlights the woman's amazing creative and nurturing powers while providing a bridge to the future. Pregnancy comes with some cost, however, for a pregnant woman needs also to be a responsible woman so as to best support the health of her future child. The growing fetus depends entirely on its mother's healthy body for all needs. Consequently, pregnant women must take steps to remain as healthy and well nourished as they possibly can so that mothers can meet all the needs of the upcoming baby: main breastfeeding and bonding. Breastfeeding meets both the nutritional and nurturing needs. Nursing is a learned skill for both mother and baby that requires time and patience.<sup>1</sup>

In pregnancy, the body is preparing a very special blend of nutrients to meet the baby's needs. Colostrum is the perfect starter food for the baby. This yellowish, creamy substance is found in the breasts during pregnancy and for a few days after delivery. Colostrum acts as a natural laxative (something that makes it easier to have bowel movements) to help clear the meconium from the baby's intestine. Breastfeeding is the feeding of an infant or young child with breast milk directly from the female human breast. Breast milk is made of nutrients from the mother's bloodstream and body stores. Breast milk has just the right amount of fat, sugar, water and protein required for the growth and development of a baby. A major advantage to the mother is that breastfeeding uses an average of 500 calories a day, which helps her lose weight after giving birth.<sup>2</sup>

Breastfeeding is a mother's privilege, a baby's right. From the beginning of human civilization, generation after generation has grown up on mother's milk, nature's complete diet for the newborn. Nothing can compare with the breast milk.<sup>3</sup>

Over the last couple of decades, there has been an increasing interest in the promotion of exclusive breastfeeding as the 'best' feeding method for newborns. This, to a large extent, has been inspired by mounting scientific evidence on the importance of exclusive breastfeeding in reducing infant morbidity and mortality. In resource-limited settings where poor

and sub-optimal breastfeeding practices frequently result in child malnutrition, which is a major cause of more than half of all child deaths (Sokol et al. 2007), exclusive breastfeeding is regarded as imperative for infants' survival. Indeed, of the 6.9 million under-five children who were reported dead globally in 2011, an estimated 1 million lives could have been saved by simple and accessible practices such as exclusive breastfeeding (WHO, 2012). Consequently, the WHO and UNICEF (1990) have recommended exclusive breastfeeding for six months, followed by introduction of complementary foods and continued breastfeeding for 24 months or more.<sup>4</sup>

## MATERIAL & METHOD

**Research Approach:** Evaluative research approach was used.

**Research Design:** A one-group pre-test post-test Pre-experimental research design was adopted.

**Setting of the Study:** The study was conducted in two selected hospitals, may permitting at Vadodra.

**Sample:** The sample for the present study comprises of 60 lactating mothers who fulfilled the sampling criteria and expressed willingness to participate in the study.

**Sampling technique:** convenient sampling technique was used.

**Development of tool for data collection:** it consists of 2 parts:

**Part 1:** Dealt with the demographic data of the sample.

**Part 2:** Consisted of multiple choice questions constructed to assess the knowledge of the lactating mothers regarding exclusive breastfeeding. Total 24 items are included in the questionnaire.

**Validity of instrument:** To ensure content validity of the tool, the self-administered questionnaire is sent to 10 experts. The experts are selected based on their clinical expertise, experience and interest in the problem being studied. They are requested to give their opinions on the appropriateness and relevance of the items in the tool. The experts are from the field of nursing. Modifications of items in terms of simplicity and order are made.

**Reliability:** In order to establish the reliability of the tool it is administered to six lactating mothers. To

establish the reliability of the structured interview schedule, split half method is used; Spearman-Brown's Prophecy formula is used for correlation coefficient, which is found to be 0.9. Thus the tool is found reliable.

**Data collection procedure:** The data collected from 8 November to 18 November 2013. Sample are selected according to the selection criteria of the study. Consent was obtained from sample. A good rapport is maintained. Self introduction is given by the investigator to the subjects and the purpose of conducting the study is explained.

On the first day, the pre-test data is obtained using the structured questionnaire. On the same day Structured teaching programme is administered. On the seventh day, post-test is conducted using the same tool to assess the knowledge of lactating mothers regarding exclusive breastfeeding.

### Analysis of data

Both descriptive and inferential statistics analyzed on the basis of the objectives and hypotheses of the study. Mean, median, range and standard deviation calculated. 't' test is used to assess the effectiveness of Structured teaching programme on knowledge regarding exclusive breastfeeding among lactating mothers. The analysis of data would be calculated using paired 't' is used to find out the association between post test knowledge score and selected demographical variables. Data would be presented in the form of tables and graphs.

## FINDINGS

### Organization Of Study Findings

The data is analyzed and presented under the following sections:

#### SECTION I: Description of Sample Characteristics.

- majority of lactating mothers 42(70%) were in between the age group of 18-22years. 11(18.33%) of them were in between 23-27 years, 5(8.34%) were belongs to 28-32 years and only 2(3.33%) were in between the age group of 33 years and above.
- majority of lactating mothers 27(45%) were illiterate, 20(33.33%) have secondary education, 11(18.34%) belongs to higher secondary and only 2(3.33%) have degree level educational status.

- majority of lactating mothers 40(66.67%) were house wife, 11(18.33%) of them belongs to business, 8(13.33%) have private job and only 1(1.67%) have government job.
- majority of lactating mothers 52(86.67%) were Hindu, 7(11.66%) of them Muslim, only 1(1.67%) of mother was Christian
- majority of lactating mothers 34(56.67%) were belongs to urban locality and 26(43.33%) belongs to rural area.
- Ø that majority of lactating mothers 43(71.67%) were primiparous and 17 (28.33%) of them multiparous.

#### SECTION II: Analysis of knowledge scores of lactating mothers.

The investigator found that in pre-test, majority of lactating mothers had inadequate knowledge (61.67%) and 23(38.33%) had moderate knowledge and no one have adequate knowledge regarding exclusive breast feeding.

#### SECTION III: Analysis of difference between the knowledge scores of lactating mothers regarding exclusive breast feeding.

It was found that difference between the mean pre-test(10.73) and post-test (18.73) knowledge score was found to be significant ( $t = 59.05, t < 0.05$ ) hence hypothesis was accepted this indicate that the structured teaching programme regarding exclusive breastfeeding was effective.

#### SECTION IV: Association between post - test knowledge scores of the lactating mothers with their selected socio-demographic variables.

The association between the post-test level of knowledge and demographical variable. There is a significant association between knowledge of lactating mothers with selected demographic variables such as education and parity..there is no significant association between knowledge of lactating mothers with selected demographic variable such as age, religion, occupation and resident.

## CONCLUSION

Conclusion deals with the conclusion, implications, recommendations and limitations of the study "A study to assess the effectiveness of structured teaching

programme on knowledge regarding 'exclusive breastfeeding' among lactating mothers at selected hospitals of vadodara."

### CONCLUSION

In the present study 60 lactating mothers were selected using Non- probability convenient sampling technique.

The research approach adopted in the present study is an evaluative research approach with a view to measure the knowledge on exclusive breastfeeding. Effectiveness was assessed by analysis of pre test and post test knowledge score to know the effectiveness of structured teaching programme. The data was interpreted by suitable and appropriate statistical method.

#### **This chapter deals with the following conclusions**

The study was conducted to study to assess the effectiveness of structured teaching programme on knowledge regarding 'exclusive breastfeeding' among lactating mothers at selected hospitals of vadodara .In present study 60 lactating mothers were selected using non probability convenient sampling method.

The comparison of the mean pre-test(10.73) and post-test (18.73) knowledge score was found to be significant ( $t = 59, 0.05, t < 0.05$ ) hence hypothesis was accepted this indicate that the structured teaching programme regarding exclusive breastfeeding was effective.

### RECOMMENDATION

Based on the findings of the study, the following recommendations are put forward for

1. The further research. A similar study can be undertaken with a large sample for wider generalization.
2. The similar study can be conducted in the different set up like private hospitals and health centers etc.
3. A comparative study can be conducted between the working and non-working mothers regarding exclusive breast feeding.
4. A comparative study may be conducted between the compare the findings of rural and urban mothers regarding exclusive breast feeding.

5. The experimental study can be conducted with different teaching methods to know the effectiveness of each teaching method on the awareness of exclusive breastfeeding.
6. A similar study can be conducted by using true experimental research.
7. A study can be conducted to identify the factors responsible for delayed initiation of breastfeeding.
8. A study can be undertaken to determine the knowledge as well as practice of exclusive breastfeeding among the post natal mothers.

**Acknowledgement:** I express my gratitude and thanks towards all who have directly or indirectly helped me to complete this study and their support in each major step of the study.

**Source of Funding:** The authors did not receive any financial support from any third party related to the submitted work.

**Conflict of Interest:** The authors had no relationship/condition/circumstances that present a potential conflict of interest.

**Ethical Standards:** This study was conducted after getting approval from the Institutional Ethics Committee and after obtaining written consents from all subjects

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# Creative Strategies to Engage in Teaching a Blended Course

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## ABSTRACT

Blended learning is a need of the time especially for those who have to work and study as well. This unique blend of face to face and online component help students to continue with their job life and at the same time can study without quitting the work place. The idea of blended learning also brought in to our field of nursing education; for this purpose many of the faculties from the school of nursing of a tertiary care hospital based university, were enrolled to learn this new concept. The course was design in a manner that it also contains major part of online and two weeks of face to face component. This paper would draw the attention towards faculty development process experiences for blended learning. It will highlight creative strategies and ways to engage in this new concept of enhancing learning for faculties and for students. Preparedness developed faculty who is teaching BL (blended learning) but also helped to prepare and takes risks about many strategies in course development. Another important arena is practicing the skills on a regular basis even after the face to face component. The concept of trial and error can be utilized wisely. One is not perfect in everything but trying it out is very important. Formation of community of practice, or grouping like-minded people; are the ways to provide faculties to learn from each other. We started to share our learning experiences inside the group and intra group too. Therefore, buddying is another strategy to be applied for blended training. Learn from experts is another creative way to get ready for blended learning. This process helps to build cognitive skills because we would be learning from the knowledge and experiences of others. Such strategies will help a faculty to build her/his skills of blended learning in an ongoing basis.

*Keywords: Blended Learning, Preparedness, Mentoring, Buddying, And Self-Practice*

## INTRODUCTION

Blended learning is a need of the time especially for those who have to work and study as well. This unique blend of face to face and online component help students to continue with their job life and at the same time can study without quitting the work place. In a survey report <sup>(1)</sup> it is noticed that there is a dramatic rise in utilization of the blended approach in higher education. It has improved the learning experiences

of the millennial generation. <sup>(2)</sup> The author asserts that the key interest in blended learning is that it benefits the learning. The students of nursing enrolled in university at this point in time are more equipped with use of technology, especially using the social media and mobile cell phones. Therefore, to build on their usage of technology and their need of learning the nursing course; blended learning would be an integral approach. The idea of blended learning also brought in to our field of nursing education; for this purpose many of the faculties from the school of nursing of a tertiary care hospital based university, were enrolled to learn this new concept. There were excitements as well as some worries to bear the change in teaching methodology, because we were supposed to come out of the comfort zones. This paper would draw the attention towards faculty development process experiences for blended learning. It will highlight

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creative strategies and ways to engage in this new concept of enhancing learning for faculties and for students. It will benefit to those who are beginners to learn the concept of blended learning as a nursing faculty; especially those who are baby boomers and teaching to new millennial. First we will discuss about the format of the course to set a background for readers, second part is about the self-identified strategies and then a way forward.

## **BACKGROUND**

Due to the felt need of blended learning in nursing education; especially when many of the Registered Nurses (completed a three year diploma), have to leave work site for two year BScN study, the idea of Blended Learning was one of the response to continue commitment at both the sites. Another site of learning for this approach was defined by <sup>(6)</sup> that in learning complex topics; interactive and engaged learning experience is more important and it will be achieved by utilizing the potential of Internet and communication to connect students. It is also now very prominent that education has become accessible to all those who want to work for the living and have to study to upgrade their academic achievements. For these very reasons and to respond the global need the idea of blended learning was introduced in the university. All the enrolled faculties knew the basic use of computer as part of the job requirement. Social media and art of photo galleries have make the life easier for many of the educators. These basic skills helped many of us to be the active participant of blended learning course. The course was design in a manner that it also contains major part of online and two weeks of face to face component. The course faculties were assigning tasks via online using Moodle software. They had uploaded articles and its related activities to have better understanding of blended learning concepts. The participants were divided into groups to transform a particular course into blended format. In the face to face component we were taught with educational soft wares, for example developing podcast, vodcast, Cmaps, discussion forums etc. It was then expected from participants to apply these strategies into course development and a team of mentors were supporting us. The mentors of each group were comprised of person from IT and other from academic background, who was able to review our course templates and provide us with constructive feedback too. The actual journey begin after face to face component, we have to apply the learnt concepts

into course development and execution too. After the completion of the Blended learning training, it was found that if we are not practicing it regularly we may not be able to excel in applying the blended approach. Personally it was felt that when it comes to actual application of using software for course content, for developing activities in the course; a constant support was needed. This was happened may be because we were at beginning level. The other reason was that while in training we were totally supported by IT teams and instructional designers were present. Although it is argued that once such trainings get end the supports are taken off, the accountability is not present etc <sup>(6)</sup>. But it was not the case in our training, we were informed that the full support will be taken off but some kind of assistance would always be there. This means that we have to prepare ourselves for working independently. When it comes to work independently then the ideas were generated to keep one always ready for using the blended approach. Therefore, the next paragraph will discuss upon the creative strategies used to prepare oneself for being in the journey of blended learning and to teach the new millennial.

## **DISCUSSION OF CREATIVE STRATEGIES TO ENGAGE IN THE BLENDED LEARNING**

Although many of us were aware of the basic skills of computer but some were not very fond of using the gadgets. In the initial days, the fear of being failure to use the technology was at peak, which is one of the hindrances of creative potential <sup>(7)</sup>, but constant encouragement from colleagues helped each other to be with the pace of the course. In order to upgrade use of technology at beginner level following ways can be used:

### **Preparedness**

It is important to have readiness for learning anything new. The mental mind mapping is one of the very essential requirements as <sup>(5)</sup> offer a working definition of creativity as a mental process which can involve action, is purposeful and is novel to an individual. So, the strategy is to visualize self as holding a handheld device, teaching virtually, preparing a video, using different other gadgets etc. This kind of thinking enabled one to envision self as a blended learning faculty. Sometimes we are used to learn about computer skills up to the extent of need in work life, which generate a comfort zone and hinder us to learn something new and creative. It is important



to believe of being creative, it is the psychological foundation of being creative<sup>(8)</sup>. This paved the foundation of readiness and preparedness for learning blended skills. This readiness enlightened the team so much that participants started to read about literatures which were related to blend learning and that lead to the development of a research proposal for using BL as a strategy to teach a course. Many of the proposals were approved from ethical review committee and researches started in various course of blended format. This preparedness not only developed faculty who is teaching BL but also helped to prepare and takes risks about many strategies in course development.

### **Self-practice**

Another important arena is practicing the skills on a regular basis even after the face to face component. First step is to prepare a list of the skills that one knows and then the skills that are needed to be learnt for teaching BL courses. Although the list of not known may be large but, I kept the preparedness and mental vision of turning myself into a BL faculty. It is important to write down the learning needs once to undergo practicing the use of different soft wares; this will keep ones updated about what to learn. Moreover, the concept of trial and error can be utilized wisely. One is not perfect in everything but trying it out is very important. Many a times when we try to develop an online strategy with the help of IT mentors, we understand it better when we apply it, so we should not stop asking from such mentors for our own learning purpose. There are many internet sites which offer trial soft wares so one can practice from that as well. Moreover, in the face to face session we were asked to prepare a learning plan for ourselves to monitor our own capacities which are required for a blended learning faculty.<sup>(3)</sup> Supports the learning inquiry and said that learning plan helps to outline the guidelines and rationale to learn technology and suggest recommendations.

The other important thing is to update the computer systems, because many a times we are equipped with routinely used software, and when one thing does not work well due to lack of resources then it demotivates and distract us from doing the tasks. Garrison and Vaughan (2008) suggested that it is important to review the learning spaces and schedule the time for practicing the blended learning. We can build a routinized regular time in our time tables for practicing the software. This will help to keep in touch

and polish our skills for preparing ourselves as blended trained faculty through experiential learning activities.

### **Buddying**

Formation of community of practice, or grouping like-minded people; are the ways to provide faculties to learn from each other.<sup>(4)</sup>, says that faculty learning community is consist of "a cross disciplinary group of five or more faculty members, engage in an active collaborative, yearlong program with a curriculum about enhancing teaching and learning and with frequency seminars and activities that provide learning, development, interdisciplinarity, the scholarship of teaching and learning, and community building." (p.1). This group was already formed by the trainers of Blended learning and faculties were divided into the courses a experts and asked to develop, implement and evaluate a course together. This community of inquiry provided us an opportunity to reflect and engage in a discourse for improvement and share success together. Another interesting task was carrying out a research project from that course. Then we were not only engaged to teach the course but to explore the discourse in online discussion forum. This activity also provided us an opportunity to meet with students and know their view point regarding online discussions.

It is also important to know the challenge of the group tasks, which is meeting at one point in time. The creative part was that, those who cannot attend face to face we kept then online via Skype. This idea kept us away from delays. We started to share our learning experiences inside the group and intra group too. Therefore, buddying is another strategy to be applied for blended training.

### **Mentoring**

Learn from experts: I another creative way to get ready for blended learning. This process helps to build cognitive skills because we would be learning from the knowledge and experiences of others. It is important to maintain group collegiality which then results in better learning outcomes for faculty and ultimately help students learning. Mentoring can be done by IT support people in organization, with whom we can share our needs of IT skills, as well as in our case we were mentored by those who have already started to implement the first cohort learning. Such groupings also enable experts to feel responsible and accountable to train others and thus it improves the productivity of the group bind together.

## CONCLUSION

Although the technology of blended learning is moving educators to come out of the comfort zone of face to face teaching but, at the same time it has proved to be the solution for students who want to earn and learn. Initially it is tough to engage in digital world (if we are not in practice), but preparedness, self-practice, buddying with expert peer and having mentorship are the creative solutions to learn the skills of blended learning and to be able to respond to the needs of millennial generation.

**Acknowledgement:** I would like to acknowledge my program director for nominating me for this course, which then enabled me to prepare myself as Blended Learning faculty.

**Ethical Clearance:** Nil

**Source of Funding:** My institute funded me to attend the course but as this paper is my own deliberations and thoughts. Therefore, it does not fund.

**Conflict of Interest:** Nil

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# Risk of Work Related Musculoskeletal Disorders and Awareness Regarding Ergonomic Exercises among Computer Users of Selected Banks of Punjab

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## ABSTRACT

**Aim:** This study is intended to assess the risk of work related musculoskeletal disorders and awareness regarding ergonomic exercises among computer users of selected banks.

**Material & method:** A descriptive cross-sectional research design was chosen for this study. Convenient sampling technique was used to select 200 computer users of selected banks. Cornell Musculoskeletal Discomfort Questionnaire (CMDQ) was used to assess risk of WMSDs and self-structured questionnaire was used to assess the awareness regarding ergonomic exercises among computer users of banks.

**Results:** 77% subjects had risk of WMSDs related to upper body parts and 44% subjects had risk related to lower body parts. Risk of various body parts were neck(65%), Right shoulder (39.5%), left shoulder( 28%), upper back (47.5%), right upper arm(27%), Left upper arm (19.5%), lower back (53%), right forearm(20%), left forearm (16.5%), right wrist (27.5%), left wrist (15.5%), hip(25%), Thigh (7%), right knee (19%), left knee(16%), right lower leg (18%), left lower leg(17%). Majority (66%) subjects had average knowledge regarding ergonomic exercises. Computer users who were working for more than four hours per day, smoking and lack of exercises had higher risk of WMSDs.( $p < 0.05$ )

**Conclusion:** The study concluded that most of population has WMSDs related to upper body parts because of prolonged working hours and also due to smoking and lack of exercise.

**Keywords:** Work Related Musculoskeletal Disorders, Cornell Musculoskeletal Discomfort Questionnaire, Ergonomic Exercises, Computer Users

## INTRODUCTION

The WMSD represents the most leading causes of the occupational injuries and have a serious impact on the quality of life and may cause restriction from work, absenteeism or even there can be a need to change job for the employees.<sup>1</sup> The risk factors of musculoskeletal disorders (MSDs) are ergonomic

(physical) risk factors i.e. static posture, repetition, pressure stress, cold, vibration and individual risk factors i.e.. Poor body mechanics, Inadequate rest and Poor health habits. Working duration is playing the utmost role behind all other risk factors, because long working hours are directly proportionate for initiation of other causative of WMSDs.<sup>2</sup>

WMSDs include three types of injuries i.e. muscle injury, tendon injury, nerve injury. Pain, stiffness, muscle tightness, redness and swelling of the affected area, sensations of pins and needles, numbness and decreased sweating or dryness of the affected parts are symptoms associated with WMSDs.<sup>3</sup>

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The Institute of Medicine estimates of the economic burden of WMSDs in the United States as measured by compensation costs, lost wages and lost productivity are between \$45 and \$54 billion annually. The Bureau of labour Statistics reported 26,794 Carpal tunnel syndrome cases involving days away from work in 2001.<sup>4</sup> Data collected by the California Department of Health Services found that of those who had been diagnosed with Carpel tunnel syndrome, 49% reported using a computer.<sup>5</sup> Germany reports that 80% of those who daily work on the computer regularly suffer from health problems. Two thirds suffer from tension and pain in the shoulder and neck, more than half have back problems.<sup>6</sup> According to Chartered society of physiotherapy, in UK almost 450,000 workers have been upper limb disorders. The incidence of symptoms among professional computer users from the neck, shoulders and arms/hands were 50%, 24% and 34% respectively.<sup>7</sup> The prevalence of WMSDs of the neck, shoulder, wrist/hand, upper back and lower back among Chinese office workers were 55.5%, 50.7%, 31.5%, 26.25% and 6.6% respectively.<sup>8</sup> In India, 77.5 % population of IT (Information Technology) professionals working in IT industries have Work related musculoskeletal disorders.<sup>9</sup> Prevalence of self-reported work related musculoskeletal disorders of the wrist and hand among computer users are 58% in Karnataka.<sup>10</sup>

The main effort to protect workers from WMSDs should focus on well-designed workplace, proper tools and equipment design, good work practices, avoiding repetitive patterns, working with regular minute breaks and ergonomic (stretching) exercises.<sup>11,12</sup> In 1964 the Japanese Ministry of labor issued guidelines for keyboard operators demanding that workers not to be spend more than 5 hours per day on the keyboard, take a 10-minute rest break every hour and perform fewer than 40,000 keystrokes per day. In companies that implemented these preventive measures, the prevalence of arm and hand disorders was decreased from an overall prevalence of 10% to 20% down to 2% to 5% .<sup>13</sup>

## MATERIAL AND METHOD

A descriptive non experimental study included 200 computer workers who worked on computers in banks chosen through convenience sampling technique. The subjects who work for minimum 4 hours per day on computers for at least 1 year were included in study. Subjects, who diagnosed with any musculoskeletal

problems and was having history of any trauma or fracture was excluded from the study.

Cornell Musculoskeletal Discomfort Questionnaire (CMDQ) was used to assess the risk of WMSDs and self-structured questionnaire was used to assess the awareness regarding ergonomic exercises. 27 questions were asked about sitting posture, short breaks and frequency to perform ergonomic exercises to assess the awareness. The questionnaire covers the socio-demographic characteristics (age, gender, working hours/day, years of working on computer, frequency of performing same repetitive activities, exercises, alcohol and smoking.

The ethical approval was taken from Ethical committee of University College of Nursing. Apart from this, informed consent was taken from each respondent to participate in the study after explaining them the potential benefits of participating in the study.

Questionnaires were coded and entered in the SPSS software program and data was made ready for statistical analysis.

## FINDINGS

### a) Risk of work related musculoskeletal disorders among population

The findings of the present study revealed that 77% computer users had risk of WMSDs related to upper body parts and 44% subjects had risk related to lower body parts. Individual risk of various body parts were neck(65%), Right shoulder (39.5%), left shoulder( 28%), upper back (47.5%), right upper arm(27%), Left upper arm (19.5%), lower back (53%), right forearm(20%), left forearm (16.5%), right wrist (27.5%), left wrist (15.5%), hip(25%), Thigh (7%), right knee (19%), left knee(16%), right lower leg (18%), left lower leg(17%).

### b) Awareness regarding ergonomic exercises among population

Majority of 66% bank workers had average knowledge regarding ergonomic exercises. 29.5% bank workers had poor knowledge regarding ergonomic exercises and only 4.5% had good knowledge regarding ergonomic exercise



Fig. 1. Percentage distribution of study subjects according to awareness regarding ergonomic exercises

**Association between the risk of WMSDs of subjects with their selected socio demographic variables.:** WMSDs was found to be associated with working hours per day, smoking and exercise at  $p < 0.05$ .

### CONCLUSION

The findings of the present study revealed that 77% computer users had risk of WMSDs related to upper body parts and 44% subjects had risk related to lower body parts and 66% population had average knowledge regarding ergonomic exercises.

**Acknowledgment:-** The author acknowledge all the bank employees and all managers of banks who gave permission and co-operate to conduct this study.

**Conflict of Interest:** None

**Source of Funding:** Nil

**Ethical clearance:** The ethical approval was taken from ethical committee of University College of Nursing, Faridkot. Permission was taken from managers of the respective banks prior to final data collection. Apart from this, informed consent was taken from each respondent to participate in the study.

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# Students' Cognitive Engagement in "Care of Elderly Course" Using Blended Learning Methodologies

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## ABSTRACT

AKUSONAM has been a trendsetter for nursing education in Pakistan; including the offering of "Care of Elderly" course to 37 undergraduate nursing students in 2013. It was offered in blended learning format, along with hands on exposure in a variety of geriatric care settings. This study was conducted for course enrollees.

**Methodology:** Through the retrospective descriptive study design, student's Cognitive Engagement (CE) in Online Discussion Forums (ODF) was assessed. Researcher designed demographic tool was used to collect demographic data; while Zhu (2006) framework was used to assess CE. Discourse analysis of three ODFs was done for participants who consented to participate. Each group was assigned letter A, B or C for anonymity purpose.

**Findings:** The data revealed wide-ranging CE using the Zhu framework. Majority of the participants in all three groups have used statement type I and II, whereas the higher level of CE was least observed amongst the participants. In group (A) statements type I and II were used by 49.99% of participants; only 20.83% participants demonstrated the use of scaffolding. In group (C) 59.25% of participants used statements type I II, and scaffolding. Group (B) used statement type I significantly (25%).

**Conclusion:** The discourse analysis revealed that CE varied among the three groups. Moreover, higher level of CE such as questioning, mentoring and reflections were the least used in ODFs. This determines the future need to focus on ensuring higher levels of CE amongst course participants.

**Keywords:** *Care of Elderly; Cognitive Engagement; Blended Learning; Online Discussion Forums*

## INTRODUCTION

Globally, people are living longer than before; the shift in the demography could be due to two reasons, including: apparent improvement in life expectancy and decline in birth rate.<sup>[1]</sup> Similar ageing patterns are significantly observed in Pakistan. This raises concern for resource re-allocation and specialized caregiving to ensure better quality of life. Subsequently, there is a need for specially trained nurses with professional skills and expertise to address the needs of older population.<sup>[2]</sup> Jerram (2011) emphasized the critical role of nurses in caring for older population with special skills and knowledge.<sup>[2]</sup>

Shelter, structured caregiver's training and nursing educating in care of elderly are some of the key areas onto which organizations are putting their efforts.<sup>[3]</sup> AKUSONAM also played significant role in this area by offering "Care of Elderly" course to prepare nurses in the domain of elderly care.

The course development went through a vigorous process including content review with literature support; however, Pakistani context was key consideration. The review was done by local and international experts followed by final approval from

the University's curriculum committee and the Board of undergraduate studies. The course was offered on a hybrid model in summer 2013; 37 undergraduate nursing students were enrolled in the course. Face to face classes and online discussion forums were the primary teaching pedagogies. Students were also given hands on opportunity to practice care of elderly in various geriatric clinical settings.

Simultaneously the course team availed the opportunity to study the students' cognitive engagement in (CE) "Care of Elderly course" using blended learning methodologies.

### Literature Review

#### Blended Learning Format in "Care of Elderly" Course

Blended Learning (BL) is the use of internet technologies to increase knowledge and performance. Many education systems are in the process of shifting from traditional face to face methods of instruction to BL format of delivery. <sup>[4,5]</sup> Synchronous activities offer student/faculty interaction in real time and on the other hand asynchronous offers the opportunity of student/faculty engagement at their convenient time and place. <sup>[6]</sup>

Integration of BL format into education can catalyze the change towards applying adult learning theory, where educationists will no longer serve mainly as the providers of content, but will become more engaged as facilitators of learning and evaluators of participants' learning capabilities. <sup>[7]</sup> It provides strong support to facilitators in creating learning settings based on learner-centered approach for delivery of education. <sup>[6]</sup> Such approaches will provide opportunities for participants as well as for facilitators for creative engagement within the education system. <sup>[4]</sup> BL approach also enhances learning through peers, which ultimately will contribute towards active learning strategies. <sup>[8,9]</sup>

It is an appropriate approach to address sensitive and emotional content associated with grieving and mourning. <sup>[10,11]</sup> It can facilitate understanding the trends in ageing, skills and ethical consciousness by utilizing context specific theoretical and practical knowledge. <sup>[12]</sup> This will increase participants' self-sufficiency and will encourage lifelong learning. <sup>[13]</sup>

### CE amongst Course Participants

Student engagement is the most significant factor for learning and personal development with academic activities; <sup>[14]</sup> it is the ability of a learner to attempt, analyze and understand the content for appropriate decision making. <sup>[15]</sup> Hence low engagement is an important reason for students' dissatisfaction and negative experiences towards education system and course drop outs. CE is enhanced through BL to effectively engage students cognitively. <sup>[16,17,18]</sup>

## METHOD

### Study Design

The "Care of Elderly" course was offered at SONAM for the first time in a blended format for a period of four weeks in six modules. The modules ran concurrently with clinical practice. Students had several face to face and online discussion forums. The study aimed to assess students' CE in Online Discussion Forums (ODF). This study utilized retrospective descriptive study design; Zhu (2006) framework was used to analyze the online discussion forums, retrospectively. <sup>[15]</sup>

### Study Setting, Population and Sampling Method

The study participants were the students enrolled in the "Care of elderly" course in August, 2013 at AKUSONAM. Universal sampling technique was used to recruit study participants. Course enrollees were asked to sign the consent, and those who consented in writing were included in the study. The participants' confidentiality, anonymity and privacy were maintained throughout the study period.

### Data Collection and Analysis

Demographic data was collected using researcher designed demographic data form, whereas the cognitive engagement in an online discussion forum was assessed through Zhu (2006) framework.

## FINDINGS

### Participants' Demographic Data

Eighteen students aged between 18-25 years, enrolled in "Care of Elderly" course consented to participate; majority (88.88%) were females, only



11.11% were males. Computer literacy and comfort in use of computer skills was also assessed under five different components; including: MS Word, Power point presentations, email, web browsing, and prior knowledge of Moodle and Social Forums. Participants' confidence in email and web browsing was 77.77%; 72% in Moodle, and 66.66 % in the use of social forums (see Table-1).

A high percentage of study participants (83.33%) had no past exposure of learning through BL.

However 72.23% of the students showed confidence in the use of Moodle (see Table-2). Only 16.66% of the study participants had past exposure in the care of elderly clients (see Table-3). Most participants reported that they chose care of elderly course because of the emerging need of the country and the need for human resource preparedness in care of elderly. Some of them also reported that the course will be a building block in further pursuing career in ageing.

**Table 1: Comfort in Use of Computers (all figures in percentages)**

Comfort level	MS Word	Power point presentations	Email	Web browsing	Moodle	Social Forums
Confident	61.11	61.11	77.77	77.77	72.22	66.66
Reasonable confident	22.22	22.22	5.55	5.55	11.11	16.66
No response	16.66	16.66	16.66	16.66	16.66	16.66

**Table 2: Past Exposure of Blended Learning**

Past exposure	% of students
Yes	5.55
No	83.33
No response	11.11

**Table 3: Past exposure in care of elderly client**

Past exposure	% of students
Family member or a patient	16.66
No experience	72.22
No response	11.11

### Discourse analysis

The entire group of course enrollees was split in three groups and each group was assigned a facilitator. Each group had varied number of study participants due to prior grouping of course enrollees. An alphabetic letter A, B or C was assigned to each group with numeric codes given to each participant for identity purpose. The transcripts were used for discourse analysis to assess students' interaction and cognitive engagement in ODF. Students' CE was assessed in ODFs, where students had posted their responses to faculty and peers. To eliminate inter-group knowledge gaps, all groups were given pre-reading material and similar topic was also selected to assess CE.

Zhu framework (2006) was used to assess student interaction and CE in ODFs. Six categories determining students' cognitive engagement were considered, including: statements of six different

levels, questioning, mentoring, reflection and scaffolding. Discourse analysis of group A, B and C revealed 130 posts in three ODFs. Across the three ODFs, facilitators posted only 8 comments whereas the study participants contributed for 63 posts (48.5%). Average number of posts was 3-4 per participant. To reduce subjectivity, the discussion forum's text was analyzed twice at an interval of three months apart. This did not change the general impression of the data set except for few adjustments. The analysis revealed that over all in all three groups, majority of the study participants used various statement types to generate discussions on ODFs. Amongst those, statement type I (27%), which is direct response to the previous statement and statement type II (23.8%), information related to the topic were the most commonly used statements. Only 4.76% of the participants posted question type II to initiate the discussion, whereas Question type I for seeking information was not at all used. Moreover, only 19.04% of the participants did scaffolding and 7.94% participants were involved in mentoring. The overall data from all three ODFs revealed low level of cognitive engagement amongst study participants. The similar pattern was also seen in individual groups.

Individually, each group performed differently; Group (A) participants contributed equally whereas in group B and C participants' pace varied. There were few participants who contributed significantly in ODFs; on the contrary few just added a comment or two. Respectively the number of responses of various

types and categories (on Zhu framework) also varied in three ODFs. The highest number of responses was in group (C) (42.04%) as compared to the lowest contributions (19.04) in group (B).

Within Group (A) from the total responses (24), majority of the participants (50%) used statement types I and II to generate the discussion. Statement type I was used by majority of the participants (29.16%), whereas statement type II was used by 20.8% participants. The higher level of engagement was seen amongst only 20.8% participants who used scaffolding and only 4.2% used mentoring responses in group (A)

ODF. In Group (B), discussion pattern was different than group (A), the total responses from the study participants were 12. Only statement type I was significantly (25%) used. The higher level of engagement was lower in group (B). In Group C, participants' contribution was more in all types and categories of responses (42.85%) as compared to 38.85% and 19.04% in groups A and B, respectively. The use of statement types I (25.92%) and II (33.33%) was observed in group (C). Alongside, 18.5% of the participants used scaffolding (see Table-4).

**Table 4: Students' Level of Cognitive Engagement in ODFs**

Category	Type	Characteristics	Group A	Group B	Group C	Group A, B & C
<b>Number of Posts by Study Participants</b>			<b>24</b>	<b>12</b>	<b>27</b>	<b>63</b>
<b>NB: Below given figures are in percentages using the above figures as denominators in respective columns</b>						
Question	I	Seeking information (Vertical) Correct answer	00	00	00	00
	II	Inquiring/initiating the discussion with no definite answer	4.76	8.33	3.70	4.76
Statement	I	Responding- direct response to previous post	29.16	25.00	25.92	27.00
	II	Information- related to the topic	20.83	8.33	33.33	23.80
	III	Explanatory- factual info with limited personal opinion	8.33	00	3.70	4.76
	IV	Analytical – info about the message	4.16	8.33	3.70	4.76
	V	Synthesizing- summarizing	00	16.66	00	3.17
	VI	Evaluative- judgmental opinion on discussion	4.16	00	3.70	3.17
Reflection	I	Reflective of change in personal behaviors and opinion	00	00	00	00
	II	Reflective of using the cognitive skills to accomplish task	4.16	00	00	1.58
Mentoring	I	Mentoring- facilitating on concepts development	4.16	16.66	7.4	7.94
Scaffolding	I	Guiding statement and suggestion (supportive statement)	20.83	16.66	18.51	19.05

Source: Zhu framework to assess students' Cognitive Engagement (2006)

## DISCUSSION

One of the study findings in terms of the number of discussion posts is that faculty posts were limited in numbers. The similar finding has been reported by Zhu (2006) in his study conducted to assess cognitive engagement as part of students' participation in online discussion forums in two undergraduate and two graduate courses.<sup>[15]</sup> The less number of posts by the facilitators may be because of the self-directed nature of the course, whereby the faculty provides direction in a comment or two and students follow the leads.

Moreover, this also enhances engagement between students, where they question and respond to each other rather than one to one interaction with the faculty.

The important study finding was either use of statement type I or II for sharing information; whereas questioning and other discussion techniques like reflection were used less. Zhu (2006)<sup>[15]</sup> reported the similar findings. This could be due to a number of reasons such as participants felt necessary to answer the question rather than asking more questions; they

may have associated it with gaining more marks, as the forums were graded. Moreover, they may have avoided questioning and reflection, because these take more time rather than providing simple answers. Use of mentoring and facilitation for each other was found less among students. Again, this is a significant area where emphasis needs to be made so that students can facilitate each other's learning.

### Limitations and Recommendations

As in any other study, some limitations were also noted. Increased cognitive engagement of both students and faculty is required as evidenced by low number of posts by the participants and limited comments by faculty members on participants' posts. Care of Elderly was the only course in four year baccalaureate nursing program which was offered in blended learning format. This can be a significant reason for the fact that less number of course enrollees consented for the study.

### CONCLUSION

In conclusion, the study is unique and first of its kind in a developing country. The results indicate that students, who chose this course as an elective, did so because it was a need of the country and they would use this to pursue a career in geriatric nursing, thereby creating critical mass in the country to address geriatric health care needs in Pakistan.

Moreover, the discourse analysis revealed that the cognitive engagement varied among the three groups of participants, from the use of different types of statements to the use of scaffolding. However, other higher levels of CE such as questioning, mentoring and reflections were rarely used by the participants. This significant finding indicates the future need to focus on ensuring higher levels of CE amongst course participants.

**Acknowledgement and Source of Funding:** AKUSONAM's leadership and BSc. Nursing Program in course development and funding.

**Conflict of Interest:** None in this study

**Ethical Clearance:** Ethical clearance taken from Aga Khan University's Ethical Review Committee

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# A Descriptive Study to assess the Knowledge Regarding Diabetes Mellitus, its Risk Factors and Complication among the Rural Community Bhilliana, Muktsar (Punjab)

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## ABSTRACT

**Objective:** To determine the baseline level of knowledge level of awareness amongst a rural community about Diabetes mellitus (irrespective of type 1 or type 2), its risk factors and complications.

**Method:** A cross sectional survey conducted at the community of village Bhiliana, Muktsar, Punjab in March- April 2013. A structured questionnaire was used and 300 adults (age>18years) were assessed on their knowledge regarding awareness of Diabetes mellitus (DM), its risk factors and complications. All data was re-validated and analyzed.

**Result:** Out of 300 adults subjected to the survey, only 46.66% (140) adults had any awareness of DM. adult with no regular exercise were 69.33% (208) and 73.33%(220) did not have healthy eating habits. Awareness of risk factor was present in 25.33% (76) while awareness about complication associated with the DM was 28.33% (85). Adult which reported as never going for regular checkup to any clinic or hospital were 70% (210). Family history of DM was statistically significant associated with awareness about DM (65%vs 32%,  $p<0.001$ ), people who were in contact regularly with health care provider were more aware about diabetes and the associated risk factors than those who were not (70%vs 35%,  $p<0.001$ ). Sex was not associated ( $p=0.28$ ) with awareness about DM, nor was the education ( $p=0.46$ ).

**Conclusions:** Majority of adults were unaware of DM itself and associated risk factor. Raising public awareness of the disease through outreach programmes and mass media should be planned and implemented.

**Keywords:** DM (Diabetes mellitus)

## INTRODUCTION

Diabetes Mellitus is a silent disease and is now recognized as one of the fastest growing threat to public health in almost all countries of the World. It is also called the disease of prosperities. Prevention is better than cure and is less expensive.<sup>3</sup>

Around 150 Million people suffer from diabetes in the World out of which above 35 million are Indians the highest in any country. Every fifth person who suffer from diabetes in the world today is an Indian.<sup>4</sup>

By 2030 Indian will have 79.4 Million diabetic projects the WHO (World Health Organization) that's more than twice the current number over 35million

cases. No wonder India is the Diabetic Capital of the World".

The prevalence of diabetes in Punjab is so high due to prevalence of risk factor such as obesity.

### Need of the Study

Nutrition related risk factors often work synergistically to adversely affect the health status of older people, and these risk factors may lead to and in creased rate of medical complications and result in loss of independence, institutionalization and higher health care costs for people affected.

According to WHO in 2004, more then 150 million people worldwide Suffer from some form of diabetes

in India. It has been estimated that presently 19.4 million individuals are affected by diabetes and the numbers expected to increase to 57.2 million by the year 2005 (one six of the world total) <sup>1</sup>

According to Indian press (2004) Hyderabad and Chennai are the diabetes capital of India. Hyderabad tops the metro politician cities in the prevalence of Diabetes (16.6%), Followed by Chennai (13.5%), Bangalore (12.4%), Kolkata (11.75%), New Delhi (11.6), and Mumbai (9.3%). The most important aspect of diabetes is the occurrence of complications that increase the cost of management. A diabetic patient spends Rs.4510 per year. <sup>5</sup>

The population in India has an increase in adults was found to be 2.47 in rural and 4.0-11.6 in urban dwellers. High frequencies of impaired glucose tolerance shown by studies ranging from 3.6 to 9.17 indicates the potential for further rise in prevalence of diabetes mellitus in the coming decades.<sup>7</sup>

## MATERIAL & METHODOLOGY

A cross sectional Survey was carried out by the researcher at Bhilliana (Rural Muktsar) during March-April 2013. Pre-designed pilot tested questionnaire was used for data collection. For the feasibility the questionnaire was translated in the local language (Punjabi) and back translated to English to ensure validity. Lay man terminology 'sugar' is used instead of Diabetes mellitus for better understanding of condition.

Independent variables in the study were age, gender, educational status, family history of DM and regular visit to health care provider.

Dependent variables were awareness level about DM, risk factors and complications.

EPI-info 6.0 used to calculate the sample size. Anticipated awareness level of community about DM was 20%, for 95% confidence interval and precision of + 5%., the sample size calculated was 246 and for contingencies the sample size was increased to 300.

Systematic Random sampling method was used to select the sample.

The SPSS version 10.0 statistical software was used for statistical analysis. The Chi-square test was used to investigate the association of awareness of DM with various independent variables at the level of  $p < 0.05$ .

## RESULTS AND FINDINGS

The total sample size for this study was three hundred. The age distribution for the whole sample

was 41 + 15 years. Majority of them were Males (60%). The distribution of gender and educational status among the study subjects is shown in table-1 more than a third of adults had no formal education while only 10 adults had post graduation. Majority of people 180 had received some formal education.

**Table 1. Demographic Characteristics of sample**

N=300			
S/N	Demographic Variables	Frequency	Percentage
1	<b>Gender</b>		
	a. Male	180	60
	b. Female	120	40
2	<b>Educational Status</b>		
	a. Illiterate	120	40
	b. Primary	80	26.66
	c. Secondary	40	13.33
	d. Graduate	50	16.66
	e. Postgraduate	10	3.33

**Table 2. Knowledge/ awareness regarding Diabetes mellitus.**

N=300			
S/N	Variables	Frequency	Percentage
1	<b>Awareness</b>		
	a. Yes	140	46.66
	b. No	160	53.33
2	<b>Regular checkup</b>		
	a. Yes	90	30
	b. No	210	70
3	<b>Management</b>		
	a. Diet	20	6.66
	b. Exercise	10	3.33
	c. Medication	20	6.66
	d. Diet & Exercise	10	3.33
	e. Diet & Medication	15	5
	f. Diet , Exercise & Medication	18	6
	g. Not following	207	69
4	<b>Blood Sugar checked</b>		
	a. Daily	10	3.33
	b. Weekly	15	5
	c. Monthly	72	24
	d. Never	203	67.66
5	<b>Regular diet</b>		
	a. Regular diet regimen	80	26.66
	b. No diet regimen	220	73.33
6	<b>Regular exercise</b>		
	a. Yes	92	30.66
	b. No	208	69.33
7	<b>Knowledge of own weight</b>		
	a. Yes	130	43.33
	b. No	170	56.66
8	<b>Awareness of complication</b>		
	a. Yes	85	28.33
	b. No	215	71.66
9	<b>Knowledge of risk factors</b>		
	a. Yes	76	25.33
	b. No	224	74.66

**Table 2. Knowledge/ awareness regarding Diabetes mellitus. N=300**

S/N	Variables	Frequency	Percentage
10	<b>Family history of diabetes mellitus</b>		
	a. Yes	88	29.33
	b. No	212	70.66
11	<b>Known diabetes for</b>		
	a. <5 years	50	16.66
	b. 5-10 years	70	23.33
	c. >10 years	90	30
	d. Not knowing	90	30

The above table-2 shows that in survey 46.66 % subjects claims to aware regarding DM, 224 adults were unaware of any predisposing risk factors, even 203 adults never had their blood sugar checked, while 170 subjects unaware about own weight and 220 adults had absolutely no regular diet regimen in their day to day life. Further, 215 adults were unable to say that they had any idea as to what the complication of DM might be. The low level of awareness regarding DM is not surprising as 210 people out of 300 reported that they never went for regular checkup to any health center or clinic.

**Table 3. Association of Knowledge/ awareness with various independent variables (N=300)**

S/N	Variables	People aware	People not aware	Odds ratio (95% CI)	Pvalue *
1	<b>Gender</b>				
	a. Male (n=180)	77 (42.77%)	103 (57.22%)	1.35 (0.84, 2.2)	0.21
	b. Female (n=120)	52 (43.33%)	68 (56.67%)		
2	<b>Educational Status</b>				
	a. Illiterate	50 (41.66%)	70 (58.34%)	0.67 (0.43, 1.2)	0.44
	b. Some Formal Education	96 (53.34%)	84 (46.66%)		
3	<b>Family history of DM</b>				
	a. Yes	57 (64.77%)	31 (35.27%)	3.97 (2.38, 6.61)	<0.001
	b. No	77 (36.32%)	135 (63.67%)		

\*Chi-square test used

Table -3 depicts the association between Knowledge/ Awareness level of DM and with selected variables gender, educational status and family history of DM. This study shows that 42.77% male and 43.33% females were aware, but this difference was not statistically significant ( $P=0.21$ ), people who had formal education (53.34%) compared to people who are illiterate (41.66%), was not statistically significant ( $P=0.44$ ). a positive family history was found to be associated with level of awareness, as 64.77% of adults with family history were aware of DM, while only 36.32% of people without family history were aware about DM ( $P<0.001$ ).

## DISCUSSION

The finding of the study indicates that a significant number of population have little or no awareness of DM. It had previously been shown that the level of awareness was poor amongst diabetes and possible outcome of the disease.<sup>8</sup> The study however shows that people who are regularly in touch with their health care providers for various health issues are more aware about the disease and its risk factors. This brings the attention to the role of health care provider

specially the community health workers and practitioners of their patients and the general community to develop the awareness regarding diabetes mellitus.<sup>11</sup> Awareness about Diabetes mellitus was found to be similarly low in a community based study in Malaysia.<sup>9</sup> There were no studies found which could contraindicate the finding of the study. A study conducted in Saudi Arabia were found to have poor knowledge on DM, its risk factors and preventive measure, Education and age were found to be the most important predictors of knowledge.<sup>10</sup>

## CONCLUSION

This study has shown that the rural communities of Bhilliana (Muktsar), Punjab are unaware about the risk and complication of Diabetes mellitus. The majority of people who are aware because of family history of disease. To enhance the knowledge and awareness of DM, a formal, structured approach should be designed to deliver the necessary education to the rural people through mass media and health education programme. This study is highlighted the need of patients and public education regarding Diabetes mellitus.

**Acknowledgement:** Our sincere appreciation goes to all the participants for being cooperated in the study and our daughter Pari and son Geetesh for their effortless support during this.

**Interest of Conflict //Ethical Clearance / Source of Funding:** No interest of conflict, this study not require ethical clearance and this study was self funded.

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# Case Study: An Ethical Dilemma in End of Life Care

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## ABSTRACT

In any healthcare organization care providers often encounter ethical dilemmas while dealing with patients. A case study presented ethical dilemma faced by a nurse who was caring for an old female diagnosis with severe interstitial Lung Disease (ILD). The patient verbally expressed her will not to give any aggressive treatment and wish a comfort end of life. Her son desired to do all possible treatment and ultimately the patient died with painful experiences. The ethical dilemma demonstrated whether to respect the patient's autonomy or refuse and do aggressive treatment. This paper discusses a case study and present Volbrecht's framework of virtue ethics to analyze the ethical dilemma.

**Keywords:** *Ethical Dilemma, Autonomy, End of Life Care, Advanced Directives (AD)*

## INTRODUCTION

A 75 year old female, admitted with severe Interstitial Lung Disease (ILD). She was known case of diabetes, renal failure and coronary artery disease. She was on continuous oxygen therapy and overnight application of non-invasive ventilator; Bi-level Positive Airway Pressure (BIPAP) machine for last 6 months. During her hospitalization, she expressed her verbal living will to her family and primary physician that she would not be given any aggressive treatments and wished to have comfort end of life. Due to the poor prognosis, the doctor had put her on (Do Not Resuscitate) DNR code status after discussing with the family. She was put on continuous BIPAP as developed CO2 Narcosis. Later, she went into renal shut down. Even knowing his mother wish and poor prognosis, the son expressed his desire to do all possible treatment other than resuscitation. Hemodialysis was done but unsuccessful due to severe hypotension. She developed multiple bedsores, hospital acquired infection in blood and urine. Concurrently, she became unresponsive. The son requested to give consultations to infectious disease (ID), pulmonology, cardiology, and nephrology. All physicians had recommended interventions based on patients' medical problems. After 20 days her condition got worsen, she was in pain and suffering. Finally, her son decided to hold BIPAP; she went into cardiac arrest and expired within an hour.

## Virtue ethics

In this case study I will use Volbrecht's framework of virtue ethics to analyze this ethical dilemma. Virtue ethics believes on the patient's autonomy and patient's choice of decision making. Ethical analysis of virtue ethics focuses (a) identifying the problem, (b) analyzing context, (c) exploring options, (d) applying the decision process, and (e) implementing the plan and evaluating results<sup>(5)</sup>.

### Identifying the problem

This case study presents an ethical dilemma presented desirable outcome in some respects and undesirable in others. In this scenario, the patient's decision to refuse for aggressive treatment had the desired outcome of allowing her to be remain in peaceful end of life care. However, her son's choice also resulted in a suffering and painful experience and eventually her death. The ethical dilemma is patient's autonomy versus the ethics of care.

### Analysis of ethical dilemma

In this case the ethical dilemma is patient's autonomy versus the ethics of care. The patient's autonomy was neglected and treatments to prolong life, such as use of non-ventilator machine and dialysis were implemented. If her son had followed the recommendations of the doctors, the desirable outcome would have been possible peace full end of

life. On the other hand, the undesired effect would have had of feeling of guilt of son but that aggressive treatment would have survived his mother. The American Nurses Association (ANA) Code for Nurses (2001) also support that healthcare provider should respect patients' wishes and decisions despite their own personal beliefs <sup>(2)</sup>.

However, it is challenging for loved one to witness death based on a patient's decision and such ethical incidents are thought-provoking. In this scenario to comprehend the decision-making process, one must reflect on the ethical principles of respect, compassion, autonomy, beneficence, non-maleficence, and justice. These ethical principles may influence individual's preference. In his case, the healthcare team explained the poor prognosis to the son but he did all possible treatment including hemodialysis and non-invasive ventilator. Palliative or supportive care may provide to the patient in order to respect the patient's autonomy, while respecting her expressed wishes. According to Winzelberg, Hanson and Tulskey (2005) claim that patients are most at risk of receiving care inconsistent with their preferences when they unable to participate in decision- making <sup>(4)</sup>.

### **Applying an ethical decision process**

Based on virtue ethics, the healthcare provider and family did not respect the patient's autonomy and her wish to choose peaceful death was neglected. According to Winzelberg, Hanson and Tulskey (2005) stated that "efforts to improve end-of-life decision-making quality have emphasized the principle of individual autonomy to better ensure that patients receive care consistent with their preferences" <sup>(4)</sup>. Patient was competent enough when she declared her choice before her condition got worsens. The care providers would have been followed the principle of beneficence, which focuses on promoting the comfort of patients. In this scenario the patient comfort was not receiving aggressive treatment but peaceful end of life care. The concept of advanced directives supports the principle of Autonomy, that an individual has a right to decide for oneself. Advanced directive is a legal document which provides information to the care providers about the patient's wishes regarding advance treatment options for the future when decision making would not be possible for the incompetent patient <sup>(3)</sup>. In many hospitals, there is no policy for Advanced Directives (AD); through this policy it would be easier for the health professionals to plan treatment according to the document of the

patient, with no doubts about the comprehensiveness of the treatment. "It is an autonomous choice of that individual. Thus, if one follows instructions spelled out by an individual, it amounts to respecting an individual which carries a great moral value. It also builds up trust between an individual and his treating physician"<sup>(1)</sup>.

### **Implementing plan and evaluating results**

The hospital where I was working, there was no policy of advanced directives. However, there was policy for end of life care. According to Akhter (2011) stated that "advance directives include living wills, durable power of attorney and health care proxy"<sup>(1)</sup>. Further the author states that "it is not necessary to have a written document, a verbal expression also receives equal importance"<sup>(1)</sup>. AD is a legal document which allows care providers to respect the patient's wishes regarding advance treatment options for the future when decision making would not be possible for the incompetent patient. In my judgment, the appropriate way to handle this issue could be the concept of AD. If there would have been the concept of advanced directives, the ethical dilemma would have been dealt in a better manner. The patient would have not suffered and even the loved ones would not have feeling of guilt. The concept of advanced directive document appears crucial in such dilemmas. The introduction of advanced directives can be application of virtue ethics theory which focuses on respect the patient's wishes.

### **CONCLUSION**

In any healthcare industry, patients and families with diverse background approaches with various values and beliefs. Care providers need to recognize ethical dilemmas in their clinical and focus on ethical principles while dealing with such issues. Nurses knowledge regarding ethics, their ability to identify and resolve concerns in such dilemmas are crucial and challenging. In my opinion, for above stated scenario AD may helpful to address the dilemma. AD supports the principle of autonomy, that patient the right to decide for oneself about treatment plan of care. Through this concept, healthcare professional may respect the patient autonomy and prevent the family feeling of guilt. Healthcare professional can follow and educate the patients and families about AD and it would benefit both patients and care providers while dealing such ethical dilemmas.

**Acknowledgment:** Nil

**Ethical Clearance:** Not Required

**Source of Funding:** Self

**Conflict of Interest:** Nil

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# Knowledge on Supervision, Attitude Towards Supervisory Responsibilities and Factors Affecting Supervision in the Community among Health Assistant Females/Lady Health Visitors (LHV) in Dakshina Kannada District, Karnataka

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## ABSTRACT

**Aim:** To assess the knowledge on supervision, attitude towards supervisory responsibilities and factors affecting supervision in the community among Health Assistant Females /Lady Health Visitors (LHV).

**Materials and method:** A descriptive exploratory design was used. The study was carried out in the primary health centres of selected taluks (Bantwal and Mangalore) of Dakshina Kannada district. The sample comprised of 30 Health Assistant Females/ Lady Health Visitors (LHV), selected by convenient sampling technique.

**Results:** 23.34% of the Health Assistant Females/ Lady Health Visitors (LHV) had excellent knowledge, 53.32% of them had good knowledge and 23.34% of them had average knowledge on supervision. Majority of the subjects (80%) had neutral attitude towards the supervisory responsibilities. There is a weak positive correlation ( $r=0.382$ ) between knowledge on supervision and attitude towards supervisory responsibilities among Health Assistant Females/ Lady Health Visitors (LHV). The factors affecting supervision in the community by the Health Assistant Females / Lady Health Visitors (LHV) were assessed through a questionnaire. The subjects ranked each factors based on their priority and the prioritized factors based on the ranks were prepared with the application of Garrett's ranking method. The main problems prioritized by the LHV were lack of accommodation facilities, enormous health programmes, travelling difficulties.

**Conclusion:** Periodic and proper supervision is needed, to evaluate the effective and efficient health care services delivery to the needy population. Even though it is rendered by the supervisory cadre in the health care system, there is a great need to strengthen it, through periodic training and also by identifying the obstacles that inhibit effective supervision.

**Keywords:** Knowledge on Supervision, Attitude Towards Supervisory Responsibilities, Factors Affecting Supervision in Community, Health Assistant Females /Lady Health Visitors (LHV), Supervision In Community Health Nursing

## INTRODUCTION

Health has been declared as a fundamental human right. Health services are designed to meet the health needs of the community through the available knowledge and resources and are considered as a basic

social service of the country. Primary health care concept (1978) has become the corner stone of rural health care services, which are provided by the primary health centres as per the propositions of the Bhore committee. Bhore committee recommended for integration of preventive and curative services of all

administrative levels. According to Bhore committee, the development of primary health centre is in two stages: a short term measure in which one primary health centre is for a population of 40,000 and manned by 2 doctors, one nurse, four public health nurses, four trained dais, two sanitary inspectors, two health assistants and class IV workers. Secondary health centre was also envisaged to provide support to PHC and to coordinate and supervise their functioning. The long term programme set up primary health units with 75 bedded hospitals for 10,000 –20,000 population.<sup>1-3</sup>

Supervision is concerned with the human resources involved in the execution of activities and the pursuit of objectives. Supervision appears as an interface between management techniques and health workers. Primary health workers, who possess theoretical and practical experience, are responsible for the functions at all levels of the health system. Supervision is a set of necessary activities for improving both the quantitative and qualitative aspects of health services. Effective supervision can be achieved by proper planning and use of suitable instruments but requires appropriate training for the various health manpower categories concerned.<sup>4</sup>

The public health system continues to face difficulties in staffing rural areas with health personnel. As a result there is the presence of health workers with inefficient skills at the primary care levels. It is imperative to raise awareness of this problem and to build support to ensure that health workers will be working where they are needed, with the right skills to provide the highest attainable level of health for people everywhere. The Calcutta declaration on public health (1999) provided the impetus to promote public health as an essential discipline, strengthen career structures and implement educational reforms to improve human resources for public health. To perform better and to strengthen the health care delivery system, the health workforce needs periodic education and training, effective management policies and supervisory system and successful experiences.<sup>5-6</sup>

The present study is selected on the basis of its importance and relevance for future.

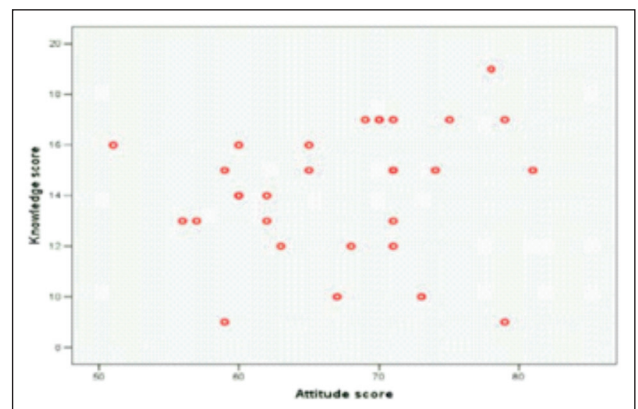
## MATERIALS AND METHOD

A descriptive exploratory design was used in this study. The study was carried out in the primary health centres of selected taluks (Bantwal and Mangalore) of

Dakshina Kannada district. The sample comprised of 30 Health Assistant Females/ Lady Health

## RESULTS

The findings showed that 23.34% of the Health Assistant Females/ Lady Health Visitors (LHV) had excellent knowledge, 53.32% of them had good knowledge and 23.34% of them had average knowledge on supervision. The main areas covered were general concept, methods or techniques, principles, steps, qualities and pre requisites for supervision. Majority of the subjects (80%) had neutral attitude and only (20%) of them had favorable attitude towards the supervisory responsibilities. No subjects had unfavorable attitude towards their supervisory responsibilities. The main areas covered include the responsibility of Health Assistant Females/ Lady Health Visitors (LHV) as a planner, facilitator, supervisor, leader and co-coordinator, trainer and communicator and fact finder. There is a weak positive correlation ( $r=0.382$ ) between knowledge on supervision and attitude towards supervisory responsibilities among Health Assistant Females/ Lady Health Visitors (LHV).



The factors affecting supervision in the community by the Health Assistant Females / Lady Health Visitors (LHV) were assessed through a questionnaire. The subjects ranked each factors based on their priority and the prioritized factors based on the ranks were prepared with the application of Garrett' ranking method. The main problems prioritized by the LHV's were lack of accommodation facilities, enormous health programmes, travelling difficulties.

There is no significant association between knowledge on supervision and selected baseline

variables such as age in years, basic educational status, years of experience as LHV, No: of ANMs under supervision, information on supervision other than LHV training course, and the source of information. There is no significant association between attitude of Health Assistant Female / Lady Health Visitors (LHV) towards supervisory responsibilities and selected baseline variables

## DISCUSSION AND CONCLUSION

23.34% of the Health Assistant Female/ Lady Health Visitors (LHV) had excellent knowledge, 53.32% of them had good knowledge and 23.34% had average knowledge on supervision. None of them had poor knowledge on supervision. The main areas covered were general concept, methods or techniques, principles, steps, qualities and pre requisites for supervision.

A study was carried out to perform process evaluation of implementation phase of Integrated Management of Childhood Illness [IMCI] in Pakistan, focused on monitoring and supervisory practices of the district supervisory staff. Results on supervision showed that supervisory visit was less educative and the root cause identified was lack of measures to reinforce the knowledge and sharpen their skills and continuing educative supervision.<sup>7-9</sup> Majority of the subjects (80%) had neutral attitude and only (20%) of them had favourable attitude towards the supervisory responsibilities. No subjects had unfavourable attitude towards their supervisory responsibilities. The main areas covered include the responsibility of Health Assistant Females/ Lady Health Visitors (LHV) as a planner, facilitator, supervisor, leader and co-ordinator, trainer and communicator and fact finder. Among the above mentioned areas, an unfavourable attitude, (48.67%) was found in the supervisory responsibilities of LHV's as a fact finder.

A cross sectional study identified a correlation between frequency of supervision and improvement in the performance scores of health workers and they concluded that systematic supervision is an inevitable indicator to improve the service delivery at the modest cost.<sup>10-12</sup> there is a weak positive correlation ( $r=0.382$ ) between knowledge on supervision and attitude towards supervisory responsibilities among Health Assistant Females/ Lady Health Visitors (LHV).

Study showing the correlation between knowledge on supervision and attitude towards supervisory

responsibilities are deficient, but a cross sectional study identified a correlation between frequency of supervision and improvement in the performance scores of health workers and they concluded that systematic supervision is an inevitable indicator to improve the service delivery at the modest cost.<sup>13-14</sup> The factors affecting supervision in the community by the Health Assistant Females / Lady Health Visitors (LHV), assessed through a questionnaire, in which the subjects ranked each factors based on their priority and the prioritised factors based on the ranks were prepared with the help of Garrett's ranking method. The factors identified were lack of accommodation facilities for LHV, enormous health programmes, travelling difficulties, higher authority non co-operation, health problems of LHV's, heavy work load, distance, lack of in-service education, poor physical infrastructure, vacant posts of LHV's, lack of incentives, poor community participation, stray dogs and other animals, lack of security, personal problems, political influences, age of LHV's, non co-operation from subordinates, poor climatic conditions.<sup>17-19</sup>

Lack of safe and secure accommodation facility was ranked as the first priority. Health Assistants were having the accommodation facility, were placed in unsafe neighbourhoods, some places had water and electricity problems. Studies show safe and secure accommodations were one

Study on human resource management issues and challenges reported that one of the weakest links in the primary health care system is supervision and there is no effective supervision at the field level. The supervisors only monitor the work of their subordinates through the reports they submit of the numerical achievements of targets. Field supervision happens only in the form of policing. The supervisor checks for the presence of staff and the completeness of records. There is no effort to supervise the service delivery process, the quality of work or client satisfaction. Supervision is also weak because there has been no training for supervision, because there are no systems of supervision set in place and because there is no review of the supervisor's role at any level.<sup>15</sup>

Supportive supervision and problem solving is entirely missing from the system. In the health system, there are no concrete rewards except promotions and salary increments. All promotions and increments are linked to seniority in the system, vacancy and, at times, to caste and political connections. Postings and transfers are also not based on performance but on

political and administrative influence.<sup>16</sup>

**Acknowledgement:** Nil

**Ethical Clearance:** Obtained from the ethical committee of Father Muller Medical College, Mangalore.

**Source of Funding:** Self

**Conflict of Interest:** Nil

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# Perception and Opinion of Problem Based Learning (PBL) among Student Nurses

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## ABSTRACT

**Background:** There are many teaching methodology in nursing curriculum where Problem Based Learning is one among them. PBL is a widely used teaching and learning methods mainly in medical/health care education and effectively improves the professional and personal skills. It is imperative to obtain the students feedback on PBL for the effective implementation and efficient utilization.

**Aim:** To determine the perception and opinion of student nurses towards the Problem Based Learning (PBL) experience.

**Material and Method:** A non experimental study, descriptive design with cross sectional survey approach was carried out among 79 purposefully selected third year diploma student nurses of Dr. VKPF College of Nursing. Expert validated, pre tested structured questionnaire (rating questions) was used to gather information from study participants. The collected data was coded, tabulated and analyzed with descriptive and inferential statistics wherever is required.

**Results:** The findings revealed that majority of student nurses perceived that PBL was a useful teaching and learning method, and they actively participate in learning process through the PBL sessions. Study highlights the role of PBL in promoting the qualities like critical thinking and reasoning abilities, and communication skills etc.

**Conclusion:** It was noticed that there was a positive response from student nurses on PBL. The results of the study suggest that a student nurses has better understanding and opinion of PBL. Hence, the combination of traditional method (lecture) with PBL could be effective way of teaching nursing sciences.

**Keywords:** Perception, Opinion, Problem Based Learning, Student Nurses

## INTRODUCTION

Among the innovative instructional approaches, Problem Based Learning (PBL) is one of the most exciting and powerful teaching and learning method that have appeared in the last 40 years, and perhaps attracted the most attention from educators in the fields like medicine, dentistry, physiotherapy, nursing, engineering and education etc.

Problem Based Learning aims to enhance the learner's application of knowledge, problem solving ability, higher level thinking, and self directed learning

skills. Its implementation began in medical education, and then gradually spread to various disciplines in higher education<sup>1</sup>.

Problem Based Learning approach is worthy implementing in undergraduate nursing education. It has proven to be an effective way of delivering nursing education in a coherent, integrated way and therefore offers more advantages over traditional teaching methods. As a student centered approach, it enables the students to be more analytical in learning process, responsible, self aware and motivated for long life learning<sup>2</sup>.



PBL offers a more holistic perspective of the problem in its own contextual nursing environment. PBL fits well with the concepts of nursing metaparadigm (person, environment, health and nurse). The PBL process addresses each problem with a focus on 'person', the specific 'environment' that affects the person's 'health', particular health related issues, and the 'nursing' strategies/care executed to promote a person's health. In addition, PBL process is a learner centered process that triggers free requisition for knowledge by the learner<sup>3</sup>.

It was well documented from scientific evidences that the PBL helps in improving the knowledge, attitude towards a PBL than conventional method of learning<sup>4</sup>. The literature from nursing studies showed significantly higher on perceptions of their nursing knowledge, particularly in the areas of individual, family and community health assessment, communication, teaching and learning, and the health care system. Students undertaking the PBL sessions were more satisfied with their educational experience than their counterpart in the conventional program, indicating higher satisfaction with tutors, level of independence, assessment and learning outcomes<sup>5</sup>.

Though the PBL is an effective way to improve the professional and personal skills in the medical and allied health science courses, further, it is important to obtain the students feedback on PBL in order to modify and improve the quality of PBL method.

## MATERIAL AND METHOD

It was a non experimental study; descriptive design with cross sectional survey approach was carried out in Dr. VKPF College of Nursing, Ahmednagar Dist, Maharashtra. A sample comprised of 79 third year diploma nursing students (RGNM), who are selected using a non probability method; purposive sampling technique. The expert validated and pre tested structured questionnaire (rating questions) was used to gather the data. The tool was consisted of section: A – socio demographic characteristics (04 items), section B – rating scale to determine the perception of PBL (12 items) and section C – rating scale to assess the opinion on PBL (12 items). Each items was rated on Likert scale ranging from 1 – 5 (with 1= strongly disagree, 2 = disagree, 3 = neutral/undecided, 4 = agree and 5 = strongly agree respectively).

An ethical approval was obtained from Institutional Ethics Committee of Pravara Institute of Medical Sciences (Deemed University), Loni (Bk). The purpose of study was explained to students, and written informed consent was sought before enrollment in the study. After seeking consent, rating scale was self

administered and the responses were anonymous, voluntary and no probing questions were asked. The information thus collected was coded and entered into Microsoft Office Excel 2007 worksheet and analyzed with descriptive statistics (i.e. frequency, percent, arithmetic mean and Standard Deviation) and inferential statistics (i.e. chi square test) wherever is required.

## RESULTS

**Socio demographic characteristics:** the mean age of student nurses was 21.23 years, majority (73.4%) of them was female, while the students were predominantly single (92.3%) and (69.3%) were resides in hostel.

**Perception of Problem Based Learning:** the overall mean score on perception of PBL was (4.3±0.63). From table 1 majority of the student nurses (95%) agreed that 'PBL links the basic sciences knowledge to clinical skills', (92%) of them reported that 'PBL provides group interaction skills' followed by (88%) viewed that 'PBL session are interesting, and promotes critical thinking and reasoning abilities'. Alongside (84%) of students felt 'PBL allows in depth understanding of the topic' and (76%) agreed that the 'teachers effectively facilitated the PBL sessions for better learning'. More than half (56%) of them reported that 'there is an enough learning resource available for PBL sessions' however, a significant percent (73%) of the students felt 'attending PBL session was stressful', and nearly half (45%) of respondents felt 'the time allotted for each of session is not adequate enough'.

**Opinion of Problem Based Learning:** the overall mean score on opinion of PBL was (3.5±0.78). From table 2 majority of student nurses (87%) were of the opinion that 'PBL enables to put our thoughts out in Brain Storm sessions' and 'enables us to prepare for the presentation of PBL'. Alongside, most (81%) of students 'felt comfortable with working in groups' and (79%) expressed 'PBL helped to learn how to obtain learning information from the variety of sources' further (78%) of them unanimously expressed 'to take part in more PBL, If opportunities are provided'.

A major proportion (70%) of students was 'felt comfortable in asking help from others' and 'developed good understanding of basic principles and concepts of the topic'. Moreover, it was noted a significant percent (29%) of student nurses 'did not felt comfortable in sharing the information with other students'. However, there was no statistical significant association was found between perception, opinion of PBL with the socio demographic characteristics of participants at  $p < 0.05$  level.

## DISCUSSION

The nursing education system has to aim at producing nursing professionals who is competent in delivery of health care to meet the ever changing needs of the society. The competency of nursing professionals mainly depends on instructional methods and exposure to the clinical practice. Use of PBL in nursing curriculum is one of the current trends in nursing education.

In the present study, majority of student nurses reported that 'PBL provides group interaction skills' and promotes critical thinking, critical reasoning and problem solving abilities' and PBL is a preferred method of learning among them. It was consistent with the study carried out by Seneviratne RD and Samarasekara DD who also observed that PBL helped to improve communication and problem solving skills of students<sup>6</sup>. Papanna KM and Kulkarni V also noted in their study that among students the most preferred teaching method was PBL<sup>7</sup>.

Higher percent of students willingly utilized the available resources and the time allotted for the sessions. Blumberg P and Michael JA in their study found that the PBL students use books, journals and electronic sources, and discuss with peers. Further they also reported that the students spend more time in library than the conventional learning students<sup>8</sup>.

The study has demonstrated that, a significant percent of students viewed attending PBL session was stressful, and time consuming; and that is consistent with many other studies<sup>9, 10</sup>. Alongside, most of students felt comfortable with working in groups, participates in discussion, and asking help from others further enhances the team work. These findings were compatible with the findings of Bollinger LC, that students felt PBL ensured team work, developed of better communication and interpersonal skills. In lieu of this, students have expressed that they learnt to work with different social and cultural group during the PBL activity<sup>11, 12</sup>.

## CONCLUSION

Problem based learning is an innovative and challenging approach in nursing education where it emphasizes application of knowledge and skills to the solution of problems rather than recall of facts. The result of the study showed that student nurses have better understanding and perception on concepts of PBL. Moreover the opinion of problem based learning was positive and students have accepted PBL as an effective strategy. Thus it can be utilized regularly as a teaching and learning strategy in nursing along with conventional teaching, to impart quality nursing education.

**Table 1: Perception of Student Nurses towards Problem Based Learning**

(N=79)

SN	Items	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
		N (%)	N (%)	N (%)	N (%)	N (%)
1	PBL session are interesting	70 (89%)	4 (5%)	5 (6%)	-	-
2	Attending PBL session was stressful	58 (73%)	10 (13%)	4 (5%)	4 (5%)	3 (4%)
3	All students in PBL group participate in discussion	60 (76%)	9 (11%)	3 (4%)	4 (5%)	3 (4%)
4	PBL session beneficial in achieving learning objectives	48 (61%)	13 (16%)	10 (13%)	5 (6%)	3 (4%)
5	PBL allows in depth understanding of the topic	66 (84%)	12 (15%)	1 (1%)	-	-
6	PBL links basic sciences knowledge to clinical skills	75 (95%)	4 (5%)	-	-	-
7	PBL provides group interaction skills	72 (92%)	5 (6%)	1 (1%)	1 (1%)	-
8	PBL promotes critical thinking and reasoning	70 (88%)	6 (8%)	2 (3%)	1 (1%)	-
9	Enough learning resource available for PBL sessions	44 (56%)	15 (19%)	5 (6%)	10 (13%)	5 (6%)
10	Could utilize learning resources available for PBL	45 (57%)	14 (18%)	8 (10%)	11 (14%)	1 (1%)
11	Time allotted for each of the session is enough	14 (18%)	20 (25%)	30 (38%)	10 (13%)	5 (6%)
12	Teachers effectively facilitated the PBL sessions	60 (76%)	7 (9%)	3 (4%)	5 (6%)	4 (5%)

**Table 2: Opinion of Student Nurses towards Problem Based Learning****(N=79)**

SN	Items	Strongly Agree N (%)	Agree N (%)	Undecided N (%)	Disagree N (%)	Strongly Disagree N (%)
1	PBL helped me learn to obtain information from a variety of sources	63 (79%)	10 (13%)	3 (4%)	2 (3%)	1 (1%)
2	I am comfortable with working in groups	64 (81%)	11 (13%)	2 (3%)	2 (3%)	-
3	I feel comfortable sharing information with others	26 (33%)	30 (38%)	8 (10%)	9 (11%)	6 (8%)
4	I feel comfortable in asking help from others	55 (70%)	13 (16%)	3 (4%)	5 (6%)	3 (4%)
5	I was able to put my thoughts out in Brain Storm sessions	69 (87%)	9 (12%)	1 (1%)	-	-
6	I can evaluate new information and reassess my knowledge gained	67 (85%)	9 (11%)	2 (3%)	1 (1%)	-
7	If given an opportunity, I would like to take part in more PBL classes	62 (78%)	10 (13%)	4 (5%)	3 (4%)	-
8	I have a good understanding of basic principles and concepts of the topic	55 (70%)	17 (21%)	4 (5%)	2 (3%)	1 (1%)
9	I feel that I can apply the general principles I learned to other topics	51 (65%)	21 (26%)	3 (4%)	3 (4%)	1 (1%)
10	I was able to prepare for the presentation of PBL	69 (87%)	8 (10%)	2 (3%)	-	-
11	I was able to evaluate the group and Myself	46 (58%)	26 (33%)	3 (4%)	3 (4%)	1 (1%)
12	I was able to understand the points for improvement (communication, group dynamics and knowledge)	52 (66%)	22 (27%)	2 (3%)	2 (3%)	1 (1%)

**Conflict of Interest:** No potential conflict of interest relevant to this article was reported

**Source of Funding:** Self

**Acknowledgement:** The authors express sincere thanks to the Dr. VKPF College of Nursing, Ahmednagar Dist, the Principal and student nurses for their kind cooperation and support.

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# Prevalence of Interpersonal Sexual Abuse among Married Female Nurses and Doctors in Karachi, Pakistan

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## ABSTRACT

To estimate the prevalence of sexual abuse among married female healthcare (nurses and doctors) providers in tertiary care hospitals in Karachi, Pakistan perpetrated by family members. A descriptive cross-sectional study was done for 350 married female nurses and doctors by using a random sample technique. One public and two private tertiary healthcare hospitals from Karachi, Pakistan were selected. Descriptive and unvaried statistical methods used to analyze data. The study revealed that of the total sample of 350 married female nurses and doctors, 97.7% (n= 342) were reported one or more types of DV at some point in their life. Whereby, 59.6% (n= 204) reported sexual abuse by their family members at some point in their married life. Out of which mainly the husband 94.6% (n=193) created sexual abuse, followed by brother in- law 17.6% (n=36). Participants living in extended families [72.2% (n=26)], those who were undergraduate [50% (n=18)] and nurses [61.1% (n=22)] experienced sexual abuse by in-laws. In conclusion, nurses and doctors are victims of sexual abuse, because of socio-demographic factors such as extended family, educated and professional. The study participants were confronting to sexual abuse as the same level as those who were uneducated and poor.

**Keywords:** Domestic Violence, Sexual Abuse, Nurses and Doctors, Sexual Abuse by Family In-Laws

## INTRODUCTION

Universally, violence against women is a critical public health problem. It can happen in all age groups from teenage girls to women, in all racial, ethnic, socio-economic, educational, and religious backgrounds.<sup>1</sup> According to WHO (2002) interpersonal violence is a violent behavior among family members within intimate relationship or within individual include children and elderly family members. Moreover, across the world 520,000 people died due to interpersonal violence.<sup>2</sup> WHO (2002) defined sexual

abuse as an act of gender-based abuse and any situation in which women are forced to participate in unwanted, unsafe, or degrading sexual activity; such an act performed even by the spouse or intimate partner that results in, or is likely to result in, physical, sexual, or mental harm or suffering to women, including threats of such acts, coercion or illogical deprivation of liberty, whether occurring in public or in private life is considered as sexual abuse.

To estimate the prevalence of sexual abuse perpetrated by family members among married female nurses and doctors in the tertiary care hospitals of Karachi, Pakistan.

In the present study, the nurses and doctors had been selected for the study because no study seems to have been conducted under the interest of sexual abuse with these two categories (in general across socio-economic strategy and despite higher education specifically nurses and doctors) combined.

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## METHOD

A self administered structured modified truncated WHO Multi-country Study on Women's Health and Life Experiences tool (2005) was used.<sup>3</sup> After some modifications and translations in Urdu (national language), this tool has already been used in few Pakistani researches and studies.<sup>4,6</sup> In 10 different countries the WHO (2005) tool has already been tested and the Cronbach alpha for sexual abuse was 0.66, however, in Pakistani study the Cronbach alpha was for sexual abuse 0.79.<sup>6</sup>

The 350 married female nurses and doctors were recruited for the study with the defined inclusion and exclusion criteria. The inclusion criteria were; female nurses and doctors, currently or previously married (divorced, widowed, and separated), work in selected one public and two private hospitals, and voluntarily participation and sign a consent form.

Moreover, three different sampling techniques were used including purposive sampling to select hospital, simple random sampling to select the department within the selected hospital and quota sampling to enroll all the married female nurses and doctors working in the selected departments.

A descriptive cross-sectional study design was used as this study design was more relevant to estimate the prevalence of sexual abuse at different time periods.

The data were entered in the Epi info version 3.5.1 and the Statistical Package for Social Sciences (SPSS) version 19 was used for data analysis. Data were double entered by the principal investigator and the statistician to avoid potential errors. Descriptive analysis was used for demographic data and the results were presented through mean  $\pm$  standard deviation (SD) frequencies were calculated for categorical variables. Chi-square statistics were used to compare the socio-demographic characteristics and sexual abuse.

Ethical approval was taken from the Aga Khan University, Ethical Review Comity (ERC) and all heads of selected hospitals and departments.

## RESULTS

In the study, 59.6% (n= 204) of the study participants reported sexual abuse by the family members at some point in their married life. In Table 1, more than 90 percent reported that they had been

exposed to sexual abuse by their husband (94.6%, n=193). Among those, the majority was exposed to forceful sexual intercourse; 19.2% (n=37) reported prevalence of sexual abuse during the previous three months, 58% (n=112) reported it during the previous six months, 59.1% (n=114) during the previous year, and 89.1% (n=172) at some point in their married life. More than sixty percent of the participants were fearful of their husband's reaction if they refused sexual intercourses; 38.8% (n=52) reported this fear during the previous three months, 68.7% (n=92) reported it during the previous six months, 71.6% (n=96) during the previous year, and 69.4% (n=134) at some point in their married life.

In Table 2, about one fifth of the participants reported the exposure of sexual abuse by in-laws (17.6%, n=36) at some point in their married life. The finding on sexual abuse by in-laws show that 86.1% (n=31) of the in-laws 'stared at participants' private body parts' [48.4% (n= 15)- by father-in-law; [51.6% (n=16)] by brother-in-law], 80.6% (n=29) 'touched their private body parts' [51.7% (n= 15)- by father-in-law; [48.3% (n=14)] by brother-in-law].

In table 3 show a significant difference among participants living in nuclear and extended families, with regard to sexual abuse by in-laws ( $p=0.25$ ). According to these findings, females who lived in the extended family were more prone to experiencing sexual abuse (72.2%, n= 26). Another significant difference was found that those females who were undergraduate and nurses, experienced sexual abuse by in-laws (50%, n=18; 61%, n=22) respectively ( $p=0.00$ ).

Table 4 showed that the reasons for sexual abuse by husbands were mainly: 29.2% (n=100) 'refused for sex', 10.5% (n=36) 'when he was angry', about 5% (n=17) 'when he was depressed', 4.7% (n=16) 'when he was tired', 2.9% (n=9) 'due of alcoholism'. The same table showed the reason for sexual abuse by in-laws; 47.2% (n=17) participants reported that they were sexually abused by their in-laws 'while doing household chores', 27.8% (n=10) participants were abused when their in-laws 'showed caring attitude' and 25% (n=9) participants reported their in-laws sexually abuse them 'while given blessings' to them.

According to the studies, the husband have the highest rating all the perpetrators of sexual abuse it ranged from 46.6%-89.1%, followed by the father in-law, which ranging 48.4% -100%.

## DISCUSSION

In the present study the prevalence of sexual abuse was 59.6%. This is supported by a Pakistani study in which the sexual abuse was 54.5%.<sup>6</sup> Moreover, other Pakistani studies revealed that 46.9%-79% Pakistani men involved in non consensual sex.<sup>7-8</sup> However, studies done in Nepal and Iran revealed 46.2% and 8% of the participants' are sexually abused by their husbands.<sup>9-10</sup>

The key findings related to participants' socio-demographic characteristics and their significance with respect to sexual abuse. A study conducted in north India revealed that the influencing factors for sexual abuse included them socio-demographic variables such as husband's and wife's education, area of reside, urban or rural settings, duration of the marriage and childlessness, and economic pressures.<sup>11</sup>

Pakistan is a Muslim country and the majority of Muslim families prefer to live in an extended family system. The present study findings were supported a study conducted in Pakistan revealed that in Punjab 75% of the participants were living in extended families.<sup>12</sup> The study shows that out of 195 participants, 72.2% (n=26) who were living in the extended family was more prone to be exposed to sexual abuse by in-laws. This research has been supported by studies from Vietnam and Pakistan.<sup>6, 13</sup>

According to a Pakistan Labor force survey during 2009-2010, the overall literacy rate in Pakistan is 57.7%, out of which the male literacy rate is 69.5% and the female rate is 45.2%.<sup>14</sup> If we compare the findings of this study with the overall Pakistan literacy rate, in this study's context, the female literacy rate was higher (100%) than their husbands (99.7%).

The highlighted findings identified the prevalence of sexual abuse among married female nurses and doctors with different educational backgrounds (graduates, undergraduate, and diploma). An in-depth analysis shows that sexual abuse by in-laws is widespread only with undergraduate participants. The reason, as described by one of the study participants, is that men consider women's education and awareness as a source of social stress. If women ever raise their voice, men consider it as a stigma on their traditional role and in order to claim their authority may resort to violence.<sup>15</sup>

In the present study, by profession, nurses are more prone to sexual abuse by in-laws so it can be said that having a higher education is a protective factor when educated persons have awareness and can stand up for their rights. Similar findings have also been reported in India, Bangladesh, and in American studies, that the higher education, the lesser abuse. These studies also emphasize that increasing education within society will empower women and that this is one of the preventive actions for ending abuses.<sup>15-18</sup>

## Strengths

The strengths are: cross-sectional study design, the core healthcare population (nurses & doctors) was targeted and a random sampling technique was used for a large sample size. The government and private healthcare setting was utilized for selection of participant from diverse socio-economic background; therefore it enhanced the study's generalizability. Moreover, the tested and reliable WHO (2005) tool was used with the tested content validity in Pakistani context and its Cronhbach alpha. Sexual violence is a sensitive topic and may not be discussed openly due to the stigma attached to it or in an effort to prevent self-respect. However, study participants were willing to participate in this study therefore the overall response rate was 75% and the reason behind this good response rate was that the data collectors were female, highly qualified, and well trained as well.

## Limitations

The limitations are: selections of the healthcare providers, unavailability of previous studies on sexual abuse among nurses and doctors, selection of the tool, permission from selected hospitals, consent from the study participants, validation of the data, and diversion from the plan of data collection.

## CONCLUSION

Sexual abuse is considered as a social evil and an inhuman act, among highly qualified literate as well as among uneducated individuals. The study found that almost ever sexual abuse of the nurses and doctors had had some experience during their married lives. Socio-demographic factors were identified as one of the causative factors. There were significant differences between sexual abuse and extended family system, qualification of women, and profession. Sexual abuse should not only be seen in community based settings

but also in healthcare settings, and require prompt attention by governing bodies. Legal action against sexual abuse should be strengthened and strictly implemented not only for housewives but also for working women.

**Table 1: Prevalence of Sexual Abuse by Husband among Married Female Nurses and Doctors (n=204)**

Variables	Ever happened in life n (%) 204 (59.6%)	Happened in last 3 months n (%)	Number of times			Happened in last 6 months n (%)	Happened in last 12 months n (%)
			1-2	3 -10	More than 10		
<b>Sexual Abuse by Husband</b>	193 (94.6)						
Physically forced to have sexual intercourse	172 (89.1)	37 (19.2)	23 (62.2)	14 (37.8)	0 (0)	112 (58)	114 (59.1)
Did not want to have sexual intercourse but afraid of what he might do	134 (69.4)	52 (38.8)	43 (82.7)	9 (17.3)	0 (0)	92 (68.7)	96 (71.6)
Forced to do something sexual that felt degrading	90 (46.6)	10 (11.1)	8 (80)	2 (20)	0 (0)	28 (31.1)	68 (74.4)
Sex during menstruation was ever forced by husband (n=193)	137 (71)						

The percentage do not add up to 100, due to multiple responses possible

**Table 2: Prevalence of Sexual Abuse by In-laws among Married Female Nurses and Doctors (n=204)**

Variables	Ever happened in lifen (%)
<b>Sexual Abuse by In-laws (n=36, 17.6%)</b>	
Any in-laws stared at your private body parts	31 (86.1)
Father-in-law	15 (48.4)
Brother-in-law	16 (51.6)
Any of your in-laws touched your private body parts	29 (80.6)
Father-in-law	15 (51.7)
Brother-in-law	14 (48.3)
Any of your in-laws ever forced you to have sex	0 (0)
Any of your in-laws ever tried to expose their private body parts to you	1 (2.8)
Father-in-law	1 (100%)

**Table 3. Chi-Square Analysis of Sexual abuse by Socio-Demographic Characteristics of Study Participants (n=342, 97.7%)**

Variables	Total population N(350)	Sexual Abuse by husband (n=193)(94.6%)	P- Value (n=36)(17.6%)	Sexual Abuse by in-laws	P- Value
<b>Types of Family</b>					
Nuclear	155(44.3)	83(43.0)	.453	10(27.8)	.025
Extended	195(55.7)	110(57.0)		26(72.2)	
<b>Household SES</b>					
Lower SES	21(6.0)	13(6.7)	.750	3(8.3)	.760
Lower Middle SES	107(30.6)	57(29.5)		11(30.6)	
Upper Middle SES	202(57.7)	114(59.1)		20(55.6)	
Upper SES	20(5.7)	9(4.7)		2(5.6)	
<b>Age</b>					
20-30	157(44.9)	90 (46.6)	.579	17 (47.2)	.096
31-40	102(29.1)	51 (28.0)		15 (41.7)	
41-50	58(16.6)	33 (17.1)		3 (8.3)	
More than 50	33(9.4)	16 (8.3)		1 (2.8)	



**Table 3. Chi-Square Analysis of Sexual abuse by Socio-Demographic Characteristics of Study Participants (n=342, 97.7%)**

Variables	Total population N(350)	Sexual Abuse by husband (n=193)(94.6%)	P- Value (n=36)(17.6%)	Sexual Abuse by in-laws	P- Value
<b>Professional Qualification</b>					
Graduate	50 (14.3)	25 (13.0)	.350	3 (8.3)	.000
Undergraduate	156 (44.6)	87 (45.1)		18 (50.0)	
Diploma	144 (41.1)	81 (42.0)		15 (41.7)	
<b>Profession</b>					
Nurse	185 (52.9)	101 (52.3)	.106	22 (61.1)	.000
Doctor	165 (47.1)	92 (47.7)		14 (38.9)	

**Table 4. Primary Reasons for Last sexual Abuse**

Variables	Reason for Any Abuse Ever (n=342) (%)	Sexual Abuse by husband(n=193) (%)
Alcoholism	23 (6.7)	9 (2.6)
Money related problems	46 (13.5)	4 (1.2)
Second marriage	7 (2.0)	2 (0.6)
Refused sex	104 (30.4)	100 (29.2)
When husband depressed	17 (5.0)	17 (5.0)
When husband angry	36 (10.5)	36 (10.5)
Due to my studies	2 (0.6)	2 (0.6)
When husband tired	16 (4.7)	16 (4.7)
After verbal/physical abuse	4 (1.2)	4 (1.2)
Husband lives out of town	3 (0.9)	3 (0.9)
<b>Reason for last Sexual abuse by in-laws</b>		
Showed caring attitude	10 (27.8)	
While doing household chores	17 (47.2)	
While given blessings	9 (25.0)	

**Acknowledgement:** Dr. Graeme Cane for English and Ms. Fatima Shahabuddin for editorial support, Heads of the all Three Tertiary Care Hospitals, and study participants.

**Conflict of Interests:** The authors declare no potential conflicts of interest with respect to the authorship and/ or publication of this article.

**Funding:** The current study was part of the MScN thesis course

**Details of ethics approval:** Ethical approval was taken from the Aga Khan University, Ethical Review Committee (ERC) (see approval letter after reference) and all heads of selected hospitals and departments. Written informed consent was obtained from all women participating in the study.

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# A Study to assess the effectiveness of Structured Teaching Programme on Knowledge Regarding "Acute Respiratory Tract Infection among Mothers of Under Five Children at Piparia, Vadodara"

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## ABSTRACT

**Introduction:** Acute respiratory tract infections are the most common cause of illness and death among children in the world. In India, in the year 2001, outpatient attendance attributed to acute respiratory infections was as high as 20 percent to 40 percent of all the clients and 12 percent to 35 percent of in patients. Children all over the world suffer from frequent coughs and cold, but in developing countries these are often associated with life threatening pneumonia, which is the leading cause of death among under-five children.<sup>1</sup>

**Material And Method:** An evaluative research approach with pre-experimental design was used. The sampling technique used was non - probability convenient sampling. Data was collected from 50 mothers, from Piparia village, Vadodara. Data collection was done from 8-11-2013 to 24-11-2013. Permission taken from the Sarpanch of the Piparia Village was obtained prior to data collection process. The tool consist of section : 1 Demographic profile, section :2 - knowledge component of acute respiratory tract infection consisting 30 items. The reliability of the tool was established by using test retest method. Hence the tool was found to be reliable. Data was analyzed using descriptive and inferential statistics Descriptive statistics used were frequency, mean, range and standard deviation. The data was also presented graphically.

**Results:** The investigator found that the area wise comparison of knowledge scores of mothers of under five children regarding acute respiratory tract infections., means, standard deviation, and mean score percentage ,value are compared and paired 't' test is applied at 0.05 level of significance. The tabulated 't' value for 49 degree of freedom is 2.00 and calculated' value greater than in area - wise distribution of knowledge scores . The calculated' value were much higher than tabulated' value at 0.05 level of significance which was statistically acceptable level of significance. So there is significance difference in knowledge scores of mothers of under five children regarding acute respiratory tract infections. in Pipriya at Vadodara. Comparision of level of knowledge scores of the mothers of under five children regarding acute respiratory tract infection, it shows that post test knowledge scores of mothers were much higher knowledge as compared to pre test knowledge scores. So h1 is accepted.

**Discussion:** The study findings revealed that structured teaching programme was highly effective in improving knowledge of mothers regarding ARTI.

**Keywords:** Assess, Effectiveness, Knowledge, Structured Teaching Programme, Acute Respiratory Tract Infections, Under Five Children , Mothers

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## INTRODUCTION

The child is the future citizen of the nation. World's greatest resource for a future lies in the children of today. Today's children are tomorrow's citizen and leaders. Investment in the child development is thus an investment in the country's future and improving the nation's quality of life<sup>1</sup>

World Health organization (2003). "Healthy environment for children" stated that the largest single cause for childhood illness and death is unsafe water and poor or non-existent sanitation. One in four of the nearly eleven million children who die each year before reaching their fifth birthday<sup>2</sup>

Acute respiratory tract infections are the most common cause of illness and death among children in the world. In India, in the year 2001, outpatient attendance attributed to acute respiratory infections was as high as 20 percent to 40 percent of all the clients and 12 percent to 35 percent of in patients. Children all over the world suffer from frequent coughs and cold, but in developing countries these are often associated with life threatening pneumonia, which is the leading cause of death among under-five children<sup>3</sup>

Acute respiratory tract infections are serious threat to child survival in India. Acute respiratory tract infections are a major national public health problem, which gave initiatives towards developing a national acute respiratory tract infection control programme. This programme was taken up as a pilot project in the country in the year 1990. Since 1992-1993, this programme is being implemented a part of the child survival and safe motherhood programme, which is now an integral part of the RCH programme.<sup>4</sup>

Nearly 4.1 million deaths occurring every year globally due to Acute respiratory tract infections. In India the Infant and child mortality rate is still high and Acute respiratory tract infections is one of the major causes of death. It is also reported that 13% of inpatient death in pediatric ward is due to Acute respiratory tract infections. The proportion of death due to Acute respiratory tract infections in the community is much higher, as many children died at home. The reason for high case fatality may be that children are either not brought to the hospital or brought too late. According to who, estimates that respiratory Infections caused 9,87,000 deaths in India, of which 10,000 due to Acute respiratory tract infections and about 9000 due to otitis media. The burden of disease in terms of DAILY (Disability Adjusted Life Years) lost was 25.5 million of these 2.74 lakhs due to Acute upper respiratory infections and 4.75 lakhs due to otitis media.<sup>5</sup>

In worldwide statistician when we take every year 3.9 million deaths of young children due to acute respiratory tract infections. It is estimated that Bangladesh, India, Indonesia and Nepal together account for 40% of the global acute respiratory infection mortality. An average child below 5 year of age suffers about 5 episodes of acute upper respiratory tract infections per year, thus accounting for about a 38 million attacks. It causes about 20-40% of admission to hospitals.<sup>7</sup>

## MATERIAL & METHOD

**Research Approach:** Evaluative research approach was used.

**Research Design:** A one group pre-test post-test Pre experimental research design was adopted

**Setting of the Study:** The study is conducted in Piparia village at Vadodara.

**Sample:** The sample for the present study comprised of 50 mothers' of under five children.

**Sampling technique:** Non probability convenience sampling technique was used for the study.

**Development of tool for data collection:** The self administered knowledge questionnaire was constructed which has two sections with a total number of 30 items.

- I. Demographic data
- II. A questionnaire

### Reliability

The reliability of measuring instruments a major criterion for assessing its quality and accuracy. Reliability of an instrument is the degree of consistency with which it measures the attributes it is supposed to be measured. In order to establish the reliability of the tool it was administered to five mothers' of under five children. To establish the reliability of the structured interview schedule, split half method was used, Spearman-Brown's Prophecy formula was used for correlation coefficient, which was found to be 0.9. Thus the tool was found reliable.

## DATA COLLECTION PROCEDURE:

The data gathering process began from 08 November to 24 November 2011. Each sample was explained about the study and its purpose of the study. Written informed consent from all the samples was taken before administering the tool, keeping in mind the criteria of the study the sample were selected. The sample took an average of 15 minutes to complete the pre-test. Then 45 minutes structured teaching programme was conducted. Post-test was given on 7<sup>th</sup> day of pre-test and teaching. The investigator continued this pattern of data gathering process till the completion of data collection.

## Analysis of data

The process of organizing and synthesizing data so as to answer research question and test hypothesis is known as analysis. It was decided to analyses the data using both descriptive and inferential statistics on the basis of the objectives and hypothesis of the study. To compute the data, a master sheet would be prepared by the investigator.

Baseline performa containing sample characteristics would be analyzed using frequency and percentage. The knowledge of mothers' of under five children regarding acute respiratory tract infections before and after the administration of structured teaching programme would be calculated using mean, median, range and standard deviation. The significance of difference between the mean pre-test and post-test knowledge score of mothers' of under five children regarding acute respiratory tract infections would be calculated using paired 't' test. The association between demographic variables and post-test knowledge score regarding acute respiratory tract infections would be determined by chi-square test. Data would be presented in the form of tables and graphs.

## FINDINGS

### SECTION A: Demographic Characteristics

- Age of the mother represent the highest percentages (60%) of mothers were in age group of 25-30 years and least (26%) were in age group of below 25 years, (14%) were in age group of 31-35 years and no one was from age group of 36 and above.

- Educational status shows highest percentages (42%) of mothers educated up to secondary and least (28%) of mothers educated up to graduation and above, (24%) mothers were educated up to primary and only (06%) mothers were illiterate.
- Occupation of mother, represent the majority (94%) of mothers occupation were house wife and only (06%) of mothers were working women.
- Monthly family income shows the majority (64%) monthly family income were Rs. 5001 and above, (36%) monthly family income were Rs. 3001 to Rs. 5000 and (0%) from less than Rs. 1000 and Rs. 1001 to Rs. 3000.
- Number of under five children shows that the majority (66%) mothers having 1 under five children and (34%) mothers having 2 under five children and no one mother having three and four and above under five children.
- And (12%) were 6 and above family members.

### SECTION B : Analysis The Knowledge Of Mothers' Of Under Five Children Regarding Acute Respiratory Tract Infection

- Pre test shows that in majority of mothers had inadequate knowledge 26(52%) and 24(48%) had moderate knowledge and no one have adequate knowledge regarding acute respiratory tract infections.
- Post test shows that in majority of 32(64%) mothers have adequate knowledge 18(36%) mother have moderate knowledge and no one have inadequate knowledge.

### SECTION C: Analysis Of Difference Between The Pre Test And Post Test Knowledge Scores Of Mothers Of Under Five Children Regarding Acute Respiratory Tract Infections.

- The investigator found that the area wise comparison of knowledge scores of mothers of under five children regarding acute respiratory tract infections., means, standard deviation, and mean score percentage ,value are compared and paired 't' test is applied at 0.05 level of significance. The tabulated 't' value for 49 degree of freedom is 2.00 and calculated' value greater than in area – wise distribution of knowledge scores.

- The calculated' value were much higher than tabulated' value at 0.05 level of significance which was statistically acceptable level of significance. So there is significance difference in knowledge scores of mothers of under five children regarding acute respiratory tract infections. in pipriya at Vadodara.
- Comparison of level of knowledge scores of the mothers of under five children regarding acute respiratory tract infection, it shows that post test knowledge scores of mothers were much higher knowledge as compared to pre test knowledge scores. So  $h_1$  is accepted.

**SECTION D: Association Between Pre-Test Knowledge Of The Under Five Childrens' Mothers With Selected Socio-Demographic Variables.**

- It shows that the  $\chi^2$  value computed between the knowledge level of mothers of under five children regarding acute respiratory tract infections, and selected socio-demographic variables. Age ( $\chi^2=2.50$ ), Education ( $\chi^2=5.42$ ) occupation ( $\chi^2=5.83$ ), Family income ( $\chi^2=2.39$ ), Number of family member ( $\chi^2=5.71$ ), and Number of under five children ( $\chi^2=0.46$ ), was not significant at 0.05 level. Thus it can be interpreted that there is a no significant association between knowledge of mothers of under five children with selected socio-demographic variables.
- There is no significant association between knowledge of mothers of under five children with selected socio-demographic variables such as age ,education, occupation ,Family income , Number of family member ), and Number of under five children. So  $H_2$  is rejected.

**CONCLUSION**

The study was conducted to evaluate the effectiveness of Structured Teaching Programme (STP) on knowledge regarding acute respiratory tract infections among mothers of under five children in Piparia, Vadodara. In the present study 50 mothers were selected using non probability convenient sampling method.

The mean post-test knowledge score also was higher than the mean pre-test knowledge score.

There is no significant association between knowledge of mothers of under five children with

selected socio-demographic variables such as age ,education, occupation ,Family income , Number of family member ), and Number of under five children.

The study findings concluded that mothers had inadequate knowledge regarding prevention of childhood accident before STP. After structured teaching program mothers have improve the knowledge.

**RECOMMENDATION**

- The study can be replicated on a large sample to validate the findings and make generalizations
- A comparative study can be conduct among the rural and urban mother's of under five children.
- A similar study can be conducted to assess attitude of nursing personnel towards the implication of acute respiratory control programme.
- A follow up study can be conducted to evaluate the effectiveness of structured teaching programme.
- A similar study can be done by using other teaching strategies i.e., self- instruction model.

**Acknowledgement:** I express my gratitude and thanks towards all who have directly or indirectly helped me to complete this study and their support in each major step of the study.

**Source of Funding:** The authors did not receive any financial support from any third party related to the submitted work.

**Conflict of Interest:** The authors had no relationship/ condition/circumstances that present a potential conflict of interest.

**Ethical Standards:** This study was conducted after getting approval from the Institutional Ethics Committee and after obtaining written consents from all subjects.

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# Spirituality: The Meaning as Experienced by Nurses Enrolled in Graduate Nursing Programs

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## ABSTRACT

The aim of this study was to understand the meaning of the lived experiences of spirituality by graduate nurses enrolled in graduate nursing programs, with the intent of bringing some clarity to the role of spirituality in nursing education and practice. The data collected in this study were recalled memory as graduate nurses lived the phenomenon of spirituality. A pilot study was conducted followed by qualitative phenomenological design. Ten graduate nurses participated in the study. The in-depth, audio-taped, face-to face, and open-ended, interviews took place in a quiet environment conducive to effective communication. The researcher observed the participants non-verbal interactions and listened attentively as they reflected on their lived experiences. The themes that emerged as a result of analyzing the data include the following: spirituality as an interconnecting force, consequences of spiritual care, personal and professional empowerment, existential quality of spirituality, and integrating spirituality in nursing research, education, education, and practice. Implications are optimistic in that the nursing profession can respond more efficiently; educating its practitioners more deliberately to address the spiritual needs of patients in a professional manner.

*Keywords: Phenomenology, Religion, Spirituality, Spiritual Care, Spiritual Need, Spiritual Distress, Spiritual Well Being*

## INTRODUCTION

Spirituality is an essential component of the human experience because it predominantly deals with how people make meaning out of life and become aware of life purpose<sup>1</sup>. There has been a mandate by accreditation agencies, health care organizations, and nurses' regulatory institutions that a spiritual component of care be addressed in the delivery of health care services<sup>2,3,4</sup>. Further, patients and their families are anticipating that there spiritual needs will be addressed in the health care setting<sup>5,6,7</sup>. Although there has been much discussion on the inclusion of spirituality in the curriculum of adult education there seems to be much reluctance to incorporate the concept

into academia.<sup>1</sup> Nurses are unable to responds to the needs of patients because the educational process is inadequate and does not prepare them to provide spiritual care<sup>8</sup>. Spiritual care is seen as part of the psychosocial assessment or in the domain of pastoral care workers''<sup>8</sup>.

### Purpose

The purpose of this investigation was to understand the meaning of the lived experiences of spirituality as experienced by graduate nurses with the intent of bringing some clarity to the role of spirituality in nursing education and practice. The meanings as emerged could clarify the misconceptions surrounding the phenomenon and address the mandate as set forth by the accrediting agencies and health care and nurses' regulatory organizations.

### Limitations of the study

The study was limited because it was a purposive sample and a phenomenological design; therefore, generalizations could not be made to other nurses enrolled in graduate programs in New York City or

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any other part of the country. Further, only nurses in master's program were included, even though other learners in different programs met the criteria as nurses pursuing further studies. Despite the limitations, a phenomenological design was chosen because it was the most suitable to answer the research question. The size of the sample allowed for flexibility in gathering the data by open-ended and in-depth interviews.

### **Literature review**

The review of the literature consisted of searching various databases for information to address the concept of spirituality. The search terms covered the major topics discussed in the review of the literature: defining spirituality, differences between religion and spirituality, differences between a religious and a secular spirituality, spirituality in adult education and learning, spiritual dimensions of nursing practice, characteristics of transpersonal nursing, and spirituality and medicine. The search terms used to related studies include the following: spirituality and nursing, spiritual needs and nursing, phenomenological study, spiritual care and nursing, phenomenological study, and spirituality and nursing care.

### **METHOD**

A phenomenological study was used because phenomenology "is the systemic attempt to uncover and describe the structures, the internal structures, of lived experiences" <sup>9</sup>. The 10 face-to-face interviews were tape-recorded and transcribed verbatim for each participant; the significant statements that were taken from the transcription became the raw data for analysis. Each participant was coded as P; therefore, they were coded P 1 to P 10 in response to each interview question, one to nine. This course of action allowed the reader to become aware of each participant's lived experience as it unfolded. The collective formulations of meanings were organized into clusters and themes. These clusters represented themes that were common to all participants' descriptions of spirituality and the related words or terms. A return of the original data validated the cluster of themes.

### **RESULTS**

Through phenomenological design, the participants willingly shared their stories as they lived and reflected on their experiences. An exhaustive

description of the phenomenon was obtained by analyzing the experience of each participant. The research question was "What is the meaning of spirituality as experienced by nurses enrolled in graduate nursing programs?" Initially there were seven interview questions but these were modified to nine after the pilot study. As the participants reflected on their experiences, themes emerged, were analyzed, and organized into to a meaningful narrative.

**Emerged themes and patterns:** Spirituality as an interconnecting force

The first interview question posed was, "In your experience as a nurse in graduate education, how would you describe spirituality?" Each participant was given time to reflect on his or her experience, which provided a rich in-depth description of the lived experience. One of the common themes permeating the interview was the interconnecting energy that characterized the concept of spirituality. Some of the participants acknowledged that spirituality is an inherent quality of each person; however, to be recognized it has to be nurtured and develop. Nine of the 10 participants claimed that spirituality is a relationship to a higher power, Absolute Reality, self, nature, others, or the universe. One participant; however, asserted that spirituality has no relationship to a higher power; however, a personal drive to accomplish goals.

**Emerged themes and patterns:** Consequences of spiritual care

All 10 participants reflected on what the experiences meant for them and the meanings derived as they reflected. Furthermore, they expressed freely their understandings of spiritual care; the reactions of patients when they had their spiritual need met, and the reactions when those needs were not met. Some of the significant statements related to spiritual care as conveyed by the participants were: the nurse spends more time talking and listening to their patients; anticipates, recognizes, and provides the care necessary to provide physical, emotional, or spiritual care; awareness that each person's spiritual care may be different. The sixth and seventh interview questions also contributed to this theme, when patients' spiritual needs were met or not met as perceived by them. The sixth interview question was "How would you describe the reactions of patients when they have had their spiritual needs met?" Participants reflections included: affect change from sadness to being bright;

disorganized behaviors diminish; general improvement physically, mentally, and spiritually; compliance with treatments. The seventh interview question was "How would you describe the reactions of patients when they have not had their spiritual needs met?" The participants described behaviors when patients did not have their spiritual needs met: Throughout the discussion, it was clear how the participants make meaning of their experiences; whether positive or negative, they derived meaning and purpose. aggression, non-compliance to treatments, sleep disturbance, and decreased interaction with care takers.

#### **Emergent themes and patterns:** Personal and professional empowerment

Throughout the interview sessions', participants underscored instances when they experienced personal or professional development. The theme emerged from several interview questions. These are: (1) "In your experience as a nurse, how would you describe spirituality?" (2) "Try to describe as fully as possible a day in your personal or professional life when you experienced feelings of spirituality?" (Probes: "Where were you?" "Who was with you?" "How did you feel?") (5) "How would you describe the ways in which spirituality influenced your job performance?" (8) *In your experiences as a nurse in graduate education, be it personal or professional, are there benefits to spirituality?*" The essences of the experiences were overlapping and interrelated among several of the interview questions. The following are excerpts from the interview questions that contributed to the emergence of this theme, "Personal and Professional Empowerment." Interview question 1: In addition to the participants describing spirituality as a relationship to a higher power, self, others, and the universe; they suggested ways in which they were empowered both personally and professionally: fulfillment in providing care for others; feelings of being overwhelmed replaced with a sense of restoration; and being intuitive both personally and professionally.

The other question that contributed to the third theme was the second interview question: (2) "Try to describe as fully as possible a day in your personal or professional life when you experienced feelings of spirituality?" (Probes: "Where were you?" "Who was with you?" "How did you feel?"). The following are some of the responses by the participants: ability to remain calm during stressful situation because of the belief that there is meaning and purpose to every situation whether negative or positive; the experience allowed

for focus, direction, and redirection. The responses to interview question 5, also contributed to the emergence of this theme, "How would you describe the ways in which spirituality affects your job performance?" The participants all responded that they had a better understanding of themselves, which in turn assisted them in being attentive to the needs of their patients. Consequently, all the participants reported that spirituality had positively impacted their lives personally and professionally. The eighth interview question also contributed to the theme of "Personal and Professional Empowerment." "In your experience as a nurse in graduate education, be it personally or professionally, are there benefits to spirituality?" The significant statements from the responses were: spirituality contributes to a sense of comfort; a place to go for answers, and resolve issues; and awareness that pain and negative experiences are opportunities to grow.

#### **Emergent themes and patterns:** Existential quality of spirituality

The fourth theme emerged from the literature review, analysis of the data, and through intuiting and reflecting. Additionally, ideas came also from responses to all of the interview questions except interview question 3. Throughout the discussion, it was clear how the participants make meanings from their experiences whether positive or negative had meaning and purpose. Existentialism is the capacity to finding meaning and purpose in all situations encountered<sup>10</sup>. He claimed, "a person as actualizing him or herself to higher cause, or loving another person as himself or herself"<sup>11</sup>. Further, he asserted that self-transcendence is the real meaning of human existence.

Many participants described experiences that they believed gave them meaning and purpose. One participant claimed that after age 40, a career in nursing was chosen. Another related how spirituality helped her to deal with death and the development of an awareness that there is a beginning and an ending to everything.

#### **Emergent themes and patterns:** Integrating spirituality in nursing research, education, and practice.

This theme emerged from responses to interview questions three and nine. These were: (3) "In what way(s) is the concept of spirituality addressed in nursing education?" (9) "What else should be known about your experiences as a nurse presently enrolled in a graduate program to better understand the concept of spirituality?" All ten participants emphasized that the phenomenon

was not being adequately addressed in nursing education and practice. Some of the participants stated that words such as holism, holistic, or body, mind, spirit are mentioned vaguely in the education and practice environment; mentioned only with patient care; not being adequately taught how to incorporate it in nursing practice; therefore, left to one's own interpretation.

**Discrepant cases:** Spirituality as an interconnecting force; Spiritual care

Nine of the 10 participants described spirituality as relationship that exists between a Higher Power or an Absolute Reality, self, others, and the universe. One participant; however, asserted that spirituality has no relationship to a higher power but a personal drive to accomplish goals. Therefore, it includes ones goals, customs, and achievements. For another participant, it is impossible to provide spiritual care without a belief in a higher power.

The participants' responses to the research questions were similar except for the two cases mentioned. The two responses that were different allowed the investigator to be aware that (a) spirituality means different things to different people and (b) the provision of spiritual care could involve a relationship with a higher power. Therefore, the responses that were different did not lessen the findings of the study

but show discrepant cases can strengthen the validity of the research.

## DISCUSSION AND CONCLUSION

A phenomenological design was used because it was the most suitable to answer the research question, "What is the meaning of spirituality as experienced by nurses who were enrolled in graduate nursing programs?" Participants reflected on their personal and professional experiences as they described their experiences. The significant structure of spirituality and spiritual care flowed freely from the data permitting the emergence of themes and a better understanding of the phenomenon.

One of the significant findings was consequences of spiritual care. When spiritual care is provided as experienced by the participants the outcomes were positive. Therefore, the findings suggest that patients recover at a faster rate and this process could also translate to decrease morbidity and mortality, and also decrease in health care costs. When this care is lacking the opposite effect occurs as perceived by the participants. The findings could contribute to social change in that the nursing profession responds more deliberately to the mandate set forth by the profession's governing bodies. Further research is warranted to confirm the findings in order to incorporate the concept in nursing education and practice.

**Table 1: Summary: Experiences of Spirituality**

<b>Definition:</b> Relationship to God, Higher power, or Ultimate Reality	P 1, 2, 3, 4, 5, 6, 7, 8, 9
<b>The experience:</b> focus, intuitive knowing, and meaning and purpose in all experiences	P1, 2, 3, 4,, 5, 6, 7, 8, 9, 10
<b>Spiritual care:</b> Caring, empathetic, respectful, and understanding	P 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
<b>Personal and professional empowerment:</b> sense of comfort, a place to go to for answers, to resolve conflicts, meaning and purpose	P 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
Not addressed in nursing education, practice, and research	P 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
<b>Discrepant cases:</b> Belief in a higher power	P 10
Spiritual care cannot be provided unless there is a belief in a higher power.	P4

**Table 2: Themes and Responses: Experiences of Spirituality**

Spirituality as an interconnecting force	Spirituality is a relationship with a higher power, self, and others.
	It creates meaning in all experience whether negative or positive.
	I do not believe that anything happen by chance.
	It is whatever makes you strong; one's customs, dreams, values, intentions, or the force that allow a person do whatever seems meaningful to him or her.
Consequences of spiritual care	Spiritual care is respect, love, forgiveness, active listening , and being sensitive to my intuition
	I believe it is spending more time talking and listening to the patients to see how they deal with their illness.
	It is the provision of care that is necessary for the patient to heal emotionally, physically, and spiritually.

**Table 2: Themes and Responses: Experiences of Spirituality (Conted.)**

Personal and professional empowerment	If it had not been for spirituality, that connection within myself, I don't think I would come this far.
	It is a guide that dictates how I function in caring for others.
	I believe that because He guides me I am able to make right decision both personally and professionally.
Existential quality of spirituality	Spirituality gives focus, direction, and redirection.
	It gives meaning and purpose in all situations encountered.
Integrating spirituality in nursing education and practice	It is not being taught how to incorporate spirituality in nursing practice.
	Is not a routine part of the caring process

**Acknowledgement:** I wish to acknowledge Dr. Carrie Bassett, Dr. Frank DiSilvestro, Dr. Marilyn Simon, and Dr. B. Folz, to whom I am deeply indebted for their encouragement, dedication, support, and understanding. Thanks to the 10 participants who willingly participated in this study sharing their experiences; therefore, providing me with a better understanding of spirituality.

**Ethical Clearance:** Nil

**Conflict of Interest:** Nil

**Source of Funding:** Self

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# Lifestyle a Social Production of Disease

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## ABSTRACT

Individuals' actions are blamed for being at highest risk for ill health, even when their choices have been constrained by public policies and corporate practices. Whereas, there is a relationship between lifestyle and health inequities which is briefly explored in this paper. It also covers the emergence of lifestyle as a concept and concludes that instead of just targeting individuals to change lifestyle, strategies should also be employed to improve their social determinants of health.

**Keywords:** Lifestyle, Inequities, Access to Health, Non-Communicable Diseases

## INTRODUCTION

Lifestyle has been defined as the typical way of life of an individual, group, or culture<sup>1</sup>. It is characterized by a set of attitudes, habits, or possessions associated with a particular person or a group. The term lifestyle was first introduced by Austrian psychologist Alfred Adler in 1929 (1870-1937)<sup>2</sup>. "In the late 1950's and early 1960's, the term lifestyle took on a new meaning apart from one's normal style of life as defined by Adler, rather it was indicative of the counterculture trends in that it was a departure from the norm. Lifestyle came to mean the intentionally chosen style of living or alternative way of living as a whole whether it was widely acceptable or not, as opposed to the historically and socially acceptable selections that normally made up one's fundamental style of living"<sup>3</sup>.

### Origin and evolution of the concept of lifestyle

Theories of disease causation that prevailed in the 18<sup>th</sup> and 19<sup>th</sup> centuries in which supernatural power and germs were considered as causative agents of disease<sup>4</sup> shifted to the concept of web of causation<sup>5,6</sup>. In the decade of 1950 as epidemiologists increasingly studied cancer and cardiovascular diseases the

etiological framework of disease expanded from 'agent' to 'host-agent-environment'<sup>6</sup> and an association was built between lifestyle and non-communicable diseases<sup>7,8</sup>. Thus the individuals were held responsible for their ill health<sup>9</sup>. In response to this paradigm shift, in 1971, William Ryan wrote the book *Blaming the Victim which was on the ideology that the role of social environment is neglected and the individuals are held responsible for the consequences of acts that may or may not be within their locus of control*<sup>10</sup>.

### Determinants of lifestyle

It is crucial to understand that social context influences individuals' decision about the choices they make in their lives. For instance as a result of interplay between the geopolitical situation of a country and the role of investors in the market share, smoking was common in the Soviet Union and mainly due to heavy investment and marketing activities backed by former Soviet Union countries, during the post-Soviet period prevalence of smoking almost exponentially increased<sup>11</sup>. Marketing of tobacco products were targeted particularly at young people, women, and residents in urban areas. Consequently, during 1992-2003, among the Russian women prevalence of smoking doubled (6.9% to 14.8%) and among the Russian men prevalence of smoking which already was extremely high; 57.4%, increased to 62.6%<sup>11</sup>. Similarly, in a population based study assessing the factors influencing individuals' dietary patterns, revealed that the participants' dietary patterns were impacted by their level of education, socio-economic status and access to food<sup>12</sup>. Hence, the social class has

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been identified as a powerful predictor of food consumption<sup>13,14</sup>. Unhealthy diet, tobacco use, harmful use of alcohol and physical inactivity lead to metabolic or physiological changes; high blood pressure, obesity, hyperglycemia and hyperlipidemia leading to non-communicable diseases. The World Health Organization has reported that high blood pressure contribute to 13%, use of tobacco 9%, hyperglycemia 6%, physical inactivity 6%, and overweight has contributed to 5% of total global death rates<sup>15</sup>.

Describing the use of drug among adolescents, Wallace and Bachman reported that parental education and employment status and family income, religion, race and ethnicity influence the use of drug among adolescents<sup>16</sup>. In one of the studies high rates of dropping out of school, involvement of sexual activities and drug use were reported to be more likely among Hispanic youth in comparison to white youth. However, after adjusting for background (parental occupation and education, family income, family structure, number of siblings and mother working) and lifestyle variables (religious affiliation and religiosity) the difference in rates of dropout from school was reduced between white youth and Hispanic youth. When compared black youths with white youths the rate of dropout was actually lower in black than that of white youth. Similarly, after adjusting for background variables (gender, mother's education, racial composition of school) and a proximal lifestyle measure (proportion of peers sexually active) there was a significant decrease in sexual activity among the subgroups<sup>16</sup>.

Kristenson<sup>13</sup> reported that low cortisol stress responses, which are indicative of greater repeated exposure to stress and/or poorer psychosocial resources, have been linked to low socio-economic status. Deliberating further, the author explained that low levels of cortisol have important implications for individual's general susceptibility to disease, and that they are indicative of low social support and coping, and high exhaustion and depression<sup>13</sup>.

It is also important to highlight that quality of health is heavily influenced by lifestyle habits which people can control through exercising some measure of control over their health and through self-management and these are considered as good medicine. Hence, they can live longer and healthier life and can delay their aging process<sup>17</sup>. Helping individuals to change unhealthy behavior will always be part of health promotion to achieve health goals<sup>18</sup> yet; it cannot be

denied that lifestyle is impacted by health inequities<sup>12</sup>. Thus, instead of just regarding individuals' lifestyle as the prime cause of health problems, social determinants of health; "conditions in which people are born, grow, live, work and age"<sup>19</sup> should be upgraded and the circumstances that are "shaped by the distribution of money, power and resources at global, national and local levels"<sup>19</sup> be changed. Never the less the field of the social determinants of health is perhaps the most complex and challenging of all. As it is concerned with key aspects of people's living and working conditions, their lifestyles, and the implications of social and economic policies on their health<sup>20</sup>.

## CONCLUSION

The concept of lifestyle emerged in 1950s as a leading cause for non-communicable diseases resulting in high mortality. Holding the individuals responsible for selecting their lifestyle they are being blamed for making unhealthy choice. Empirical studies have revealed a major impact of social determinants of health on selection of lifestyle. Therefore, it is vital that in addition to helping individuals to change unhealthy behavior as a strategy for health promotion, strategies to should be employed to improve their social determinants of health.

**Acknowledgment:** This paper is an output of my PhD in Nursing course work Winter 2014, at University of Alberta, Canada and I would like to acknowledge Professor Joan Benach, Instructor, Health Inequities, School of Public Health, University of Alberta, with the assistance of Maria-Beatriz Ospina.

**Conflict of Interest:** None.

**Source of funding:** For my PhD in Nursing, Aga Khan University honored me with Faculty Development Award and University of Alberta Faculty of Graduate Studies and Research awarded me University of Alberta Doctoral Recruitment Scholarship.

**Ethical Clearance:** No human or animal subject involved

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# A Study to Identify the Training and Development Needs of Nurses Working at a Private Multispecialty Hospital in Delhi

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## ABSTRACT

**Background and purpose of the study:** With the increasing demand for improved productivity and quality of service in organizations, strategies for improving the work performance of personnel have become increasingly important. The aim of this study was to identify the training and development needs of nurses in a private multispecialty hospital in Delhi. The study also aimed to prioritise the identified needs.

**Materials and method:** A cross sectional survey was conducted among 100 nurses working in the selected hospital. The data were collected using a self-administered questionnaire. Also 4 nurse educators were interviewed using a semi-structured interview schedule to identify the training and development needs of nurses working in the hospital.

**Results:** The top 10 training and development needs (training gap >1) identified in the order of priority were - Care of ventilated patient, Handling emergencies, Consulting with colleagues about care options, Updating knowledge as per the latest research, Interpreting results from clinical investigations, Administration of narcotics/ high risk medications, Coordination with various departments, Management of chest drainage, Endotracheal tube / Tracheostomy Tube Suctioning, and Use of computers/ Hospital Information System. Majority of nurses preferred clinical bedside training (71%) over class room teaching (29%).

**Conclusion:** Training plays a key role in building skills and equipping staff with better knowledge. So, it is of paramount significance that training needs of nurses are properly identified to build a good training program and hence to ensure quality patient care.

**Keywords:** Training, Training and Development Needs, Needs Assessment

## INTRODUCTION

In most countries of the world there is a shortage of nurses but nowhere is it as acute as in the developing world. As per the Bulletin of the World Health Organization (2010), 2.4 million nurses will be needed

to provide a nurse-patient ratio of one nurse per 500 patients<sup>1</sup>. It is not only shortage but "shortage of trained" manpower which is the real challenge.

Training and development is the field which is concerned with organizational activity aimed at bettering the performance of individuals and groups in organizational settings. The goal of training is to create an impact that lasts beyond the end time of the training itself. With the increasing demand for improved productivity and quality of service in organizations, strategies for improving the work performance of personnel have become increasingly important. In hospitals, the biggest workforce is of

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nursing staff and hence the continued education and training, of nurses is of paramount importance for ensuring delivery of quality care to patients.

Training needs assessment is fundamental to the success of a training program. It is an ongoing process of gathering data to determine what training needs exist so training can be developed to help the organization accomplish its objectives<sup>22</sup>. Often, organizations develop and implement training without first conducting a needs analysis. These organizations run the risk of overdoing training, doing too little training or missing the point completely. The main reasons for needs analysis include: to identify specific problem areas, to obtain management support, to develop data for evaluation, to identify training gaps, and to improve the competence and confidence level of staff. Some methods of training needs assessment include: Surveys/questionnaires; Interviews; Performance Appraisals; Observations; Tests; Assessment ; Focus Groups; Document reviews; and Advisory Committees.

The assessed training needs form the foundation of training. There are several Training methods available. The use of a particular method depends which method accomplishes the training needs and objectives. Training methods can be classified into two categories: (i) On-the-jobsite methods (understudy, job rotation, special projects, experience, committee assignment, coaching); (ii) Off-the-jobsite methods (special courses, seminar, lectures, conference, case study, role plays, programmed instructions, brainstorming, behaviour modelling, apprenticeship training, and sensitivity training). The most common methods used for training of nurses include: Lectures using power point presentation; Simulations including equipment simulators; Bed side demonstrations of procedures; Case studies and Role plays.

### **Need for the study**

The selected hospital underwent expansion from a 100 bedded secondary care hospital to 214 bedded tertiary care hospital. With the new setting, a new set of manpower had joined the hospital including nurses. A total of 186 nurses had joined the hospital. The researcher being a part of quality department felt the need to identify the training & development of nurses, so that the nurses can be trained on the basis of the same. The management also supported the same in order to ensure the highest kind of services and care provided by trained nurses.

The hospital had newly set nursing education department for nurses, so such a study would help to refine the training programs based on the needs assessed. This study aimed to identify and prioritise the training and development needs of nurses working at the selected hospital.

## **MATERIAL AND METHOD**

### **Study design and setting**

A cross sectional survey was conducted among nurses working at the selected private 214 bedded multispecialty hospital of Delhi. The sampling technique used was convenience sampling. Out of 244 nurses in the hospital, a total of 106 nurses were approached and 100 consented to participate in study.

The perspective of 4 nurse educators regarding training and training needs was also studied using a semi-structured interview schedule.

### **Study Questionnaire**

Data were collected by means of two tools

Tool 1 was a self-reported questionnaire consisting of two sections - Section (i) – Demographic Profile and Other Information including information on Age, Gender, Marital status, Educational Qualification, Department, Designation, Work experience, Preferred method of receiving training, Suggestions to improve training program. Section (ii) – Training & Development Need Assessment Questionnaire that included a range of skilled activities which nurses undertake in performing their job. A list of 35 nursing activities was divided under 8 domains namely – Patient Care, Nursing Procedures, Clinical Skills, Administrative Duties, Management & Supervisory Skills, Communication/ Teamwork, Personal Bearing, Enthusiasm for Learning. There were two rating scales against each activity. The first rating (Importance) was concerned with how important the activity was to their job; the second rating (Performance) was concerned with how well they currently perform that activity. The difference between the importance and performance will help to assess the training gaps and hence the training needs. The importance rating scale ranged from 1 to 7 (1 - Not at all important, 2 - Low importance, 3 - Slightly important, 4- Neutral, 5- Moderately important, 6 – Very Important, 7 – Extremely important.). The performance rating scale also ranged from 1 to 7 (1 – Very poor, 2 – Poor, 3 – Barely acceptable, 4 - Average, 5 – Good, 6 – Very good,

7 – Outstanding). Content validity of the tool was established by 4 experts. Reliability of the tool was established by test-retest method. The tool was found to be reliable (reliability coefficient 'r'=0.97). The time taken for administration of the tool 1 was 12 – 15 minutes.

Tool 2 was a structured interview schedule for nurse educators eliciting information regarding - preferred method of imparting training, areas of concern in which they feel nurses need further training, and any specific problems that they are coming across in delivering training programs. Content validity of the tool was established by experts. The time taken for conducting the interview was 10-12 minutes.

### Procedure for data collection

Management permission was obtained for conducting the study in the hospital. The nurses were approached at their work stations, preferably after the shift got over and were asked if they would be interested to participate in the study. All those who consented were selected for the study. Participants were explained regarding the study. Informed written consent was taken. Data were collected by structured self-reported questionnaire from nurses and structured interview schedule from nurse educators.

## FINDINGS

A total of 106 nurses were approached out of which 100 consented to participate in study. (Figure 1) The reason for non-participation of 6 nurses was lack of time. The sample size for the study and the analysis is 100.

### Fig. 1. Approach to study

Demographic characteristics of the study group are as outlined in Table 1. The mean age was 25.5 years. Majority were female (72%) and the rest were male (28%). As per the qualification, 61% were GNM, 31% B. Sc. Nursing followed by Post Basic B. Sc. Nursing (7%) and M. Sc. Nursing (1%). The mean total experience of nurses was 3.1±0.22 years. Forty percent of the nurses had 0 to 2 years of total experience. As per experience at the selected hospital, 90% of the nurses had 0 to 6 months of experience.

**Table 1: Demographic characteristics of nurses**

(N = 100)

Demographic Characteristics		N (%)
Age (years)	Mean Age	25.5±2.85
	20-25	53 (53%)
	26-30	42 (42%)
	31-35	5 (5%)
Gender	Male	28 (28%)
	Female	72 (72%)
Marital Status	Single	82 (82%)
	Married	18 (18%)
Educational Qualification	GNM	61 (61%)
	Post Basic B.Sc. Nursing	7 (7%)
	B. Sc. Nursing	31 (31%)
	M.Sc. Nursing	1 (1%)
Department	Ward	46 (46%)
	ICU	25 (25%)
	Emergency Room	14 (14%)
	Labour Room	7 (7%)
	Cathlab	5 (5%)
	Dialysis & day care	2 (2%)
	NICU	1 (1%)
Designation	Staff Nurse	96 (96%)
	Floor Manager	4 (4%)
Total Experience (years)	Mean	3.1±0.22
	0-2 years	40 (40%)
	>2-4 years	24 (24%)
	>4-6 years	24 (24%)
	> 6 years	12 (12%)
Experience at selected hospital (months)	Mean	6.6±0.53
	0-6 months	90 (90%)
	>6 months	10 (10%)

Regarding nurses perception on training (Table 2), 99% of the nurses believed that trainings are relevant and improve their work performance. For preference of method of training, majority of nurses (71%) preferred bed side clinical training and the rest (29%) preferred class room teaching. The questionnaire also invited the suggestions of nurses (Table 2) to improve the in-service training program conducted at the hospital. The commonest suggestion as responded by 14% of nurses was to include practical and bedside training as "learning by doing" is more effective.

**Table 2: Nurses Perception and Suggestions on Training Program**

(N = 100)

Parameter	Response	N (%)
Whether trainings are relevant and improve work performance	Yes	99 (99%)
	No	1 (1%)
Preferred method of receiving training	Class room	29 (29%)
	Bed side (clinical)	71 (71%)
Suggestion	N (%)	
Include practical and bedside training as "learning by doing" is more effective	14 (14%)	
Advise doctors & nursing supervisors to teach at bed side rather than being critical	5 (5%)	
Improve timing for the training	3 (3%)	

Identification of training and development need included rating a list of 35 nursing skills on Importance and Performance (Table 3) on a scale of 1 to 7. Nurses rated "Handling Emergencies" of the highest importance (Average Rating Score = 6.88) and "Hot/ Cold Administration" of lowest importance (Average Rating Score = 6.22). The highest performance rating score by nurses was for "Communication with patients" (Average Rating Score = 6.06) and the lowest was for "Care of ventilated patients" (Average Rating Score = 5.13).

Based on rating upon importance and performance scale the training gap was calculated. The highest training gap (1.59) was for care of a ventilated patient and the lowest (0.45) was that of enema administration. (Table 3)

The nursing activities with a training gap of >1 were identified as training needs (Figure 2) and as per the order of priority they were:

- i. Care of ventilated patient (1.59)
- ii. Handling emergencies (1.27)
- iii. Consulting with colleagues about care options (1.18)

- iv. Updating knowledge as per the latest research (1.17)
- v. Interpreting results from clinical investigations (-1.14)
- vi. Administration of narcotics/ high risk medications (1.1)
- vii. Coordination with various departments (1.09)
- viii. Management of chest drainage (1.08)
- ix. Endotracheal tube /Tracheostomy Tube Suctioning (1.07)
- x. Use of computers/ Hospital Information System (1.04)

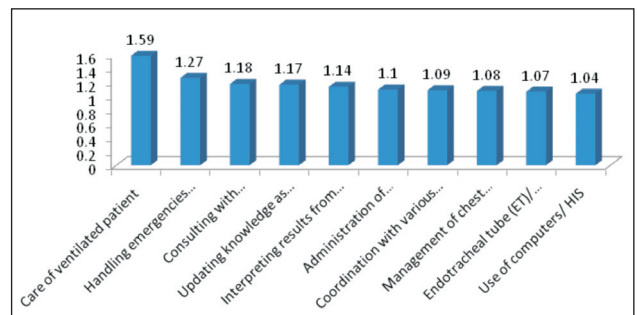


Fig. 2 . Top 10 training gaps with a gap score of >1

**Table 3: Nursing activities with average rating scores & average training gap**

(N = 100)

S.N.	Nursing activities	Average rating score - Importance	Average rating score - Performance	Average Training gap
<b>Patient Care</b>				
1	Assessing patients' physical and physiological needs	6.62	5.62	1
2	Consulting with colleagues (doctors/ seniors/peer) about care options	6.71	5.53	1.18
3	Assessing patients' psychological and social needs	6.49	5.67	0.82
4	Coordination with various departments	6.59	5.5	1.09
5	Handling emergencies (e.g. sudden deterioration in patient's condition, cardiac arrest etc.)	6.88	5.61	1.27

**Table 3: Nursing activities with average rating scores & average training gap**

(N = 100)

S.N.	Nursing activities	Average rating score - Importance	Average rating score - Performance	Average Training gap
<b>Nursing Procedures</b>				
6	Care of ventilated patient	6.72	5.13	1.59
7	Care of urinary catheterised patient	6.78	5.86	0.92
8	Ryle's tube feeding	6.64	5.92	0.72
9	Pressure Ulcer – prevention and management	6.82	5.82	1
10	Management of chest drainage	6.66	5.58	1.08
11	Enema Administration	6.36	5.91	0.45
12	Hot/ cold administration	6.22	5.75	0.47
13	Endotracheal tube / Tracheostomy Tube Suctioning	6.7	5.63	1.07
14	IV Cannulation	6.72	5.92	0.8
15	Management of central line	6.58	5.63	0.95
16	Restraint management	6.31	5.54	0.77
17	Administration of narcotics/ high risk medications	6.78	5.68	1.1
<b>Clinical skills</b>				
18	Interpreting results from clinical investigations	6.65	5.51	1.14
19	Using technical equipments	6.76	5.91	0.85
20	Giving/taking shift handover	6.81	5.97	0.84
<b>Administrative duties</b>				
21	Processing admission and discharge	6.66	5.88	0.78
22	Writing clinical/ shift report	6.59	5.8	0.79
23	Use of computers/ Hospital Information System	6.57	5.53	1.04
<b>Management &amp; Supervisory Skills</b>				
24	Showing colleagues and/or juniors how to do things	6.66	5.69	0.97
25	Supervising juniors	6.57	5.66	0.91
26	Organising your own time effectively	6.73	5.75	0.98
<b>Communication / Teamwork</b>				
27	Communication with patients	6.8	6.06	0.74
28	Giving information to patients and/or carers	6.72	5.97	0.75
29	Fluency and command over language	6.76	5.81	0.95
30	Providing feedback to colleagues and/or juniors	6.65	5.69	0.96
31	Working as a member of a team	6.83	6.02	0.81
<b>Personal Bearing</b>				
32	Personal Grooming	6.6	5.81	0.79
33	Work etiquettes	6.77	5.9	0.87
<b>Enthusiasm in Learning</b>				
34	Participation in academic program and ward teaching	6.48	5.66	0.82
35	Updating knowledge as per the latest research	6.74	5.57	1.17

Four nurse educators were interviewed on three aspects - preferred method of imparting training, areas of concern for further training of nurses, and difficulties faced in delivering training programs. All the nursing educators preferred imparting bed side training. The top 3 training needs of nurses from the perspective of nursing educators included: Patient record documentation, aseptic techniques and

communication. The common difficulties cited by nurse educators that were being faced in delivering training programs were: Lack of proper designated training room/ space; Lack of adequate manpower for training; Small turn ups for training classes due to shortage of nursing staff; Non-availability of simulators and demonstration equipments.

## CONCLUSION

As the hospital is in expansion and upgradation phase, there are various training and development needs of nurses which need to be addressed for improving the quality of care. Addressing such needs would improve the skill set of nurses as well as motivate them to perform better. The identified training and development needs would help to develop a focused training program for nurses.

### Implications

The study has various implications for nursing education and nursing practice:

- On the basis of findings of study a need based training program can be drafted for nurses. Such a training program would help to improve the performance of nurses and hence ensure delivery of quality nursing care to patients.
- More of practical / bed side trainings should be incorporated.
- Doctors should be made a part of nurses training program to encourage team cohesion as well as for better learning.
- Duty and free time of staff nurses to be kept a note of while planning class room training sessions.
- Adequate availability of resources to be ensured including
  - Designated training room
  - Adequate training manpower
  - Availability of simulators and demonstration equipments

### Limitations

- Convenient sampling was used.
- As the study was conducted on nurses of one hospital, it may not be representative of nurses at large.

### Future recommendations

- Large scale study with larger sample size can be conducted.
- The study can be replicated to identify training and development needs of other hospital employees –

doctors, paramedics, and allied healthcare professionals.

**Acknowledgement:** We acknowledge the management of the hospital for giving permission to conduct the study and nurses for their cooperation.

**Conflict of Interest:** Both the authors have reviewed the article and agree with its contents. None of the authors has any personal conflict of interest.

**Source of Funding:** There are was no funding taken from any institution for the study.

**Ethical Clearance:** Permission for conducting the study in the hospital was obtained from the management of the hospital. Participants were explained about the study. Participation information sheet was also given and written informed consent was taken.

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# Effectiveness of Hot Foot Bath Versus Exercises on Reducing Pain among Patients with Osteoarthritis

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## ABSTRACT

Osteoarthritis is a global degenerative joint disease involving the cartilage and many of its surrounding tissues. In arthritis severe joint pain was reported by, at least one in seven adults with arthritis in every state. The aim of present study was to assess the effectiveness of hot foot bath versus exercises on reducing pain among patients with osteoarthritis in selected hospitals at Kanyakumari district. A quasi experimental with pre test post test with control group design was used for the study. A sample of 60 osteoarthritis patients with knee and ankle joint pain in Issac Bone & Joint Specialty hospital, Marthandam was selected by purposive sampling technique. Data were collected using a demographic and clinical variables and visual analogue pain scale from group I and group II before and after administration of hot foot bath and exercises on the first day, third day and fifth day of the treatment. The investigator prepared a information booklet and was given to the samples on the fifth day. Analysis was done using both descriptive and inferential statistics. Results show that hot foot bath (0.52) had better effect in reduction of joint pain in the knees and ankles than exercises (1.20). There was a significant association between pretest level of pain among patients with age, duration of illness, family history of osteoarthritis, physical mobility and any associated condition present with osteoarthritis.

**Keywords:** Compare, Effectiveness, Hot Foot Bath, Exercises, Osteoarthritis, Pain

## INTRODUCTION

Arthritis is a disease seen all over the world. World Arthritis Day was established in 1996 by Arthritis and Rheumatism International and observed more than 50 countries each year celebrating arthritis day. Every year October 12 is celebrated as a world arthritis day to raise the awareness of rheumatic and musculoskeletal disease among the medical, community and the general public. The theme for arthritis in 2013/2014 is 'Living Better Ageing Well' which was focusing on healthy ageing; growing up and growing older with a Rheumatic and musculoskeletal disease. Every year 26<sup>th</sup> of July is the National Osteoarthritis Day. It is reported that Osteoarthritis is the most common form of arthritis and affects up to 10% of the world's population. According to experts, most people don't feel the symptoms of Osteoarthritis before age 40.<sup>1</sup>

Pain is the common symptom of arthritis. There are known methods to stop pain for short periods of time.<sup>6</sup>The following methods are moist heat application, cold application, hydrotherapy, mobilization therapy, transcutaneous electric nerve stimulation, relaxation therapy and acupuncture.<sup>10</sup> Scientific studies have shown that hydrotherapy can improve strength and general fitness in people with various types of arthritis. In general hydrotherapy is one of the safest treatments for arthritis<sup>3</sup>. The hot foot bath is one of the most useful of all water treatments. Because of the heating of the blood in the feet and under legs, the pores of skin on the entire body will open, and the patient will start to sweat. This removes toxins from the body and increase blood flow through the feet and entire skin surface relieving congestion in internal organs and brain. This type of bath also elevates the body temperature, relieves pain, relaxing tense muscles and increasing white blood cell activity.<sup>5</sup>

## NEED FOR THE STUDY

Osteoarthritis is the most prevalent form of arthritis in the United States, affecting more than 70% of adults between 55 and 78 years of age. The incidence of symptomatic knee osteoarthritis is 1% per year, with a radiographic incidence of 2% per year. In the world, overall 13.9% of adults aged 25 and older and 33.6% are 65 years and above were affected with osteoarthritis.<sup>7</sup> Incidence was increased with age. Women are affected more than men especially after the age of 50. One in every four women reports osteoarthritis.<sup>4</sup> In India, osteoarthritis is the second most common rheumatologic problem and is most frequent joint disease with prevalence of 22% to 39%. This is the most common cause of locomotor disability in the elderly. Osteoarthritis represents a major cause of morbidity and disability as well as a significant economic burden on patients and health care resources.<sup>9</sup>

About 0.2 to 0.3 deaths per 100,000 populations were due to osteoarthritis. In all related arthritis hospitalization, 55% were admitted with osteoarthritis. Rates increased most among youngest age group (45-49) years and 7.1 million patients with osteoarthritis are in ambulatory care as primary diagnosis. In this, 2.2 million were males and 4.9 were females and 4.1 million majority of the patients were affected are 65 years above.<sup>8</sup> From experience it was noticed that joint pain is the major symptom of osteoarthritis and there are many pain relieving measures and other remedies. But there is only limited studies related to hot foot bath and exercises. So the investigator planned to conduct the comparative study to assess the effectiveness of hot foot bath versus exercises to reduce joint pain in the knees and ankles.

### Statement of the problem

A comparative study to assess the effectiveness of hot foot bath versus exercises on reducing pain among patients with osteoarthritis in selected hospitals at Kanyakumari district.

## OBJECTIVES

1. To evaluate the level of pain before and after the hot foot bath among patients with osteoarthritis in the group I.
2. To evaluate the level of pain before and after the exercises among patients with osteoarthritis in the group II.
3. To compare the level of pain after the hot foot bath versus exercises among patients with osteoarthritis between the group I and group II.
4. To find out the association between selected demographic variables and level of pain before hot foot bath versus exercises among patients with osteoarthritis in the group I and group II.

## MATERIALS AND METHOD

### Research Approach and Design

Quasi experimental design with pre test post test with control group design was used in this study.

GROUP	DAYS		
	1	3	5
Group-I	O <sub>1</sub> X <sub>1</sub>	O <sub>3</sub>	O <sub>4</sub> O <sub>5</sub>
Group-II	O <sub>2</sub> X <sub>2</sub>	O <sub>6</sub>	O <sub>7</sub> O <sub>8</sub>

### Setting

The study was conducted in Isaac Bone & Joint Specialty Private Hospital, Marthandam. The hospital is at a distance of about 10 km away from Christian College of Nursing, Neyyoor.

### Sample and Sampling Technique

Purposive sampling technique was used. In this study, the investigator selected 60 patients with osteoarthritis who were admitted with mild and moderate joint pain in the knees and ankles. In this first 30 patients in group I and next 30 patients in group II according to the sample criteria.

### Criteria For Sample Selection

#### Inclusion Criteria

Patients with osteoarthritis, who were

- 35 years of age and above.
- able to understand Tamil and English.
- having mild and moderate knee and ankle joint pain.
- without other serious illness like open wounds, Burns, skin rashes in the treatment area, surgical incision, Ulcer in the foot, and severe vascular diseases.

## Exclusion Criteria

Patients with osteoarthritis, who had

- severe knee and ankle joint pain.
- surgical incision, ulcer in the foot and severe vascular disease.
- open wounds, cuts, Burns, skin rashes in the treatment area.

## Variables

### Dependent variable

Patients with osteoarthritis joint pain in the knees and ankles.

### Independent variables

Hot foot bath versus exercises (Range of motion, stretching and strengthening exercises).

Development and Description of the Tool

### Hot Foot Bath

The hot foot bath consisted of placing the feet in hot water at 100°F deep enough to completely cover till the ankles for 10-30 minutes. Increase the water temperature according to the heat tolerance of the patient. At the end of the treatment the investigator lift the patient's feet from the water and pour the cold water over the feet. Then dry the patient feet and keep him/her comfortable. The procedure was done for 5 days in the morning.

### Exercises

Exercises such as stretching exercises, range of motion exercises and strengthening exercises were demonstrated.

### Information Booklet

The content of the information booklet were hot foot bath and exercises for patients with osteoarthritis who were admitted with mild and moderate joint pain in the knees and ankles.

### Section-I: Demographic and clinical variables

This section dealt with demographic and clinical variables.

### Section-II: Visual Analogue scale

Visual analogue scale consisted of a 10cm (100mm)

line with a statement at each end representing one extreme of the dimension being measured.

### Testing of the Tool

Tools validation was done by five experts in the field of Nursing and Medicine. The reliability of the tool was determined by inter-rater method and Spearman rank correlation coefficient was found to be ( $r=0.9$ ) was found reliable. The pilot study was conducted for six patients. From this hot foot bath is effective than exercises.

## DATA COLLECTION PROCEDURE

The present study was conducted at Isaac Bone & Joint Speciality Hospital, Marthandam. Demographic and clinical variables were collected from 60 subjects. Pretest was conducted to the both groups. Then the hot foot bath procedure was done for group-I and exercises in the group-II. Intervention was done for five days continuously in the morning. Post test was conducted to both groups on the 1<sup>st</sup>, 3<sup>rd</sup>, and 5<sup>th</sup> day of the treatment and the data were analyzed and interpreted. The information booklet was also given to the samples on the 5<sup>th</sup> day.

## RESULTS

In the present study majority of the sample subjects (33.33%) were in the age group of 46-55 years, (73.33%) were males, (46.67%) were Christians, (73.33%) were married, (63.34%) were schooling, (46.67%) were heavy worker, (50.00%) were Rs.10,001-15,000 income per month, (60.00%) were 1-3 years of illness, 70.00% were under no treatment, (86.67%) were non-vegetarian, (63.33%) were 19-24.9 (normal) body built, (56.67%) were not having family history of osteoarthritis, (43.33%) were moving with mild restrictions and (60.00%) were not having associated conditions with osteoarthritis.

Table 1 shows the posttest, the mean pain score after implementing hot foot bath was 0.52 with SD 0.75 and the exercises was 1.20 with SD 0.95. The difference between these two groups were tested using 't' test. The difference was high and significant. From these we found that the hot foot bath is better than the exercises, regarding the reduction of pain among the patients with osteoarthritis.



**Table 1: Comparison of the effectiveness of hot foot bath and exercise among the patients with osteoarthritis regarding pain reduction on the V<sup>th</sup> day**

(N=60)

Overall Pain Score	Hot Bath	Exercise	t' test	df	5% Significance
	Mean ± SD	Mean ± SD			
	0.52 ± 0.75	1.20 ± 0.95	3.03	58	2.0

Table 2 shows that the effectiveness of hot foot bath was found using chi square test. The value of chi-square was highly significant. That is three levels

showed the reduction of pain. From this we found out that if we do the hot foot bath continuously then the pain level will be reduced.

**Table 2: Effectiveness of hot foot bath on the I<sup>st</sup>, III<sup>rd</sup> and V<sup>th</sup> day using chi-square test**

Level of Pain	Days of Treatment				$\chi^2$	df	5% Level of Significance
	Day I	Day III	Day V	Total			
No Pain	12	15	23	50	13.69	4	9.49
Mild Pain	13	12	7	32			
Moderate Pain	5	3	0	8			
Total	30	30	30	90			

Table 3 shows that the effectiveness of exercises was found using chi square test. The value of chi-square was highly significant. That is three levels showed the

reduction of pain. From this we found out that if we do the exercises continuously then the pain level will be reduced.

**Table 3: Effectiveness of exercise on the I<sup>st</sup>, III<sup>rd</sup> and V<sup>th</sup> day using chi-square test**

Level of Pain	Days of Treatment				$\chi^2$	df	5% Level of Significance
	Day I	Day III	Day V	Total			
No Pain	9	15	23	50	13.69	4	9.49
Mild Pain	12	12	7	32			
Moderate Pain	9	3	0	8			
Total	30	30	30	90			

The chi-square value presented in Table 4 shows that there is no association between the pretest level of pain among patients with osteoarthritis and selected demographic variables like sex, religion, marital status, education, type of work, income per month, duration

of treatment, type of diet, body mass index, any associated conditions present with osteoarthritis except age, duration of illness, family history of osteoarthritis and physical mobility.

**Table 4: Association between pretest level of pain and the selected demographic variables among the patients with osteoarthritis**

Sl. No	Demographic Variables	Pain Level		Total	$\chi^2$	P value
		Mild	Moderate			
1	<b>Age</b>				12.57	7.81
	35-45 years	11	5	16		
	46-55 years	14	7	21		
	56-65 years	4	10	14		
	Above 65 years	1	8	9		

**Table 4: Association between pretest level of pain and the selected demographic variables among the patients with osteoarthritis (Contd.)**

Sl. No	Demographic Variables	Pain Level		Total	$\chi^2$	P value
		Mild	Moderate			
2	Sex				0.07	3.84
	Male	20	19	39		
	Female	10	11	21		
3	Religion				1.97	5.99
	Hindu	8	10	18		
	Christian	19	14	33		
	Muslim	3	6	9		
	Others	0	0	0		
4	Marital Status				3.297	5.99
	Unmarried	0	0	0		
	Married	26	20	46		
	Widow / widower	3	8	11		
	Separated / divorced	1	2	3		
5	Education				7.13	7.81
	Illiterate	4	12	16		
	Schooling	20	16	36		
	Diploma / Under Graduate	4	2	6		
	Post Graduate	2	0	2		
6	Type of Work				2.504	5.99
	Sedentary	5	8	13		
	Moderate Worker	9	12	21		
	Heavy Worker	16	10	26		
7	Income per month				4.703	7.81
	< 5000	0	2	2		
	5001 – 10,000	6	10	16		
	10,001 – 15,000	14	13	27		
	15,001 and above	10	5	15		
8	<b>Duration of illness</b>				10.722	7.81
	1-3 years	25	13	38		
	4-6 years	4	8	12		
	7-9 years	1	4	5		
	More than 9 years	0	5	5		
9	<b>Duration of Treatment</b>				3.427	7.81
	No treatment	23	18	41		
	1-3 years	4	7	11		
	4-6 years	3	3	6		
	More than 6 years	0	2	2		
10	<b>Type of diet</b>				0.48	3.84
	Vegetarian	6	4	10		
	Non-vegetarian	24	26	50		
11	<b>Body Mass Index(BMI)</b>				6.533	7.81
	Below 19 (thin)	7	4	11		
	19-24.9 (Normal)	21	17	38		
	25-29.9 (Over weight)	2	5	7		
	30 and above (Obese)	0	4	4		
12	<b>Family History of Osteoarthritis</b>				7.33	3.84
	Yes	10	21	31		
	No	20	9	29		
13	<b>Physical Mobility</b>				10.167	5.99
	Freely moving joints	19	7	26		
	Moving with mild restrictions	8	14	22		
	Markedly restricted movement	3	9	12		
14	<b>Any associated condition present with Osteoarthritis</b>				8.86	7.81
	Yes	16	5	21		
	No	14	25	39		

## DISCUSSION

The present study findings showed that the mean pain assessment score 0.52 with the standard deviation of 0.75 in hot foot bath is less than the mean pain assessment score 1.20 with the standard deviation of 0.95 in exercises.

The study revealed that hot foot bath has more effect on reducing pain than exercises ( $0.52 \pm 0.75$ ) and ( $1.20 \pm 0.95$ ).

## NURSING IMPLICATIONS

### Implications for Nursing Practice

Nursing personnel can provide more comprehensive care by incorporating hot foot bath, exercises and other alternative therapies in order to reduce knee and ankle joints pain.

### Implications for Nursing Education

Nurse educators must arrange facilities and opportunities for student nurses to attend workshops, conferences to imparting their knowledge.

### Implications for Nursing Administration

Nurse administrators can add this procedure in follow up care of patients with osteoarthritis.

### Implications for Nursing Research

This study finding can be utilized for literature review for researchers. This study can be used for guidance of researcher to make their study effective.

## RECOMMENDATIONS

- The study can be done with large number of samples for better generalization.
- The study can be done at different settings like community, old age homes.
- The study can be conducted with the other joints like hand, hip etc.

**Acknowledgement:** I would like to thank Principal and all faculties of Medical Surgical Nursing, Christian College of Nursing, Neyyoor for their constant support, excellent guidance, assistance, valuable suggestions, and timely help for the completion of this study.

**Conflict of Interest:** Nil

**Source of Funding:** Self

**Ethical Clearance:** This research proposal was approved by ethical committee of Christian College of Nursing, Neyyoor and formal permission was obtained from chairman of Isaac Bone & Joint Speciality Hospital, Marthandam to conduct the study.

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# Effect of Honey on Oral Mucositis among Cancer Patients

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## ABSTRACT

**Background of the study:** All suffering is caused by the illusion of separateness which generates fear and self-hatred that eventually causes illness. Person himself is the master of his life and can do much more than his thought that he could, including cure himself of a "terminal illness". Cancer is 2nd leading cause of death. 7.6 million people worldwide died from cancer in 2008. In Punjab, the incidence and prevalence of cancer is 88.29 and 211 per lakh population respectively. Treatment modalities for cancer such as Chemotherapy and Radiation therapy are very costly and have various side effects. The efforts must be taken to reduce the sufferings of cancer patients from disease as well as from treatment. From various review of literatures and studies, it shows that Honey is cost effective modality to prevent treatment induced oral mucositis in cancer patients. Honey is natural product which act as antibiotic, anti-tumour, anti-inflammatory. By keeping such points in mind, study was conducted to assess the effect of Honey on oral mucositis among cancer patients.

## Objectives

1. To assess the oral mucosa for oral mucositis among cancer patients undergoing treatment before the application of honey in experimental and control groups.
2. To reassess the oral mucosa for oral mucositis of cancer patients in experimental and control groups after application of honey in experimental group.
3. To compare the reassessment grade of oral mucositis of cancer patients in experimental and control groups.
4. To find out the association between post assessments oral mucositis grades with their selected socio-demographic variables of experimental and control groups.

## Methodology

**Research Design:** Non-equivalent pre- test post- test control group research design.

**Setting:** Selected Hospitals of Punjab.

**Target Population:** Cancer patients who were suffering from treatment induced oral mucositis in the selected hospitals of Punjab.

**Sample Size:** 60 cancer patients (30 cancer patients in experimental group & 30 in control group)

**Sampling Technique:** Purposive sampling technique.

**Result and Conclusion:** The findings of the study revealed that the mean pre test grade of oral mucositis of experimental & control group were  $2.5 \pm 0.93$  &  $2.26 \pm 0.94$  respectively. After providing intervention, twice a day for 7 days to experimental group the mean post test grade of oral mucositis of experimental was  $1 \pm 0.98$  and in control group after no any intervention was  $2.53 \pm 1.04$  respectively. It indicated that, there was significant ( $t$  cal. 6.0489 ?  $t$  table 1.96 at  $p$  ?0.05) difference between pre test and post test grade of oral mucositis of cancer patients in the experimental group than control group. So, it is concluded that topical application of honey is effective for reduction of grade of oral mucositis among cancer patients. Honey helps in earlier healing of wounds and promotes healthy living among cancer patients. Such cost effective interventions in hospital practices are highly recommended. As this study was limited to 60 patients, similar study can be conducted on large sample to generalized the findings.

**Keywords:** Effect, Honey Application, Grade of Oral Mucositis

## INTRODUCTION

Cancer is an uncontrolled and undisciplined growth of cells that do not accept the regulatory mechanisms of the body and can spread their tentacles by local invasion of tissues and by movement through natural channels for flow of blood and lymph.<sup>1</sup> As we talk about Neoplasia it is the abnormal proliferation of cells. Normally cells divide in an orderly manner but neoplastic cells have escaped from normal control and multiply in a disorderly manner forming a tumour. The cells of any of the tissues and organ of body can turn cancerous.<sup>2</sup>

Cancer has been perceived to be a dreadful disease; the name itself creates ripples in the individual. According to WHO (2012) each year 12.6 million persons are diagnosed with cancer and 7.5 million die off cancer. Worldwide incidence of lung cancer is 12.7%, colorectal cancer is 9.8%, breast cancer is 10.9%. Deaths from lung cancer is 18.2%, stomach cancer is 9.7% and cancer of liver is 9.2%.<sup>3</sup>

In India (2012) prevalence of cancer is estimated to be around 2.0 to 2.5 million, with 7-8 lacs new cases detected every year. More than 70% of the cases reported for diagnostic and treatment services in the advanced stages of the disease, leading to a poor survival and higher mortality rate. There are 7-8 lacs/year new cases diagnosed, 4-5 lacs/year deaths and prevalence of cancer is 22-24 lacs/year. Incidence of cancer among male and female is 46-122 and 57-135 per 1,00,000 respectively. It is expected that new cancer cases per year will be increasing to 12-15 lacs and cancer prevalence will be 25-30 lacs by 2025.<sup>3</sup>

The Punjab state is experiencing a rising burden of cancer amongst the Non-communicable diseases. Cancer is emerging as one of the major health concern of the public in general and the State in particular. A survey was conducted in Punjab by the Department of Health and family welfare in June 2005 in 4 districts Muktsar, Bathinda, Faridkot, Mansa to know the number of cancer patients. The number of cancer patients was 453, 711, 164 and 420 respectively with a rate of 54.7, 59.2, 28.0 and 57.4 per lakh population in order. Another survey had been conducted by the same department in 2009 in which 7738 cases of cancer was identified. Bathinda has the highest number of cancer patients that is 942 and Tarn taran has the lowest number that is 279.<sup>4</sup> There are estimated 20,000-25,000 cancer cases in Punjab.<sup>4</sup>

There are several treatment modalities for treating and reducing the prevalence of cancer. A widespread used treatment is chemotherapy, radiotherapy, laser surgery and surgery. In spite of these hormone therapy, biological therapy, angiogenesis inhibitors and hyperthermia accustomed.<sup>5</sup>

Chemotherapy and radiation therapy are the most widely used treatment modalities for cancer. Chemotherapy is the use of anti-cancer drugs to treat cancerous cells. Chemotherapy has been used for many years and is one of the most common treatments for cancer. Radiotherapy is delivery of small number of fraction of radiation in the ablative dose. It uses special kinds of energy waves or particles to fight cancer. Radiation therapy is used in several ways depending on the type and location of the cancer.<sup>6</sup>

These treatments are employed for cure, control and palliation; it has got many adverse effects. These can interfere with treatment and can delay treatment.<sup>7</sup> It includes Diarrhea, Hair loss in the treatment area, Mouth problems, Nausea and vomiting, Sexual changes, Trouble swallowing, Urinary and bladder changes, anemia, dry skin, constipation/diarrhea. Oral mucositis is one of the distressing side effects of this treatment.<sup>8</sup>

The term oral mucositis emerged in the late 1980s to describe the adverse effects of chemotherapy-induced and radiation therapy-induced inflammation of the oral mucosa. Symptoms of mucositis vary from pain and discomfort to an inability to tolerate food or fluids.<sup>9</sup>

The medicinal use of honey bee venom as well as honey bee products for treating oral mucositis is well known. In China, raw honey is applied directly to burns as an antiseptic and painkiller. This is very old form of medicine. Studies on the use of bee products to treat various conditions have been appeared in the medical literature for past 70 years. Honey is most commonly used apitherapy food. It has anti-inflammatory, antifungal, antibacterial and antitumor properties.<sup>10</sup>

A survey result showed that 80% of patients repeated using some type of complimentary alternative medicine, in that 54% took honey products and 30% used relaxation techniques. To treat the oral mucositis as a bummer effect of cancer treatment apitherapy will be used as a cost effective treatment.<sup>11</sup>

## MATERIALS AND METHOD

This study was conducted among Cancer patients of selected Hospitals of Punjab. Quasi experimental (Non-equivalent pre- test post- test control group) research design was adopted. The sample was cancer patients with oral mucositis. Total sample size consist of 60 cancer patients (30 cancer patients in experimental group & 30 in control group), who met inclusion criteria. There were 2 drop outs from the study because they died of cancer condition. Purposive sampling technique was used to select the sample. Application of honey was done twice a day for 7 day on experimental group only.

## RESULTS

The findings of the study revealed that the mean pre test grade of oral mucositis of experimental & control group were  $2.5 \pm 0.93$  &  $2.26 \pm 0.94$  respectively. After providing intervention, twice a day for 7 days to experimental group the mean post test grade of oral mucositis of experimental was  $1 \pm 0.98$  and in control group after no any intervention was  $2.53 \pm 1.04$  respectively. It indicated that, there was significant (t cal. 6.0489  $\hat{A}$  t table 1.96 at p  $\hat{A}$ 0.05) difference between pre test and post test grade of oral mucositis of cancer patients in the experimental group than control group. So, it is concluded that topical application of honey is effective for reduction of grade of oral mucositis among cancer patients. Honey helps in earlier healing of wounds and promotes healthy living among cancer patients. Such cost effective interventions in hospital practices are highly recommended. As this study was limited to 60 patients, similar study can be conducted on large sample to generalized the findings.

## DISCUSSION

Study was done to assess the effect of Honey on Oral Mucositis among Cancer patients of selected hospitals of Punjab. The investigator utilized purposive sampling technique to select the subjects. The findings were discussed on the basis of demographic characteristics, objectives of the research study and related literature reviewed.

The findings of the study revealed that the mean pre test grade of oral mucositis of experimental & control group were  $2.5 \pm 0.93$  &  $2.26 \pm 0.94$  respectively. After providing intervention, twice a day for 7 days to experimental group the mean post test grade of oral mucositis of experimental was  $1 \pm 0.98$  and in control

group after no any intervention was  $2.53 \pm 1.04$  respectively. It indicated that, there was significant (t cal. 6.0489  $\hat{A}$  t table 1.96 at p  $\hat{A}$ 0.05) difference between pre test and post test grade of oral mucositis of cancer patients in the experimental group than control group.

**Acknowledgement:** I wish to express my gratitude to Administrator, Medical Superintendent of selected Hospitals of Punjab. It is extremely difficult to find appropriate words to express indebtedness and heartfelt gratitude to my loving Parents and Brother-Sister to support me during study. I am immensely grateful to Guide and Co-Guide for provide guidance throughout the project.

## Ethical Clearance

- Written permission was taken from the Principal, S.G.L Nursing College, Semi, Jalandhar.
- Ethical clearance was taken from the Research Committee of the S.G.L Nursing College, Semi, Jalandhar.
- Written permissions were taken from the Administrators and ethical & research committee of the Hospitals of Punjab – Patel Hospital, Jalandhar, Shri Guru Ram Dass Hospital, Amritsar, Fortis Hospital, Ludhiana.
- Written Informed consent was obtained from each sample.
- Confidentiality & anonymity of each sample was maintained throughout the study.

**Source of Funding-** Self

**Conflict of Interest-** Nil

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# Effectiveness of Adolescent Reproductive Health Education Programme Using Nurse-Led Teacher Delivered Approach on Knowledge and Attitude of School Going Adolescent Girls In Kerala

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## ABSTRACT

**Objective:** The main objective of the study is to assess the effectiveness of adolescent reproductive health education programme using nurse led teacher delivered approach on knowledge and attitude of school going adolescent girls.

**Materials and Method:** An experimental approach following pretest- posttest control group design was chosen for the study. Subjects were randomly selected for both experimental and control group. After the pretest, teachers were trained by the investigator first and trained teachers had given the intervention to adolescent girls. Post test knowledge and attitude were measured on the second week, second month and fourth month of the intervention.

**Results:** Descriptive and inferential statistics was used to analyze the data. Post test revealed a significant increase in the scores of knowledge and attitude in the experimental group and no significant changes in the control group.

**Conclusion:** The results indicate that the knowledge and attitude were significantly increased after the intervention. Hence the nurse led teacher delivered approach is very useful to impart adolescent reproductive health education programme in schools.

**Keywords:** School Teachers, School Going Adolescent Girls, Nurse-Led Teacher Delivered Approach, Adolescent Reproductive Health Education Programme

## INTRODUCTION

Adolescence as the period between childhood and adulthood begins after secondary sexual characteristics appear and continues until sexual maturity is complete. Rapid physical changes are accompanied by important psychological changes relating to the way the adolescent perceives themselves. World Health

Organisation (WHO) defines adolescence is the period between the ages of 10 and 19 years.<sup>1</sup> In India adolescents form a large section of population and are about 253.2 million. They are living in diverse circumstances and have diverse health needs.<sup>2</sup>

Currently, only few young people are receiving adequate preparation and education which leaves them vulnerable to coercion, abuse, exploitation, unintended pregnancy and sexually transmitted infections, including HIV. Global Report on AIDS Epidemic was cited in UNESCO revealed that only 40% of young people aged 15-24 had accurate knowledge about HIV and transmission.<sup>3</sup> Comparing to adolescent boys, adolescent girls have a poor access to reproductive health information. They have to cross many "gatekeepers" before they can even express their

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sexual and reproductive health needs.<sup>4</sup> WHO in 2014 reported that about 16 million women in the age group of 15-19 years give birth each year, 95% of these births occur in developing countries and 2.5 million adolescents have unsafe abortions each year.<sup>5</sup> Hence adolescent girls are in need of comprehensive reproductive health education in order to protect themselves from sexual exploitation as well as from sexually transmitted infections including HIV/AIDS.<sup>6</sup>

Aiming to eradicate this illiteracy in reproductive health education, the Government of Kerala and UNICEF jointly recommended educating the teachers first, by lobbying for the importance of adolescent reproductive health education.<sup>7</sup> A study was done to empower pupils and their teachers with life skills for HIV prevention, sex and sexuality issues in Malawi reported that life skills have led to the behaviour changes amongst pupils and teachers.<sup>8</sup>

The investigator in her personal experience of educating adolescents regarding their reproductive health in many schools found that the adolescents are not able to cope up with the rapid changes in their life and have many doubts to ask somebody with whom they can contact comfortably and constantly. But health personnel are not available all the time in the schools Teachers are spending nearly six hours a day in school with students and thus the education and follow up are easy for teachers if they are trained properly. Hence, the researcher felt that educating the school teachers on adolescent reproductive health is very essential to empower the adolescents to deal with their reproductive health needs. .

### Statement of the Problem

A study to assess the effectiveness of adolescent reproductive health education programme using Nurse-led teacher delivered approach on knowledge and attitude of school going adolescent girls in Kerala.

### OBJECTIVES OF THE STUDY

1. To identify the existing knowledge and attitude of school going adolescent girls regarding adolescent reproductive health in experimental and control group.
2. To assess the effectiveness of adolescent reproductive health education programme (ARHEP) using nurse- led teacher delivered approach on knowledge and attitude of school going adolescent girls.

3. To determine the correlation between existing knowledge and attitude of adolescent girls regarding adolescent reproductive health.
4. To find the association between selected socio-demographic variables and pre-test knowledge and attitude of school going adolescent girls regarding adolescent reproductive health.

### MATERIALS AND METHOD

An experimental approach following the pretest-posttest control group design was chosen for the study. Two of the girls' high schools under corporate educational agency of Kottayam were selected from the Ettumanoor block. Ettumanoor block belongs to Kottayam District of Kerala State and it has only two girls' high schools under this corporate education agency. These schools were randomly allocated to experimental and control group by lot method. From each school five teachers who fulfilled the inclusion criteria were randomly selected by lot method. 25 students from VIII and IX standards who fulfilled the inclusion criteria were selected from each school by using systematic random sampling method.

### Tools and Technique

A structured questionnaire was used to collect the data for the study. This instrument consisted of four parts.

**Part1. Demographic data:** It consisted of information regarding age, class at which girl is studying, religion, educational status of the mother and father, occupation of the mother and father, locality of the home and school, type of the family, position of the child at family, presence of elder sister in the family.

**Part2. Source of information for adolescent reproductive health knowledge:** It included sources from which the subjects got information, from where the students like to gain further information, availability of classes in the school and from the teachers, willingness and comfort of the girls to talk with teachers and support of the teachers on this topic.

**Part3. Knowledge questionnaire:** It consisted of 35 items focusing on the knowledge regarding adolescent reproductive health. For each correct answer a score of 1 was given. The minimum score was zero and maximum score was 40

**Part4. Four point Likert scale to assess the attitude:** It comprised of 15 items which included both positive

and negative statement. Each item had responses ranging from 1 (strongly disagree) to 4 (strongly agree). The items measuring negative attitude were given score in reverse order.

**Intervention module:** Topics included were

- Concepts of adolescence, Puberty & sexuality
- Physical changes in girls during adolescent period
- Mental & emotional changes in adolescence
- Anatomy & physiology of female reproductive system
- Process of conception
- Consequences of early sexual behavior
- Life skills for responsible sexual behaviour

This intervention module and tools were prepared by the investigator based on review of literature and under the guidance of experts. The face validity and content validity of them were ratified by the research guide and experts in the area. The content validity index of the knowledge questionnaire was 0.94 and attitude scale was 0.95. Test retest reliability of the knowledge questionnaire was 0.93 and attitude scale was 0.88. The consistency of the Malayalam translation was checked by back translation.

**Data collection and intervention:** It included four phases.

**Phase 1:** Ethical clearance was obtained from the Institutional ethical committee. Prior permission was obtained from the head of the institutions. Informed written consent was obtained from the selected teachers and adolescent girls before starting the study. Confidentiality and anonymity regarding the information was guaranteed and ensured.

**Phase 2:** Data related to demographic variables were collected and pre- test was given to both teachers and adolescent girls by the investigator.

**Phase 3:** A comprehensive training programme on ARHEP was organized by the investigator for the teachers in the experimental group first. This included interactive classes, role play, discussions and other group activities. These classes were delivered as three sessions of two hours duration. These trained teachers in turn taught the students within a period of one month. Teaching session of students consisted of five

sessions and of one hour duration each. Teaching materials were provided to teachers which included PowerPoint presentations, video clips, posters, charts and handouts. For further follow up and clarification each teacher was assigned to ten students.

**Phase 4:** Post tests were conducted by the teacher trained by the investigator. Data were collected at 2 weeks, 2 months and 4 months of intervals from the day of the completion of the interventions.

#### **Data analysis**

Descriptive Statistics such as frequency and percentage and inferential statistics including paired t test, Pearson's correlation coefficient test and chi-square test ( $p < 0.05$ ) were used to analyze the data. All statistical analyses were performed using SPSS 20.0 for Windows.

### **FINDINGS**

The significant findings of the study showed that all the subjects were studying in the schools located in rural area and 98% of them from both groups are living in the rural area. Most of the subjects in the experimental group (76 %) and control group (70%) were between the ages of 11-13 years. About 82% of them belong to Christian religion in experimental group while in control group 48% of them were Christians and 46% were in Hindu religion. Nearly 56% of their fathers had only high school education in both group and 42% of the mothers had high school education in experimental group and 56% of them had high school education in control group. About 46% of their mothers were coolie workers in experimental group and 76% of the mothers were skilled worker in control group. Majority of the subjects (72 %) in the experimental group and 66% of them from control group were living in nuclear family. Most of the subjects in the experimental group (42%) were elder child while in control group 58% of them were the younger child of the family and about 61% of them did not have elder sister in both groups.

Source of information on ARH was analyzed for all 100 of subjects together. Result revealed that 99% of the subjects got some form of information on ARH. About 56% of the subjects ranked mothers as the first person who had given information to them and 87% of them had given second rank to teachers for the information they gained. Other sources of information were grandmother, elder sister, medical professionals,

friends, books and magazines. About 53% of them ranked mother as the first person and 85% preferred teachers as the second most preferred person from whom they would like to get information on ARH. Most of the subjects (96%) reported that they got few classes from the school on ARH and 99% of them

believed that ARHE in the schools are very essential. Only 40% of them had talked with their teachers about their reproductive health needs and 66% of them feel free to talk with their teachers on their reproductive health matters.

**Table1. Comparison of Pre-test scores of knowledge and attitude of adolescent girls regarding ARH among the experimental and control group**

Variables	Experimental Group (n=50)		Control Group (n=50)		't' value	'p' value
	Mean	SD	Mean	SD		
Knowledge	19.58	5.14	22.38	4.98	2.79	0.006**
Attitude	41.84	3.82	44.58	5.82	2.78	0.006**

\*\* p<0.01

Results of the independent t test showed that there was a significant difference between the pre-test mean scores of knowledge and attitude of adolescent girls towards ARH. Mean scores of knowledge (19.58) and

attitude (41.84) of the experimental group was lower than the mean knowledge (22.38) and attitude (44.58) scores of control group.

**Table 2. Comparison of the mean scores of knowledge and attitude of adolescent girls regarding ARH in the experimental and control group**

Variables	Experimental Group (n=50)		Control Group (n=50)		't' value	'p' value
	Mean	SD	Mean	SD		
<b>Knowledge</b>						
Pre-test	19.58	5.14	22.38	4.98	2.79	0.006**
Post- test 1	29.18	5.47	22.16	5.12	6.63	0.000***
Post-test 2	30.56	5.76	22.50	5.24	7.32	0.000***
Post-test3	29.64	4.15	21.00	4.60	9.86	0.000***
<b>Attitude</b>						
Pre-	41.84	3.82	44.58	5.82	2.78	0.006**
Post- test 1	48.50	4.35	45.70	4.04	3.34	0.001***
Post-test 2	47.12	3.64	44.18	4.36	3.67	0.000***
Post-test3	48.60	3.33	42.26	5.02	7.44	0.000***

\*\*\*p<0.001 \*\* p<0.01

Results of the independent t test showed that even though the pretest knowledge and attitude scores were significantly less in experimental group, the knowledge and attitude scores were significantly

greater in all post test in experimental group than control group. This reveals that obtained mean differences between post test in experimental and control group was true difference and not by chance.

**Table 3. Correlation between knowledge and attitude scores of adolescent girls regarding Adolescent reproductive health.**

Variables	'r'	'P' value
Knowledge & attitude	0.372	0.000***

\*\* p<0.001

This table reveals a significant moderate positive correlation between the knowledge and attitude scores of the adolescent girls.

**Table 4. Association of demographic variables with knowledge and attitude**

Demographic variable	Knowledge			Attitude		
	$\chi^2$	Df	'P' value	$\chi^2$	Df	'P' value
Age	17.106	8	.029*	4.234	4	.375
Class	5.156	2	.076	.178	1	.673
Religion	8.776	6	.187	5.696	3	.127
Education status of mother	6.090	8	.637	3.543	4	.471
Education status of father	2.658	8	.954	3.199	4	.525
Occupation of mother	30.665	12	.002*	12.944	6	.044*
Occupation of father	9.781	14	.778	6.128	7	.525
Location of home	1.305	4	.861	1.051	2	.591
Type of family	4.714	6	.581	4.333	3	.228
Position in the family	3.505	6	.743	4.244	3	.236
Presence of elder sister	1.144	2	.565	.013	1	.910

\*p&lt;0.05

This table reveals a significant association of the occupation of mothers with the knowledge and attitude of the adolescent girls. But the age of the subjects has a positive association only with their knowledge.

## DISCUSSION

Results of the present study showed that most of the subjects (85%) ranked teachers as the second most preferred person from whom they would like to get information on ARH. About 66% of them felt free to talk with their teachers on their reproductive health matters but only 40% of them had talked with their teachers about their reproductive health needs. This necessitates the need to train more teachers to deal these matters with their adolescent students.

Present study also revealed that the knowledge and attitude scores were significantly greater in all post post-test in experimental group than control group ( $p < 0.01$ ). This shows that the adolescent reproductive health education programme using nurse-led teacher delivered approach was very effective to improve knowledge and attitude of school going adolescent girls. This is in consistent with the findings of the study done to empower pupils and their teachers with life skills for HIV prevention, sex and sexuality issues in Malawi.<sup>8</sup> This study reported that life skill has led to the behaviour changes amongst pupils and teachers. Aiming to eradicate illiteracy in sex and reproductive health education, the Government of Kerala and UNICEF also jointly recommended educating the teachers first, by lobbying for the importance of adolescent reproductive health education.<sup>7</sup>

Result of the present study reveals a positive correlation between knowledge and attitude of adolescent girls. Dr. Nafis Sadik, Executive Director of UNFPA stated: "The largest challenge facing towards adolescents reproductive health education does not lie in resources or delivery systems or even infrastructures, but in the minds of people. So to overcome the obstacles of superstitions prejudices, and stereotypes we have to educate the people first."<sup>9</sup> The present study also proven that changes in the knowledge will leads to the changes in attitude.

## CONCLUSION

Adolescent education programme is the need of the time. Teacher training is an effective means to reach adolescent. Our former Prime minster said "Teachers' value system, character & behaviour directly influence children. So teachers need to be empowered for the implementation of programme initiated by the country & paying particular attention to girl child".<sup>10</sup> Let us remember these words and try to reach adolescents through the empowered teachers.

**Acknowledgement:** The authors are thankful to the head of the institutions and all the participants of the study who had spent their valuable time for the successful completion of this study.

**Conflict of Interest:** None

**Source of Funding:** Self financed by the researchers

**Ethical Clearance:** Ethical Clearance was obtained from the Ethics Committee, Clinical Research Division, Caritas Hospital, Kottayam.

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# Effectiveness of Self Instructional Module on Knowledge and Skills Regarding Endotracheal Suctioning among Staff Nurses Working in Neonatal Intensive Care Unit

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## ABSTRACT

**Background of the study:** Breathing is important aspect of life. For good breathing airway patency is necessary. Pneumothorax, Meconium aspiration syndrome, hypoxia, asphyxia, respiratory distress syndrome, chronic obstructive pulmonary disease are the common respiratory problems which effects the airway of the neonates and leads to the airway obstruction. It is usually a life-threatening emergency requiring immediate medical attention. If help is delayed, death or brain damage can result from the lack of vital oxygen. Therapeutic methods to maintain patency of both the upper and lower airway may include: Mechanical ventilation, pediatric advanced life support therapy, oxygenation, intubation, tracheotomy, along medication therapy as prescribed by Physician etc are used to promote airway of the patient. Endotracheal suctioning is the most common procedure used in airway management for patients requiring mechanical ventilation and intubation who are admitted in the neonatal intensive care unit. This procedure may be required in an emergency situation or as a part of patient's planned care to carry out various operation procedures. The purpose of endotracheal suctioning is to remove pulmonary secretions effectively to prevent atelectasis secondary to blockage of smaller airways and to ensure that adequate gas exchange occurs. Endotracheal suctioning is a necessary procedure for patients with artificial airway. Most contraindications are relative to the patient's risk of developing adverse reactions or worsening clinical condition as result of the procedure. So, all nurses who perform suction must have received approved training and demonstrated competence under supervision. They should ensure that their knowledge and skills are maintained.

## Objective

1. To assess the pre test knowledge score and skills score regarding the endotracheal suctioning among the staff nurses in experimental and control groups.
2. To develop and implement the self instructional module regarding the endotracheal suctioning among the staff nurses in experimental group.
3. To assess the post test knowledge score and skills score regarding the endotracheal suctioning among the staff nurses in experimental and control groups.
4. To compare the pre test and post test knowledge score and skills score regarding the endotracheal suctioning among the staff nurses in experimental and control groups.
5. To find association between the post test knowledge score and skills scores with selected socio-demographic variables.

## Methodology

**Research Design:** Non-equivalent Pre test Post test control group research design

**Setting:** Selected Hospitals, district Jalandhar, Punjab.

**Target Population:** Staff nurses working in neonatal intensive care unit of selected hospitals, Jalandhar, Punjab.

**Sample Size:** 50 staff nurses (25 in experimental group and 25 in control group)

**Sampling Technique:** Purposive sampling technique.

**Result and conclusion:** The findings of the study revealed that the Pre test mean knowledge score of experimental group & control group were  $16.92 \pm 3.47$  &  $15.56 \pm 3.13$  respectively. The post test mean knowledge score in experimental & control group were  $20.52 \pm 3.29$  &  $16.16 \pm 2.83$ . The Pre test mean skills score of experimental & control group were  $20.21 \pm 2.51$  &  $19.16 \pm 2.32$ . The post test mean skills score of experimental and control group were  $22.92 \pm 2.64$  &  $19.96 \pm 2.42$ . It is indicated that there was significant difference in Pre and post test interventional knowledge score and skills score among staff nurses working in neonatal intensive care at 0.05% level of significance. Hence the research hypothesis (H1) is accepted and null hypothesis (H0) is rejected. The study was found that duration of posting in NICU was found associated with knowledge of staff nurses and age (in years), professional experience and in-service education are significantly associated with skills. So, the study concluded that self instructional module had significant effect on knowledge and skills regarding endotracheal suctioning among staff nurses working in neonatal intensive care unit.

**Keywords:** Knowledge, Skills, Endotracheal Suctioning, Staff Nurses, Selected Hospitals

## INTRODUCTION

Endotracheal suctioning is a component of bronchial hygiene therapy and mechanical ventilation and involves the mechanical aspiration of pulmonary secretions from a patient with an artificial airway in place. Endotracheal suctioning is not a benign procedure, and operators should remain sensitive to possible hazards and complications and take all necessary precautions to ensure patient safety. Secretions in peripheral airways are not directly removed by endotracheal suctioning. Endotracheal tube suctioning remains a routine practice in the intensive care unit, with different practices across ICU's. Therefore, it is important that methods of suctioning the endotracheal tube that minimize complications are identified and implemented into practice.<sup>[1]</sup>

The aim of airway suction is to clear secretions, thereby maintaining a patent airway and improving ventilation and oxygenation. Removal of such secretions also minimizes the risk of atelectasis. However it is not a benign procedure and adverse physiological effects directly attributed to airway suction are well documented. These effects can be both immediate and long-term, and therefore a sound

knowledge of the procedure and its effects are a prerequisite for undertaking the procedure, as is the availability of full resuscitation facilities.<sup>[2]</sup>

Ventilator associated pneumonia defined by Centers of Diseases Control and prevention is an episode of pneumonia in the patient who require device to assist or control respiration through a tracheostomy or endotracheal tube within 48 hours before the onset of infection. Health care associated infections have the large impact on neonatal morbidity, survival, hospital cost, and length of stay. Ventilator associated pneumonia is a common cause and accounts for 6.8% to 32.2% of health care acquired infections in neonates.<sup>[3]</sup>

Endo Tracheal suctioning is known to have many complications and many patients find it painful and anxiety inducing. Major complications include: - hypoxia, Infection, haemodynamic instability related to hypoxia and vagal stimulation. Undesirable fluctuations in intracranial pressure may also occur as a result of a reduction in cerebral venous return.<sup>[4]</sup>

Despite this, the practice of endotracheal suctioning continues without adequate evidence for the different techniques used. Although recommendations and

clinical guidelines have been made regarding suction pressures, depth of insertion of the suction catheter, and catheter size few of these have been objectively shown to be appropriate or safe. The available guidelines do not address any dimensions of the suction catheters other than the cross sectional diameter, and do not cause variation in mucus characteristics; nor do they seem to consider the relationships between endotracheal tube and catheter size (length and diameter) and suction pressures; and the potential effects these may have on the lung.<sup>[5]</sup>

The knowledge of suctioning and skills performance is very important for nurses because improper technique used by nurses may lead to hypoxia, respiratory arrest, hypotension, increased respiratory work, unexplained cardio vascular collapse, endotracheal tube blockage and sudden death due to deprived oxygen to brain. So All nurses who perform endotracheal suctioning procedure must have knowledge regarding endotracheal suction.

**Day T, Farnell S, Haynes S, Wainwright S, Barnett JW (2002)** conducted an observational study to assess the nurses' knowledge and competence in acute and high dependency ward areas. The study sample consist of twenty-eight nurses were observed using nonparticipant observation and a structured observation schedule. Findings showed nurses were unaware of recommended practice and a number demonstrated potentially unsafe practice. Study also found no significant relationship between knowledge and practice. The study raised concern about all aspects of tracheal suctioning and has highlighted the need for changes in practice, clinical guidelines and focused practice-based education.<sup>[6]</sup>

Researcher while working in clinical area had come across many situations where staff nurses are not using proper endotracheal suctioning techniques. This may be due to inadequate knowledge, or adoption of wrong practices.

Based on the review of literature it is concluded that staff Nurses have lack of theoretical knowledge and practical skills regarding endotracheal suctioning. This study was designed to assess the nurses' knowledge and skills regarding performing endotracheal suctioning in neonatal intensive care unit. So, self instructional module will facilitate them to know about the endotracheal tube suctioning and helps to increase their knowledge and skills.

## MATERIALS AND METHOD

This study was conducted among staff nurses working in neonatal intensive care unit of selected Hospitals, Jalandhar Punjab. Quasi experimental design (Non- equivalent pre test post test control group) research design was adopted. And a total of 50 staff nurses were selected for the study (25 in experimental group and 25 in control group), who met the inclusion criteria. Purposive sampling technique was used for sampling.

## RESULTS

The findings of the study revealed that the Pre test mean knowledge score of experimental group & control group were  $16.92 \pm 3.47$  &  $15.56 \pm 3.13$  respectively. The post test mean knowledge score in experimental & control group were  $20.52 \pm 3.29$  &  $16.16 \pm 2.83$ . The Pre test mean skills score of experimental & control group were  $20.21 \pm 2.51$  &  $19.16 \pm 2.32$ . The post test mean skills score of experimental and control group were  $22.92 \pm 2.64$  &  $19.96 \pm 2.42$ . It is indicated that there was significant difference in Pre and post test interventional knowledge score and skills score among staff nurses working in neonatal intensive care at 0.05% level of significance. Hence the research hypothesis ( $H_1$ ) is accepted and null hypothesis ( $H_0$ ) is rejected. The study was found that duration of posting in NICU was found associated with knowledge of staff nurses and age (in years), professional experience and in-service education are significantly associated with skills. So, the study concluded that self instructional module had significant effect on knowledge and skills regarding endotracheal suctioning among staff nurses working in neonatal intensive care unit.

## DISCUSSION

Study was done to assess the effectiveness of self instructional module on Knowledge and Skills Regarding Endotracheal Suctioning among Staff Nurses Working in Neonatal Intensive Care Unit at Selected Hospitals. The investigator utilized purposive sampling technique to select the subjects. The findings were discussed on the basis of demographic characteristics, objectives of the research study and related literature reviewed.

The findings of the study revealed that the Pre test mean knowledge score of experimental group &



control group were  $16.92 \pm 3.47$  &  $15.56 \pm 3.13$  respectively. The post test mean knowledge score in experimental & control group were  $20.52 \pm 3.29$  &  $16.16 \pm 2.83$ . The Pre test mean skills score of experimental & control group were  $20.21 \pm 2.51$  &  $19.16 \pm 2.32$ . The post test mean skills score of experimental and control group were  $22.92 \pm 2.64$  &  $19.96 \pm 2.42$ . It is indicated that there was significant difference in Pre and post test interventional knowledge score and skills score among staff nurses working in neonatal intensive care at 0.05% level of significance.

**Acknowledgement:** I pay my heartfelt thanks to Administrator, Medical Superintendent, Nursing Superintendent and staff of Ankur Hospital, Malhotra Hospital, Doaba Hospital and Sigma Hospital, of Jalandhar. My special thanks to my loving Parents, teachers and my friend Guri whose souvenir of prayers, help, support and encouragement had been a source of inspiration throughout my thesis work.

#### **Ethical Clearance**

1. Written permission was taken from the Principal, S.G.L Nursing College Semi Jalandhar.
2. Ethical clearance was taken from Ethical Research Committee of S.G.L. Nursing College, Semi, and Jalandhar.
3. Written permissions were taken from the Administrators of the Ankur Hospital, Malhotra Hospital, Doaba Hospital and Sigma Hospital.
4. Informed consent was obtained from each study sample.
5. Anonymity and confidentiality of samples was maintained throughout the study.

**Source of Funding:** Self

**Conflict of Interest:** Nil

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# Ethical Perspective of Cancer Pain Management

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## ABSTRACT

The world health organization reports that cancer is not only a problem in developed countries but also in low and middle income countries. It kills more than 7.5 million people in a year and there are 13 million new cases of cancer every year. Among the cancer patients 30- 50 percent are under active therapy, 70-90 percent patients at far advanced disease suffer significant pain which if not treated leads to anxiety and depression which may lead to suicide. Management of cancer pain is the duty and the ethical responsibility of health care personnel.

*Keywords: Cancer, Pain, Duty of Care, Quality of Life*

## INTRODUCTION

There were an estimated 12.7 million cancer cases around the world in 2008 and the number is expected to rise to 21 million by 2030<sup>1</sup>. In cancer, pain is a common and devastating symptom of the disease affecting patients' lives sometimes more than the cancer itself<sup>2</sup>. Cancer pain can occur at any point during the course of the illness<sup>3</sup>. However, the prevalence of pain increases with progression of the disease and its primary site. Other contributing factors include stage of disease, presence of metastases, tendency for bony involvement, proximity of the tumor to neural structures and generation of pain-producing substances by the tumor<sup>4</sup>. Additionally, as cancer is considered as a deadly disease<sup>5</sup>, it is anxiety provoking, which leads to depression. Consequently, the patient's pain increases<sup>4</sup> causing significant physical and psychosocial burdens, markedly impacts the quality of life, and increases the vulnerability in an already vulnerable population<sup>6</sup>. Several studies have demonstrated that cancer patients experience more than one type of pain<sup>4</sup>. However, the cancer pain is

frequently assessed and treated inadequately<sup>7,8</sup> which is an ethical concern<sup>9</sup> because the health care providers have a clear moral duty to alleviate pain<sup>10</sup>.

### Barrier to pain management

A wide range of pain management therapies are available, and evidence shows that 85–90 percent of cancer pain can be controlled by using the World Health Organization's guidelines of pain management. Yet, only 50 percent pain control is achieved in cancer patients. Barriers to adequate pain management have been broadly classified as problems related to health care professionals, to patients, and to the health care system<sup>3</sup>.

In health care professionals' training, in the context of pain management, depth is missing and major medical and nursing textbooks devote only a few pages for pain symptom and control guidelines<sup>3</sup>. The healthcare professionals lack education and training about pharmacology with respect to dosing, timing, alternative routes of administration (such as rectal, subcutaneous, epidural, intrathecal), and converting from intravenous to oral therapies<sup>11</sup>. These professionals lack education especially about the ethical imperative to manage pain and ethical considerations of pain management<sup>12</sup>. Physicians and nurses make decisions that play a major role in cancer pain management, and improvements in their assessment of their patients' pain may result in an adequate analgesic prescription and better pain management<sup>3</sup>. Nevertheless, health care professionals

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are fearful and anxious about regulation of controlled substances. Their concerns about the side effects of analgesics, and fear of patients becoming addicted or tolerant to analgesics have also been identified as barriers to pain management. Additionally, health professionals getting desensitized and developing compassion fatigue are reported as barrier to cancer pain management<sup>13</sup>. A need for improved training in cancer pain management at all levels of professional education is therefore indicated<sup>3,11</sup>.

It has been reported that patients may not complain of pain because they want to be a "good" patient, or they are reluctant to distract the physician from treating the primary disease<sup>3</sup>. Patients may think that pain is an inevitable part of having cancer or they have learnt through their interaction with their physicians that early pain control will lead them to become tolerant to pain medications which will prevent pain control later in the disease. Fear of being addicted to pain medication is another reason for patients being reluctant to take pain medication and in few patients worry about unmanageable side effects can result in their poor adherence to the prescribed analgesic regimen<sup>3</sup>.

Problems related to the health care system include a strict regulatory environment that closely monitors the physicians' prescribing practices. As a result the physicians reduce the drug dose or the quantity of pills to be prescribed; they limit the number of refills, or choose a drug in a lower schedule. This contributes to the under treatment of cancer pain. It is reported that health policy issues related to pain, including cost, access to care, regulatory perspectives, and ethical and legal issues, have been neglected<sup>3</sup>. Although the World Health Organization has had an immense impact in changing policies on cancer pain relief, still today, in many parts of the world, even simple analgesics are not available for cancer pain, let alone morphine which in most cases is required for cancer pain management. Particular to morphine, 80 percent of people worldwide suffering from severe pain lack adequate access to morphine or other opioid analgesics. In around 150 countries morphine is virtually nonexistent<sup>14</sup>.

Consequences of pain are varied. Pain dramatically reduces the quality of life<sup>15</sup>. Persistent pain in patients with cancer interferes with the ability to sleep, eat and concentrate<sup>13</sup>, preventing patients from working, socializing, or caring for their families<sup>13,15</sup>. Depression and anxiety also increase with pain intensity. The

individual's suffering radiates through households and communities, causing stress to caregivers as well as financial hardship for entire families<sup>15</sup>.

The inadequacy of pain treatment is torture and unreasonable failure to treat pain is an unethical and the breach of human rights<sup>13</sup>.

### **Ethical aspects of pain management**

The Hippocratic Oath states "I will keep them from harm . . .", the Declaration of Geneva, states "the health of my patient will be my first consideration". The health professional associations of many countries enunciate a similar ethical basis for the relief of pain. The American Medical Association states that "physicians have an obligation to relieve pain and suffering"<sup>16</sup> and the American Nurses Association's position is that "nursing encompasses . . . the alleviation of suffering . . ."<sup>17</sup>. Hence, pain relief is core of medical ethics<sup>13</sup> and is a classic example of bioethical principle of beneficence. The principle of nonmaleficence prohibits the infliction of harm. Clearly, failing to reasonably treat a patient in pain causes harm; persistently inadequately treated pain has both physical and psychological effects on the patient. Failing to act is a form of abandonment. Whereas, it is indicated that many people would rather be dead than unloved, abandoned and, too often, left in pain<sup>13</sup>.

The bioethical principle of justice, seeking the equitable distribution of health care, is the greatest challenge to inadequate pain management worldwide<sup>13</sup>. Beyond principlism; an approach founded on the strength of a broader principle, a virtue ethics approach to bioethics would also yield a clear response to patients' pain. A virtuous physician would place the recognition, monitoring, and treatment of pain as a high priority. To this end, a virtuous physician would inquire regularly about pain, respond appropriately, and refer wisely if unable to control it. If there is a clear ethical duty to relieve suffering or to act virtuously by doing so, then one may argue about double helix relationships between duty and the right. The moral right to pain management emerges from, and is directly founded upon, the duty of the physician to act ethically. Classically the holder of a right has the capacity to enforce a duty on a person or institution. That "other" has a duty to fulfill that right. Indeed, a basic principle of the philosophy of rights is that a right can only exist if there is a preexisting obligation. If one accepts that a health professional has an obligation,

where appropriate, to manage pain, then the patient has an associated right, where appropriate, to receive such care<sup>13</sup>.

Pain is dehumanizing and isolating. It is reported that the disease can destroy the body, but pain can destroy the soul. Hence, the national comprehensive cancer center practice guidelines describe that if a cancer patient reports pain and requests more pain medication, he or she should receive it. Whereas, it is reported that the possibility of addiction to opioid analgesics has been overestimated and the possibility of prolonged pain relieve for these patients has been underestimated<sup>18</sup>.

Patients who are in need for pain medication may in response to their call bell be attended by a nurse who may enter into the room in a rush, distracted by the demands of the day and fully present. There is also a possibility that the patients may be attended by an expert nurse who understands the place of the person in pain, the essence of the moment, and the complex dynamics intertwined in the patient's request for pain relieving medication.

Nurses also use therapeutic relationships while interacting with their patients and they build expertise through their experience as professional caregivers as well as through their personal experience as human beings. Consequently, nurses use this experience in providing care to their patients. While being in a relationship there are power dynamics nurses may feel themselves in power and patients may feel being powerless however, nurses through their professional code of ethics could prevent the negative implication of the power relationships. It is also important to recognize that while interacting with patients, an intimacy is created which is important to deal the patients humanly yet, it should not override professional relationships between nurses and their patients. Similarly nurses need to be aware to have an intimacy yet to be at a distance while interacting with their patients' family members. Caring relationships between nurses and patients in pain and their family members require commitment, compassion, and presence. Nursing care of those experiencing or witnessing in pain is not just "doing for." It is "being with"<sup>19</sup>.

Nurses approach their patients individuality and treat them as whole person including physical, emotional, psychological and spiritual dimension of life. However, these relations should remain

regardless of patient's age, gender, cultural, religious and social background. Though it may not always be possible but should be emphasized through continuous reminder by nurses to themselves and also through their advocacy for their patients.

It should be acknowledged that pain is a subjective experience and the individuals have different pain threshold. Hence, they instead of being compared with each other should be treated individually and through a non-discriminatory approach.

## CONCLUSION

Pain management in oncology patients is important and is included in the duty of care. Hence the health care personnel should give it a due importance and should manage it accordingly.

**Acknowledgement:** This paper is an output of my PhD in Nursing course work at University of Alberta, Canada and I would like to acknowledge Wendy Austin and Diane Kunyk, instructors, Interdisciplinary Health Care Ethics course; spring, 2013.

**Conflict of Interest:** None.

**Source of Funding:** For my PhD in Nursing, Aga Khan University has awarded me Faculty Development Awards 2012 and University of Alberta Faculty of Graduate Studies and Research has awarded me University of Alberta Doctoral Recruitment Scholarship.

**Ethical Clearance:** No human or animal subject involved

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# Reported Medication Errors Committed by Undergraduate (Four Year BScN) Students at AKU-SoNaM, Karachi, Pakistan

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## ABSTRACT

Medication administration is an important part of the baccalaureate nursing curriculums. Medication errors by undergraduate nursing students have been frequently reported at faculty meetings at the study setting. As per researchers' knowledge, no study has been conducted in the local context so as to identify the medication errors committed by nursing students. A retrospective study was done to identify the reported medication errors, their types and associated factors, through a document review, for the enrolled four year BScN students at Aga Khan University School of Nursing and Midwifery (AKU-SoNaM) for 2010 to 2013.

This study was the first of its kind, which explored medication errors among nursing students in South Asia. The findings will be of importance for nursing students, educators and service providers.

**Keywords:** Medication Errors, Nursing Students, Mathematics, Factors

## INTRODUCTION

Medication administration is an integral part of the baccalaureate nursing curriculums. It requires mastery in two areas: mathematics and pharmacological knowledge. This has been a challenge for undergraduate BScN students to integrate the two subject knowledge, while preparing and administering medications.

It is assumed that learners entering higher education are proficient in mathematics<sup>1,2,3</sup>. In Pakistan, student nurses enter their professional training after twelve years of formal schooling; however, mathematics is part of the curriculum for only the first ten years of the education. Therefore, there is a time lapse of two years from high school to entering professional nursing schools. As mathematical ability is directly related to medication calculation; this in turn

requires a review of mathematical concepts for better integration.

Basic mathematical concepts are introduced in year one of the four-year BScN program. This is subsequently developed further in year two, whereby they are taught an integrated mathematics and pharmacology course, as well as the skills of drug administration. This combination of theory and skill takes place throughout the clinical courses offered over a period of four years in the BScN program<sup>4</sup>.

Nurses play a significant role in medication administration. This is one of the most crucial skills performed in any clinical setting. The steps involved in this process include: reviewing medication prescription, dispensing, preparing, and administering medications.

At the study setting, it has been observed that medication errors by undergraduate nursing students have been frequently reported at faculty meetings. In addition, an increasing number of students have been placed on remediation as a result of committing a medication error. As per the researchers' knowledge, no study has been conducted in the local context so as to identify the types of medication errors committed by nursing students, and the factors associated with

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those errors. In order to fulfill this gap in the existing body of literature, a retrospective study was done to identify the reported medication errors, their types and associated factors, through a document review, for the enrolled four year BScN program students at AKUSoNaM for 2010-2013.

### **Literature Review**

A literature review was conducted to identify the studies on medication errors committed by nursing students. However, only one study was identified, which was conducted on a student group; all other studies that were found were done on staff nurses.

A study was conducted in an American hospital's intensive care unit; out of the total 132 errors identified, they detected four wrong dose errors in the dispensing and 20 in the administration stages<sup>5</sup>. A frequent error detected in most studies was wrong administration rate for intravenous medications<sup>6,17,8</sup>. Administration of intravenous infusions requires accurate calculation of flow rate to be set on syringe pump or other devices. Wirtz et al. conducted an observational study across three wards at two teaching hospitals, one in Britain and one in Germany<sup>9</sup>. The study observed 337 medication preparations, and identified 88 (26%) errors and 278 administrations, identifying 93 (34%) errors. Of the 337 preparations observed, 51 needed a calculation and 6 of these calculations led to dose errors.

A descriptive, retrospective study was conducted exclusively on nursing students to explore the characteristics of medication errors made by them. Fewer than 3% of 1,305 errors caused patient harm<sup>10</sup>. Most were omission errors, or errors of giving the wrong dose (amount) of a drug. Students' performance deficit was the most frequent cause of errors, whereas inexperience and distractions were also major factors. Antimicrobial drugs and Insulin were the medications, whereby students made errors frequently.

Causes identified for wrong dose included illegible prescriptions<sup>11, 8</sup> and inconsistencies in the dose administered and the dose prescribed. Wirtz et al. have also reported that sometimes when patient had no IV access then they were given oral formulations, which resulted in less than desired dose<sup>9</sup>. Moreover, choosing wrong solvent for dissolving medications, using unlabeled drug containers, slower or faster than required rate of IV infusions, not using aseptic methods while preparing medications, and infusing non

compatible medications together through same cannula were some other causes of medication errors. Administering medication earlier or later than the prescribed time was another reported cause of error<sup>6,7</sup>.

Findings of a Pakistani study revealed two major factors associated with medication errors by health care professionals: stress and workload, and the violation of policies that contributed to the medication errors<sup>12</sup>.

Dose calculation and administration errors have been frequently reported to be committed by nurses. In Pakistani context, only two studies have been conducted, that have explored medication errors done by health care professionals at a tertiary care hospital in Karachi. None of the studies have yet explored the medication errors committed by nursing students, in Pakistani context<sup>12, 13</sup>.

### **METHODOLOGY**

The study design was retrospective review of records, and it was aimed at reviewing the medication errors, as described earlier. The study population was defined as all under graduate four year BScN students, enrolled at AKU-SoNaM. Universal sampling was utilized to recruit the sample. Review of records was done through students' advisory files, in which students' academic records are maintained. Medication errors were considered to be any error in drug and dosage calculation, preparation, administration. For this study, near miss errors were also considered.

Permission for data collection was sought from the Dean. Ethical approval was obtained from the university's ethical review committee. Confidentiality was taken care during the data collection. The data was kept in password protected files, and it will be discarded after five years of the study.

Students' advisory files guided the researchers to identify the number of medication errors, types and characteristics of medication errors, trends in reported errors, extent of harm to the patient if any, and actions taken by faculty/administration in response to the errors.

SPSS version 19 was used for data entry and analysis. Descriptive analysis was used to analyse the data.

## RESULTS

The sample consisted of 325 BScN students from 3 admission cohorts i.e. class of 2014 (n = 85), class of 2015 (n = 118), and class of 2016 (n= 122) who had been admitted to the BScN program between 2010 and 2013. The cohort admitted in 2014 has been exempted from the data collection, as medication administration at year one level is not a competency from year I students.

Reviewing the advisory files indicated that out of the total 325 students, seven errors (2.3%) were reported. Out of these seven medication errors, six occurred in different placements during the Adult Health Nursing course (Year II); whereas, one error was reported in Critical Care Nursing course (Year IV). Out of these seven errors, three students (42.9%) did near miss errors and four nursing students (57.1%) did actual medication errors. (Table 1)

**Table 1. Characteristics of Student's Medication Errors**

Characteristics of Medication Error	N	Percentage
<b>Course in which error occurred:</b>		
Adult Health nursing course	6	85.7
Critical Care nursing course	1	14.3
<b>Type of Error:</b>		
Actual	4	57.1
Near miss	3	42.9

All errors were reported on morning shifts on supervised clinical by the faculty. There was no repetition of any medication error by the same student. Errors in the preparation phase were committed by five students (71%). Out of these five preparation errors, four students (57%) did unsupervised preparation of medication, while one student (14.3%) did not read the medical record number of the patient and committed the error (Table 2). In administration phase, one error (14.3%) occurred due to use of wrong route, one error due to wrong dose, three errors (42.9%) occurred because of unsupervised administration. One error (14.3%) was identified when the student was about to administer without supervision, one error (14.3%) occurred because of lack of manual dexterity for intra venous administration.

Errors occurred in different nursing units that is 28.6% in medical units, 14.3% in Emergency room, 14.3% in operation room/recovery room. Most errors i.e. 42.9% occurred in surgical units.

Furthermore, the source of error reporting was also explored. It was found that two errors (28.5%) were

reported by the student herself/himself, four errors (57.1%) were reported by the faculty and one error (14.3%) was reported by the unit staff.

Insulin drug related errors (42.9%) were most frequently occurring. Whereas, the percentages of error occurrence in other drugs' preparation and administration were as follows: intravenous antibiotics 14.3%, Ventolin nebulizer 14.3%, analgesics and blood thinner 14.3%, and per oral Proton pump inhibitor and antibiotic 14.3%.

The common routes of medication administration errors were: intra muscular 14.3%, subcutaneous 14.3%, nasogastric tube 14.3%, and nebulizer 14.3%. The rest of the 42.9 % errors were near miss and therefore no routes were involved. (Table2)

**Table 2. Route of Medication Errors**

Route in which medication error occurred	N	Percentage
Intramuscular	1	14.3
Subcutaneous	1	14.3
Nebulizer	1	14.3
Nasogastric tube	1	14.3
Not applicable as medicine not administer	3	42.9

As far as consequences of medication errors are concerned, no harm occurred to the patient at all. In response to the most medication errors reported in this study, faculty had taken the action of remediation for five students (71.4%, who successfully completed the remediation) and preparation of a file note for two students (28.6%).

Three out of seven files reviewed included a justification of the error by the students themselves. The students' accounts indicated that some environmental factors played a significant part in provocation of the error. The environmental factors reported were: increased patient acuity (14.3%), stress due to attendant's shouting (14.3%), and insistence by staff (14.3%). The remaining files(57.1 %) did not have any information by the students.

## DISCUSSION

The current study showed that the reported medication errors occurred in the preparation and administration phases; the most common reasons of errors were found to be use of wrong route, wrong dose, and lack of manual dexterity.



Another important reason of medication error identified in our study was unsupervised preparation and administration of medications. The nursing students are only eligible to prepare and administer medications under faculty supervision. In the current study, three out of seven students violate this rule. Nursing students are only allowed to perform medication related skills under supervision because they are still under training and are learning medication related knowledge and skills; hence, they are legally not accountable for their actions yet<sup>14</sup>. Therefore, preparing and administering medications without faculty supervision is deemed as a potential error.

Six out of seven errors were committed by second year students; whereas, one error was committed by a fourth year student. These were quite expected findings, as second year is the first time students learn to administer medications. Pharmacology and drug calculation related knowledge is also new for them at this stage. Whereas, fourth year students are more equipped with this knowledge. They also become familiar with the policies of drug administration, over the four years of nursing education. Therefore, it is more likely for the second year students to commit errors.

In the current study, about 43% medication errors occurred with Insulin. It is commonly reported in the literature too; one third of life threatening errors are related to Insulin. In case of Insulin, accurate doses and timely administration is very important, and failure to do so, leads to errors<sup>15</sup>. A Vietnamese study reported that in about one third of Insulin administration instances, errors were found such as missed, late, wrong doses, and wrong drug<sup>16</sup>.

Furthermore, in the present study, most medication errors occurred in medical surgical units. This finding is in line with the findings of a study conducted in an American university<sup>10</sup>. Since most novice students are assigned in medical surgical units, therefore, more errors occurred there in comparison to the critical care areas where usually final year students are assigned for their clinical.

In the current study, most errors were reported by the faculty; only in two instances, the student reported the error. Literature also supports the fact that nurses or nursing students, hesitate in reporting the error themselves. The reasons of non-reporting include: fright of disciplinary action, not being able to report

anonymously, and also thinking that error reporting is not necessary<sup>17</sup>.

Additionally, in the current study, for all of the errors, no harm occurred to the patient; faculty immediately identified and rectified the error before any harm, and conducted the remediation of medication errors, which includes devising a learning contract or plan for the student with specific objectives, and vigilantly observing and intervening with the student to work on their identified areas of improvement. Similar actions were reported in which counseling and educational interventions were done with student so that learning may take place<sup>10</sup>.

Current study identified environmental factors as: increased patient acuity, stress due to attendant's shouting, and insistence by staff. Increased patient acuity and increased number of medications to be administered have been identified as sources of error<sup>10</sup>. In the context of the current study, staff tried to influence students because of the power associated with their designation, and may have insisted students to administer medications, to manage their own workload.

## CONCLUSION

This study was the first of its kind, which explored medication errors among nursing students in South Asia. The findings will be of importance for nursing education and service providers. However, this study was limited by the mode of data collection i.e. review of records, which restricted the depth of information retrieved. Also, only one setting was used for data collection, which limits the scope of the study. Based on this limitation, the researchers have embarked upon a phase two studies on medication errors, employing multiple methods of data collection.

## RECOMMENDATIONS

These findings urge educators to prepare students for identifying such situations and managing them appropriately. Student's anxiety was one of the important personal factors, identified in the present study. This draws nurse educators' attention towards applying strategies that reduce students' anxiety on clinical, especially during medication preparation and administration.

Nursing faculty need to promote a healthy environment to minimize the power game between

nursing services and school of Nursing. They need to increase more collaboration so that the students feel comfortable to report medication errors, if committed. Ongoing sessions about medication safety and administration should be offered throughout the four year baccalaureate curriculum.

**Acknowledgement:** Nil

**Ethical Clearance:** Mentioned in text.

**Source of Funding:** Self

**Conflict of Interest:** Nil

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# A Descriptive Study to assess the Anger and Coping Behaviours Adopted by Nursing Students in a Selected Institute, Ludhiana, Punjab

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## ABSTRACT

**Introduction:** Anger is an internal, mental, subjective feeling state with associated cognitions and physiological arousal patterns. It is an emotional state that consists of feelings that vary in intensity, from mild irritation or annoyance to intense fury and rage. Anger overcomes us when something goes wrong or we think something has gone wrong. Anger can lead to problems in work, in one's personal relationships, and in the overall quality of one's life. (Butter F, 2005)<sup>1</sup>

**Aim of the study:** To assess the anger and coping behaviours adopted by Nursing Students and to prepare the guidelines on adaptive coping behaviours.

**Material and Method:** Quantitative research approach was used to assess anger and coping behaviours among students of selected nursing institute, Ludhiana Punjab. Non-Experimental research design was utilized. The sample size for the study was 210 nursing students selected by simple random sampling technique. Modified State Trait Anger Expression Inventory (STAXI) tool was used to assess the Anger and structured Coping behaviours checklist was used to assess the coping behaviours adopted by students.

**Results:** Majority of students (53.8%) had mild level of anger followed by (42.4%) had moderate level and minimum (3.8%) had severe anger. Majority of students (84.8%) had adaptive coping behaviours for anger whereas (15.2%) students had maladaptive coping behaviours. There was negative correlation (-0.559) and inverse relationship between anger and coping behaviours. Hence higher the anger lowers the coping behaviours.

**Conclusion:** Present study revealed that maximum number of nursing students had mild anger and adaptive coping behaviours. There was moderately negative correlation between anger and coping behaviours. There was statistically significant effect of anger with selected variables like year of study, and type of family. There was statistically significant effect of coping behaviours with selected variables like age, year of study, and religion.

**Keywords:** Anger, Coping Behaviour, Nursing Students

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## INTRODUCTION

All of us have experienced anger, Anger is completely normal usually healthy, human emotion. Anger often serves adaptive functions, such as motivating the individual to take protective action, achieve goal or overcome obstacles. Anger is an

internal, mental, subjective feeling state with associated cognitions and physiological arousal patterns. It is an emotional state that consist of feelings that vary in intensity, from mild irritation or annoyance to intense fury and rage. But when it gets out of control and turns destructive and leads to problems. Anger overcome us when something goes wrong, or we think something has gone wrong. Anger can lead to problems in work, in one's personal relationships, and in the overall quality of one's life. (Butter F, 2005).<sup>1</sup>

Emotion-focused strategies involve releasing pent-up emotions, distracting oneself, managing hostile feelings, meditating, using systematic relaxation procedures, etc The feeling of anger may differ from person to person. Women, are more likely to describe anger slowly building through the body rate, while men describe it as a fire or a flood raging within them. Apart from personality traits, people also tend to develop habitual modes and methods of managing anger and coping with upsetting emotions. These habitual methods help people to manage and defuse stressful situations they find themselves in, but they are not all equally efficient at this task (Tomas, 2008).<sup>2</sup> The risk factors are depression, anger, aggression, anxiety and helplessness and lack of social support (Jogeum L, 2009).<sup>3</sup>

The investigator often experienced that there is lot of burden in nursing students and more stress of parents expectations so they feel more angry and are unable to cope with these angry feelings. These anger provoking events might effect the physical and mental health of the students so there is need of study to assess the anger and various coping measures adopted by nursing students. This study will help the various students to recognize the problems and maladjustment during learning period in hostel and hospital environment and they can be helped to cope with these anger provoking situations.

### OBJECTIVES

- 1.. To assess the anger among nursing students.
2. To identify the coping behaviours adopted by nursing students.
3. To ascertain the relationship between anger and coping behaviours of nursing students.
4. To determine the relationship of the anger and coping behaviours adopted with selected variables like age, gender, year of study , type of course ,

birth order, type of family, family income, number of roommates, and religion.

5. To identify the maladaptive areas in coping behaviours and prepare the guidelines on adaptive coping behaviours for students.

### MATERIALS AND METHOD

Descriptive research approach to assess anger and coping behaviours among students of selected nursing institute Ludhiana, Punjab. Non – experimental research design was utilized to achieve that stated objectives. The present study was conducted in college of Nursing Christian Medical College & Hospital, Ludhiana, Punjab. The present study population comprises of nursing students studying in 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> of B. Sc (Nursing) and 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> of G.N.M. At the time of data collection there were no G.N.M interns. The sample size for the study was 210 nursing students. The simple random sampling technique was used.

Modified tool State Trait Anger Expression Inventory (STAXI ) was used to assess the Anger and structured Coping behaviours checklist was used to assess the coping behaviours adopted by students. The data was analyzed by using the descriptive and inferential statistics. . In inferential statistics Karl Pearson's coefficient of correlation (r), z- test and ANOVA (F) to know the variation between and within the group were used. Results of study were shown in the form of tables and figures. The level of significance chosen was  $p < 0.05$ .

### Independent & Dependent Variables

- a) **Independent variables:** Age, gender, year of study, type of course, birth order, type of family, family income, number of roommates, religion.
- b) **Dependent variables:** Anger and coping behaviours

### Description of tool

Modified tool State Trait Anger Expression Inventory (STAXI) by, Spielberger is to assess the anger and structure tool for coping behaviours were used.

The following tools were used to collect data for present study.

Part 1- Sample characteristics

Part 2- Modified tool State Trait Anger Expression Inventory (STAXI).

Part 3- structured Coping behaviours Checklist.

## Ethical Consideration

Approval from the ethical and research committee of College of Nursing, Christian Medical College & Hospital was taken to conduct a descriptive study on students. Prior to data collection written permission was obtained from the Head of College of Nursing, Medical College, Ludhiana. An informed verbal consent was taken from the subjects before collecting the data.

## RESULTS

**Table 1: Frequency and Percentage Distribution of Demographic Characteristics of sample**

N= 210

Characteristics	n	%
<b>Age in years</b>		
a. 17-19	63	30.0
b. 20-22	136	64.8
c. >23	11	5.2
<b>Gender</b>		
a. Male	32	15.2
b. Female	178	84.8
<b>Year of study</b>		
a. B.sc 1 <sup>st</sup> year	30	14.3
b. B.sc 2 <sup>nd</sup> yr	30	14.3
c. B.sc 3 <sup>rd</sup> yr	30	14.3
d. B.sc 4 <sup>th</sup> yr	30	14.3
e. G.N.M 1 <sup>st</sup> yr	30	14.3
f. G.N.M 2 <sup>nd</sup> yr	30	14.3
g. G.N.M 3 <sup>rd</sup> yr	30	14.3
<b>Type of course</b>		
a. B.Sc (N)	120	57.1
b. G.N.M	90	42.9
<b>Birth order</b>		
a. 1 <sup>st</sup>	106	50.5
b. 2 <sup>nd</sup>	74	35.2
c. 3 <sup>rd</sup>	22	10.5
d. 4 <sup>th</sup>	8	3.8
<b>Type of family</b>		
a. joint	34	16.2
b. Nuclear	176	83.8
<b>Characteristics</b>		
<b>Family income(per month)</b>		
a. <10,000	52	24.8
b. 10,000-15,000	67	31.9
c. > 15,000	91	43.3
<b>Number of room mates</b>		
a. 1	147	68.62
b. 2	1	0.48
c. 3	-	-
d. >3	-	-
e. None	62	30.52

**Table 1: Frequency and Percentage Distribution of Demographic Characteristics of sample (Contd.)**

N= 210

Religion		
a. Hindu	18	8.6
b. Sikh	32	15.2
c. Christian	160	76.2
d. Muslim	-	-
e. Others	-	-

Table 1 shows that maximum students were in age group of 20-22 years, were female students, and were B.Sc. (Nursing), of 1<sup>st</sup> birth order, and were from nuclear family, with family income of Rs. >15,000, having 1 roommate and were Christians.

### Findings related to the assessment of the anger level among nursing students

N=210

Anger Levels	Nursing Students		
	Score	n	Percentage
Mild	< 89	113	53.8
Moderate	89-113	89	42.4
Severe	> 113	8	3.8

Frequency and Percentage Distribution of Nursing Students according to Levels of Anger

Maximum Anger Score = 176

Minimum Anger Score= 44

Table 2 depicts that maximum students (53.8%) had mild level of anger followed by 42.4% students had moderate level of anger and least in (3.8%) severe level of anger. Therefore, it was concluded that majority of students had mild level of anger.

### Finding related to assessment of coping behaviours adopted by nursing students

**Table 3: Frequency and Percentage Distribution of Coping Behaviours Score of Nursing Students**

N =210

Coping Behaviours	Nursing Students		
	Score	n	Percentage
Adaptive	> 19	178	84.8
Maladaptive	≤ 19	32	15.2

Maximum Coping Behaviours Score=38

Minimum Coping Behaviours Score=0

Table 3 depicts that majority of students (84.8%) had adaptive coping behaviours for anger whereas 15.2% students had maladaptive coping behaviours. Thus it was concluded that maximum students had adaptive coping behaviours to overcome the anger.

**Table 4: Relationship Between Anger and Coping Behaviours Score of Nursing Students**

N= 210

Relationship Between	Anger and Coping Behaviours Score		
	Mean	SD	r
Anger & Coping Behaviours	88.69	12.07	-0.559
	25.13	4.21	

Maximum Anger Score=176

Minimum Anger Score=44

Maximum Coping Behaviours Score = 38

Minimum Coping Behaviours Score = 0

Table 4 reveals that mean anger score of nursing students was 88.69 and mean coping behaviours score was 25.13 and there was a moderate negative correlation (-0.559) between anger and coping behaviours. Hence finding suggested inverse relationship between anger and coping behaviours in nursing students, indicating that if anger increases coping behaviours decreases.

Findings related to relationship of the anger and coping behaviours adopted with selected variables like age, gender, year of study, type of course, birth order, family income, number of roommates, and religion.

- Mean anger score was higher (64.80) among students with age group of 20-22 and least in age group of >23 years (5.20). Though the mean anger score decrease as age advances, yet there was no significant difference in mean anger score of students with respect to their age. There was significant difference in coping behaviours score of students with respect to their age. There was significant difference between mean anger score of students with respect to their year of study.
- There was significant difference between in mean coping behaviours score of students with respect to their year of study. There was significant difference in anger score of students with respect to their family. Mean coping behaviours score was higher (27.28) among hindu students and least in christian students (24.71). The difference was significant difference in coping behaviours score of students with respect to their religion.

Frequency and Percentage Distribution of Nursing Students according to Coping Behaviours

Nursing students do have maladaptive areas in coping behaviours. Maximum (82%) nursing students had negative coping behaviours in item 22 (I throw and break things), followed by 52.85% in item 9 (I sit in isolation), 51.9% in item 4 (I start crying) and 50.95% in item 10 (I deny anger and stuff feelings). Nursing students do also had positive coping behaviours. Maximum (99.5%) in item 1 (I pray to God) whereas only 9.04% (do yoga and meditation (item 2) 11.42% (start reverse counting from 100 to 1 item 32), 15.71% Nursing students feel to make diary (item 25), 25.23% Nursing students seek assertive training (item 31), 49.04% of Nursing students read novels, story books etc (item 6). Hence it was concluded that Nursing students had maladaptive coping behaviours in the above areas.

## DISCUSSION

In the present study it was concluded that Majority of students (53.8%) had mild anger followed by 42.4% had moderate level and least i.e 3.8% had severe anger.

These findings supported by Dale J Terasaki, Bizu Gelaye( 2009)<sup>4</sup> who found that minority of students had high levels of anger-expression. Furthermore, to support the findings in study by Kernis & Michael,H (1999)<sup>5</sup> reported that stability and level of self-esteem was more and lesser was anger and hostility in maximum students. The finding revealed that students had adaptive coping behaviours.

These findings supported by Martyn C. Jones (1997)<sup>6</sup> in his study the use of direct coping was associated with lower levels of distress. Furthermore, to support the findings in study by Mahat G (1996)<sup>7</sup> . The finding revealed that there was moderately negative correlation (-0.559) and inverse relationship between anger and coping behaviours. Thus it was concluded that if anger increases, coping behaviours decreases. This was supported by Kathryn R. Puskar (1999)<sup>8</sup> who reported moderate negative correlation was found between depressive and anger with coping styles.

## CONCLUSION

Present study revealed that maximum number of nursing students had mild anger and adaptive coping behaviours. There was moderately negative correlation

between anger and coping behaviours. Finding revealed that there was inverse relationship between anger and coping behaviours. There was statistically significant effect of anger with selected variables like year of study, and type of family. There was no statistically significant effect of anger with selected variables like age, gender, type of course, birth order, family income, number of roommates, and religion. There was statistically significant effect of coping behaviours with selected variables like age, year of study and religion. There was no statistically significant effect of coping behaviours with selected variables like gender, type of course, birth order, type of family, family income and number of roommates.

**Acknowledgement:** I wish to extend my sincere gratitude to the nursing students who participated as subjects, without whose cooperation I could not have undertaken and successfully completed this study

**Source of Funding:** Self.

**Conflict of Interest:** Nil

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# Discourse Analysis of Online Discussion Forum of Undergraduate Nursing Student's Perceptions and Observations about Elder Abuse in Society

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## ABSTRACT

**Introduction:** This paper discusses the perceptions and observations of undergraduate nursing students about elder abuse, observed during their clinical rotation while enrolled in Care of Elderly Course. Elder abuse is an act of harming elder individuals either intentionally or unintentionally.

**Method:** Retrospective descriptive study design was used to analyze the discourse on Online Discussion Forum (ODF) to understand students' perceptions and observations about elder abuse in society.

**Findings:** The discourse analysis revealed the data in three major themes including the causes, types and the prevention of elder abuse. Under the three major themes, participants reported several types of elder abuse including: physical, sexual, emotional, financial exploitation; neglect; abandonment; and self-neglect. These are reported to be due to diverse priorities, brain drain and lack of understanding of the care of elderly people. In consideration to these findings, the suggested strategies included appropriate program planning, caregiver empowerment with knowledge and skill, and government attention in developing laws and Acts to protect the rights of elderly individuals.

**Conclusion:** The study findings clearly highlight the issues that need attention at individual, community and national level to improve quality of life for elderly population in society.

**Keywords:** Elder Abuse, Mistreatment, Neglect, Ageing, Discourse Analysis

## INTRODUCTION

This paper discusses the perceptions and observation of undergraduate nursing students about elder abuse, observed during their clinical rotation while being enrolled in "Care of Elderly" course. Today the world is tackling with high toll of ageing population. Universally, longevity has a unique face with the major concern to relocate resources to address

issues associated with ageing. Global population of elderly is nearly 600 million which may be doubled by 2050. Amongst the total aged population, 1.2 of 1.5 billion older people dwell in developing countries. [1][2] Ageing, as a demographic change, requires mindful planning and redistribution of resources to address the health and wellbeing of population especially elderly. The phenomenon is most obvious in developing world due to prevailing vicious cycle of poverty, illiteracy alongside the poor state laws and political instability. [3][4][5]

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Under these circumstances elder abuse is one of the key issues encountered due to brain drain, isolation, lack of knowledge in caring for elderly and diverse family commitments could be some of the reasons leading to elder abuse. According to World Health Organization, elder abuse prevalence ranges from 1% - 35%; several factors including, the ethnic



group, setting and the resources accounts for the wide range for elder abuse.<sup>[5]</sup>

## Literature review

### Elder abuse

In this paper, elder abuse will be used alternatively with elder mistreatment and maltreatment. WHO defines elder abuse as an act of harm to an elder person, intentionally or unintentionally either physically, mentally, socially, sexually etc. This is usually due to unmet needs from the caregiver which leads to distress to an elder person. The National Centre on Elder Abuse, USA defines seven different types of elder abuse physical abuse; sexual abuse; emotional abuse; financial exploitation; neglect; abandonment; and self-neglect. The issue in developing countries is mostly underreported, especially being abused by a family member, due to cultural restriction, maintaining family respect and fear of revenge by the ABUSER/caregivers.<sup>[6][7]</sup>

### Elder abuse in national and global context

Caring, nurturing and reverence for elder people have been the key attributes of Pakistani population. Unlike developed countries, elders are cared for at home by their family caregivers. However, the scenario is changing with the passage of time and fast paced life; elders are left in isolation and neglect. Several factors account for the given scenario, the most significantly observed factors are: poverty, illiteracy, nuclear families taking over joint family systems, and above all is the brain drain.<sup>[8]</sup>

### Impact of abuse on elderly population

As ageing is a normal lifecycle stage, therefore problems associated with it are not considered an issue.<sup>[4]</sup> However with the passage of time and growing health and psychological issues resulting from changes in family structure and personal commitments raises issues in various domain of life. These are leading impact on elderly wellbeing and quality of life; they undergo depression and anxiety leading to higher level of psychological issues<sup>[5]</sup>.

With the change in lifestyle, brain drain intentional or unintentional neglect raises questions such as: is it a social issue. Lowenstein (2009) suggests that it is a fundamental kind of abuse and demands for the action. He further suggests that it is a multidimensional issue; and it needs multidisciplinary attention from all spheres of life.<sup>[9]</sup>

## METHOD

### Study Design

Aga Khan University School of Nursing and Midwifery (AKUSONAM) offered "Care of Elderly" course in summer 2013 to undergraduate nursing students as an elective course. It was offered on hybrid model including several face to face classroom teaching sessions and Online Discussion Forums (ODFs) for the period of six weeks. Retrospective descriptive study design was used to collect the data. The script of the ODF on elder abuse was used for discourse analysis for the posts of participants who consented to participate in the study.

### Study Setting, Population and Sampling Method

The study participants were the course enrollees; they were recruited by using universal sampling technique. Those participants were part of the sample that consented to participate in the study. Participants' confidentiality, anonymity and privacy are ensured by assigning them pseudonyms and letter codes for anonymity purpose.

### Data Collection and Analysis

Participants' demographic data was obtained through the demographic data form developed by researchers. Discourse analysis was applied to record participants' perceptions and observations on ODF on elder abuse.

## FINDINGS

### Participants' Demographic Data

Majority of the participants enrolled in Care of Elderly course were females as compared to males. Amongst them most participants reported an adequate comfort level in using computers. On the contrary only few participants had past exposure of online learning environment; however majority had shown comfort in the use of Moodle to generate online discussion forums. This was later verified by the nature and quality of discourse in several ODFs.

### Discourse analysis of ODF

Participants who consented to participate in the study; their posts from ODF were selected to analyze their perceptions and observations on elder abuse. The discourse revealed four major themes that were discussed in ODF including: the causes, types impact of mistreatment and modalities of preventing and

managing elder abuse. While discussing the causes of elder abuse role of caregivers both family and institutional was significantly under discussion, in addition to the self-neglect as another source of mistreatment.

While sharing the observation and majority of participants stated that they have either read or witnessed lack of awareness exists amongst caregivers in care of elderly parent of patient, as the major cause of the mistreatment of elderly people. Secondly financial constraint (low wages) of institutional caregivers was significantly reported by some of the participants. Whereas, poverty induced financial constraint of family caregivers was also reported as one of the major bottle neck resulting in elder abuse. This was especially a concern when it comes to managing chronic illnesses while caring for sick elderly parent. Moreover, brain drain was another concern reported as a leading cause for old parents being neglected in the absence of caregiver. The most significantly discussed causes discussed in the discourse included were age related degenerative changes especially frailty, and cognitive impairment in addition to the chronic illness; these changes makes elderly prone to be a victim of the circumstances.

Participants were very cognizant in their discussion while talking about the types of mistreatment of elderly whether in community or institutional settings. In addition to self-neglect as a type of abuse, participants reported elder abused as physical, emotional, verbal and financial restrictions. Some cases observed by study participants were reported anonymously. In a long term care facility, a caregiver pushed elderly client in bed for not obeying to stand on feet; he was asked to stay back if he cannot walk to the dining area. In another scenario a client asked to give away her personal belonging to the caregiver; the client with no choice did so hoping for good care in exchange.

Another case of neglect by family was also significantly discussed in the discourse; this was of an eighty five year old male living with his son and his family. This gentleman was reported to be living in despair especially after losing his spouse. He used to be the bread winner and the sole decision maker in the family; post retirement he stayed home along with his son's family. In the current circumstances, he had to cope up with the verbal abuse from the family members, lack of age appropriate meals and its timings and isolation. He verbalized that this life is totally opposite to what he lived; therefore he chose to isolate

himself from his family. He spent most of his time in his room alone or at the religious place. He did not talk to anyone and waited for his death.

Participants also discussed on the underreporting of elder abuse cases due to cultural reasons and lack of access to report. Furthermore, most of the participants reported lack of training to both family and institutional caregivers is the key in the given scenario and this needs to be addressed at individual, community and national level. Above all, there has been discussion on the lack of government laws and policies on protection of rights and abuse of elderly in Pakistan. The discourse also pointed out the constitution of Pakistan which doesn't address or support the rights of elderly in particular.

## DISCUSSION

The growing number of ageing population demands for action with respect to protecting their rights, equity in health care and other services; hence the economic crisis has affected population in general and elderly in specific. This is significant because ageing is associated with retirement from workforce and financial deprivation.<sup>[3]</sup> However, some elderly may continue to do the petty jobs to earn livelihood, yet the majority of other suffer through lack of resources leading to poor living conditions. Moreover the situation is worst if the elderly who are financially deprived, they are further tortured by the loved ones, including their children and other family members.<sup>[3][10][11]</sup>

In the existing scenario, non-existent or poorly communicated governmental schemes for the welfare of elderly and poor social support network, creates havoc leading to poor quality of life for elderly today. The Old Age Benefit Scheme 1976 was launched for the financial maintenance of elderly in their later life for both the formal sector employees and self-employed individuals<sup>[12]</sup>. Although the scheme may be very good, but the observations infer that the elderly face challenges to collect their pension; in addition the people who are self-employed and not covered under this Act, do not even know if such scheme exists. Moreover it is also observed that pension is mostly consumed by the family members. Unfortunately elderly who have spent their life contributing to the welfare of family and society in most cases, they are suffering and with a declined quality of life, and are the victims of exploitation. Hence, they are equally eligible to reverence and protection of their rights. The

phenomenon is very common where elderly are trapped into the web of poverty, ignorance and illiteracy; this results in silent death or living in despair. Beside Old age Benefit, the Zakat and Ushr Act 1080, though it implicitly supports the poor and needy people, but doesn't address the needs of elderly.

Furthermore, Article I of Universal Declaration of Human Rights deliberates on the concepts of freedom, equality, dignity and rights for all.<sup>[13]</sup> If human rights declare the word "all", elderly are also inclusive. Additionally, Pakistan being an Islamic state is a welfare state as reflected in Article 38D and 14 of Constitution of Pakistan, which promises the social safety net and endorses provision of basic necessities of life including food, housing, clothing education and health, without any discrimination on the basis of gender, race, color or creed etc.<sup>[14][15]</sup> The given scenario raises concern for the well-being of elderly and demands for reviving the culture of reverence and respect for elderly.

Some maltreated or abused cases were discussed in ODF discourse, which represents the changing culture of reverence and respect for elderly individuals in society. Such behaviors leave great impact on physical and psychological health of elderly individuals. Hence being abused can lead to agony and sufferings, both physically and emotionally. Elderly find it much depressive because of being frail, weak and less empowered, physically and financially. Some of them also demonstrate withdrawal behaviors and isolate themselves leading to further depression.<sup>[16]</sup>

## CONCLUSION

Elderly have equal rights as per Universal Declaration of Human Rights and Constitution of Pakistan. They have the right to live quality of life, right to be respected, right to access to health service and right to breathe clean air, not being dumped in a long term care facility or left in isolation. In consideration to the above findings, special focus should be on follow-up of the pending Bill for the welfare of Senior Citizens. The passing of the Bill into an Act will take care of most issues and challenges faced by elderly. In addition, community support groups should also be considered as a strategy to overcome the challenge of limited national resources. Caregivers' community support programs are of great importance to empower them with knowledge and

skills.<sup>[1]</sup>

Another area which enhances elder abuse is the mushrooming of private old age homes; those needs special attention in three key areas including: registration/licensing, quality of services and the academic preparedness of the care givers. Although at the moment in Pakistan, we are unfortunate of not having special trainings for the care givers, therefore academia and public sector should pay attention to the growing need of preparing caregivers in the care of elderly. Moreover, along with the trained personnel, special wards for sick elderly should also be considered in hospitals, in both private and public sector.

## Limitations and Recommendations

There were not many limitations in this study as the study participants were very keen on highlighting the issues of elderly in their discourse and sharing of experiences. However, as this topic was only delivered to one group of course enrollees, therefore the number of study participants falling within the group was less which led to fewer responses. Secondly, participants' limited exposure to the geriatric work settings was another limitation. Though the participants well managed the discourse using their personal experiences; yet greater clinical exposure could have given much richer data.

**Acknowledgement and Source of Funding:** AKUSONAM's Care of Elderly course team for supporting in course development and delivery. Special thanks to Ms. Saleema Allana for a critical review of the paper.

**Conflict of Interest:** None in this study

**Ethical Clearance:** Taken from AKU ERC .

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# A Comparative Study to assess the Knowledge Regarding Impact of Television on Children among Parents at Selected Rural and Urban Areas of District Jalandhar, Punjab, 2014

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## ABSTRACT

The study was conducted to assess the knowledge regarding impact of television on children among Parents from selected areas of district Jalandhar, Punjab. Comparative study was done. A total 200 samples were selected who were having children 6-12 years of age from selected areas by convenience sampling technique. Data was collected by questionnaire. Among Parents, Urban Parents have more knowledge than Rural Parents. Pamphlets were provided to parents to enhance the knowledge regarding impact of television on children.

### Objectives

1. To assess the knowledge regarding impact of television on children, among parents in selected rural areas of district Jalandhar, Punjab
2. To assess the knowledge regarding impact of television on children, among parents in selected urban areas of district Jalandhar, Punjab
3. To compare the knowledge regarding impact of television on children, among parents in selected rural and urban areas of district Jalandhar, Punjab
4. To find out the association between knowledge regarding impact of television, among parents with selected socio-demographic variables.

### Methodology

**Design:** Non experimental (Comparative Design)

**Setting:** Urban and Rural areas of District Jalandhar, Punjab

**Population:** All Parents who were having children 6-12 years of age

**Sample size:** Total of 200 Parents (100 from rural and 100 from urban area) of district Jalandhar, Punjab

**Sampling techniques:** convenience sampling technique.

**Results and conclusion:** Findings of the study has shown that in rural area mean knowledge score was 14.42 and Urban area mean knowledge score was 16.10, hence the mean knowledge score differences are significant, test value 't'=4.2969, hence concluded that Urban Parents have more knowledge than the rural Parents

**Keywords:** "Knowledge", "Parents", "Impact of television"

## INTRODUCTION

According to Dr. Haim Jinott "Children are like wet cement. Whatever falls on them makes an impression"<sup>1</sup>. The media is one of the greatest events of technology obtained in past centuries, which is continuing to grow and evolving day by day. There is a lot of benefits that could be used in all areas whether social, political, economic, or recreation. The print media includes newspaper, magazine, book and electronic media includes television, radio, video, internet, and computer games.<sup>2</sup> The television is a landmark of scientific invention and an amazing device that has become an integral part of our life and it has revolutionized the world of communication. According to same studies children at the age of 6 years watch television daily for 3-4 hours on an average.<sup>3</sup> The increasingly competitive economy is creating an environment where parent are forced to spent longer hours at work and fewer hours with their children. As a result, outside influences have greater access and influence over our children than ever before. The internet and the media are bringing the outside world into your home. It influence the children every day and leads to the negative effects<sup>4</sup>Television will escapes the children from real life and enter into a fantasy world and it inactivates the study image of school children and television will avoids the social interaction with others and also it's a time consuming activity. Television breeds distraction instead of playing outside, doing homework, house hold or religious duties, children's are glued to the television box. It has been estimated that by the time a person reaches the age of 25 years, he will have given up 5 years of his life to watching television.<sup>5</sup>Childhood obesity a growing public health concern, with countries reporting an increase in rates over the last two three decades. World Health Organization, 2003. In Australia, the number of obese children from approximately 1% in 1985 to 5% in 1995.<sup>6</sup> An increase in television viewing results in a reduced expenditure through inactivity and increased consumptions of foods, in response to food advertising and more opportunities for snacking.<sup>7</sup> The researcher has seen neighbor's child who spend lot of time in viewing television, playing video games and continuously computer use due to which in early school life the child suffered with physical strain, stress, violent behavior, visual problems, dietary problems, headache, backache, burning eyes, neck and shoulder pain and nearsightedness. The child performed poor at studies,

poor social interaction, and blurred vision, use of spectacles in early childhood. From this experience the researcher thought of taking the task of assessing the knowledge of school children under the age group of 6 - 12 years, regarding hazards of continuous computer use and television viewing.

## MATERIALS AND METHOD

The study was conducted in urban and rural areas of district Jalandhar, Punjab i.e. Rural Area

Village Kot khurdh, Phulriwal, Dheena, and Urban areas Bargocamp, Abhadhpura, Makhdoompura, of district Jalandhar, Punjab to assess the knowledge regarding impact of television on children among Parents in selected areas of district, Jalandhar, Punjab, 2014.

Non experimental comparative design was adopted and 200 sample: 100 from Rural areas and 100 from Urban areas of district Jalandhar, Punjab by using convenience sampling technique.

## RESULTS

The first objective revealed that maximum 75(75%) of parents had average knowledge regarding impact of television on children in rural area followed by 23(23%) had good knowledge and 2(2%) had poor knowledge.

The second objective revealed that urban area maximum 57(57%) parents had average knowledge regarding impact of television on children, 43(43%) of them had good knowledge and no parents had poor knowledge.

The third objective revealed that rural area mean knowledge score was 14.42 while in urban area mean knowledge score was 16.1 regarding impact of television on children among parents. Urban parents have more knowledge score than the rural parents. so there was significant relation because relation because calculated 't' value 4.2969 is more than the tabulated 't' value.

The fourth objective revealed that that there is influence of education on Rural parents regarding impact of television on children as compare to Urban Parents at  $p > 0.05$  level of significance. Hence this socio demographic variable shows association with knowledge regarding impact of television.

## CONCLUSION

The findings of the study has shown that in rural area 75% of Parents had average knowledge, 23% Parents had good knowledge and 2% Parents had Poor knowledge, while in urban area 57% Parents had average knowledge, 43% of Parents had good knowledge.. These figures show that the urban Parents have more knowledge than rural Parents regarding impact of television on children ..

Study conclude that Urban Parents have more knowledge than the rural Parents .So, there is still need to encourage the Parents regarding impact of television on children though education .

In Rural area Significant association was found between knowledge of Parents regarding impact of television on children with selected variable like education status while in urban area no Significant association was with selected variables.

## DISCUSSION

In this section the investigator interpretively discusses the results of the study. It is in the discussion, the researcher ties together loose ends of the study. The findings of the present study have been discussed according to objectives of research.

The study was conducted among 200 Parents: 100 from Rural areas and 100 from Urban areas of district (Jalandhar), Punjab, . Rural Area Village Kot khurdh, Phulriwal, Dheena, and Urban areas Bargocamp, Abhadhpura, Makhdumpur, of district ( Jalandhar), Punjab

### Objective 1 and 2

To assess the knowledge regarding impact of television on children, among parents in selected rural areas of district Jalandhar, Punjab

To assess the knowledge regarding impact of television on children, among parents in selected urban areas of district Jalandhar, Punjab

Acc to I and II objective the findings of the present study shows that majority of Parents of rural and urban area have average knowledge and minority of parents have good knowledge regarding impact of television o children

The findings of above study is supported by descriptive study on Parents of preschoolers: conducted by Funk JB, Brouwer J, Curtiss K, McBroom E

on expert media recommendations and ratings knowledge, media-effects beliefs, and monitoring practices. the result showed that the Parents should be educated about the need of preschoolers to participate in activities that promote language development, socialization, imagination and physical activity. Parents should have knowledge about long term and short term effects of television and till what time screen media should be viewed, should be planned by Parents

Hence the findings concluded, up gradation of parental knowledge regarding impact of television should be done.

### Objective 4

To find out the association between knowledge regarding impact of television, among parents with selected socio-demographic variables.

The result of present objective shows that the educational qualification plays a significant role regarding impact of television on children among Parents.

The findings of the above study is supported by the study conducted by Ravikiran SR, Baliga BS, Jain A, Kotian MS. year (2014) on Factors influencing the television viewing practices of Indian children. The result showed that the Lower maternal education, increased maternal television usage, presence of television in bedroom resulted in harmful television viewing practices among Indian children. The parental rules that were effective in countering these were the rule on content viewed and needing parental permission to switch on television. Hence, the findings shows that Parents education is the most important factor that contribute to impact of television among children<sup>8</sup>

**Acknowledgement** I want to express my gratitude especially to the Sarpanch of village and councillor of selected areas, Jalandhar, Punjab and subject those who participate in the study. I also want to thank my affectionate and adoring Parents, my lovely brother Jaskaran and specially my Partner Mr. Veerpal Singh and my friends Ms. Rajbeer kaur, Ms Neha Kohli, Ms Jaskaran kaur for their constant support and encouragement.

### Ethical Clearance

- Written permission from principal of S.G.L Nursing College Semi, Jalandhar was taken.

- Written permission from ethical clearance committee of S.G.L Nursing College Semi, Jalandhar was taken.
- Written permission from Sarpanch of village and councesllor of selected areas of district Jalandhar, Punjab was obtained.
- Written consent from parents of children who participated in the study was taken.
- Confidentiality and Annonymity of samples maintained throughout the study.

**Source of Funding:** Self

**Conflict of Interest:** Nil

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# Visual Acuity and its Relationship with Lifestyles among Students

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## ABSTRACT

The aim of the study is to assess visual acuity and its relationship with lifestyles among school children (10-16 years) at selected schools of District Faridkot, Punjab. A descriptive non experimental research design was used to conduct the present study. Convenient sampling technique was used to select 500 school children to assess visual acuity and lifestyles. Snellen chart was used to assess visual acuity and interview schedule with Likert scale was used to assess the lifestyles i.e. reading and writing habits, TV watching, Computer use, games, sleep, eye health practices and nutrition of school children. The findings revealed that out of 500 subjects, 92 (18.4%) study subjects had abnormal visual acuity i.e. <6/6 and 114 (22.8%) study subjects had poor lifestyle. A statistically significant relationship was found between visual acuity and lifestyle of subjects at  $p < 0.05$ . Visual acuity was found to be associated with age, spectacle use among brothers/sisters of subjects, history of headache and eye discharge and ability to see and follow writing of class teacher on blackboard at  $p < 0.05$ . Lifestyles was also found to be associated with age, history of headache and eye discharge and ability to see and follow writing of class teacher on blackboard at  $p < 0.05$ . The study concluded that presence of abnormal visual acuity is quite more and visual acuity is also affected by lifestyles among school children.

**Keywords:** Refractive Errors, Visual acuity, Lifestyles

## INTRODUCTION

Eyes are the most precious gift Lord has bestowed on all of us. Eyes have unlimited potential to capture the beauty of nature and serve the owner for lifetime. Healthy eyes are vital for achieving good vision.<sup>1</sup> Vision impairment and blindness in children are important because of their impact on the child's development, education, future work opportunities and quality of life. These negative effects are experienced throughout the child's life often lasting for 50 or more years. It leads to serious social and economic burden on the family and society.<sup>2</sup> Uncorrected refractive error is the significant cause of visual impairment in children as

suggested by the World Health Organization.<sup>3</sup> WHO estimates that 153 million people worldwide live with visual impairment due to uncorrected refractive errors, 12.8 million are in age group of 5-15 years.<sup>4</sup> In India prevalence of defective vision in age group of 6-15 years is around 13%.<sup>5,6</sup> Refractive error account for 61% of visual impairment in rural children and 81.7% in urban children. A quarter of attendance in all eye clinics and hospitals is estimated to be due to refractive errors.<sup>7</sup> Ocular health status is the end product of a series of interaction and inter-relationships of myriad factors existing in man's environment i.e. human biology, Physical, social and biological environment, Lifestyle and health related behavior, community organization and health care network. Lifestyle and health behavior are responsible for the decisions by individuals and affect their health, including self imposed risks. Health behavior encompasses social and cultural factors, traditions, food fads, habits, religious and political influences and the socio-economic status of different sections of community.<sup>3</sup>

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75 per cent of vision loss can be treated or prevented by visiting an eye care professional regularly, we increase our chances of getting a diagnosis if we have an eye disease. The earlier the diagnosis, the greater the opportunity to minimize vision loss.<sup>8</sup>

As school children are more prone to develop decreased visual acuity owing to increased near work, stressful academic schedule, nutritional deficiencies and excessive viewing of television, playing video games. Hence, the investigator felt the need of this study to provide good eye health to human being and to assess the problems of individuals regarding eyes so it is important to assess the visual acuity and associated lifestyles affecting the visual acuity and to educate the school children the ways to improve the visual acuity by preparing guidelines.

### MATERIAL AND METHOD

A descriptive non experimental study was performed on 500 school children. aged 10-16 years studying in classes 6th-10th were included in the study. Two schools were selected conveniently in the rural area of District Faridkot for the present study, Government Sr. Secondary School, Village Bargaari comprising of 700 students and Government Sr. Secondary School, Village Araiyan wala comprising of 400 students. Researcher took 500 study subjects 250 from each school by convenient sampling technique. Snellen chart were used to assess the visual acuity. A structured interview schedule with likert scale comprising of 34 questions related to reading and writing habits, TV watching, Computer use, games, sleep, eye health practices and nutrition was prepared to assess the lifestyle.

Snellen's chart on the wall of room was set up which was well lighted and area 6 meter away from the Snellen's chart was demarcated with a line. First 50 students who fulfilled the inclusion and exclusion

criteria were selected from every class conveniently. Every student was interviewed for demographic variables i.e. age , gender , class, mother and father education, family income, mother using spectacles, father using spectacles, brother/sister using spectacles, history of headache, history of eye discharge, ability to see blackboard and questions about lifestyles affecting vision. Vision was checked by using Snellen's chart first for the left eye while covering the right eye with ipsilateral palm and then same procedure was repeated for right eye. Students were asked to read letters on the Snellen's chart pointed out by investigator. For those students who were using spectacles visual acuity was assessed two times firstly with spectacles and then without spectacle.

### FINDINGS

- a. **Visual Acuity of sample Subjects:** 30 (6%) subjects were using spectacles, 470 (94%) subjects were not using spectacles. Majority of the subjects 408 (81.4%) had normal visual acuity i.e. 6/6 and remaining 92 (18.4%) subjects had abnormal visual acuity i.e.<6/6.
- b. **Lifestyle of Sample Subjects:** Out of 500 study subjects, 77.2% had good, only 22.8% had poor lifestyles.
- a. **Association between lifestyle and visual acuity:** Highly significant association was found between visual acuity and lifestyle with value  $\chi^2$  of 220.883 at  $p < 0.001$  as shown in Table 1.
- b. **Association of Visual Acuity with selected demographic variables:** Visual acuity was found to be associated with age, spectacle use among brothers/sisters of subjects, history of headache, history of eye discharge and subject's ability to see and follow writing of class teacher on blackboard at  $p < 0.05$  as shown in Table 2

**Table 1. Association between lifestyle and visual acuity**

N=500

Visual acuity	Lifestyle			Chi square value	P value
	Poor	Good	Total		
Normal	39	369	408	220.873	.000 <sup>s</sup>
Abnormal	75	17	92		
Total	114	386	500		

S= Significant at level  $p < 0.01$

Table 2: Association of Visual Acuity with selected demographic variables

N=500

Demographic Variable	f	Vision			
		Normal	Abnormal	$\chi^2$	p
<b>Age</b>					
10 years	14	11	3	13.33	0.38
11 years	57	42	15		
12 years	71	51	20		
13 years	122	99	23		
14 years	88	74	14		
15 years	92	84	8		
16 years	56	47	9		
<b>Brother/sister using spectacle</b>					
Yes	46	32	14	4.887	0.027
No	454	376	78		
<b>History of headache</b>					
Yes	164	107	57	43.484	0
No	336	301	35		
<b>History of eye discharge</b>					
Yes	191	124	67	57.26	0
No	309	284	25		
<b>Able to see and follow the writing of class teacher on black board</b>					
Yes	416	374	42	113.719	0
No	84	34	50		

## DISCUSSION

The present study was conducted to assess the visual acuity and its relationship with lifestyles among students aged 10-16 years at selected schools, using Snellen chart and interview schedule with Likert scale.

In the present study, investigator found that 18.40% subjects had abnormal visual acuity. Paudel P et al (2012) observed the prevalence of uncorrected visual acuity  $d \leq 6/12$  among secondary school children (aged 12-15 years) were 19.4%.<sup>9</sup> Ayub Ali et. al (2007) revealed that 19.8% of the children had refractive errors.<sup>10</sup> Abdulbari Bener (2007) observed that 12.6% school children had low vision.<sup>11</sup> S. Seema et. al (2011) revealed that 13.7% school children had defective vision in age group 6-15 years.<sup>5</sup> Desai et al found prevalence of defective vision in 20.8%.<sup>12</sup> In a study done in Rohtak city, a total of 678 students of the age group of 5-10yrs were examined. Out of these 83 (12.42%) were not able to see 6/9 line on Snellen's distance visual acuity chart with one or both eyes and were referred.<sup>13</sup> In a study done in Ludhiana city in Punjab, 1043 students had complete eye examination. Students found to have a visual acuity equal to or less than 6/9 were 13.99%.<sup>14</sup>

In the present study, investigator found that visual acuity is associated with lifestyles like reading and writing habits, TV watching, computer use, games, sleep, eye health practices and nutrition of students. This is similar to the findings of other studies such as Kathrotia G. Rajesh et al (2010) found that myopia prevalence was more associated with longer near work, computer work, playing/texting with cell phones and TV watching, extensive near work such as reading and writing.<sup>15</sup> S. Seema et. al (2011) observed that prevalence of defective vision was more in cases of longer duration of TV watching. Distance, duration and environment of television watching may be responsible for impairing a child's visual development.<sup>5</sup> Xie HL et al (2012) found that Long-term excessive eye use, outdoor activities and gender were found strongly associated with visual acuity.<sup>16</sup>

## CONCLUSION

The findings of the study revealed that the abnormal visual acuity was present in 18.4%, 22.8% of subjects were had poor lifestyle and a statistically significant association was found between lifestyle and visual acuity of subjects at  $p < 0.001$ . So it is concluded that presence of abnormal visual acuity was high

among school children and visual acuity is affected by their lifestyle. So we can make school children aware about measures to improve their lifestyles and to maintain their normal visual acuity.

**Acknowledgement:** I wish to acknowledge the guidance of Mr. Baltej Singh, Associate Professor , GGS Medical College and Hospital, towards the statistical analysis and final touch to this study.

**Conflict of Interest:** None

**Source of Funding:** Nil

**Ethical Clearance:** The ethical approval was taken from ethical committee of University College of Nursing , Faridkot. Permission was taken from Principals of the respective schools prior to final data collection. Apart from this, informed consent was taken from each respondent to participate in the study.

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# Knowledge and Attitude about HIV/AIDS among Pregnant Women Visiting Antenatal Clinic of a Tertiary Care Hospital of Delhi

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## ABSTRACT

**Introduction:** India accounts for about 7% of all HIV/AIDS cases in the world. Globally, women constitute 48% of adults infected with HIV; in India they constitute 39%. In this context present study was conducted to assess knowledge and attitude about HIV/AIDS in antenatal women.

**Methodology:** A cross sectional study was conducted in 90 randomly selected women attending ANC clinic at a selected hospital of Delhi.

**Results:** The antenatal women had average to moderate knowledge about HIV/AIDS. The study revealed that higher education levels were significantly associated with more knowledge about HIV/AIDS. The study revealed that misconceptions about transmission are very prevalent and education levels were not found to affect these false beliefs in statistically significant manner. The study also revealed negative attitude of pregnant women about the disease. Increasing the knowledge about HIV/AIDS by improving education levels and using mass media and IEC activities would be helpful in reducing incidence of HIV/AIDS.

**Keywords:** Knowledge, Attitude and Pregnant Women

## INTRODUCTION

According to UNAID Update of 2009, in the year 2008, 33.4 million people were living with HIV/AIDS. According to 2009 HIV surveillance data, women represented 24% of all diagnoses of HIV infection among United States (US) adults and adolescents. In 2008, an estimated 25% of adults and adolescents living with HIV infection were female<sup>1</sup>. More and more women getting infected and affected by HIV could be an impediment to achieving some of the targets of Millennium Development Goals (MDG) of arresting and reversing the spread of HIV and AIDS. As more and more women get infected and affected by HIV and AIDS, the feminization of this epidemic is more apparent.

India has the second highest number of HIV infected individuals, of these 202,000 are children. Perinatal transmission is the most common cause of

HIV infection in pediatric population below the age of 15 years. According to the estimates of National AIDS Control Organization for the year 2005, in India, women account for around two million of approximately 5.2 million estimated cases of people living with HIV/AIDS, constituting 39 percent of all HIV infections.

The HIV virus is more easily transmitted from men to women than from women to men. In India the low status of women, poverty, early marriage, trafficking, sex work, migration, lack of education and gender discrimination are some of the factors responsible for increasing the vulnerability of women to HIV infection.

It has been observed that most of the individuals in community do not have correct and complete information about HIV/AIDS and its prevention. India is now in the grip of so-called type 4 pattern of AIDS epidemic which shifts from high risk group to

the bridge population and then to general population, as a whole. Therefore it is important to assess the knowledge, attitude and perception of pregnant women regarding HIV/AIDS.

### METHODOLOGY

The present study was conducted in a tertiary care Government hospital of Delhi. Survey approach was adapted to collect data from the antenatal women. A sample of 90 antenatal women was established using simple random sampling technique. Ninety pregnant women visiting antenatal clinic during January 2013 were interviewed using a pre-validated and pretested semi structured knowledge questionnaire and attitude scale after explaining the purpose of the study and taking informed consent. The Questionnaire included demographic information, awareness on HIV/AIDS, knowledge on modes of transmission, perception of risk and sources of information about HIV/AIDS. To

assess the attitude of the women, Likert scale was prepared which consisted of twenty five declarative statements that express a view point on HIV/AIDS. The data was analysed using descriptive and inferential statistics.

### RESULTS

The demographic characteristics of study subjects is summarised in Table 1

#### Perception about HIV/AIDS

Women were asked to report the most serious illnesses India presently is suffering from. 69 out of 90 women named AIDS as *one of the serious illnesses* and 15 out of 69 rated AIDS as *the most serious illness*. On asking a direct question how serious do you think AIDS is? 75 out of 90 women reported AIDS as *very serious illness*. The sources of knowledge about HIV/AIDS is summarized in Table 2

**Table 1: Socio demographic profile of subjects (N=90)**

	N	Percentage
<b>Age in years</b>		
20-25 years	18	20
25-30 years	48	53.33
30-35 years	24	26.66
<b>Education</b>		
Illiterate	6	6.66
Up to 8th	09	10
secondary	12	13.33
Higher secondary	39	43.33
Graduation and above	24	26.66
<b>Religion</b>		
Hindu	81	90
Muslims	09	10
<b>Occupation</b>		
House wife	69	76.66
Govt. Job	12	13.33
Private Job	03	3.33
Self employed	06	6.66

**Table 2: Sources of information**

Sources of knowledge	Illiterate N=6	Up to 8 <sup>th</sup> N=9	Secondary N=12	Higher Secondary N=39	Graduation and aboveN=24	Total N=90
Newspapers and magazines	6 (100)	0	9 (75)	24(61.53)	12 (50)	51(56.66)
Television and radio	6 (100)	3 (30)	6(50)	30(76.9)	18(75)	63(70)
Posters	6 (100)	3 (30)	12 (100)	24(61.53)	15(62.5)	60(66.66)
Special classes/counseling	6 (100)	0	6(50)	9(23.07)	6 (25)	27 (30)

### knowledge about HIV/AIDS

Mean knowledge score of the women was calculated to be 63.8 (with SD+12.21) while the maximum obtainable score was 90. This finding indicates that the sample had moderate knowledge of HIV/AIDS. Majority of women (92.22%) knew about HIV transmission from mother to child. However Knowledge score was found to be positively influenced by the educational status of Women (Table 3). It was noted that the illiterate women responded less correctly to questions regarding transmission of HIV/AIDS as compared to women belonging to other educational groups. The number of correct responses with regard to modes of transmission like sharing needles, from infected mother to her unborn child and infected mother to her child while breast feeding, were significantly higher among women having above

secondary level of education. The difference was found statistically significant (table 2). It was pleasantly surprising to note that all 100% women irrespective of their educational status had the knowledge that AIDS is transmitted by unprotected vaginal intercourse.

Only 51% of the women responded correctly to the statements like "AIDS transmitted by touching an infected person" "by the bite of mosquito or other insects" "being coughed or sneezed on by a person who has HIV/AIDS" "working near someone who has HIV/AIDS" and "by kissing on the cheek". Even fewer, 39%, responded correctly to the question "wearing the clothes of an infected person can transmit the disease". The difference of knowledge with regard to these modes of transmission with respect to various levels of education was found statistically insignificant (Table3).

**Table 3: Knowledge of HIV/AIDS among pregnant women according to educational status and number of correct responses**

AIDS is transmitted by	Illiterate N=6	Up to 8 <sup>th</sup> N=9	Secondary N=12	Higher Secondary N=39	Graduation and aboveN=24	Total N=90	P value
Having unprotected vaginal intercourse	6	9	12	39	24	90	<0.01X <sup>2</sup> =88
Sharing needles with an HIV infected person.	6	3	12	39	21	81	<0.01X <sup>2</sup> =56.01
An HIV/AIDS infected mother to her unborn child	6	9	9	36	24	84	<0.01X <sup>2</sup> =65.87
An HIV/AIDS infected mother to her child while breast feeding	6	3	12	24	18	63	<0.01X <sup>2</sup> =13.61
Touching an infected person	0	0	12	21	18	51	>0.05X <sup>2</sup> =1.34
The bite of mosquito or other insects	0	3	9	24	15	51	>0.05X <sup>2</sup> =1.34
Being coughed or sneezed on by a person who has HIV/AIDS	0	0	12	24	15	51	>0.05X <sup>2</sup> =1.34
Working near someone who has HIV/AIDS	6	0	12	27	12	51	>0.05X <sup>2</sup> =1.34
By kissing on the cheek?	0	0	12	18	21	51	>0.05X <sup>2</sup> =1.34
Wearing the clothes of an infected person	3	3	3	21	9	39	>0.05X <sup>2</sup> =1.34

### Attitude towards HIV/AIDS

Attitude of women with regard to HIV/AIDS infected person was probed using attitude scale. The mean attitude score was 70 with SD +8.71 out of a maximum obtainable score of 125. The difference in attitudes with regard to HIV/AIDS with respect to various levels of education was found to be statistically significant (table 4). The coefficient of correlation between knowledge with regard to HIV/AIDS and

attitude of women about people with HIV was calculated using product moment coefficient of correlation. Knowledge and attitudes were found to be highly correlated ( $r = 0.8$ ).

Majority (80%) of the pregnant women agreed that HIV/AIDS is a life threatening disease. Majority of the women agreed that AIDS is the worst disease a person can get.

**Table 4: Attitude regarding HIV/AIDS among pregnant women according to educational status and number of positive responses**

Questions asked	Illiterate N=6	Up to 8 <sup>th</sup> N=9	Secondary N=12	Higher Secondary N=39	Graduation and aboveN=24	Total N=90	P value
HIV/AIDS is incurable disease	0	0	3	12	6	21	<0.01
People with HIV/AIDS should be ashamed of themselves	0	0	3	9	6	18	<0.01
People with HIV/AIDS belong to lower social class.	3	0	6	9	6	24	<0.01
Homosexual workers (men/women) get HIV/AIDS	0	0	3	6	3	12	<0.01
Promiscuous women are the ones who spread HIV in our community.	0	6	3	12	3	24	<0.01
In a marriage it is the man who is to blame for HIV/AIDS	6	0	6	21	12	45	<0.05
HIV/AIDS is a punishment by God for leading an immoral life	6	0	3	18	21	48	<0.1
A person who has HIV/AIDS is allowed to mix up with normal people	0	6	0	12	3	21	<0.01
HIV positive people should undergo sterilization.	0	0	3	12	0	15	<0.02

Majority (70%) of the women disagreed to the statement that HIV positive people should not be allowed to participate in religious activities. Majority (63.33%) of the women agreed that they will feel very ashamed if they or any of their family members had HIV/AIDS.

90% of the women believed that only Promiscuous People get HIV/AIDS. 43.33% women believed that HIV/AIDS is the consequence of bad behavior of people themselves.

Majority (53.33%) of the women agreed that People Living with HIV/AIDS should not be allowed to get married. More than half of the women agreed that in a marriage, it is the man who is to blame for HIV/AIDS. 46.66% women agreed that HIV positive people should not have children and almost same percentage of women (50%) agreed that HIV positive people should undergo sterilization. 73.33% of the women disagreed that it is wrong to send a student with HIV/AIDS to school with other children.

## DISCUSSION

Pregnant women were used as sample subjects in this study as they not only play a major socio-educational role in the community but are also receptive on matters related to the health of the unborn child during pregnancy. Assessment of their level of information could aid in correction of misconceptions and facilitate involvement of these women as a potential target audience in future prevention

programmes. The present study reflects that majority of the study subjects were an educated group of women in the active reproductive age group.

Mean knowledge score of the women was calculated to be 62.5. This finding indicates that the sample had moderate knowledge of HIV/AIDS. In the present study the higher education levels were associated with more knowledge about HIV/AIDS and was also found statistically significant (table 3). This is similar to the findings of other studies carried out by K.S.Negi et al in different parts of India<sup>6</sup>. However it seems that myths/misconceptions about of transmission are very prevalent and education levels were not found to affect these false beliefs in statistically significant manner. It may be that these false believes are more deeply rooted and education is able to remove these only partly. A study by Rahbar Tayebbeh et al<sup>7</sup> in Delhi has reported similar findings with regard to misconceptions regarding routes of transmission of HIV/AIDS among pregnant women.

In the present study the perception about threat of HIV/AIDS was higher among majority of pregnant women (83.33%) which is similar to the study conducted by K.S.Negi et al<sup>6</sup> in different parts of India. As far sources of information on HIV/AIDS the study reveals electronic media and print media to have the maximum reach among the women. A study by Alexandra McManus and Lipi Dhar<sup>8</sup> in South Delhi had also reported media as one of the main source of information on HIV/AIDS. This reveals that media



plays an important role in providing information on HIV/AIDS and communicates effectively in making pregnant women more aware regarding modes of transmission and prevention of HIV/AIDS.

The mean attitude score of pregnant women in the present study was 70 while the maximum obtainable score was 125. The difference in attitudes with regard to HIV/AIDS with respect to various levels of education was found to be statistically significant (table 4). The finding was similar to the study conducted by B Unnikrishnan et al. The coefficient of correlation between knowledge with regard to HIV/AIDS and attitude of women about people with HIV was calculated using product moment coefficient of correlation. Knowledge and attitudes were found to be highly correlated ( $r = 0.8$ ). This reveals that increase in knowledge improves attitude of women.

In the present study majority of the women agreed that AIDS is the worst disease a person can get. A little more than half of the women disagreed that HIV/AIDS is a punishment by God for leading an immoral life. Majority of the women disagreed to the statement that HIV positive people should not be allowed to participate in religious activities. 66.66% women agreed that people with HIV/AIDS should be ashamed of themselves. Majority of the women agreed that they will feel very ashamed if they or any of their family members had HIV/AIDS. While the questions in our tool were framed differently but foregoing finding give an impression which seems to be at a variance when compared with the findings reported by B Unnikrishnan et al<sup>5</sup> in 2010 in which, 81% were of the opinion that patients should not be isolated from society, 89% opined that infected children should attend regular schools, and 95% responded that they would not hesitate to sit next to a HIV positive person in the bus. Sixty-one percent felt sympathetic toward HIV positive people and 80% stated that they were willing to take an HIV/AIDS patient to the hospital from an accident site; 86% stated that they would not stop going to their usual grocery shop, if they found out that the owner was HIV positive.

In the present study majority of the women agreed that People Living with HIV/AIDS should not be allowed to get married. Rahbar Tayebah et al<sup>7</sup> reported 41.8% disagreed that women or men with HIV should get married. In the present study 46.66% women agreed that HIV positive people should not have children and almost same percentage of women (50%) agreed that HIV positive people should undergo

sterilization. Similar findings were reported by Rahbar Tayebah et al<sup>7</sup> i.e.42.3% of women disagreed that women with HIV should have children. In our study 73.33% of the women disagreed that it is wrong to send a student with HIV/AIDS to school with other children. Similar finding was reported by B Unnikrishnan et al<sup>5</sup> where only 27% stated that they would be uneasy and apprehensive if their child's classmate had HIV/AIDS.

## CONCLUSION

The study examined the knowledge levels and attitudes regarding HIV/AIDS among pregnant women in Delhi. The study reveals average to moderate knowledge concerning this disease. It has been noted in the literature that low knowledge levels contribute to negative attitudes and misconceptions. The widespread ignorance about HIV/AIDS among women in Delhi is a serious matter and needs to be addressed appropriately through intensive HIV/AIDS awareness campaigns.

Education levels were found to be single factor positively influencing both knowledge and attitude in statistically significant manner. It may be safe to suggest that a greater focus on improving education of the population and including sex education in curriculum may be a very effective strategy in improving knowledge and attitudes towards HIV/AIDS.

**Acknowledgement:** I wish to acknowledge my gratitude to all the women who participated in the study, I also thank the administration of the NRCH (Northern Railways Central Hospital) PK Road for granting me permission to conduct this study.

**Source of Funding:** Self

**Conflict of Interest:** Nil

**Ethical Clearance:** for collection of data was obtained from the ethical committee of the hospital from where data was collected.

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# Inter-professional Education-a Challenge for Health Professionals

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## ABSTRACT

The goal of any health profession is to improve the overall quality of health care. Educational experts in related fields are striving to achieve this through various means. The present focus is on global health through inter-disciplinary approaches. Inter-professional education (IPE) is the formal and additional learning experience for the health professionals over and above the specific profession related learning that they undergo, in order to improve and sustain the standard of patient care. This article makes an effort to discuss the evolution and evidence to support, need for and obstacles to and also various strategies to initiate implementation of IPE in the health professions' training programs.

**Keywords:** *Interprofessional Education, Health Professionals*

## INTRODUCTION

In 1998 Dr APJ Abdul Kalam, honorable past president of India, along with cardiologist Dr Soma Raju and in collaboration with Medicity Hospitals, Hyderabad developed India's first coronary stent. The main objective was to substantially bring down the cost and make it affordable to the common man. The stent known as 'Kalam-Raju stent', underwent satisfactory clinical trials. Subsequently nearly 2000 stents were implanted in the next few years at a cost of Rs.15, 000/- each as against the then market price of Rs 40-60,000 for a comparable imported stent<sup>12,13</sup>. Later In 2012, the duo, designed a rugged tablet PC for health care in rural areas, which was named as "Kalam-Raju Tablet"<sup>6,8</sup>. One was a nuclear physicist and the other a cardiologist. But both brains worked together to produce something which was/is useful to and affordable for the common man.

Ed Damiano, a biomedical engineer at Boston University has developed a bionic pancreas that mimics the function of the pancreas, which produces insulin. His inspiration was his 13 year old son who suffers from type I diabetes since infancy. Unlike insulin pumps, often used by diabetics to decrease blood sugar, the bionic pancreas also delivers glucagon, a hormone that raises blood sugar. The two hormones work together, preventing blood sugar from getting too high or too low. The device is autonomous, wearable, bi-hormonal and controlled by a modified iPhone<sup>5</sup>.

Wendy Murphy- a radiology technician at Toronto Hospital for Sick Children was troubled by the sight of a tiny baby being pulled from the rubble and strapped awkwardly to an adult stretcher during the Mexico earthquake in September 1985. She made a blueprint for a stretcher with straps to accommodate 6 babies at a time, put it in a drawer and forgot all about it. A couple of years later when fire broke out in her own hospital and was about to engulf the neonatal unit (but was halted in time), the topic came up again and she informed the chief of Pediatrics about her blueprint. Since 1989, she has sold more than 1,000 of the original model (WEEVAC), which is still made in Canada, to hospitals across the U.S., New Zealand, Japan and the United Arab Emirates<sup>3</sup>.

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All these examples are just the tip of an iceberg. There are many unsung heroes who realize the need for a new invention that can save many a life and work on it using their knowledge and skills combined with that of likeminded people.

Health care professionals, especially nurses who stay close to patients throughout their shift are known to be multi-taskers. Of course in the olden days a nurse was all in all-a care giver, physio-cum occupational cum respiratory therapist and nutritionist. But now there are various categories of health professionals who are involved in patient care. But all may not be available at all times to provide specific care. In such situations knowing a little bit of everything may help in taking appropriate action to save lives. This is where the role of inter-professional learning experiences comes in

Inter-professional education (IPE) is an important pedagogical approach for preparing health professionals to provide patient care in a collaborative team environment. Inter-professional teams enhance the quality of patient care, lower costs, decrease patients' length of stay, and reduce medical errors. The World Health Organization, National Academies of Practice, and the American Public Health Association (APHA) are a few of the many organizations that have articulated support of IPE <sup>11</sup>.

### **What is IPE?**

Inter-professional education involves educators and learners from two or more health professions and their foundational disciplines, who jointly create and foster a collaborative learning environment. The goal of these efforts is to develop knowledge, skills and attitudes that result in inter-professional team behaviors and competency. Ideally, inter-professional education is incorporated throughout the entire curriculum in a vertically and horizontally integrated fashion <sup>11</sup>.

The goal of IPE is for students to learn how to function in an inter-professional team and carry this knowledge, skill, and value into their future practice, ultimately providing inter-disciplinary patient care as part of a collaborative team and focused on improving patient outcomes. An inter-professional team is composed of members from different health professions who have specialized knowledge, skills, and abilities. The team establishes a common goal and using their individual expertise, works in cohesion to achieve that patient-centered goal. Team members

make their observations using profession-specific expertise, to collaborate and communicate for optimal patient care<sup>11</sup>. In this model, joint decision making is valued and each team member is empowered to assume leadership on patient care issues appropriate to their proficiency and capability. IPE is also believed to enhance respect for each others' profession.

### **Evidence in support**

A Cochrane review in 2008 identified 6 studies evaluating the effectiveness of IPE compared with traditional education on patient care outcomes and professional practice. Four of the studies showed positive outcomes on patient satisfaction, teamwork, error rates, mental health competencies on care delivered to domestic violence victims, while the other 2 found no impact on patient care or practice<sup>10</sup>.

Another review article in 2007 included 21 articles evaluating IPE. These studies illustrated positive reactions from learners, a positive change in perceptions, attitudes, knowledge and skills necessary for collaboration. Key mechanisms for effective IPE include principles of adult learning and staff development to improve group facilitation <sup>7</sup>.

### **Evolution**

The need for IPE has been recognized internationally since the mid 1980s. In the United Kingdom, the Center for the Advancement of Interprofessional Education (CAIPE) was established in 1987, and *The Journal for Interprofessional Care* was first published in 1986. In Canada, the Inter-professional Education for Collaborative Patient-Centered Practice Initiative was begun by Health Canada in 2003 <sup>11</sup>.

In London, medical, nursing and physiotherapy students at the Middlesex Hospital were required to spend two and half weeks doing practice learning together in the geriatric department. In Edinburgh, teachers at Moray House College of Education were devising ways to enable each profession to get to know the others personally and professionally during a series of workshops that included exercises in self-disclosure, games, role-play and creative thinking. In Bristol, there were similar initiatives between doctors and nurses. and between doctors and social workers where participants learned as equals in pairs and small groups focusing on differences as well as similarities between their professions, while respecting each

other's identities<sup>2</sup>.

The Institute for Healthcare Improvement Health Professions Education Collaborative was established to create exemplary learning and care models that promote the improvement of health care through both profession-specific and inter-professional learning experiences. In addition, there are a growing number of opportunities in inter-professional education conferences, such as the All Together Better Health Conferences, which are held biannually in locations around the world<sup>1</sup>.

In 1993, the Institute for Healthcare Improvement (IHI) and the Health Resources and Services Administration (HRSA) formed the Interdisciplinary Professional Education Collaborative - IPEC (USA)<sup>4</sup>.

The FAIMER –foundation for advancement of medical education and research, USA which has the mission of improving global health by improving education- has pioneered the project of interprofessional education and several institutions in India like CMC Ludhiana, GSMC Mumbai, PSGIMS Coimbatore, in collaboration with FAIMER have started a two year fellowship program in IPE.

Manipal University with 24 institutions under its wings running 404 courses and a student strength of 27995 -including about 3000 students from 52 foreign countries<sup>9</sup> has already started its collaborations with FAIMER to start a similar program.

### Need for IPE

In addition to the evidence supporting the value of IPE, various factors have contributed to the need for it.

One of the accepted standards for B Sc Nursing in USA focuses on IPE as a central competency for patient-centered care (*The Essentials of Baccalaureate Education for Professional Nursing Practice*). It states that "inter-professional education enables the baccalaureate graduate to enter the workplace with baseline competencies and confidence for interactions and communication skills that will improve practice, thus yielding better patient outcomes.... Interprofessional education optimizes opportunities for the development of respect and trust for other members of the health care team." Integrative strategies for learning through IPE are included in the

standard<sup>11</sup>.

An inter-professional summit was held in 2002 in USA involving 150 participants across many health care professions. The resulting 5 core competencies that should be common in health professions' education are imbedded in the vision statement from the summit quoted below: "All health professionals should be educated to deliver patient-centered care as members of an inter-professional team, emphasizing evidence-based practice, quality improvement approaches, and informatics." The report of the summit has served as a major impetus for health care professional and educational organizations to move forward in meeting the need for IPE<sup>11</sup>.

### Obstacles for IPE

Barriers to initiating IPE can be encountered at various levels of the organization.

1. Lack of perception regarding value of IPE and attitudinal differences in health professionals and faculty members especially inter and intra departmental conflicts.
2. Lack of resources and commitment
3. Obstacles at the administrative level like the perception of whether it is worthwhile to direct resources to a new change given the demands of the other missions of an institution. However, present day administrators are acutely aware of the need for change in education and training of professionals as health care changes.
4. Logistical concerns such as scheduling and space may have to be attended to. Synchronizing classes among different health professions may be a challenge.
5. Faculty members may be resistant to changes thinking IPE may lead to increased workload and lack of time.
6. There may be unforeseen barriers since the program is new. Stakeholders' feedback may suggest ways to improve implementation.

### What is to be done for successful implementation of IPE

Slow and steady wins the race - a gradual

implementation of IPE is advocated so that some successes can be realized and modifications can be brought in based on short comings and feed backs.

Firstly IPE has to be included as one of the goals in the curriculum of different courses. Identify the faculty and establish an IPE planning team from different professions. Provide training for the identified faculty by experts in IPE in the organization or by deputing them to the training centers. Employ measures to overcome inter-departmental and intra-departmental conflicts as well as superiority/inferiority complexes. Choose curricular themes for IPE keeping in mind the syllabi of different professions and matching the students based on their education level and maturity. With the advancement in science and technology curricula are likely to be revised frequently and hence remember to delete the obsolete and include the current practice. Implement slowly and progressively. Offer faculty development programs to update IPE faculty. Establish rewards and incentives for the faculty. Evaluate and modify program based on needs and feedback.

### CONCLUSION

A community of honey bees has often been recognized as a model of human society: There are queens, drones and worker bees in a bee hive. They work cohesively and bring the best of pollen of selected flowers from far and wide in order to produce the nectar called honey.

So also when the health professionals work in interdisciplinary teams, cooperate, collaborate, communicate, and integrate care to ensure quality, continuity, reliability and accountability, one can be sure of customer satisfaction which is the ultimate goal of health care agencies. It will also pave way for the shared governance. It is recommended that IPE be introduced in the basic introductory courses of health professions, creating a foundation that will establish the tenets of inter-professional team care throughout the training period and beyond. This will be in line with global practice. Knowledge and skills multiply when shared. So let us enrich each other and enhance global health.

**Acknowledgement:** Manipal Center for Professional and Personal Development, Manipal University, Manipal

**Conflict of Interest:** Nil

**Source of Funding:** Self

**Ethical Clearance:** NA

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# Gender Inequality... A Public Health Issue in Pakistan

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## ABSTRACT

It is natural to have different sexes within a family, community or society but defining and limiting their roles and responsibilities is very unnatural. Mostly males and females are distinguished in terms of their clothing, food, way of communication and education. This inequality is mostly keeps women deprived of some of their basic rights. From birth a difference is created between a girl and a boy who not only affects their physical wellbeing but also mental health.

This paper will focus on a public health issue that is gender inequality. Various determinants which contribute to this issue are analyzed in this paper.

**Keywords:** Gender, Inequality, Determinants

## INTRODUCTION

According to American Psychological Association (APA), "Gender refers to the attitudes, feelings, and behaviors that a given culture associates with a person's biological sex." <sup>(1)</sup> As defined by APA it is our culture which defines the roles and no one has the right to restrict or refrain a specific sex but it is seldom done authentically in our part of the world. In this country more than 90% of the population is Muslim and Islam talks about Gender equality and the same has been recognized by Constitution of Pakistan as well. However, the statistics in this field show that understanding to these principals is either lacking or policies have not been completely established to reinforce such principals. These laws are made to ensure equal distribution and allocation of resources but it is in books only, no implementation is observed. However, with the class difference this inequality has an inverse relationship. Mostly people from high socio economic society maintain a balance and basic needs are fulfilled to an acceptable extent. In this paper, an effort has been made to identify and analyse each determinant contributes to gender inequality

### Environmental Determinants

For equal opportune gender equality, there must be an appropriate environment to promote such vibes. This would include Policy Environment, Legal

Environment and Work Environment. For instance, Poverty among masses could be due to policy environment which impacts negatively to all but specially affect women due to their lesser control and/or access to resources, lesser mobility than males for finding work and greater reliance on natural resources. As per Irish Aid key sheet, "Women perform two thirds of the world's working hours, produce half of the world's food, earn only 10% of the world's income and own less than 1% of the world's property." <sup>(2)</sup>

Women's rely on the environment to meet their basic needs like water and energy needs. Unlike males, they have lesser mobility and need to stay at home which makes them more reliant on the natural resources. This also makes them manager of these resources as they control and consume those resources. However, both water and energy (finding woods for fuel) is a hard exercise which creates enormous health problems to the women. The local stoves which are fueled through woods are also a source of spreading health problems like asthma and others. According to the World Health Organization, "the daily energy requirement to carry water may consume one third of a woman's calorie intake. In addition industrial wastage and agricultural chemicals could also affect health of women in general and of pregnant women in particular." <sup>(3)</sup> On the contrary, women who work often face a non-friendly work environment as they

are at high risk of verbal, physical or sexual harassment. It is also observed that if a woman is getting married or is planning a baby their promotion is being held or they are indirectly pressurized not to have a child as this can stop their carrier ladder.

Gender discrimination indirectly affects the women's health and such norms must be opposed in order to ensure safety of women. Women must be given equal opportunity for seeking jobs. Organizations must have a women friendly environment where they can fulfill their job responsibilities simultaneously. Day care centers or privacy for breast feeding these support services can promote a healthy work environment.

### **Biological determinant**

Gender inequality has a negative impact on almost every aspect of the life of a woman. It is especially so on the biological/reproductive health of women. Every woman enjoys rights pertaining to their reproductive health and if they are directly or indirectly deprived of these rights, it can lead to serious health issues which not only threaten their lives but also that of their children. There are various components of reproductive health, for example, contraception, child birth, breast feeding, abortion etc. and the freedom of decision making for women in every aspect is necessary. I consider it crucial because poor health of the mother can be fatal to herself as well as her child.

According to a report on reproductive rights of women and recommendations put forward by International Baby Food Action Network (IBFAN) and the World Alliance for Breastfeeding Action (WABA), "women enjoy the right to choose or not to choose breastfeeding depending on their health, financial and social conditions. Moreover, if they choose to do breast feeding, they should be provided with supportive workplace, home and social environment, and necessary health services".<sup>(4)</sup> According to the recommendations given in the report, a woman is fully justified in choosing or not choosing to breastfeed. In this case, she cannot be forced and her social, financial and matrimonial situation should be considered to empathize with her and provide her necessary support. But there have been incidences where a mother is forced not to breastfeed a baby girl and to feed boy only as he must be given proper nutrition. On the other hand due to lack of awareness and education woman don't breastfeed to their babies

which not only harm the infants but the mother herself also in the long run. Not having proper nutrition compromises physical and mental health and this vicious cycle goes on. We are producing a whole generation one after one with physical and mental deficits. So in order for women to be able to make a decision, they should be given full awareness and counselling service about nitty-gritties of breastfeeding.

There is no one definite determinant of the problem of reproductive health. However, speaking broadly, we can say that poverty is at the bottom of the issue. The next major factor could be illiteracy and lack of awareness not only of male members of the society but also of the female members. Illiteracy and poverty could also be seen as causes and effects of each other. Educating a female is like educating her next generation. This phenomenon is very old but we lack the understanding of it. In the context of Pakistan, another determinant could be male dominance where it is quite common that girls are married off at a young age and give birth to children on the demand of their husbands who is not bothered about the health conditions of his wife. Although this situation is not true of every family in Pakistan, it is common in a vast majority of families living in rural areas or have low socio economic status. On the contrary families having no economic crises also have male dominance specially *wadera* and *jagirdar* where only man has right to speak and rule on women. And if a woman speaks or fights for her rights they are suppressed, threatened and in many cases murdered. This is the ground reality of our society which badly impacts mental health of others. Hence, even if a girl is in poor health, she is expected to give birth, breastfeed and rear her child. In whatever way we look at the determinants, one thing is certain that these causes need to be eliminated from the society in order to ensure the physical well-being of women. The discrimination between male and female is very obvious and this inequality mostly affects a woman's health.

Moreover, it is believed that women have less intellect than men and that they should not participate in decision making in family. Often they are not considered to give vote as they lack the sense of politics. But we all have witnessed that women can also run a nation in a better way. Leadership qualities are not gender bound or not come to a specific sex. It's all about how we empower women.



For this problem to be solved it is important first to educate women about their rights so that they can understand when they are being exploited and to speak up no matter what for themselves. Another solution could be to ensure their safety legally by issuing a law which addresses, specifically, the issue of reproductive health of women. Awareness campaigns for females and males, especially in rural areas, could be another way of addressing the issue.

### **Psycho-socio-cultural**

The above problems of illiteracy, awareness and freedom of choice, and their impact on the reproductive health of women are also rooted in psycho-socio-cultural perspective on gender inequality. Many conservative communities in Pakistan follow a family system where the male member is dominant. Such family structures have become an integral part of social and cultural environment to an extent that they are considered normal and natural. Therefore, many women, whether educated or uneducated, look up to men for safety and decision making, subconsciously or consciously. This psyche, in many cases, is the result of fear and insecurity. We live in a society where we have been taught not to object, question or criticise as a result of this we don't think that we should speak up for ourselves and stay quiet whatever happens. In rural areas, many women are afraid of being subject to violence if they do not obey their husbands or if they are suspected of being involved in an activity not approved by them. And if she does so then even often she is subject of physical abuse. Hence, it is a patriarchal society where the man is the dominant figure and the wife is subservient to him. No one gets educated about the harassment and it is considered as normal to them which in results produces our next generation with the same characteristics but this cycle needs to be break in order to have a educated and healthy society.

This psycho-socio-cultural framework of a society has an adverse impact on the reproductive health of women. For example, if the man (typically belonging to a patriarchal village) suffers from HIV or HCV or any other Sexually Transmitted Infection (STI), he will not reveal it to his wife because this might destroy his dominant face in front of her and being un-thoughtful of its consequences, he might end up transmitting the disease to her and his off springs. On the other hand, if the woman has an STI she will be reluctant in telling the diagnose to her husband, because she might face

negative reaction from husband and in-laws. It is possible that they are unaware about the infection. In any of the cases, if the woman conceives the child, it is a third life which is at threat. These all consequences result because of discrimination if males and females are given equality these health issues may be less or none.

Besides this, in many a case, it is seen that women are tortured during their period of pregnancy mostly for the demand of a boy. Another issue that poses threat to a woman's reproductive health is the practice of genital mutilation, which I believe is more of a cultural than a religious invention but it is of deep concern. According to Krantz & Garcia-Moreno, 2005 "Female genital mutilation (FGM), is defined by WHO as the partial or total removal of the external genitalia or other injury to the female genital organs whether for cultural, religious, or other non-therapeutic reasons." <sup>(5)</sup> This strongly reflects the males dominance and how females are being suppressed and targeted by these ill actions. This suggests how deeply rooted is gender inequality in our part of the world. Illiteracy in females directly affects their health as lack of education deprives them of ensuring their health.

These issues can only be addressed by education and awareness programs about health in these areas. But this is a harsh reality that we facing terrorism and uptill now have not been able to fight it back. Vaccinators are killed during polio vaccination programs and the remote areas are ruled by people who don't want to help their people and become a hindrance if anyone wants to help them. But having said this, responsibility lies on our shoulders as we have been blessed that we have an access to good food, education and health. In my view, awareness programs are the one which can break this cycle and must be launched to areas which are accessible to us and efforts must be put in to bring a difference.

### **Medical /technological /organizational Determinants**

Gender Inequality in Pakistan has created several health issues for millions of women and girls which ranges from early marriages to child birth to feeding to upbringing and finally to death caused by disease which are treatable. Postpartum haemorrhage is the leading cause of death in rural areas, followed by sepsis and eclampsia.

Pakistan is also expected to miss its Millennium Goal Targets 4 and 5 by 2015. It is also far short of

meeting the WHO target of health allocation to GDP, in fact for the last ten years, its health expense to GDP remained constant at 0.5% to 0.7%. Women's are generally deprived of decision making which reduces or delay their ability to access medical facility, and to access proper medical facility.

Technological factor in terms of interactive media has generally had a positive impact on Gender Equality where women have understood their proper role in family's development and decision making. However, this impact has been limited as majority of resources are controlled by males counterpart and thus decisions are primarily centred to them.

### CONCLUSION

Based on my observations of the society I live in, I believe that conservative cultural practices and psycho-social norms have created gender inequality without considering its biological and psychosocial impact on the discriminated gender. However, this social pattern cannot be allowed to continue. Therefore, there is a need to educate, aware and advice male and female members of the society about the negative consequences of gender inequality to create a physically and emotionally healthy society.

**Acknowledgment:** Nil

**Ethical Clearance:** Not Required

**Source of Funding:** Self

**Conflict of Interest:** Nil

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# Effect of Alternate Nostril Breathing Exercise on Cardiovascular Functions among Hypertensive Patients

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## ABSTRACT

**Background of the study:** Hypertension is the most common cardiovascular disease affecting more than one billion people throughout the world. It is directly responsible for 57% of all stroke deaths and 24% of all coronary heart disease deaths in India. Hypertension, a "psychological classical silent killer" is the hallmark of various cardiovascular disorders mainly occurring due to increase in the total peripheral resistance because of several aetiological factors - genetic, obesity, glucose intolerance, high salt intake, cigarette smoking, heavy alcohol consumption, increased serum renin levels. Due to these aetiological factors, hypertension would become a greater global burden in the next 15 - 20 years. It is predicted that the total number of hypertensive patients would increase by about 60%, i.e., a total of 15.6 billion high blood pressure sufferers, by the year 2025. Hypertension is an important and growing public health challenge worldwide. Alternate nostril breathing (Pranayama) exercise has been widely referred to as the science of breath control. Alternate nostril breathing exercise designed to keep the body in vibrant, healthy conditions. Alternate nostril breathing exercise helps in the significant difference in systolic and diastolic blood pressure and pulse rate. Alternate nostril breathing exercise is reported to influence the cardiovascular functions.

## Objective

1. To assess the cardiovascular functions of hypertensive patients before the alternate nostril breathing exercise in experimental and control groups.
2. To reassess the cardiovascular functions of hypertensive patients in experimental and control groups after the alternate nostril breathing exercise in experimental group.
3. To compare the cardiovascular functions of hypertensive patients in experimental and control groups.
4. To find out the association of cardiovascular functions with their selected socio demographic variables of experimental and control groups.

## Methodology

**Research Design:** Non-equivalent Pre test Post test control group research design

**Setting:** Selected Hospitals, district Jalandhar, Punjab.

**Target Population:** Hypertensive patients of selected Hospitals, district Jalandhar, Punjab.

**Sample Size:** 100 Hypertensive patients (50 in experimental group and 50 in control group)

**Sampling Technique:** Purposive sampling technique.

**Result and conclusion:** The findings of the study revealed that the pre test cardiovascular functions systolic blood pressure in experimental & control group were  $140 \pm 9.25$  &  $135.4 \pm 6.13$  respectively. The post test systolic blood pressure in experimental & control group were  $121.8 \pm 5.95$  &  $134.8 \pm 5.3$  respectively, the pre test diastolic blood pressure in experimental & control group were  $95.8 \pm 7.3$  &  $91.8 \pm 4.82$ . The post test diastolic blood pressure in experimental & control group were  $82.4 \pm 5.91$  &  $88 \pm 4.94$ . The pre test pulse rate in experimental & control group  $85.6 \pm 2.02$  &  $84.44 \pm 2.68$ , the post test

### ABSTRACT (Contd.)

pulse rate in experimental & control group  $74.92 \pm 2.29$  &  $84.2 \pm 2.94$ . It indicated that there was significant difference in the pre and post interventional cardiovascular functions that is systolic blood pressure, diastolic blood pressure and pulse rate among hypertensive patients at 0.05% level of significance. So alternate nostril breathing exercise can be used as alternative measure along with the anti hypertensive medication. The study was found associated with socio-demographic variables like age, family income per month and duration of hypertension and associated disease condition was significantly associated with the cardiovascular functions. So, the study concluded that alternate nostril breathing exercise had significant effect on cardiovascular functions among hypertensive patients.

*Keywords:* Effect, Alternate Nostril Breathing Exercise, Cardiovascular functions

### INTRODUCTION

Hypertension is the most important public health problem in developed countries. It is common, asymptomatic, readily detectable, and easily treatable and often leads to lethal complications if left untreated. Data from the National Health and Nutrition Examination Survey (NHANES) have indicated that 50 million or more Americans have high blood pressure warranting some form of treatment. Worldwide prevalence estimated for hypertension may be as much as 1 billion individuals, and approximately 7.1 million deaths per year are attributable to hypertension.<sup>1</sup>

Hypertension is sometimes called as 'the silent killer' because people who have it are often symptom free. In national survey (1999 – 2000) 31 % of people who had blood pressure exceeding 140 / 90 mm Hg were unaware of their elevated blood pressure.<sup>2</sup> Once identified elevated blood pressure should be monitored at regular intervals because hypertension is a lifelong condition. High blood pressure can be viewed in three ways as a sign, a risk factor or a disease. Prolonged blood pressure elevation eventually damages blood vessels thought out the body particularly in target organs such as the heart, kidneys, brain and eyes. The usual complications of prolonged hypertension are myocardial infarction, heart failure, renal failure, strokes and impaired vision.<sup>3</sup>

Exact cause of hypertension is unknown but some factors of hypertension are age, unhealthy dietary habits, increased salt intake, tension, stress, insufficient rest, lack of exercise, smoking, obesity, family history, tobacco use, excessive consumption of liquors, and excessive consumption of tea and coffee.<sup>1</sup>

The prevention and management of hypertension are major public health challenges. If the rise in blood pressure with age could be prevented or diminished, much of hypertension, cardiovascular, renal disease, and stroke might be prevented. The goal for individuals with hypertension is to lower blood pressure to normal levels by pharmacologic therapy and prevent the progressive rise in blood pressure using the recommended lifestyle modifications such as weight reduction, adopt dietary approach to stop hypertension (DASH) eating plan, dietary sodium reduction, physical activities and limit or restriction of alcohol consumption. The medication used for the treatment of the Hypertension decrease peripheral resistance, blood volume and rate of myocardial contractions.<sup>4</sup>

Pharmacological therapy for the treatment of hypertension is the essential part of the standard protocol but at the same time it have certain side effects like dry mouth, increased thirst, weakness, postural hypotension, skin rashes, lethargy, headache, urticaria, mental confusion, ataxia, electrolyte imbalance, nasal stiffness and hemolytic anemia. Adoption of healthy lifestyles by all persons is necessary for the prevention of hypertension and is an indispensable part of the management of those with hypertension.<sup>5</sup>

If we belief in the principle of "OLD IS GOLD" then yoga is most effective and widely believed to reduce blood pressure. There is a growing body of research on new non- drug treatment modalities such as yoga and meditation in controlling blood pressure.<sup>6</sup> Evidence supporting its use as alternative therapy is accumulating. Yoga and Meditation are relaxation techniques which are non-invasive, easy to practice, cost-effective interventions which do not have any

appreciable side-effects or symptoms. Complementary and alternative medicine (CAM) includes various healing approaches and therapies that originate from around the world and that are not based on conventional western medicine.<sup>7</sup>

Alternate nostril breathing (Pranayama) exercise has been widely referred to as the science of breath control. Alternate nostril breathing exercise designed to keep the body in vibrant, healthy conditions. Alternate nostril breathing exercise helps in the significant difference in systolic and diastolic blood pressure and pulse rate. Alternate nostril breathing exercise is reported to influence the cardiovascular functions.<sup>8</sup>

Alternate nostril breathing (ANB) consists of slow, deep, quiet breaths using one nostril at a time. Alternate nostril breathing exercise affects brain hemisphere by alternately stimulating the right-brain and then the left-brain. This process is brought about by the action of the air flowing through the nostrils that stimulates the contra-lateral (opposite) side of the brain. It alters cardio respiratory and autonomic parameters.<sup>9</sup>

Patients with hypertension need to understand the disease process and how lifestyle changes, alternative therapies and medications can control hypertension. The recommended lifestyle changes, continued education and encouragement are needed to enable patients to formulate an acceptable plan that helps them to live with their hypertension and adhere to the treatment plan. Compliance with the therapeutic treatment plan for hypertension may be more difficult for elderly clients, the medication regimen can be difficult to remember and the expense can be a problem. Lifestyle modification, alternative therapies along with the anti hypertensive drugs can play an important role in control and treatment of hypertension.<sup>10</sup>

Alternate nostril breathing exercise is the readily accepted method to relieve daily tension and anxiety which gives soothing effect and helps to relax the muscles. Among hypertensive patients alternate nostril breathing exercise can be used for controlling blood pressure, pulse rate along with therapeutic treatment plan.<sup>7</sup>

## MATERIALS AND METHOD

This study was concluded among Hypertensive patients of selected Hospitals, district Jalandhar

Punjab. Quasi experimental design (Non- equivalent pre test post test control group) research design was adopted. And a total of 100 Hypertensive patients were selected for the study (50 in experimental group and 50 in control group), who met the inclusion criteria. Total time for administration of Alternate nostril breathing exercise was 15 minutes per sample.

## RESULTS

The findings of the study revealed that the pre test cardiovascular functions systolic blood pressure in experimental & control group were  $140 \pm 9.25$  &  $135.4 \pm 6.13$  respectively. The post test systolic blood pressure in experimental & control group were  $121.8 \pm 5.95$  &  $134.8 \pm 5.3$  respectively, the pre test diastolic blood pressure in experimental & control group were  $95.8 \pm 7.3$  &  $91.8 \pm 4.82$ . The post test diastolic blood pressure in experimental & control group were  $82.4 \pm 5.91$  &  $88 \pm 4.94$ . The pre test pulse rate in experimental & control group  $85.6 \pm 2.02$  &  $84.44 \pm 2.68$ , the post test pulse rate in experimental & control group  $74.92 \pm 2.29$  &  $84.2 \pm 2.94$ . The study was found associated with socio-demographic variables like age, family income per month and duration of hypertension and associated disease condition was significantly associated with the cardiovascular functions.

## DISCUSSION

Study was done to assess the effect of Alternate Nostril Breathing exercise on cardiovascular functions among hypertensive patients of selected hospitals. The investigator utilized purposive sampling technique to select the subjects. The findings were discussed on the basis of demographic characteristics, objectives of the research study and related literature reviewed.

The findings of the study revealed that the pre test cardiovascular functions systolic blood pressure in experimental & control group were  $140 \pm 9.25$  &  $135.4 \pm 6.13$  respectively. The post test systolic blood pressure in experimental & control group were  $121.8 \pm 5.95$  &  $134.8 \pm 5.3$  respectively, the pre test diastolic blood pressure in experimental & control group were  $95.8 \pm 7.3$  &  $91.8 \pm 4.82$ . The post test diastolic blood pressure in experimental & control group were  $82.4 \pm 5.91$  &  $88 \pm 4.94$ . The pre test pulse rate in experimental & control group  $85.6 \pm 2.02$  &  $84.44 \pm 2.68$ , the post test pulse rate in experimental & control group  $74.92 \pm 2.29$  &  $84.2 \pm 2.94$ .

**Acknowledgement:** I pay my heartfelt thanks to Administrator, Medical Superintendent, Nursing

Superintendent of hospitals, Jalandhar. My special thanks to my loving Parents and Grandparents for praying for me through this period of intense study. This thesis would have been simply impossible without them.

#### **Ethical Clearance**

- Written permission was taken from the Principal, S.G.L Nursing College, Semi, Jalandhar.
- Ethical clearance was taken from the Research Committee of the S.G.L Nursing College, Semi, Jalandhar.
- Written permissions were taken from the Administrators of the hospitals of Jalandhar - S.G.L Superspeciality Hospital Jalandhar, New Ruby hospital Jalandhar and Shriram Cardiac Centre Jalandhar.
- Written Informed consent was obtained from each study sample.
- Confidentiality & anonymity of each sample was maintained throughout the study.

**Source of Funding:** Self

**Conflict of Interest:** Nil

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# A Critical Review of Simulation-Based on Nursing Education Research: 2004-2011

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## ABSTRACT

The paper presents an instructional strategy and methodologies for enhancing evidence based practice teaching and improve learning outcomes. Lecture is a teacher centered method that is developed by faculty to transmit information to learners directly. Simulation is a method of teaching that uses imaginary experience reflective of real life situations to guide learners to practice decision making and to perfect psychomotor skills, without injury. The paper describes a systematic review conducted to compare the effect of lecture versus simulation on nursing students` performance. Skill performance, competence, satisfaction and self-confidence are assessed utilizing data from eight studies published between 2006 and 2010 and include a total of 1138 undergraduate nursing students. The findings of the review indicate that simulation when compared to instructional lecture was shown to have significantly positive outcomes in terms of skill performance, competence, and satisfaction while the findings were mixed for self-confidence. The data supports the recommendation that Nursing education benefits from lectures to be combined with simulation in order to increase student performance and satisfaction most significantly. Recommendations for future research include larger sample sizes, more randomized control trials to further study, and more developed valid and reliable instruments for assessment.

**Keywords:** *Simulation, Lecture, Nursing Education, Undergraduate, Performance, Self-Confidence, Competence, Satisfaction*

## INTRODUCTION

Instructional Strategy is a construct for categories of performance knowledge in teaching, which includes different methods of preparation to accomplish learning outcomes. Instructional methods are the different approaches used to connect the learner's to what they must comprehend as group discussion, demonstration, re-demonstration, simulation, role modeling, and lecture. Lecture is the most traditional teaching method that is highly prearranged by faculty to transmit information to learners directly to achieve learning outcomes. Simulation is an instructional method that has an imitation or imaginary experience that reflects real-life situations, but without jeopardy<sup>1</sup>.

Simulating consequences of a real condition is created by positioning the learner in an activity. In this instructional method a learner is able to make a decision in a safe atmosphere. Even though it is safe, it is still challenging because of time constraints, innovative in the use of actual equipment, and mind altering, as a result of the tension of realism <sup>1</sup>. There are different types of simulation as written simulation, clinical simulation, computer simulation, and model simulation. Written simulation means applying a real situation by offering case studies to learner to assess and analyze case scenarios <sup>1</sup>. Clinical simulation is assisting learners to be critical thinkers to improve the psychomotor skills with computerized a human patient simulator (HPS). Simulation offers nurses the

opportunity to learn skills in a safe space without harming patients<sup>2</sup>.

### **The Natural Evolution of the Simulation Innovation**

Simulation is becoming an established pedagogy to teach nursing skills because of the shortage of real space to train students and the aging of faculty. It is also useful because it offers advantages for patient safety<sup>3</sup>. However, limited studies comparing learners' gain in knowledge experiencing simulated clinical experiences, with traditional clinical experiences have been conducted. Some researchers have been encouraged to focus on learning through clinical simulation. Nevertheless, a perception of students and faculty in utilizing clinical simulation as critical evidence associated with skills achievement have not yet been systematically presented<sup>3</sup>. The intention of this work is to evaluate the comparative evidence for the instructional method of lecture and simulation strategies.

### **The Problem Statement**

Clinical nursing skills are an essential part of professional nursing education. It was apparent from the U. S. Census Bureau project from 2000 that population data reflected a demographic revolution and a shift in age grade toward older people constituting the largest numbers. That is, most of the people are anticipated to be aged 65 years and older between 2000- 2050. Accompanying the shift in demographics is an increasing prevalence of disabilities and poverty, and curriculum development must change to reflect a greater concern for geriatrics needs. Instructors are the most responsible for preparing the new students for geriatric health care<sup>4</sup>.<sup>5</sup> The enhancement of student performance through broadening instructional strategies will increase through the use of effective innovative teaching methods in combination with the use of traditional teaching strategies.

To address this increase in patient need from the 'baby boomer' age grade, and nurse's need to access patients; the innovative strategy of simulation has become increasingly effective in combination with lecture strategy. This need to quickly reinforce teaching strategies by combining lecture and simulation in teaching nursing skills must be firmly accountable. Simulation, is time efficient allowing for multiple classes with a large number of learners. Nursing programs today have a concern for both time efficiency and access to the clinical experience in

nursing arenas such as hospitals, of various types. To accomplish this task, there is a need to know how and what students learn from simulation and how and what they learn from lecture. This has not been systematically assessed.

### **Purpose of the Problem**

The purpose of the study is to analyze the effects of simulation versus instructional lecture as teaching strategies. Simulation combined with lecture, allows for a lab whereby instructors can measure effective outcomes such as the self-confidence of learners, learners adaptation to their setting and patient, student expectations, preparation, qualitative attributes.

This work aims to answer the research question:

In undergraduate nursing education, what is the effect of simulation on student performance and clinical nursing skills compared to instructional lecture alone?

## **METHODOLOGY**

The methodology for this literature review started by searching for related terms with these setting: Cochrane Database of Systemic Reviews, Comparative Study, MEDLINE, CINAHL, ERIC, PUBMED, and Research Support. In addition, two articles and two dissertations were retrieved through inter-library loan. In the CINAHL, 134 articles were found by using these terms: (nursing student), (simulate\*), (clinic), (traditional or lecture or teaching methods). However, most of these articles were not related to this research question's objectives. They were related to patient education and compared two types of simulators. In the Cochrane Database of Systematic Reviews, no results were found with these terms (student), (simulate\*), (traditional, then changed to lecture, and to teaching methods). When the MEDLINE database was used, 7 articles were found by using these terms: nursing student, simulate, clinic, and traditional.

**Inclusion criteria:** Were English language; published in 2004- recently; peer reviewed; undergraduate program; simulation/ traditional; nursing school outside the United States are applied simulation to have a great integration.

**The exclusion criteria:** Were studies not offered in the English language; studies published before 1999; and studies offering nursing program rather than R.N.



## Coding Themes

The themes are categories of separation differentiating strategies. Lecture strategy and simulation strategy differ in developing and measuring competency, the integration of both strategies for competency would seem ideal. In the review of studies that met the criteria for inclusion in this review the researcher selected strategies that had the largest effect on the nursing competence by utilizing either lecture or simulation or both. Most of the studies focused on the four significant variables which are used as coding themes for this review as following: 1) *students' performance*; 2) *self-confidence*, 3) *competence*, and 4) *student satisfaction*. The problematized in this work are instructional strategies effectiveness not a problem of variables relationships.

## FINDINGS

### Study Characteristics

In each article, the validity and quality of content of each test was measured by experts. After the database search with key terms, 131 articles retrieved from CINHALL database and 134 articles retrieved from MEDLINE were the same articles. Twenty-one (21) articles were applied for this review. Only 8 articles met the inclusion and exclusion criteria. There was one study from the United Kingdom (UK), two studies from Canada, and five studies from the United States (US). The authors classified their articles as quasi-experimental, prospective, descriptive, qualitative, and quantitative, 3x3 factorial, repeated measures, 2x2 cross-over design pre and post-test, mixed design, and comparative. Methodologies used to collect data included program analysis, surveys, test score, questioners, academic records, and software. Only one study applied the theoretical frameworks<sup>12</sup>. It was Bandura social learning theoretical framework. A total of 1138 students participated in the studies. All the participants were in undergraduate nursing school.

### Students' Performance

Students' high performance is the key for nurse educators to have professional nurses with high performance who are able to offer nursing care in today's environment of change. Students enhance their performance while they increase their knowledge, skills ability, and critical thinking to solve urgent medical problems in safe environments. There were

significant effects on the students' performance when applying simulation rather than lecture<sup>2,3,6,11</sup>. On the other hand, there were significant effects from applying both simulation/instructional lecture<sup>4</sup>. As a result, the author encouraged applied lecture along with simulation because both strategies had a positive effect on students' performance<sup>2</sup>. To summarize, simulation had a positive effect on performance of students rather than lecture.

### Students' Self- Confidence

Nursing educators have a large role in teaching students to increase knowledge and guide the students to have the opportunities that enhance their self-confidence. This confidence comes with practicing skills, not during lecture<sup>11</sup>. Researchers found that self-confidence was increased with simulation as opposed to only lecture<sup>8,11</sup>. However, three studies reported that there was no significant difference in self-confidence with applying simulation and lecture<sup>6,9</sup>. On the other hand, two studies found that there were significant differences when utilizing simulation than lecture in students' self-confidence when using simulation as a strategy rather than lecture<sup>8,11</sup>. Again, the author reported that lecture must be used along with simulation to support students' knowledge and increase the confidence of students<sup>6</sup>.

### Students' Competence

Students' performance is the sign of increasing students' knowledge and skills. Assessing students' performance depends on students' knowledge during traditional lecture. It has been suggested that developing competency through the use of simulation strategy enhances nursing students' competence<sup>10</sup>. Two studies reported that there were significant differences when applying simulation rather than lecture in the students' competence in different groups in applying simulation rather than lecture<sup>8,10</sup>. The findings demonstrate significant differences when applying simulation as a strategy rather than lecture. Consequently, these findings will guide instructors to apply simulation in teaching nursing skills along with lecture and provide it in the development of the curriculum in the future.

### Students' Satisfaction

Students' satisfaction affects the students' performance, so having satisfied nursing students would enhance nursing outcomes<sup>10</sup>. Two studies

found that simulation has a significant effect on students' satisfaction compared to instructional lecture<sup>10,11</sup>. In contrast, one study reported that there were no significant effects when applied simulation to lecture<sup>3</sup>. However, one study found that nursing students who participated in this study reported their satisfaction increased when applying simulation in a safe environment<sup>11</sup>. However, Sinclair reported that there were significant differences in both groups with simulation, so simulation strategy increases the effectiveness of students' satisfaction rather than traditional lecture<sup>10</sup>. On the other hand, one study found that there was no positive effect on applying simulation compared to lecture in students' satisfaction<sup>3</sup>. The evidence suggests simulation has a qualitative effect on the students' assessment of satisfaction compared to lecture strategy alone. Thus, these findings should encourage faculty members to include simulation strategies as part of their curriculum

### CONCLUSION

The literature review has gaps. It has, nevertheless, provided evidence for curriculum to

apply stimulation strategies and a rationale for swift changes to better train current nursing students employing simulation strategies. Simulation has been shown to accommodate certain global issues in health care that do not allow women to examine male patients. This is one of the gaps the future work will be investigated. Whether or not, simulation would be a meaningful technology in countries where gender privacy customs have meaning. In a time of crowded teaching platforms, global needs for advanced studies in biomedicine and public health, simulation allows for a beginning in deconstruction strategies for meeting curriculum needs of the new century. How much the suitability of simulation technology in nursing curriculum today may be due to changes witnessed in secondary school teaching has not been investigated.

Most studies evaluated were peer – reviewed, nevertheless, there is still a need to repeat what has been conducted. There is a need an array of population studies of diverse groups. The sample sizes were not consistent for generalization of the findings for most of the studies. A randomization control trail is needed to strengthen control of the study variables<sup>6,11</sup>. The scores of students in pre and post-test that were variable could limit the findings of the studies. This has triggered other inquiries, as to what are the

variability's and what are the consistencies. . Also, in some cases there may be a lack of students' understanding of the difference between both traditional clinical environment and simulation environment would affect practice interaction<sup>10</sup>. Most of the researchers applied their own tools and constructing their studies. Validity and reliability of the instruments has more effect on the learning and teaching process and on the teaching methods as Simulation Design Scale instruments used to avoid any bias related to self-reported data<sup>11</sup>.

### Recommendations for Nursing Education

Nursing educators play a large role in developing nursing curriculum. Nursing curriculum must have benefits to enhance students' performance. Validity and reliability are required for any study to have strong research findings. Nursing educators must have experience and full training in how to apply simulation strategies. However, some educators believed there was no need to have experience and technological preparation to apply simulation<sup>3</sup>. Lecture along with simulation would advance nursing students' performance and satisfaction.

The greatest consensus among scholars for nursing curriculum were for lectures to be combined with simulation in order to increase students' performance and satisfaction significantly. Satisfaction and self- confidence will increase nursing students' performance that lead to reduced attrition. Interrogating the literature for performance reporting that using simulation substantiates the interest in inserting simulation into nursing programs. In conclusion, this brief literature review has intended to guide nursing educators to some of the advantages of using simulation in the future and to inform educators which strategies areas most helpful to increase students' performance in the development of nursing skills. As a result, author can say that both lecture and simulation are essential teaching strategies when used as partners in the process of educating nurses today, so they serve as complimentary strategies. Simulation can be used to supplement and replace clinical hours as the faculty personal shortage increases. Effective uses of simulation will need to be used to compensate for heightened student-faculty ratios. Although simulation is costly, findings indicate that the student benefits are worth the dollars spent. However, further research is needed with different populations and sample sizes to generalize these findings.

**Acknowledgement:** This is a capstone project presented in partial fulfillment of the requirement for the Master Degree in Nursing Education. I gratefully acknowledge my family members who are supported me always. I gratefully acknowledge King Abdullah Scholarship Program who sponsored my study.

**Conflict of Interest:** I have no conflict of interest to report.

**Sources of Funding:** I have no source of funding to report

**Ethical Clearance:** I have no ethical clearances to report.

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# Rewarding Experiences of First Time Pakistani Fathers - a Phenomenological Study

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## ABSTRACT

The postnatal period is a very significant period in a man's life, especially in the case of first time fathers; this may be in the form of rewards or challenges along with the required support system. It is important to understand, that men also go through transition like women and experience socio-cultural, psychological and physiological changes, therefore require support from healthcare professionals.

The purpose of this study was to describe, and interpret the experiences of men as first time fathers. A qualitative study, using the Van Manen's methodological approach for hermeneutic phenomenology was selected, in order to capture the meaning of this phenomenon.

Seven men were selected from pediatric consulting clinic of a large private university hospital on the basis of purposive sampling. Semi-structured interviews were conducted and recorded. The audio recorded interviews were transcribed and then translated from Urdu to English. Findings of the data formed a core notion of "Role Transition to fatherhood" and further led to various themes and related categories. This paper will focus on the theme 'Rewards' and its categories.

*Keywords:* Post Natal Experiences, Fatherhood, Role Transition, Phenomenology

## INTRODUCTION

Globally, research literature on the subject of fatherhood started emerging in the mid 70's and in the following decade, nursing practices started including fathers in the birthing process (Montigny & Lacharite, 2004). Role transition to fatherhood is a very critical period, especially in the case of first time fathers, for whom this is something; full of excitement but at the same time, full of challenges too. There are many experiences that men come across after the birth of their child, especially after the first child. According to Callister and Julkina (2003), "For many fathers, the birth of a child can be a significant emotional experience filled with excitement, fear and

gratification." (p. 1). Factors influencing these experiences include the cultural background, type of family; nuclear or extended, and gender of the child. Moreover, this transition also brings a lot of changes in the couple's life. Along with happiness and pride on the new arrival, fathers face lots of challenges too.

## PURPOSE

The main purpose of this study was to understand, describe and interpret the lived postnatal experiences of urban Pakistani men, as first time fathers.

## METHODOLOGY

Hermeneutic phenomenology was used as the research design and was based on interpretive approach. Phenomenological study design focuses on the way we experience the world and it differs from some other social or human sciences, which may focus, not on meanings but on statistical relationships, variables, on the predominance of social opinions, or

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on the occurrence for frequency of certain behaviors, (Van Manen, 1990, p. 11). Phenomenology can be hermeneutic phenomenology or descriptive phenomenology. Hermeneutic phenomenology describes, as well as interprets, the human experiences of their life-world (Van Manen, 1990). On the other hand descriptive phenomenology only describes life-world or lived experiences (Van Manen, 1990). Moreover, the descriptive approach captures the essence of consciousness within itself, as conscious is seen as separate from the outer world (Stapleton, 1983, as cited in Morse & Field, 1996). Conversely the hermeneutic approach emphasizes that consciousness is not separate from the world (Lavery, 2003). Though both the approaches discuss the description and life-world, the meaning of description in relation to the life-world is diverse. Study was approved by the ethics review committee of the university hospital, informed consent was obtained from the participants and confidentiality and anonymity was maintained throughout the research process.

Demographic data were obtained to describe the participant's profile. Semi-structured interview guide was designed; pilot tested and then was used for data collection through audio recording. Process of pilot testing helped the researchers to develop and strengthen the interview skills and practice verbatim transcription. The data was analyzed to extract theme and categories. After separating thematic statements, writing and rewriting was processed (Van Manen, 1990, p. 111).

## FINDINGS

### Demographic profile of the participants

Over all, seven participants were selected for this study. Majority of them (n=6) were between the age of 25 to 35 and only one participant was 41 years old. Participants' education background included graduate; Bachelors of commerce, Bachelor of Arts (n=3), and Masters; Masters of Business Administration, Masters of Science, Master of Arts (n=4). The income ranged between PKR.8, 000- 31,000 (1\$ was = PKR 60.9496). Pertaining to the duration of experience as first time father, 3 were between 1 to 4 weeks period and there were 2 participants in each

category; 5 to 8 weeks period and between 9 to 12 weeks period. The gender of the baby was boy (n=5) and girl (n=2). The participants' family system included joint family system (n=6) and nuclear family (n=1) and they were from Urdu speaking (n=5), Punjabi speaking (n=1) and Indian Hyderabad (n=1) ethnicity.

### Theme: Reward

During the process of interview, the study participants shared about the rewards of becoming a first time father, they mentioned being full of excited postpartum feelings at having a baby. Although the feelings varied, but the overall theme were divided into two main categories; worldly Rewards and spiritual Rewards

#### Category # 1: Worldly rewards.

The study participants mainly discussed the rewards as having material value. Being a first time father, in its own self, was seen as a wonderful reward, as it made them feel of having achieved something of major importance in their lives. It also made them proud of themselves, as they felt that now they themselves and their family were complete, According to the interview ID # 1:

*"Having a kid is rewarding.....I feel proud of myself that I have a baby and my family is complete".*

According to ID # 6

*"To describe this feeling in words is very difficult, but I think that the purpose of life actually begins".*

#### Category # 2: Spiritual rewards.

The study participants revealed that they also experienced spiritual rewards, as they became fathers for the first time, as God gifted them with a beautiful child and it changed everything around them. Their belief in spirituality got greatly enhanced. This spiritual reward made them thank God as all the supernatural powers combined and made things fine and easy for them and helped them overcome all their worries and doubts. According to the interview ID # 5:

*"We thanked God for perfect child, as we were very worried for this".*

## DISCUSSION

*It may sound simple but in all its actual depth, this is a phenomenon, which brings complete role transition in a man's life, and the most important of this comes in form of "Role Transition to Fatherhood". It has a very special place in the lives of the men who go through this experience as first time fathers, because, along with it, comes many rewards and challenges in the lives of these men.*

First time fathers experience extreme happiness when they became fathers, because, now, according to them, they achieved a sense of completeness, especially in the social, religious and cultural setting of Pakistan, where becoming a father earns them respect in the eyes of their family, relatives, friends and society. It is also considered assertion of continuation of the family generation if the newborn is a boy.

From the religious point of view, they felt that they had achieved a spiritual reward, as Islam has given females, particularly mothers, a very special and highly respectable position, and has given fathers who are blessed with daughters, the assurance that they will enter heaven if they take good care of their wellbeing and fulfill all their responsibilities. It should be noted here that, to researchers' knowledge, this type of a concept exists in Pakistan; contrary to the west, and, because of this, there is no literature available for this kind of a concept in the studies undertaken in the west.

Rewards are one side of the experience of being a first time father but with that comes the challenges. As per our findings of this research, the types of challenges that first time fathers come across are responsibilities, relationships, social concerns, psychological concerns and healthcare concerns. Out of these challenges some of them are short term, like they are faced and taken care of by the first time fathers within a few days after the newborn has arrived, whereas, others are long term, which go a long way in their lives.

The general and traditional perception in Pakistan about fathers is that their main responsibility is in the

form of bread earners for the family, but that is not the actual case, because when they transit into fathers' role, along with it comes many expectations and new responsibilities, which need advance preparation.

In Pakistani culture having a baby boy is much appreciated than having a girl, as son in their old age would become a source of financial support and will take care of them hence enabling them to live respectably in the old age. Also, when the son will grow up, he will participate in the economic activities of the family. Another point is that in case of daughters, the 'fathers' are under lot of financial pressure for arranging a handsome dowry in order to get their daughters wedded in a respectable manner and in a good family whereas in the case of a son it is vice versa as then son after getting married will become source of receiving the dowry brought by his wife.

Here researcher would like to bring into discussion a point that all these school of thoughts are directly related to the literacy level of the society and upbringing.

## CONCLUSION

The research findings concluded, that urban Pakistani first time fathers in their initial three months of fathering go through different experiences. These experiences come in form of rewards and challenges, which have never been noticed and all these revolve around the core notion of "Role Transition" to fatherhood.

## ACKNOWLEDGEMENT

I (Laila Pirani), would like to acknowledge the support from my MScN thesis supervisor, Dr. Rozina Karmaliani, Professor, School of Nursing and Midwifery and Community Health Sciences, Aga Khan University, committee members; Ms. Shaneela Khowaja, Sr. Instructor, Aga Khan University School of Nursing and Midwifery, Dr. Nargis Asad, Assistant Professor, Psychiatry, Medical College, Aga Khan University, and Dr. Nadeem Zuberi, Associate Professor, department of Obstetrics and Gynecology, Medical College, Aga Khan University for their support and facilitation throughout my research process. Their special support is to be highlighted in dealing with this sensitive area of research.

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# Effectiveness of Planned Teaching Programme on Knowledge Regarding "Prevention of Needle Stick Injury" among B.Sc. Nursing Students in Selected Colleges of Gujarat

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## ABSTRACT

**Background:** The Centers for Disease Control and Prevention estimates that each year 385,000 needle sticks and other sharps-related injuries are sustained by hospital-based health care personnel; an average of 1,000 sharps injuries per day.

**Material and Method:** An evaluative research approach with pre- experimental design is used. Non probability convenience sampling technique was used to select the 70 samples of final year B.Sc. nursing students and data collection was done. Data was analyzed by using descriptive and interferential statistics.

**Result:** The result shows that the mean posttest knowledge score (29.71) is higher than the mean pretest knowledge score (19.50). The comparison of the pre - test and post - test knowledge score showed that there was a significant gain in knowledge score of the final year B.Sc. nursing students after PTP.

**Conclusion:** Findings revealed that planned teaching programme is highly effective in improving knowledge of final year B.Sc. Nursing students regarding prevention of needle stick injury.

**Keywords:** *Prevention of Needle Stick Injury, Planned Teaching Programme, B.Sc. Nursing Students*

## INTRODUCTION

The trend seen since last few years has shown that the lots of students are interested in pursuing their carrier as nurse either in India or at international level. The Nursing students are posted since the first year to various hospital where they gain there practical experience. Nursing students are therefore at increased risk for acquiring blood born infections.<sup>1</sup>

Each year, at least 1,000 healthcare workers contract a serious infection from needle stick injuries. The majority will become infected due to the growing spread of hepatitis B, hepatitis C and human immunodeficiency virus.<sup>2</sup>

Needle stick injuries means the parenteral introduction into the body of a health care worker,

during the performance of his or her duties, of blood or other potentially infectious material by a hollow-bore needle or sharp instrument, including needles, lancets, scalpels, and contaminated broken glass.<sup>3</sup>

Over 80% of needle stick injuries can be prevented with the use of safe needle devices, which, in conjunction with worker education and work practice controls, can reduce injuries by over 90%.<sup>4</sup>

## OBJECTIVES

1. To assess the pretest knowledge score of B.Sc. nursing students on prevention of needle stick injury;
2. To develop and administer the planned teaching programme;



3. To evaluate the effectiveness of planned teaching programme regarding needle stick injuries among B.Sc nursing students with their demographic variables and
4. To find the association between posttest knowledge score with selected demographic variables.

**MATERIAL AND METHOD**

An evaluative approach was used in the study since the purpose of the study was to assess the effectiveness of planned teaching programme regarding prevention of needle stick injury among B.Sc. nursing students. In the present study the investigator selected one group pretest posttest design, which is a pre experimental design.

In this study with the help of non-probability convenience sampling technique 70 samples final year B.Sc. nursing students of selected colleges of Gujarat was selected. In this study data collection instrument was structured knowledge questionnaire.

Data was collected from them by using a structured knowledge questionnaire before and after administration of PTP. The data collection procedure was carried out from 1<sup>st</sup> November 2013 to 23<sup>rd</sup> November 2013 for the period of 3 weeks. The investigator himself collected both pretest and posttest data and also implemented planned teaching programme.

Content validity was established by 09 experts comprising of 06 nursing experts from medical surgical nursing department, 01 intensivist, 01 researcher, 01 biostatistician. The reliability was established by using split half technique and spearman’s brown prophecy formula. (r = 0.88)

Data was analyzed by using descriptive and inferential statistics such as standard deviation, chi-test, and paired ‘t’ test, ANOVA Table.

**RESULT**

The data is analyzed and presented under the following headings;

**Section A:** Analysis of demographic characteristics of the B.Sc. nursing students.

In this section, The finding depicts the majority (85.7) percent respondents belongs to the age group

of 20 – 21 years of age, (91.4) percentage of the respondents were females, (64.3) percentage of the students experience needle stick injury previously, (38.6) percentage of the respondents experience one time needle stick injury, (14.3) percentage for two times, (02.9) percentage for three times, (08.6) percentage for more than 3 times and (35.7) percentage of the respondents do not experience needle stick injury. majority (75.7) percentage of the respondent had not received any information earlier regarding prevention of needle stick injury.

**Section B:** Analysis of knowledge score of B.Sc. nursing students on prevention of needle stick injury.

The finding reveals that in the pretest majority (48.6) percentage of the respondent had average knowledge, (34.3) percentage had good knowledge and (17.1) percentage had poor knowledge on prevention of needle stick injury.

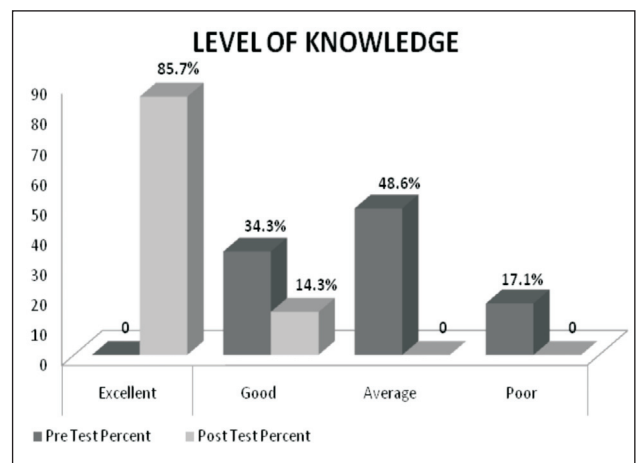


Fig. 1. Bar diagram showing percentage distribution of the samples according to their level of knowledge in pretest and posttest

In the post test, majority (85.7) percentage of the respondents had excellent knowledge and remaining (14.3) percentage of the respondents had poor knowledge on prevention of needle stick injury.

**Section C:** Evaluate effectiveness of planned teaching programme regarding prevention of needle stick injury

**Table 01:** Significance of the difference between computed mean of pretest and posttest knowledge score

	Mean	Standard Deviation	‘t’ value	Table value	P value
Pretest	19.50	3.387	24.07	1.667	.000
Posttest	29.71	1.118			

Pretest and posttest mean knowledge scores and 't' value showed that the mean gain in knowledge score. Hence, stated research hypothesis is accepted.

**Section D:** Analysis and interpretation association between posttest knowledge score with selected demographic variables

The finding depicts that there is no any significant association between the posttest knowledge score with the Age, Gender, Previous experience of needle stick injury, Occurrence of needle stick injury and Information received previously on needle stick injury of the respondents and association was find out by using ANOVA table and interpretation was done.

### DISCUSSION

The Centers for Disease Control (CDC) and Prevention estimates that each year 385,000 needle sticks and other sharps-related injuries are sustained by hospital-based health care personnel. Majority of injuries were due to hollow bore needle 32(97%) and 1(3%) were due to solid needle. A survey of 4,407 nurses carried out by the royal college of nursing found that 48% had been injured by a needle or sharp that had previously been used on a patient.<sup>5</sup>

The present study was undertaken to evaluate the effectiveness of PTP on prevention of NSI among final year B.Sc. nursing students. Pre experimental research design with single group pretest posttest design approach was adopted in order to achieve the objectives of the study. The samples were selected using convenient sampling technique. The sample size was 70 and the data was collected from them by using a structured knowledge questionnaire before and after administration of PTP.

Pretest and posttest mean knowledge scores and 't' value showed that the mean gain in knowledge score. The 't' value was significant ( $t= 24.07$ ) at  $p < 0.001$  level indicating the planned teaching programme regarding needle stick injury was effective. Hence, stated research hypothesis is accepted.

Item wise effectiveness of PTP of knowledge score on prevalence and prevention of needle stick injury. The differential score of this section shows that there is a positive impact of the study on the respondent. Furthermore the P value shows that there is strong association between pre and post test score of the study.

The finding depicts that there is no any significant association between the posttest knowledge score with the Age, Gender, Previous experience of needle stick injury.

### CONCLUSION

In the pretest conducted among 70 subjects, none had excellent knowledge score. In the post test, 85.7% had excellent knowledge score on prevention of needle stick injury after administration of planned teaching programme.

The gain in knowledge score was significant at 0.05 level of significant and calculated paired t test value is 24.07 which is greater than table paired t value 1.667. Findings revealed that planned teaching programme on prevention of needle stick injury was an effective teaching strategy in gain in knowledge of the students.

The study findings have several implications in nursing. They can be categorized under nursing practice, nursing education, nursing research and nursing administration.

**Conflict of Interest:** None

**Source of Funding:** Self

**Ethical Clearance:** Obtained from Sumandeep Vidyapeeth University, Vadodara (copy enclosed)

**Acknowledgement:** This thesis is the result of two years of work for which I acknowledge god almighty, my family for their constant encouragement and all who have directly and indirectly rendered a hand of support for the completion of the thesis.

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# Effectiveness of Video Instructional Module Regarding Zero Waste Management among Adults in Selected Wards at Colachel Municipality, Kanyakumari District

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## ABSTRACT

Zero waste is a goal that is ethical, economical, efficient and visionary, to guide people in changing their lifestyles and practices to emulate sustainable natural cycles, where all discarded materials are designed to become resources for others to use. The aim of present study was to assess the effectiveness of video instructional module regarding zero waste management among adults. A pre experimental with one group pre test - post test design was used for the study. A sample of 100 adults in ward 16 of Colachel Municipality was selected by simple random technique. Data were collected using a structured knowledge questionnaire and attitude scale before and after administration of video instructional module. Analysis was done using both descriptive and inferential statistics. Results show that video instructional module on zero waste management was effective in increasing the knowledge ( $t= 30.32$   $p<0.05$ ) and changing attitude ( $t= 12.64$   $p<0.05$ ) of adults. There was a significant association between pretest knowledge scores and education, monthly income. There was a significant association between pretest attitude scores and age, sex, education, occupation, monthly income, source of information.

**Keywords:** Effectiveness, Video Instructional Module, Knowledge, Attitude, Zero Waste Management, Adults

## INTRODUCTION

Waste is sometimes a subjective concept, because items that some people discard may have value to others. It is widely recognized that waste materials can be a how this value is best realized<sup>3</sup>.

Disposal of waste is now largely the domain of sanitarians and public health engineers. Waste, despite their name, are not so. The so called waste contains plenty of useful substances which can be refused with advantage<sup>2</sup>.

Waste management is vital to the healthy functioning of a society. Throughout history, sanitation issues have been to blame for disease outbreaks and epidemics in most populated regions of the world. Improper waste management has negative

effects on individual health, and similarly it also negatively impacts environmental health<sup>5</sup>.

Zero waste, viewed as post-discard total recycling of materials only and zero waste as the reuse of all high level function remains a serious one today. It is probably difference between established recyclers and emerging zero-wasters. A signature example is the difference between smashing a glass bottle by recovering cheap glass and refilling the bottle by recovering the entire function of container<sup>1</sup>.

Twenty eight percent of solid waste or 64 million tons is recovered and recycled or composed. Fifteen percent or 34 million tons, is burned at combustion facilities and the remaining 57 percent or 132 million tons, is disposed of in landfills<sup>7</sup>.

Each year an estimated 500 billion to one trillion plastic bags are consumed worldwide, which is about over one million a minute and most of them end up in the dust bin in a few minutes<sup>3</sup>.

Today, our society is consumer driven in nature where high consumption is the way of getting recognition and being treated as an identity in the community. The different ways for zero waste management are to Refuse, Reduce, Recycle and Reuse. As we dump more garbage we are inviting various diseases. It also pollutes the environment. So, in order to be eco-friendly and keep the environment clean let us follow the practice of recycling and reusing<sup>5</sup>.

In order to create awareness towards the public regarding waste management and minimizing the pollution in the environment, many awareness programmes are initiated and conducted at community level by the local government, health care providers and by voluntary and non voluntary organizations. Community Health Nursing personnel are in the best position to create awareness regarding zero waste management in community. Hence the investigator developed a Video Instructional Module on zero waste management to enhance the knowledge and change attitude of adults.

### OBJECTIVES

1. To assess the knowledge regarding zero waste management among adults before and after administration of video instructional module.
2. To assess the attitude regarding zero waste management among adults before and after administration of video instructional module.
3. To find out the relationship between knowledge and attitude regarding zero waste management among adults.
4. To find out the association between knowledge and attitude scores of the adults with selected demographic variables such as age, sex, education, occupation, religion, monthly income, source of information and method of waste disposal at home.

### CONCEPTUAL FRAMEWORK

The conceptual framework of the study is based on the J.W. Kenny's Open System model (2002).

### MATERIALS AND METHOD

**Research Design:** Pre experimental with one group pre test – post test design was used in this study. The design used is depicted below

O<sub>1</sub> X O<sub>2</sub>

**Setting:** The study was conducted in Ward 16 of Colachel Municipality which consist of 617 adult population. The Municipality is at a distance of about 8 kilometers away from Christian College of Nursing, Neyyoor.

**Sample and Sampling Technique:** Simple random sampling technique was used draw the sample. In this study, the investigator adopted a lottery method to choose 100 adults according to the sample criteria.

### Development and Description of the Tool

**Video Instructional Module:** Video Instructional Module was devised based on review of literature and expert opinion. It consist of information on zero waste management under following headings.

1. General information
2. Types of waste
3. Hazards of waste
4. Methods of waste management
5. Activities taken by the government.

**Section-I: Demographic data,** includes age, sex, education, occupation, religion, monthly income, source of information and method of waste disposal at home.

**Section-II: Structured Knowledge Questionnaire,** to assess knowledge of adults regarding zero waste management in the form of 40 multiple choice questions. The total attainable score was 40, which were classified as adequate (76 - 100%), moderate (51-75%) and inadequate (0-50%) knowledge.

**Section-III: Five point Likert's Attitude Scale,** to assess attitude of adults regarding zero waste management in the form of 10 statements. The total attainable score was 10, which were classified as highly positive attitude (81-100%), positive attitude (61-80%), neutral attitude (41-60%), negative attitude (21-40%), and highly negative attitude (1-20%).

**Testing of the Tool and Video Instructional Module:**

Tools validation was done by seven experts in the field of nursing and community medicine. The reliability of the tool was determined by test-retest method and reliability co-efficient was found to be 0.99 for both structured knowledge questionnaire and attitude scale. The content of the video instructional module were clear and the language used was easy to understand.

**DATA COLLECTION PROCEDURE**

Formal permission was obtained from Chairman of Colachel municipality and informed consent was obtained from the samples. The sample was selected based on the sampling criteria. Pre test was conducted using structured knowledge questionnaire and five point attitude scale by structured interview schedule on zero waste management. Video Instructional Module regarding zero waste management was administered for a period of 45 minutes on the same day. Post test was conducted after two weeks.

**RESULTS**

In the present study majority (48%) were in the age group between 41- 50 years, (61%) were females, (37%) had primary education, (42%) were daily wages, (51%) were Hindu, (34%) earn Rs.3000 and below, (37%) were got zero waste management awareness through Health care professionals and (79%) were practising method of waste disposal through dust bin.

Table 1 shows the mean pretest knowledge score was 16.14 with SD 3.109 and in the posttest the mean was 30.18 with SD 3.455 and mean pretest attitude score was 32.77 with SD 10.89 and in the posttest the mean was 47.02 with SD 2.93. The calculated knowledge 't' value was 30.32 and attitude 't' value was 12.64, which indicates there was high level of significance at  $p < 0.05$  level between the pretest and posttest level of knowledge and attitude showing the effectiveness of video instructional module in increasing the knowledge and changing attitude towards zero waste management among adults.

**Table 1: Comparison of pre and post test level of knowledge and attitude to determine the effectiveness of video instructional module**

(N=100)

S. No	Variables	Mean		SD		"t" value
		Pre test	Post test	Pre test	Post test	
1.	Knowledge	16.14	30.18	3.109	3.455	30.32
2.	Attitude	32.77	47.02	10.89	2.93	12.64

\* P &lt; 0.05 level

Table 2 indicates co-efficient correlation computed between knowledge and attitude scores of sample subject and it is observed that there is a positive

relationship exist between knowledge and attitude scores as the value 'r'=0.606 which is significant at 0.05 level.

**Table 2: Relationship between Post test Knowledge and post test Attitude Scores of Sample Subjects**

(N=100)

No	Variables	Mean	SD	'r' value
1.	Knowledge	30.18	3.103	0.606
2.	Attitude	47.02	2.905	

The chi-square value presented in Table 3 shows that there was a significant association of knowledge of Zero Waste Management with education and monthly income and there was no association between

knowledge of Zero Waste Management with age, sex, occupation, religion, source of information and method of waste disposal at home of adults.

**Table 3: Association Between Level Of Knowledge Regarding Zero Waste Management And Selected Demographic Variables.**

(N=100)

S. No	Demographic Variables	$\chi^2$ value	Df	P value
1	<b>Age</b>			
	31-40 years	1.9175#	2	5.99
	41-50 years			
	51-60 years			
2	<b>Sex</b>			
	Male	1.6859#	1	3.84
	Female			
3	<b>Education</b>			
	Uneducated	11.5982*	4	9.49
	Primary			
	Secondary			
	Graduate			
	Post graduate			
4	<b>Occupation</b>			
	House wife	4.3834#	4	9.49
	Daily wages			
	Business			
	Medical Profession			
	Non Medical			
	Profession			
5	<b>Religion</b>			
	Christian	4.4419#	2	5.99
	Hindu			
	Muslim			
6	<b>Monthly income (Rs)</b>			
	3000and below	8.2827*	3	7.82
	3001-5000			
	5001-10000			
	10,001and above			
7	<b>Source of information</b>			
	Mass media	5.8412#	2	5.99
	Friends & Relatives			
	Health care			
	Professionals			
8	<b>Method of waste disposal at home</b>			
	Dustbin	4.9071#	3	7.82
	Burning			
	Land fill			
	Throwing the waste in common place			

\*p &lt;0.05 level

The chi-square value presented in Table 4 shows that there was a significant association of attitude of Zero Waste Management with age, sex, education, occupation, monthly income and source of information

and there was no significant association between attitude of Zero Waste Management with religion and method of waste disposal at home of adults.

**Table 4: Association Between Level Of Attitude Regarding Zero Waste Management And Selected Demographic Variables.**

(N=100)

S. No	Demographic Variables	$\chi^2$ value	Df	P value
1	<b>Age</b>			
	31-40 years	18.4307*	2	5.99
	41-50 years			
	51-60 years			
2	<b>Sex</b>			
	Male	9.3215*	1	3.84
	Female			
3	<b>Education</b>			
	Uneducated	14.501*	4	9.49
	Primary			
	Secondary			
	Graduate			
	Post graduate			
4	<b>Occupation</b>			
	House wife	12.4361*	4	9.49
	Daily wages			
	Business			
	Medical Profession			
	Non Medical			
	Profession			
5	<b>Religion</b>			
	Christian	0.6813#	2	5.99
	Hindu			
	Muslim			
6	<b>Monthly income (Rs)</b>			
	3000and below	35.0251*	3	7.82
	3001-5000			
	5001-10000			
	10,001and above			
7	<b>Source of information</b>			
	Mass media	23.5996*	2	5.99
	Friends & Relatives			
	Health care			
	Professionals			
8	<b>Method of waste disposal at home</b>			
	Dustbin	5.6578#	3	7.82
	Burning			
	Land fill			
	Throwing the waste in common place			

P &lt; 0.05 level

## DISCUSSION

The present study findings showed that the mean post test score of knowledge and attitude is significantly higher than the mean pre test score, (t=30.32, p<0.05) and (t=12.64, p<0.05).

The study revealed that Video Instructional Module had played significant role in improving the knowledge (t=30.32, p<0.05) and changing attitude (t=12.64, p<0.05) of adults regarding zero waste management.



## CONCLUSION

The study concluded that Video Instructional Module on zero waste management was effective in increasing the knowledge and attitude of adults. There was a significant positive relationship between posttest knowledge score and posttest attitude score on zero waste management of the adults. There was a significant association between pretest knowledge scores education and monthly income. But there was no significant association between pretest knowledge scores and age, sex, occupation, religion, source of information, method of waste disposal at home of adults. There was a significant association between pretest attitude scores and age, sex, education, occupation, monthly income, source of information. But there was no significant association between pretest attitude scores and religion, method of waste disposal at home of adults.

## RECOMMENDATIONS

1. A comparative study can be carried out to ascertain the knowledge and attitude among adults in rural and urban areas.
2. The video instructional module should be reviewed from time to time in order to incorporate the current trends.
3. A longitudinal study can be conducted regarding ill effects of industrial, electronic waste and auto mobile waste.
4. A Qualitative study can be carried out on practice of Zero Waste Management among the shopkeepers, municipality workers, industrial workers and persons who are working in soft ware and hard ware companies.

**Acknowledgement:** I am proud to acknowledge the support and prayers of my all friends who were an immense source of motivation and encouragement for me to achieve this goal.

**Conflict of Interest:** Nil

**Source of Funding:** Self

**Ethical Clearance:** This research proposal was approved by ethical committee of Christian College of Nursing, Neyyoor and formal permission was obtained from Chairman of Colachel Municipality to conduct the study.

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# A Descriptive Study on Self-Esteem among Nurses Working in Selected Hospitals of Udupi and Mangalore Districts Karnataka, India

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## ABSTRACT

Self-esteem is the extent to which we deem our value, worth, and competence as a person. It factors significantly in how we view ourselves and the manner in which we progress through life. Nurses with healthy self-esteem are likely to deliver therapeutic patient care, while those with low self-esteem are less likely to do so. Objectives of the study were to determine self-esteem among nurses and to find its association with selected variables. The study population consisted of 1040 registered nurses working in selected medical college hospitals and government hospitals of Udupi and Mangalore districts. Descriptive survey design was used to conduct the study. Purposive sampling was used to select the samples. Data were gathered by administering background proforma and self-esteem questionnaires. Majority of the subjects had normal self-esteem i.e.813 (78.2%) and 211(20.3%) had low self-esteem. Self-esteem of nurses had significant association with area of work and, daily working hours with regard to work variables.

*Keywords:* Self-Esteem; Nurses

## INTRODUCTION

Self-esteem is the extent to which we deem our value, worth, and competence as a person. It factors significantly in how we view ourselves and the manner in which we progress through life. Hence, low self-esteem is best described as a negative view of one's perceived value, worthiness, and competency.<sup>1</sup> Nurses with healthy self-esteem are likely to deliver therapeutic patient care, while those with low self-esteem are less likely to do so. Nursing staff members who struggle with their self-esteems also display immature behaviors at the workplace.

Westaway, Wessie, Viljoen, Booyesen, Wolmarans (1996) investigated self-esteem among 2,000 South African nurses. A postal survey was conducted on a

random sample of nurses registered with the South African Nursing Council; 396 persons returned the questionnaires (Group 1). A subsample of 93 non-respondents was traced who agreed to complete the questionnaire (Group 2). Minimal differences justified combining the groups and conducting subsequent analyses on total sample scores. Coefficient alpha for the self-esteem scale was 0.72, 0.87 for the work-related needs scale and 0.80 for the social approval scale. High self-esteem nurses were more likely to attend to work-related needs in judging their job satisfaction than low self-esteem nurses. The best model for predicting job satisfaction was the linear incorporation of self-esteem and work-related needs.<sup>2</sup>

Harue, Chiaki, Kahoru, Motoi, Satokok, Michio et al (2001) conducted a study on the self-esteem of nurses and its associations with years of experience, age, job satisfaction, and intention to work. A questionnaire was distributed to 3,895 nurses employed in the hospitals of G Prefecture, Japan and the 3,345 nurses who gave their consent were adopted as subjects of the study. The response rate was 85.9%. For analyzing the self-esteem of nurses in this study,

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data of only 2,712 (69.6%) registered clinical nurses were used, excluding midwives, public health nurses and licensed practical nurses. The results showed that the mean scores for self-esteem showed a tendency to rise significantly with years of experience, Nurses who were satisfied with their current job had higher scores for self-esteem and in terms of intention to work, the largest number of subjects replied that they wanted to continue working until retirement age, and they also had high scores for self-esteem.<sup>3</sup>

Fothergill, Edwards, Hannigan, Burnard, Coyle (2000) conducted a survey of community mental health nurses (CMHNs) to determine their levels of stress, self-esteem, coping and burnout. A total of 301 CMHNs were surveyed in 10 National Health Service Trusts in Wales. A range of measures were used. These included the General Health Questionnaire (GHQ-12-1981), Maslach Burnout Inventory (MBI, 1986), Rosenberg Self-Esteem Scale (SES, 1965), Community Psychiatric Nursing (CPN) Stress Questionnaire (Carson, 1991), and Psychiatry Nurses' Methods of Coping Questionnaire (McElfatrick et al 2000). Community mental health nurses in Wales scored average self-esteem. When the data were divided into high and low self-esteem, a large group of CMHNs (40%) were found to have low self-esteem. Factors that are associated with low and high self-esteem were identified. Alcohol consumption and being on lower nursing grades (D, E, F) were associated with low self-esteem, whilst amount of experience working as a CMHN was associated with high self-esteem.<sup>4</sup>

Noh, Sohng (1997) identified the self-esteem of nurses in Korea. These data were collected from 700 nurses in hospital setting by self-reporting questionnaire, Rosenberg's self-esteem scale (SES, 1965), Professional self-concept of nurses instrument (PSCNI) by Arthur (1995), from Dec. 1994 to Jan, 1995. The data were analyzed using descriptive statistics with SAS program. The mean of self-esteem was 30.74. The correlation between self-esteem and PSCNI was slightly moderate ( $r=0.57$ ). The self-esteem of nurses was found to be significant by age ( $p=0.02$ ), religion ( $p=0.0004$ ), position ( $p=0.01$ ). This study suggested that we need to identify the factors influencing self-esteem and to design programs to increase self-esteem.<sup>5</sup>

## OBJECTIVES

1. To determine the self-esteem among nurses
2. To find the association between self-esteem and

selected demographic variables and work place variables

## MATERIAL AND METHOD

The study was conducted in selected medical college hospitals and government hospitals of Udupi and Mangalore districts by using survey approach. The study population consisted of the registered nurses working in selected medical college hospitals and government hospitals of Udupi and Mangalore districts during the period of data collection in 2009-2010. Purposive sampling was used to select the samples from medical college hospitals, whereas all available samples were chosen from government hospitals as the population was comparatively very less in government hospitals. Total sample size was 1040. Sampling criteria included female nurses who were: registered with state nursing council, working as staff nurses, involved in direct patient care, employed at the hospital at least six months and working in respective units at least six months. The instruments used to collect the data were Background proforma and Rosenberg's self-esteem questionnaire

### Tool 1: Background proforma

It had 11 items such as age, professional qualification, marital status, married status, type of family, number of children, monthly income, area of work, daily working hours, experience in current area of work and total years of experience as a nurse. Content validity was established by nine experts from the field of psychiatric nursing, psychiatry, psychology and psychiatric social work.

### Tool 2: Self-esteem questionnaire

This is a standardized scale developed by Morris Rosenberg in the year 1965. It is a brief and unidimensional, self-report measure of global self-esteem. It consists of 10 statements related to overall feelings of self-worth or self-acceptance. Rosenberg (1965) reported internal consistency reliability ranging from 0.85 to 0.88 and validity across a large number of different sample groups. The items are answered on a four-point scale ranging from strongly agree to strongly disagree with the scoring of 3-0. Items 2, 5, 6, 8, and 9 have reverse scoring as the items are worded negatively. Total scores range from 0 to 30, with higher scores indicating higher self-esteem. Scores below 15 suggest low self-esteem and scores between 15 and 25 are within normal range and above 25 is high self-esteem.

## DATA COLLECTION PROCEDURE

The nurses were contacted and administered the questionnaires in their respective wards during different shifts according to their convenient time. The institutions which had continuing nursing education programme (CNE) nurses were met and data were collected soon after the CNE sessions.

### Ethical considerations

Written permission was obtained from Dean, Manipal College of Nursing Manipal, Manipal University and also from the administrators of the institutions selected for the study. The study proposal was presented to the PhD committee of the Manipal University and ethical committee members of Kasturba hospital, Manipal and ethical clearance was sought. Permission was also sought from the administrators of the institutions from where the subjects were selected. On the days of data collection, the researcher introduced herself and the purpose of the study was explained to the subjects and written consent was taken. Subject information was also provided to them. The subjects were assured of the confidentiality of the information provided.

## RESULTS

The gathered data were first coded and summarized in a master sheet and then analysed using SPSS for windows 11.5 and 16.

### Description of Sample characteristics

Age of the subjects varied from 21 to 56 years, with a mean age of  $28.9 \pm 7.67$  years. Majority (70.2%) of the subjects were in the age group of 21- to 30 years. General Nursing and Midwifery was the professional qualification for 906 (87.1%) of the subjects. With reference to marital status, 555 (53.4%) were single and among the married 326 (67.22%) of the subjects were staying with spouse and 142 (29.28) were staying away from spouse due to job related reason. With regard to type of family 858 (82.5%) were from nuclear family. Data on number children show that among 485 married subjects most of them i.e. 214 (44.13%) have two children and 17.32% had no children. Monthly income for 532 (51.2%) of the subjects was within the range of rupees 5001-9000.

With regard to area of work most (32.1%) of the nurses were from medical area followed by surgical area which was 17.6%. Majority (75.5%) of them was

working for eight hours a day, but 5.7 % of them were working for 12 hours or more. With reference to data on total years of experience 592 (56.92%) had 1-5 years of experience and 54 (5.19) of them had experience more than 20 years. Data on Experience in current area of work reveal that 390 (37.5%) had less than one year of experience and 138 (13.27) had more than five years of Experience in current area of work.

### Description of Self-esteem

Findings on self-esteem of nurses is presented in the following figure.

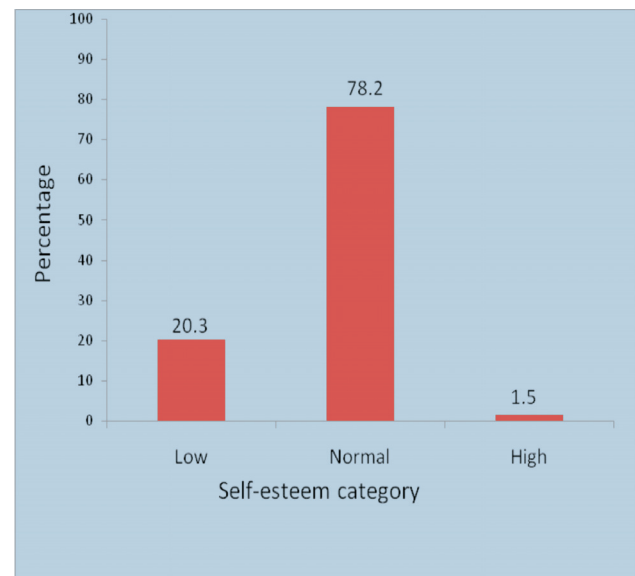


Fig. 1: Bar diagram showing self-esteem of nurses

Data on self-esteem presented in above figure show that 211 (20.3%) had low self-esteem and 813 (78.2%) had normal self-esteem and 16 (1.5%) had high self-esteem.

### Association between self-esteem and demographic variables

As age was a continuous variable and did not follow normality, Spearman's rho was calculated between self-esteem and age to determine whether age is related to self-esteem among nurses. The Spearman Rho calculated was -0.005 with p value of 0.86 which was not significant at 0.05 level. It can be interpreted there is no relationship between self-esteem and age of nurses.

Data on association between self-esteem and other demographic variables is presented in the following table.

**Table 1:Median, IQR, Test statistic, df and p value of self-esteem and demographic variables of nurses****n =1040**

Demographic variables	Median	Inter quartile range	p value	Test statistic & df
<b>Professional qualification</b>				
GNM	17	15-19	0.78	0.68
BBSsc	17	15-18.5	2	
PCBSc	18	16-19		
<b>Marital status*</b>				
Single	17	15- 19	0.12	0.9
Married	17	15-19	1	
<b>If married(Married status)</b>				
Staying with spouse	17	15-19	12.71	0.005
Staying away from spouse	16	14.75-18	3	
Divorced	14.5	12.25-16.25		
Widowed	17	14-20		
<b>Type of family*</b>				
Nuclear	17	15 19	0.62	0.54
Joint	17	15-19	1	
<b>No. of children</b>				
None	16	15-19	2.18	0.53
One	17	15-19	3	
Two	17	15-19.		
Three or more	18	16-19		
<b>Monthly income in Rupees</b>				
<5000	17	15-19	2.83	0.42
5001-9000	17	15-19	3	
9001-13000	17	15-19		
>13000	17	14.75-18		

It is observed from above table that there is significant association between self-esteem and married status (Staying with spouse, staying away from spouse, divorced and widowed) of the nurses as the p-value computed is 0.005. Married status can be

considered as one of the factors determining self-esteem of nurses. Kruskal-Wallis test was significant Bonferroni correction was used to determine the association between the categories of married status and self-esteem and the finding are presented in table below.

**Table 2: z value, and p value of self-esteem with regard to total years of experience and experience in current area of work after Bonferroni correction****n=1040**

Grouping variable	Groups	z value	p- value
<b>Married status*</b>	Staying with spouse Widowed	0.54	0.59
	Staying with spouse Divorced	2.25	0.025
	Staying with spouse Staying away from spouse for job reason	2.88	0.004
	Staying away from spouse Widowed	0.29	0.76
	Staying away from spouse Divorced	1.77	0.08
	Divorced Widowed	1.31	0.19

Bonferroni corrected level of significance\*0.0083

Findings from table 27 show the significant association between self-esteem and pair of staying with husband and staying away from husband for job reason. Examining the median scores of these category

in table 1 show that subjects staying away from husband due to job reason (Md=16) are having less self-esteem compared to the subjects staying with husband (Md=17).

### Association between self-esteem and work variables

Table 3: Median, IQR, Test statistic, df and p value of self-esteem and work variables of nurses

n=1040

Work variables	Median	Inter quartile range	Test statistic &df	p value
<b>Area of current work</b>				
Medical	17	15-19	23.088	0.003
Surgical	16	15-18		
Operation theatre	18	16-19		
Intensive care unit	17	16-20		
Casualty	16	14-18		
Special ward	16.5	15-18.75		
Paediatrics	17	14.75-18		
OBG	17	15-18.		
Dialysis	18	17 -19		
<b>Daily working hours</b>				
8	17	15-19	6.562	0.04
10	17	15-18		
12 and more	16	14-17		
<b>Total years of experience</b>				
1-5	17	15-19	2.924	0.57
6-10	17	14-19		
11-15	17	15-19		
16-20	17	15-18		
>20	17	16-18		
<b>Experience in current area of work</b>				
<1	17	15-19	1.813	0.61
1-3	17	15-19		
3-5	16	15-18.75		
>5	17	15-19		

Data presented in table 3 show that self-esteem of nurses has significant association with area of work and, daily working hours ( $p < 0.05$ ). Data were further analysed with Bonferroni correction and the findings showed that significant association is exist in the area of work pair of surgical : ICU. As presented in table 3 median self-esteem score (17) is high for nurses working in Intensive care units and also nurses working for eight hours daily are having higher self-esteem.

### DISCUSSION

Present study revealed that 211 (20.3%) of subjects had low self-esteem, 813 (78.2%) had normal self-esteem and 16 (1.5%) had high self-esteem. Different

finding is reported by Fothergill, Edwards, Hannigan, Burnard, Coyle (2000)<sup>4</sup> who conducted a survey of community mental health nurses (CMHNs) in Wales, UK to determine the levels of stress, self-esteem, coping and burnout and they found a large group of CMHNs (40%) as having low self-esteem. This could be due to the population selected for the study (community mental health nurses). But the present study did not have anyone working in the community set up. In addition and there are differences in role functions of the nurses working in hospital and community set up. On the contrary Balseiro AL, Valle AMJ, Gracida JL, Guerrero OF, Hernandez PML (2006)<sup>6</sup> in a study in Mexico city found 78.77% of the nurses as having higher self-esteem. Present study found a significant association between self-esteem and married status

(subjects staying with husband), area of work (nurses working in Intensive care units) and also nurses working for eight hours daily.

Present study did not find significant association between self-esteem and years of experience whereas study conducted by Harue F, Chiaki A, Kahoru S, Motoi S, Satokok K, Michio O, et.al (2001)<sup>3</sup> in Japan reported that the mean scores for self-esteem showed a tendency to rise significantly with years of experience which is natural as the years of experience adds to their skill and knowledge in their work. In addition the appreciation they receive from the patients, superiors and other health team members may also contribute to their gaining a better self-esteem.

### CONCLUSION

Self-esteem depends on the area of work, working hours, and presence of the spouses for married nurses. Nurse administrators have to make sure that their nurses are not working more than eight hours and rotating the nurses after a specific and reasonable period of time may be recommended as the nurses get a chance to be in different areas.

**Acknowledgement:** Authors are thankful to the administrators of the selected institutions and the nurses who participated in the study willingly.

**Source of Funding:** Self

**Conflict of Interest:** Nil

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# Knowledge Regarding Epilepsy and its Home Care Management among Adults

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## ABSTRACT

**Background of the study:** Epilepsy is neuropsychiatric disorder in which seizure occurs. Epilepsy seizures that disrupt the nervous system and can cause mental and physical dysfunction. Knowledge about epilepsy and home care is essential to prevent from complications, but people are having less knowledge about epilepsy and its home care management and they are having so many myths about epilepsy, so there is a need to assess the knowledge of adults regarding epilepsy and its home care management and provide information booklet in view to improve their knowledge.

### Objective

1. To assess the knowledge regarding epilepsy and its home care management among adults.
2. To find out the association of knowledge regarding epilepsy and its home care management among adults with socio demographic variables.

### Methodology

**Research Design:** Non experimental descriptive research design.

**Setting:** Selected rural areas, district Jalandhar, Punjab.

**Target Population:** Adults of selected rural areas, district Jalandhar, Punjab.

**Sample Size:** 200 adults.

**Sampling Technique:** Convenience sampling technique.

**Result and conclusion:** The findings of the study revealed that 60% of the samples had average knowledge, 36% samples had below average knowledge and only 4 % samples had good knowledge. The study was found associated with socio demographic variables like age, educational level, occupation. Hence it is concluded that most of the adults are having average knowledge regarding epilepsy and its home care management.

**Keywords:** "Knowledge" "Epilepsy and its Home Care Management" "Adults" "Selected" "Rural Areas"

## INTRODUCTION

Epilepsy is a chronic disorder of the brain that affects people in every country of the world. It is characterized by recurrent seizures. Seizures are brief episodes of involuntary shaking which may involve a part of the body or the entire body and sometimes

accompanied by loss of consciousness and control of bowel or bladder function. The episodes are a result of excessive electrical discharges in a group of brain cells. Different parts of the brain can be the site of such discharges. Seizures can vary from the briefest lapses of attention or muscle jerks, to severe and prolonged convulsions. Seizures can also vary in frequency, from



less than one per year to several per day. Epilepsy is more common among children and teenagers but can occur at anytime in a person's life.<sup>1</sup>

Prevalence of epilepsy varies from 2.5 to 11.9 per 1000 population in different parts of India. India is a home to 10 million epileptics, accounting for one to fifth of global burden. The most common causes of seizure disorder during the first 6 months of life are severe birth injury, congenital defects, and inborn errors of metabolism. In patient between 2-20 years of age, the primary causative factors are birth injury, infection, trauma, and genetic factors in individuals between 20 to 30 years of age, seizure disorder usually occurs as the result of structural lesions, such as trauma, brain tumors, or vascular disease.<sup>2</sup>

There are many types of epilepsy. Each type of epilepsy has different behavioral effects and is treated with different methods. In some cases, people know they are about to have a seizure because they see or hear something, or feel dizzy, nauseous, or "strange." This is called an aura. An aura can act as an "early warning system" telling a person that a seizure is about to happen. Seizures are divided into two major classes Generalized and partial. Depending on the type, a seizure may progress through several phases, which include, the prodromal phase, with signs or activity which precede a seizure, the aura phase, with a sensory warning, the ictal phase, with full seizure, and, the postictal phase, which is the period of recovery after the seizure.<sup>3</sup>

The majority of epileptic seizures are controlled by medication, particularly anticonvulsant drugs. The type of treatment prescribed will depend on several factors, including the frequency and severity of the seizures and the person's age, overall health, and medical history. An accurate diagnosis of the type of epilepsy is also critical to choosing the best treatment. Many drugs are available to treat epilepsy, several of which have only recently been released. Although generic drugs are safely used for most medications, anticonvulsants are one category where doctors proceed with caution. Medications can control seizures in about 70% of patients.<sup>4</sup>

Epilepsy can lead to potentially serious complications, especially if it is left untreated or not managed consistently. These include injuries to the head and body from falling and convulsive seizure activity or from car accidents caused by a seizure. They also include drowning during a seizure. Epilepsy can also endanger a pregnancy and the mother as well. In

addition, taking certain anti-epileptic medications may cause birth defects.<sup>5</sup>

It is also not unusual for people with epilepsy to develop behavioral, emotional, or social problems due to the stigma associated with the conditions and the potentially embarrassing seizures. Life threatening complications of epilepsy include status epilepticus, which increases the risk of permanent brain damage and death, and sudden unexplained death in epilepsy. Regular medical care and good control of seizures decrease the risk of developing these complications.<sup>6</sup>

In most cases, seizure management or first aid means keeping a child safe while the seizure runs its course. Fortunately, most seizures are brief and stop within a few minutes.<sup>8</sup> Parents and family members should take daily care of psychological needs, Social Activities, proper diet, and regularity of antiepileptic medications. Along with these medications home care management is important in epileptic seizures. To provide care at home during epilepsy seizure parents should know how to care whenever seizures are occurring.<sup>7</sup>

## **MATERIALS AND METHOD**

This study was concluded among adults of selected rural areas, district Jalandhar, Punjab. Descriptive research design was adopted. And a total of 200 adults were selected for the study, who met the inclusion criteria. Priority based self structured questionnaire was administered to assess the knowledge regarding epilepsy and its home care management among adults. Total time for administration of tool was 25-30 minutes per sample.

## **RESULTS**

The first objective revealed that among 200 adults, the majority of 120 (60%) samples had average knowledge, 72 (36%) samples had below average knowledge and the minority of 8 (4%) samples had good knowledge. The second objective revealed, there was a significant association between the knowledge regarding epilepsy and its home care management with the demographic variables such as age, educational level, occupation.

## **CONCLUSION**

A total number of 200 samples were selected for this study. It was found that 120 adults had average knowledge, 72 adults had below average knowledge

and only 08 adults had good knowledge regarding epilepsy and its home care management.

## DISCUSSION

A priority bases structured knowledge questionnaire was used to collect the data. Study was done to assess the knowledge regarding epilepsy and its home care management among adults of selected rural areas. The investigator utilized convenience sampling technique to select the subjects. The findings were discussed on the basis of demographic characteristics, objectives of the research study and related literature reviewed.

To assess the knowledge regarding epilepsy and its home care management among adults. The findings of the present study revealed that, the majority of 120 (60%) samples had average knowledge, 72 (36%) samples had below average knowledge and 8 (4%) samples had good knowledge.

The second objective was to find out association of knowledge regarding epilepsy and its home care management with selected socio-demographic variables. In the present study, age (in years), educational level, occupation were found significant. Other variables were not significant.

**Acknowledgement:** I want to express my gratitude especially to the sarpanches of the villages, who allowed me to conduct study and the subjects those are participated in the study. I also want to thank my affectionate and adoring Parents, brothers, my uncle and aunt for their constant support and encouragement.

### Ethical Clearance

- Written permission from principal of S.G.L Nursing College Semi, Jalandhar was taken.
- Written permission from ethical clearance committee of S.G.L Nursing College Semi, Jalandhar was taken.

- Written permission from sarpanchs of selected villages, District Jalandhar, was obtained.
- Written consent from adults who participating in the study was taken.
- Confidentiality and Annonymity of samples maintained throughout the study.

**Source of Funding:** Self

**Conflict of Interest:** Nil

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# A Study to Evaluate the effect of Yoga on Insomnia among Post Menopausal Women in Selected Rural Areas at Vadodara

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## ABSTRACT

**Introduction:** Sleep is a universal behavior that has been demonstrated in every animal species studied, from insects to mammals. It is one of the most significant human behaviors occupying roughly one third of human life. Sleep occupies a greater portion of our life and is considered as one among the three upasthambhas of existence. Sleep disturbance have been a major concern of physicians, psychologists and social scientists especially since last few decades because of the rising trend of different sleep disorders. Although the exact functions of sleep are still unknown, it is clearly necessary for survival, because prolonged sleep deprivation leads to physical and cognitive impairment.

### Objectives

1. To assess the pre test and post test level of insomnia among post menopausal women.
2. To evaluate the effectiveness of yoga among post menopausal women.
3. To associate the post test level of insomnia with selected demographic variables.

**Material and method:** The research approach used for the study was the Quantitative research approach. The study was conducted using pre experimental design with one group pre-test and post-test. The independent variable is yoga and dependent variable was insomnia among post menopausal women.

The study was conducted on 30 post menopausal women in rural area of Vadodara using non probability convenient technique. The data was collected by using rating scale. The data was tabulated and analyzed in terms of objectives of the study, using descriptive and inferential statistics.

**Results:** In the pre test post menopausal women having 55.83% level of insomnia and mean score was  $40.20 \pm 8.24$ . In the post test post menopausal women having average 35.28% of insomnia and mean score was  $25.40 \pm 5.73$ .

The post test mean insomnia score is significantly lesser than the pre test mean insomnia score. The 't' calculated value 13.690 is more than tabulated value 2.045 at 0.05 level of significance. So we accept H1 and conclude that there is significant difference between level of pre test and post test insomnia among post menopausal women exposed to YOGA. In the pre test majority (63.3%) of the post menopausal women had moderate insomnia but in the post test there was marked reduction in the level of insomnia with majority (83.3%).

The ANOVA (analysis of variance) was used to determine the association between level of post test insomnia and selected demographic variables. From the entire demographic variables no significant association found with post test score.

**Conclusion:** It can be concluded that post menopausal women can utilize the knowledge regarding yoga and they can use this in to their practice.

The study findings reveal that yoga was highly effective in improving sleep quality of post menopausal women. The study also reveals that there is no any association between demographic variables and post test level of insomnia.

**Keywords:** Evaluate, Effect, Yoga, Insomnia, Post Menopausal Women

## INTRODUCTION

Woman is a precious creature of God. She has many roles in the society to perform being a daughter, sister, wife and a mother. She works easily with the opposite sex at work place but also has responsibilities to perform as a home maker and to rear a child. In order to perform these functions effectively her health needs has to be taken care and requires more attention.<sup>1</sup>

During menopausal period women experience both physiological as well as psychological changes. Physiological changes include hot flushes, joint pain, irritable bowel movements, weight gain and hair loss. Psychological changes include anxiety, depression, sleep disturbance and stress. Women experiences stress in many ways and can be external and internal. It can cause changes in body images, attitude towards ageing and also leads to mood changes.<sup>2</sup>

Menopause is a complex time in a woman's life leading to both physical and emotional challenges. Menopause currently affects the lives of millions of women globally and will be an issue of increasing concern as the population ages over the next few decades. The word menopause literally means the permanent physiological or natural cessation of menstrual cycle. In other words, menopause means the natural and permanent stopping of monthly reproductive cycles, which is usually manifest as a permanent absence of monthly periods or menstruation. Post menopause refers to the period of life after menopause has occurred. It is generally believed that the postmenopausal phase begins when 12 full months have passed since the last menstrual period. From then on, a woman will be postmenopausal for the rest of her life.<sup>3</sup>

The best management of menopausal problems is accepting it with ease. Lord Krishna in Bhagvadgita says Yoga is nothing but equanimity towards the pairs of opposites like happiness and sorrow, loss and victory etc. Accepting the unavoidable is the best way to counter it. Human life is a continuous process of changes and menopause is one of them. Accepting this

fact reduces major fraction of the problems since it induces a psychological strength to combat the same. Thus a psychological adaptability along with a few yogic practices may be sufficiently helpful for a woman in facing menopause, one of the major turning points of her life.<sup>4</sup>

Nurses play a vital role in maintaining women's health and to make them aware about menopause and stress related to it. Menopausal stress is usually mild to moderate levels of stress. Some women's may go through severe level of stress and this level of stress has to be identified by the nurses. The nurse should advise them to practice some sort of relaxation techniques, yoga or exercise to practice in daily life. As a nurse she should give psychological support to the menopausal women.<sup>5</sup>

## MATERIAL & METHOD

**Research Approach:** A quantitative approach was used.

**Research Design:** A one group pre-test post-test Pre experimental research design was adopted.

**Setting of the Study:** The study was conducted among post menopausal women in rural area of Vadodara.

**Sample:** The sample for the present study comprises of 30 post menopausal women in rural area of Vadodara

**Sampling technique:** convenient sampling technique was used.

**Development of tool for data collection:** It consists of 2 sections:-

**Section I:** - It consists of selected demographic data of sample.

**Section II:** - A structured insomnia rating scale

Total 24 items were included in the rating scale.

**Validity of instrument:** - To ensure content validity of the tool, the self structured rating scale was send to 7 experts. The experts were selected based on their clinical expertise, experience and interest in the problem being studied. They were requested to give their opinions on the appropriateness and relevance of the items in the tool. The experts were from the field of nursing, psychiatrists and psychologists. Modifications of items in terms of simplicity and order were made.

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## Reliability

In this study, the reliability was done in the Piparia village of Waghodia tehsil, vadodara. After obtaining administrative permission the tool was administered to 4 samples as per the set criteria. The reliability was established by using spearman brown spilt –half method and test retest method. The score was analyzed and the value  $r = 0.819$  was found which indicates the high degree of positive correlation. which is statistically significant. This indicates that the tool was reliable.

## Data collection procedure

To conduct research study at rural area of Dabhoi tehsil at Baroda, formal written permission was obtained from the superintendent of Dabhoi Community health center. The data collection period extended from 06/11/2013 to 19/11/2013. Data were collected from 30 subjects who met the inclusion criteria as per the study. The questionnaire was distributed for pre test and instructions were given on answering the questionnaire and doubts were clarified. Each post menopausal woman took an average of 15-20 minutes to complete the pre-test. On the 1<sup>st</sup> and 2<sup>nd</sup> day the pre test data was obtained using structured rating scale. Then from 3<sup>rd</sup> day to 18<sup>th</sup> day 30 minutes planned yoga was administered. On the 18<sup>th</sup> day and 19<sup>th</sup> day post test was conducted using the same tool to assess the level of insomnia. The investigator continued this pattern of data gathering process till the completion of data collection.

## Analysis of data

It was analyzed by using both descriptive and inferential statistics on the basis of the objectives and hypothesis of the study. To compute the data, a master sheet would be prepared by the investigator.

## Descriptive statistics

- Baseline Performa containing characteristics of post menopausal women would be analyzed using frequency and percentage. Percentages were worked out for interpretation.
- The level of insomnia among post menopausal women before and after administration of yoga would be calculated using mean, median, range and standard deviation.

## Inferential statistics

- Paired 't' test was used to assess the effectiveness of yoga among post menopausal women.
- The ANOVA (analysis of variance) was used to find out the association between post test level of insomnia and selected demographic variables.

Data presented in the form of tables and graphs.

## FINDINGS

### Organization of study findings

The data is analyzed and presented under the following sections:

**Section- I:** Description of sample characteristics.

**Section- II:** Level of insomnia among post menopausal women before and after administration of YOGA.

**Section- III:** Analysis of effectiveness of YOGA on insomnia among post menopausal women.

**Section- IV:** Association between level of post test insomnia and selected demographic variables.

**SECTION- I:** Description of sample characteristics.

- The majority 14(46.7%) of post menopausal women belongs to the age group of above 52 years of age while in the age group of 45-47 years 11(36.7%) and in the age group of 48-51 years only 5(16.7%) in particular study.
- The majority 24(80.0%) of post menopausal women belongs to the primary education group while 3(10.0%) belongs to the secondary education group, 2(6.7%) illiterate education group and 1(3.3%) higher secondary group of education and no post menopausal women belongs to the graduate group of education.
- The majority 28(93.3%) of post menopausal women belongs to the joint family type while 2(6.7%) of post menopausal women belongs to the nuclear family type.
- The majority 19(63.3%) of post menopausal women were housewife according to their occupation while 4(13.3%) post menopausal women belongs to the private and business and 3(10.0%) post

menopausal women belongs to the government occupation and no any post menopausal women belongs to any other type of occupation.

- The majority 21(70.0%) post menopausal women belongs to the married group while 8 (26.7%) post menopausal women belongs to the widowed group, 1(3.3%) post menopausal women belongs to the unmarried group and no any post menopausal women belongs to the divorced group in particular study.

- The majority 14(46.7%) post menopausal women belongs to more than 6 years of menopause group while 7(23.3%) belongs to the 3-4 years after menopause group, 5(16.7%) belongs to the 1-2 years after menopause group and 4(13.3%) belongs to the 5-6 years after menopause group.

**Section- II:** Level of insomnia among post menopausal women before and after administration of YOGA.

**Table 1: Range, mean, percentage and standard deviation of pre test and post test level of insomnia among post menopausal women.**

Total no. of questions	Min- max marks	Observation	Obtained range	Mean	Percentage	S.D.
24	0-72	Pre test	34	40.20	55.83%	8.24
24	0-72	Post test	23	25.40	35.28%	5.73

**Section III:** Analysis of effectiveness of YOGA on insomnia among post menopausal women.

**Table 2: Mean, standard deviation, mean difference and 't' value of pre- test and post test scores.**

Parameter	Mean	Standard deviation	Mean difference	't' <sub>cal</sub> value	P value	't' <sub>tab</sub> value
Pre test	40.20	8.24	14.8	13.690	.000	2.045
Post test	25.40	5.73				

Table 2 depicts mean, standard deviation of pre test and post test with the mean difference, 't' value and p value of pre test and post test scores. It indicates that post test value is less than pre test value so it proves that yoga is effective on insomnia among postmenopausal women.

**Section- IV:** Association between level of post test insomnia and selected demographic variables.

So here ANOVA (analysis of variance) has been used. Data have been analyzed with the use of SPSS version 20.0 and there is no significant association between level of post test score and selected demographic variables with 0.05 level of significant.

**CONCLUSION**

The overall pre test mean insomnia score of the post menopausal women was 40.20 ±8.24 and post test mean insomnia score of the post menopausal women was 25.40±5.73. The post test mean insomnia score is significantly lesser than the pre test mean insomnia score. So the YOGA was effective.

The ANOVA (analysis of variance) was used to determine the association between level of post test insomnia and selected demographic variables like age,

education, type of family, occupation, marital status and years after menopause. It is found from the entire demographic variables that there is no significant association between level of post test score and selected demographic variables with 0.05 level of significance.

**Limitations of the Study**

- Data collection period was limited to 4 weeks; hence the sample size was relatively very small.
- Sample size was selected from only rural areas of Vadodara.
- The questionnaire with rating scale has the possibility of getting average or good score which could be chance factor in this study.
- The study was confined to 30 subjects, which resulted in reduced power in statistical analysis.
- The study is limited to post menopausal women who are willing to participate in the study.
- The setting of timing for the YOGA is quite difficult for the rural women.
- It is difficult for the samples to continue the therapy for continuous 15 days.

- Chance of drop out of sample is the major limitation of this study.

### RECOMMENDATIONS

Based on the findings of the present study recommendations offered for the future study are

- Ø Similar study can be conducted on a larger sample.
- Ø A comparative study can be conducted with control group.
- Similar study can be conducted on urban sample.
- Similar study can be conducted with different population and setting.

### Suggestions

- An information booklet on YOGA can be prepared and used as a teaching aid to guide the sample for follow up.
- Nurses should update their knowledge constantly in order to help the patients to gain knowledge regarding insomnia.

**Acknowledgement:** I express my gratitude and thanks towards all who have directly or indirectly helped me to complete this study and their support in each major step of the study.

**Source of Funding:** The authors did not receive any financial support from any third party related to the submitted work.

**Conflict of Interest:** The authors had no relationship/condition/circumstances that present a potential conflict of interest.

**Ethical Standards:** This study was conducted after getting approval from the Institutional Ethics Committee and after obtaining written consents from all subjects

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# A Study to assess the effect of Structured Teaching Programme on Knowledge Regarding Self Care Management of Osteoarthritis among Geriatric Population

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## ABSTRACT

Osteoarthritis is the most common joint problem among geriatrics which causes severe pain and loss of physical function. Early diagnosis and proper management are important strategies in delaying disease exacerbation and maintaining physical mobility. Studies revealed that geriatric's knowledge regarding self care management of osteoarthritis is low. Therefore a quasi-experimental study to assess the effect of structured teaching programme on knowledge regarding self care management of osteoarthritis among geriatric population in selected urban community, Ludhiana, Punjab was undertaken with the objectives: to assess the pre test and post test knowledge regarding self care management of osteoarthritis among geriatric population in control and experimental group, to compare pre test and post test knowledge and to determine relationship of pre test and post test knowledge regarding self care management of osteoarthritis among geriatric population in control and experimental group with selected demographic variables. A Quasi-experimental, non equivalent control group design was used. The target population was geriatrics of selected urban community. 60 geriatrics were selected by convenient sampling technique for control and experimental group. Data was collected by self structured questionnaire. Data was analyzed by descriptive and inferential statistics and presented through tables and figures. Findings revealed that in control and experimental group knowledge of geriatric population regarding self care management of osteoarthritis was below average before imparting the structured teaching but after imparting STP to geriatrics in experimental group their knowledge was good. The post test mean knowledge score of geriatrics of experimental group was significantly higher than that of control group at  $p < 0.01$  level, which indicates that structured teaching programme was effective. For control group (pre and post test) family income and for pretest of experimental group age, monthly income and dietary pattern were found to be related with knowledge of geriatric population. For control and experimental group none of other variables were found significantly related with the knowledge of geriatric population.

**Keywords:** Knowledge, Geriatric Population, Self Care Management of Osteoarthritis

## INTRODUCTION

Ageing is a natural process, should be regarded as a normal, inevitable biological phenomenon. Keeping oneself healthy and active with ageing, is one of the most important aspect of life<sup>1</sup>. Nevertheless diseases are still dominating and constitute a major health problem. Among all the other disease, osteoarthritis is on the rise globally. Osteoarthritis is the most

common form of arthritis and is estimated to be fourth leading cause of disability<sup>2</sup>. Osteoarthritis, which is also known as osteoarthrosis or degenerative joint disease, is a progressive disorder of the joints caused by gradual loss of cartilage and resulting in the development of bony spurs and cysts at the margins of the joints<sup>3</sup>. The prevalence of osteoarthritis in India is very high. In India, year 2013 is likely to notice an



endemic of osteoarthritis with about 80% of the 65+ population in the country suffering with wear and tear of joints<sup>4</sup>. Osteoarthritis is a complex family of musculoskeletal disorders consisting of more than 100 different diseases or conditions that destroy joints, bones, muscles, cartilage and other connective tissues, hampering or halting physical movement<sup>5</sup>.

Osteoarthritis is a chronic degenerative disorder of multi factorial aetiology characterized by loss of articular cartilage and periarticular bone remodelling. It can present as localized, generalized or as erosive osteoarthritis. Primary osteoarthritis is mostly related to aging, whereas secondary osteoarthritis is caused by another disease or condition<sup>6</sup>. Osteoarthritis is a disease in which the cartilage that acts as a cushion between bones in joints begins to exhaust, causing swelling and pain in joints which affect negatively and person does not move freely. With this breakdown, the bones will start rubbing together and this can cause some severe pain as well as limitations in movement and in some cases, person cannot move at all. The symptoms, such as pain and inflammation, become visible in middle age, till the age of 55 it occurs equally in both sexes.<sup>7</sup> The common parts which are usually affected by osteoarthritis are joints of the hands and fingers, hips, knees, big toe, and cervical and lumbar spine<sup>8</sup>. During the physical examination, physician will closely examine the affected joint, checking for tenderness, swelling or redness. Physician also check the joint's range of motion and recommend imaging, laboratory test and blood test X-rays of affected joints can be used to diagnosis osteoarthritis, imaging tests such as ultrasound and magnetic resonance imaging (MRI), may be used<sup>9</sup>. Weight loss at least 5% of body weight may decrease stress on the knees, hips and lower back<sup>10</sup>. Use of local heat or cold applications to reduce the pain of osteoarthritic client is the one of the management of osteoarthritis. Other techniques such as walking sticks reduce pressure on joints and thus decrease pain. Use warmed olive oil when massaging painful joints<sup>11</sup>. Distraction techniques like Yoga can be safe and effective for people with osteoarthritis<sup>12</sup>. Use good posture and proper body mechanics like good posture while standing, when sitting in a chair, modify home and work environment to create less stressful ways to perform task<sup>13</sup>.

### OBJECTIVES

1. To assess the pre test and post test knowledge regarding self care management of osteoarthritis

among geriatric population in control and experimental group.

2. To plan and conduct structured teaching programme on knowledge regarding self care management of osteoarthritis among geriatric population in experimental group.
4. To compare pre test and post test knowledge regarding self care management of osteoarthritis among geriatric population in control and experimental group.
5. To determine relationship of pre test and post test knowledge regarding self care management of osteoarthritis among geriatric population in control and experimental group with selected demographic variables.

### HYPOTHESIS

$H_0$ : There is no significant difference between post test mean knowledge score among geriatric of control and experimental group regarding self care management of osteoarthritis as measured by self-structured questionnaire at  $p < 0.05$  level.

$H_1$ : The post test mean knowledge score of geriatric population regarding self care management of osteoarthritis among experimental group will be significantly higher than that of control group at  $p < 0.05$  level.

### MATERIAL AND METHOD

The present study was conducted to assess the effect of structured teaching programme on knowledge regarding self care management of osteoarthritis among geriatric population in selected urban community, Ludhiana, Punjab. A Quantitative approach and Quasi-experimental, non equivalent control group research design was used in the present study. Literature related to self care management of osteoarthritis among geriatrics was retrieved. Tool was prepared and pretested for validity and reliability. Pilot study was conducted to check feasibility and practicability of study. The target population was geriatrics of selected urban community. 60 geriatrics were selected by convenient sampling technique for control and experimental group. Data was collected by self structured questionnaire. Data was analyzed by descriptive and inferential statistics and presented through tables and figures.

### RESULTS

Findings related to assessment of pre test and post test knowledge regarding self care management of osteoarthritis among geriatric population in control and experimental group.

- In pre test both control and experimental group had below average level of knowledge with mean knowledge score 4.47 and 4.97 respectively.
- In post test, control group had below average knowledge with mean knowledge score 4.53 and experimental group had good level of knowledge with mean knowledge score 24.77.

Findings related to comparison of pre test and post test knowledge regarding self care management of osteoarthritis among geriatric population in control and experimental group.

- The difference in mean pre test and post test knowledge score of control group was statistically Non Significant. The difference in mean pre test and post test knowledge score of experimental group was statistically significant at  $p < 0.01$  level.
- The difference in mean pre test knowledge score of control and experimental group was statistically Non Significant but the difference in mean post test knowledge score of control and experimental group was statistically significant at  $p < 0.01$  level.

**Table 1: Comparison of mean pre test and post test knowledge score of geriatric population regarding self care management of osteoarthritis in control and experimental group**

N=60

Group	Pre & Post Knowledge Score						
	Pre Test			Post Test		df	't'
	n	mean	S.D	mean	S.D		
Control group	30	a 4.47	±2.01	a' 4.53	±1.94	29	1.44 <sup>NS</sup>
Experimental group	30	b 4.97	±1.9	b' 24.77	±1.28	29	51.86 <sup>**</sup>
		a+b	df	't'	a'+b'	df	't'
		9.44	58	1.08 <sup>NS</sup>	29.3	58	7.70 <sup>**</sup>

Maximum score=30 NS= non significant

Minimum score=0 \*\*= significant at  $p < 0.01$  level

Findings related to assessment of relationship of pre test and post test knowledge regarding self care management of osteoarthritis among geriatric population in control and experimental group with selected variables.

- According to age, in control group geriatric population in age group 66-70 years had maximum pre test (5.30) and post test mean knowledge score (5.40). In experimental group geriatric population in age group 61-65 years had maximum pre test (5.70) and post test mean knowledge score (25.10). There is no significant difference in knowledge among age groups for pre test and post test in control and post test of experimental group but there is significant difference in knowledge among age groups for pre test in experimental group.
- According to gender, in control group female geriatric population had maximum pre test (4.69) and post test mean knowledge score (4.77). In experimental group female geriatric population had maximum pre test (1.61) and male geriatric

population had maximum post test mean knowledge score (25.12). There is no significant difference in knowledge among gender for pre test and post test in control and experimental group.

- According to educational status, in control group geriatric population having matric as educational status had maximum pre test (4.56) and post test mean knowledge score (4.62). In experimental group geriatric population who were illiterate had maximum pre test (5.19) and geriatric population who were educated upto matric had maximum post test mean knowledge score (24.79). There is no significant difference in knowledge among educational status for pre test and post test in control and experimental group.
- According to occupation, in control group labourer geriatric population had maximum pre test (4.64) and unemployed maximum post test mean knowledge score (4.70). In experimental group unemployed geriatric population had maximum pre test mean knowledge score (5.15) and

maximum post test mean knowledge score was obtained by those who were in business (25.67). There is no significant difference in knowledge among occupational status for pre test and post test in control and experimental group.

- According to monthly income, in control group geriatric population having monthly income >15000 had maximum pre test (5.50) and post test mean knowledge score (5.67). In experimental group, geriatric population who were having monthly income <5000 had maximum pre test mean knowledge score (6.75) and geriatric population were having monthly income 5000-10,000 had maximum post test mean knowledge score (24.88). There is no significant difference in knowledge among monthly income for pre test and post test in control group and post test of experimental group and there is significant difference in knowledge among monthly income for pre test of experimental group.
- According to marital status, in control group married geriatric population had pre test (4.47) and post test mean knowledge score as (4.53). In experimental group married geriatric population had maximum pre test (4.97) and post test mean knowledge score as (24.77).
- According to type of family, in control group geriatric population from joint family had maximum pre test (5.10) and post test mean knowledge score (5.10). In experimental group geriatric population from extended family had maximum pre test (5.50) and geriatric population from nuclear family had maximum post test mean knowledge score (25.50). There is significant difference in knowledge among type of family for pre test and post test in control group and there is no significant difference in knowledge among type of family for pre test and post test of experimental group
- According to dietary pattern, in control group non vegetarian geriatric population had maximum pre test (4.88) and post test mean knowledge score (4.88). In experimental group vegetarian geriatric population had maximum pre test (5.09) and post test mean knowledge score (25.09). There is no significant difference in knowledge among dietary pattern for pre test and post test in control and post test of experimental group but there is

significant difference in knowledge among dietary pattern for pre test in experimental group.

## CONCLUSION

In present study pre test knowledge of geriatric population in control and experimental group regarding self care management of osteoarthritis was below average which suggested there was need for structured teaching programme (STP) for geriatric population regarding self care management of osteoarthritis. Post test results of geriatric population in experimental group showed significant improvement in the level of knowledge regarding self care management of osteoarthritis. It can be concluded that STP was effective method of teaching the geriatric population to improve the knowledge regarding self care management of osteoarthritis. In demographic variables for control group (pre and post test) type of family was found to be significantly related to knowledge and for experimental group (pre test) age, monthly income and dietary pattern were found to be significantly related to knowledge and other variables were not found to be significantly related to knowledge of geriatric population regarding self care management of osteoarthritis.

## Ethical Consideration

Formal written permission was taken from Ethical Research Committee and Principal of I.N.E., G.T.B.S.(C) Hospital, Ludhiana, Punjab. Informed verbal consent was taken from geriatric population regarding their participation in study. Anonymity of subjects and confidentiality of the information was maintained.

**Acknowledgement:** Our heartfelt thanks to all those who supported us in any respect during the completion of the study.

**Conflict of Interest:** None

**Source of Funding:** No special source of funding. Research study was completed by the researchers' own funds.

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# Effect of Post Natal Exercises among Primi Post Natal Mothers

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## ABSTRACT

A women who has just given birth may to remain at bed for a period of time of allow her body system to adjust to fluid volume changes. Post partum exercise may be initiated post partially to promote recovery, prevent complications and strengthen muscles of the back, pelvic floor and abdomen. The study is an Experimental approach with Quasi experimental design was selected. One group pre-test post- test experimental research design was adopted to achieve the objectives. The sample size included for the study consists of 30 primi postnatal mothers. Structure interview method was used to assess the pre test knowledge on postnatal exercise and the subject mean score was 20.13. In pre test the standard deviation score was 7.64. Practice was assessed through structured interview method and the mean score was 9.1. Standard deviation score was 3.33. The mean score of knowledge in post test was 32.2 and practice mean score was 14 and standards deviation score was 2.0 the data findings show that there was an inadequate knowledge and practice regarding post natal exercises before the planned teaching programme. The obtained 't' value in knowledge was 13.2 and 't' value in practice was 6.94 ( $P < 0.05$ ). The obtained 't' value for knowledge and practice was significant at 0.05 level. It implies that there was significant difference between knowledge and practice after the education regarding postnatal exercises. Measures were provided to improve the knowledge and practice through structured teaching programme regarding postnatal exercises.

**Keywords:** *Primi Mothers, Post Natal Exercises, Knowledge, Practice*

## INTRODUCTION

Most women who have just given birth are extremely interested in regarding their non pregnant figures. Post partum exercises can begin soon after birth, although the women should be encouraged to start with simple exercise and gradually progress to more strenuous ones. Women who maintain muscle strength may be fit year later by experiencing less stress urinary incontinence.<sup>1</sup>

Postnatal exercise is to maintain a physical well being of women. The senses of postnatal exercise are reflected in reducing maternal problems like back ache urinary incontinence and so on. Healthy mothers who have healthy life can lead a better life.<sup>2</sup>

Essential health education on postnatal exercise is necessary. This can be shared with the maternity unit

of a hospital or in an alternative birth centre. This can help every post natal mother to lead a healthy life style, like preventing deep vein thrombosis preventing urinary, incontinence and preventing breast engorgement are the therapeutic self care demands. The curative aspects like relieving edema, and relieving back ache is also the function of the nursing agency and by doing postnatal exercise the maternal well being is achieved.<sup>3</sup>

Women who has just given birth may have to remain at bed for a period of time will allow her body system to adjust to fluid volume changes. The nurse caring for the women will decide the appropriate time for the first ambulation.<sup>4</sup>

Post partum exercise may be initiated post partially to promote recovery, prevent complications and

strengthen muscles of the back, pelvic floor and abdomen. Exercise should be started on first post partum day twice to start and continued for 45 days twice daily.<sup>5</sup>

### **Need for Study**

The Studies have shown that 17 in every 20 women develop health problems of one kind or another after delivery. The problems are Tiredness, Breast feeding problems, backache, headache, piles, anemia, urinary incontinence, puerperal sepsis; varicose veins and deep vein thrombosis usually manifests during first two weeks after delivery. Prevention of these problems lies in effectiveness of postnatal exercises, promotion of postnatal exercises by the nursing function, preventive aspects like preventing deep vein thrombosis, preventing urinary incontinence and preventing breast engorgement are the therapeutic self care demands.<sup>3</sup>

Curative aspects like relieving edema and relieving back pain is also the function of the nursing agency and by doing postnatal exercise the maternal well being is achieved.

Various authors have studied that the complication followed by delivery were puerperal sepsis, back pain, deep vein thrombosis.<sup>4</sup>

Several misconceptions, ignorance and inadequacy of knowledge in relation to postnatal exercise is prevalent among postnatal mothers, especially primi gravidae.

- Worldwide, for every one minute, one woman dies of postnatal related complications. Nearly 6,00,000 women die each year, of which 99% of deaths occur in developing countries.
- In India, for every five minutes, one woman dies from complication related to postnatal period. This adds up to a total of 1,21,000 women per year.<sup>5</sup>

### **Review of Literature**

Five lakh women die every year in the world as a result of pregnancy and child birth, every minute of every day there is one maternal death. In India one lakh women die every year, as a result of complication of pregnancy and child birth which means one maternal death every five minutes. The postnatal period demands appropriate guidance from nurses so that the postnatal mothers are able to adjust effectively to the new environment. So timely education is needed to improve the health status of the mother.<sup>6</sup>

The investigator during the interaction with the postnatal mothers in the maternity centers at the time of her clinical experience has observed that the mothers were ignorant regarding knowledge about postnatal exercises. The postnatal mothers have been confined to bed for a long period of time and was unaware about the exercises.<sup>7</sup>

It has been observed that there were some restrictions on ambulation. Few postnatal mothers expressed that they should not wander, and should lie on bed for the whole of the postnatal period and should not sit up for a long period and walk around. Considering the above factors the investigator developed a genuine interest and felt the need for conducting the study on knowledge and knowledge on practice of postnatal exercises among the primi mothers, which will be of importance for educating them to modify their knowledge and knowledge on practice towards postnatal exercises.<sup>8</sup>

The study conducted about postnatal angiogenesis (micro vascular proliferation) and remodeling circumstances including adaptation to exercise or wound healing. The formation of a new vessel is submitted to the combinative action of growth factors. New endothelial cells migrate, proliferate, differentiate and attract pericytes and future smooth muscle cells to create the new vessel. Powerful stimuli leading to remodeling and to the creation of new vessels are mainly represented by hemodynamic forces generated by pressure and blood flow, and hypoxia. Their study concluded that exercise overview the molecular mechanisms and stimuli giving rise to these process.<sup>9</sup>

The study assessed the prevention of urinary incontinence by prenatal pelvic floor exercise. Female urinary incontinence (UI) is a frequent affection that generates handicap and expenses. There is a link between urinary incontinence and pregnancy onset of UI during pregnancy is a risk factor for permanent urinary incontinence. Postnatal pelvic floor exercise has shown efficacy to improve postnatal urinary incontinence.<sup>10</sup>

A study conducted using postnatal postal questionnaire to 257 women during 6 – 12 months after delivery. One hundred and sixty three women responded (63.4%). They concluded that pelvic floor exercise after delivery they practice and relieved from the incontinence of urine.<sup>8</sup>

## MATERIAL AND METHOD

The study was conducted among the primi postnatal mothers who have been admitted in Aravindan Hospital. The population of the study includes the primi postnatal mothers who had normal delivery at Aravindan Hospital. The study consists of 30 primi postnatal mothers. Non – probability convenient sampling technique was used to select the samples. The part-1 consisted socio demographic data. The tools of part-2 Questions Regarding Knowledge on postnatal exercises. It consists of 39 questions related to assessment of the knowledge of primi mothers regarding postnatal exercises. Each question had one correct answer and was given a score of one mark, for wrong answer a score of zero was given. The total score allotted for this section was 39. The part-3 Questions Regarding Knowledge on Practice regarding postnatal exercises. It consists of 15 questions related to assessment of the knowledge on practice of primi postnatal mother regarding postnatal exercises. One mark was given for yes answer and zero mark for no answer. The total score allotted for this section was 15. The tool was given to five experts in the field of obstetrics and gynaecological nursing. Reliability of the Instrument. The main objective of the pilot study was to ensure the reliability of the interview schedule which was found out by spearman brown split – half technique. Postnatal exercises interview schedule knowledge +0.78. Knowledge on practice +0.77. The study was done for a period of 4 weeks during the month of June 2008.

In pre – test the knowledge and knowledge on practice of mothers regarding postnatal exercises was assessed following pretest by using the same questionnaire. On the same day structured teaching module was educated by demonstration, flash cards and pamphlets. Post test was conducted on the 5<sup>th</sup> day by using the same questionnaire to find out the

effectiveness of postnatal exercises. Data was planned to be analysed by using descriptive and inferential statistics

## FINDINGS

It depicts that distribution of age of primi post natal mothers 2 (6.666%) are coming under below 20 years of age. 28 (93.333%) years are coming under 21- 30 years of age. There was no post natal primi mothers above 31 years of age.

- Regarding education of mother out of 30, 4(13.33%) have education upto secondary level. 15(50%) have education of higher secondary, remaining of 1 (3.333%) have education of graduate level.
- With regard to family monthly income 10 mothers (33.33%) had all income below Rs 2000 per month, 15 (50%) earn Rs 2001- 5000 and 5 (30%) earn more than Rs 5001 per month
- Regarding religion all primi post natal mothers 30 (100%) belongs to Hindu religion
- With regard to occupation 26 (86.666%) post natal mothers are house wives, 1(3.33%) are self employed 3 (10%) are working in a private form.
- Regarding type of family 19(63.333%) mothers live in nuclear family and 11 post natal mothers (36.666%) live in a joint family.
- Regarding area of living 9(30%) mothers are living in urban area 2(70%) post natal mothers are living in rural area.
- Regarding post natal exercises information obtained by health personnel about 16(53.33%), 11(36.666%) post natal mothers are obtained information from relatives, 3 (10%) post natal mothers are obtained by their mothers

## Distribution of Statistical Value of Pretest and Post Test Knowledge on Postnatal Exercises

Table. 1 Comparison of Pretest and Post Test Knowledge Scores of Postnatal Mothers

(n = 30)

S. No.	Knowledge	Mean	S.D	't' value	Level of significance
1.	Pre test	20.13	7.64	13.2*	P < 0.05
2.	Post test	32.2	2.97		

\* Significant

Table 1 shows the mean score of knowledge in pre test was 20.13 and in post test 32.2 and 't' value 13.2 at 29 degree of freedom were significant at 0.05 level. It reveals that there was significant difference between

the pre and post test knowledge on postnatal exercises. It implies that the knowledge was improved after structured teaching programme.

**Table. 2 Comparison of Pretest and Post Test Knowledge on Practice Score Regarding Postnatal Exercise**

(n = 30)

S. No.	Knowledge on practice	Mean	S.D	't' value	Level of significance
1.	Pretest	9.1	3.33	6.94*	P < 0.05
2.	Posttest	13.96	2.0		

\* Significant

Table 2 shows the mean score of knowledge on practice in pre test was 9.1 and in post test was 13.96 and obtained 't' value 6.94 at 29 degree of freedom

were significant at 0.05 level. It shows that the knowledge on practice score was significantly improved by structured teaching programme.

**Table. 3 Correlation Between Pretest Knowledge and Knowledge on Practice Scores Regarding Postnatal Exercises on Primi Mothers (Postnatal)**

(n = 30)

S. No.	Knowledge	Mean	S.D	R
1.	Knowledge	20.13	7.64	+ 0.50
2.	Knowledge on Practice	9.1	3.34	

Table 3 shows there was a positive correlation between knowledge and knowledge on practice in pretest regarding postnatal exercises.

**Table. 4 Correlation Between Post Test Knowledge and Knowledge on Practice Scores Regarding Postnatal Exercises on Primi Mother (Postnatal)**

(n = 30)

S. No.	Knowledge	Mean	S.D	R
1.	Knowledge	32.2	2.97	+ 0.715
2.	Knowledge on Practice	13.96	2.0	

Table 4 shows there was a positive correlation between knowledge and knowledge on practice regarding postnatal exercises in post test.

There is significant association of post test knowledge scores of primi postnatal mothers regarding postnatal exercises with demographic variables like educational status, type of family and area at 0.05 level. It reveals that there is no significant relationship with age, religion, income, occupation and source of information.

The association of demographic variables like educational status, family, income, occupation, type of family, area with post test knowledge on practice scores of primi postnatal mothers regarding postnatal

exercises, and significant at 0.05 level. It reveals that there is no significant association of demographic variables like age, religion, source of information with the post test scores of knowledge on practice of primi postnatal mothers regarding postnatal exercises.

### CONCLUSION

- The educative measure shows that significant improvement in knowledge and knowledge on practice regarding postnatal exercises among primi mothers.
- The demographic variables such as religion, occupation has showed no association with knowledge and knowledge on practice. Age,



education, family income. Type of family and area was associated with post test knowledge on practice.

### RECOMMENDATIONS

- Similar study can be replicated on a sample with different demographic characteristics
- A similar study can be replicated with a control group and using a larger population for the community
- An extensive teaching strategy protocol may be developed in all aspects separately
- A comparative study can be done with different modules of postnatal exercises

**Acknowledgement:** We express sincere thanks to all the participants of this study.

**Source of Funding:** Nil

**Conflict of Interest:** NIL

**Ethical Clearance:** Taken from appropriate authorities.

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# Predisposing Factors among Children with Autism in Selected Special Schools, Ernakulam

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## ABSTRACT

**Introduction:** Autism is a neurodevelopmental disorder characterized by impairments in social interaction and communication besides restricted interests and repetitive behaviours. A descriptive study was conducted to assess the predisposing factors among children with autism in selected special schools, Ernakulam. The objectives of the study were to 1. explore the predisposing factors among the children with autism, and 2. to identify the high risk factors among the children with autism.

**Materials and method:** Qualitative approach with retrospective research design was used. The subjects of the study were the mothers of the children with autism and the non-probability purposive sampling technique was used. The researchers collected data by interview schedule using a semi-structured questionnaire including eleven predisposing factors among which only some factors experienced by mothers and such factors interviewed in detail explanations.

**Findings:** The study findings indicate the fact that among the 60 children, majority were males. Most of the children and the mothers had O positive blood groups while the fathers had A positive blood group. Among the children with autism, 55 (91.7%) had comorbidities in which 39 (65%) had ADHD, 24 (40%) had seizures and 21 (35%) had MR. The study result depicts that 43.3% children with autism had the influence of intranatal factors, 46.7% had immediate postnatal complaints, 60% had complications during postnatal period. Most of the mothers 34 (56.7%) had diseases during the antenatal period.

**Conclusion:** The researchers identified that, of the 60 children with autism, 17 (28.3%) had problems with digestion and absorption of gluten protein in wheat, oats, rye and barley and casein protein in milk. The findings recommended further research to investigate the metabolism of specific foods among children with autism.

**Keywords:** ADHD - Attention Deficit Hyperactivity Disorder, MR- Mental Retardation

## INTRODUCTION

Pervasive developmental disorders are behaviourally defined set of developmental disorders resulting from diverse biologic, genetic and ecogenetic factors<sup>1</sup>. It includes five disorders namely autistic disorder, Rett's syndrome, Asperger's syndrome, childhood disintegrative disorder and pervasive development disorders not otherwise specified<sup>2</sup>. It

occurs in 6.6 to 6.7 among 1000 children or 58.7 among 10,000<sup>3</sup>.

Autism is a neurodevelopmental disorder characterized by the impairments in social interaction, impairments in communication, and restricted interests and repetitive behaviours<sup>4</sup>. Autism first appears during infancy or childhood and generally follows a steady course without remission<sup>5</sup>. It is found

four times more common among males than among females, although females are more severely affected and is not related to socioeconomic level, race or parenting style<sup>3</sup>. Overt symptoms gradually begin after the age of six months, become established by age of two or three years and tend to continue through adulthood, although often in more muted form<sup>5</sup>. Some children with autism appear normal before the age of one or two and then suddenly “regress” and lose language or social skills they had previously gained which is known as regressive type of autism<sup>6</sup>.

Autism is the fastest growing serious developmental disability and more children are diagnosed with autism than with AIDS, diabetes and cancer combined<sup>7</sup>. The latest estimated prevalence of autism recorded by the Centres for Disease Control and Prevention is 1 among 88 (11.3 per 1000) children aged eight years during 2008, which is nearly 25% increase from 2006, when the rate was 1 in 110, and a stunning 78% increase since 2000–02, with an estimated rate of 1 in 150 children<sup>8</sup>. The prevalence also varies widely with sex and approximately 1 in 54 boys and 1 in 252 girls were identified as having autism<sup>9</sup>. According to the cumulative estimate of Rehabilitation Council of India, 1 in 250 children are autistic in India<sup>10</sup>. The Autism Sisukshema Kendram states that there are about 1,500 autistic children in Thrissur district<sup>11</sup>. A study, conducted by Centres for Disease Control and Prevention, found that the rate of autism among children aged three to ten years to be 3.4 per 1000 children which is found lower than the rate for mental retardation (9.7 per 1000 children) but higher than the rates for cerebral palsy (2.8 per 1000 children) and hearing loss (1.1 per 1000 children) found in the same study<sup>12</sup>.

Autism is a physical condition linked to the abnormal biology and chemistry in the brain. The exact cause remains unknown but probably a combination of factors that lead to autism in which the genetic factors seem to be important<sup>13</sup>. It is a neurodevelopmental disorder of genetic origin, with a heritability of about 90%<sup>14</sup>. An article on Researchers Hunt for Causes of Autism published in USA Today, presents the causes of autism as genetic mutation (15 to 20%), family history (20%), older parents, environmental pollution, prematurity and low birthweight, medications and closed spaced pregnancies<sup>15</sup>. A study conducted by Singhal, N et al. across eight cities in India, identified the prenatal factors such as advanced maternal age and fetal distress and perinatal and neonatal risk factors were preterm birth, neonatal jaundice, delayed birth cry and

birth asphyxia<sup>16</sup>. Guinchat V, et al. identified the prenatal risk factors were advanced maternal or paternal ages, maternal prenatal medication use and the perinatal and neonatal risk factors as the preterm birth, breech presentation, hyperbilirubinemia, birth defect and birth weight small for gestational age<sup>17</sup>. Gardener H, Spiegelman D, Buka SL conducted a meta-analysis in 2011 identified the factors associated with autism risk were abnormal presentation, umbilical cord complications, fetal distress, birth injury or trauma, low birth weight, feeding difficulties, meconium aspiration syndrome, neonatal anemia, ABO or Rh incompatibility and hyperbilirubinemia<sup>18</sup>.

Hamade, et al. conducted a pilot case-control study in 2013 showed significant association between autism and older parents (OR=1.27), male sex (OR=3.38), unhappy maternal feeling during pregnancy (OR=5.77), living close to industry (OR=6.58) and previous childhood infection (OR=8.85)<sup>19</sup>. Croen LA et al indicated that the risk of autism increases significantly with each ten year increase in maternal age with relative risk of 1.18 (95% confidence interval 0.87 - 1.60) and paternal age relative risk of 1.34 (95% confidence interval 1.06 - 1.69) in a historical birth cohort study in 2007<sup>20</sup>.

Simonoff E, et al., in 2008, assessed the psychiatric comorbidity associated with autism found that 70% of children had at least one comorbid disorder and 41% had two or more and the most common diagnosis was attention deficit hyperactivity disorder (28.2%, 95% confidence interval 13.3 - 43.0)<sup>21</sup>. A population based cohort study conducted by Suren P, et al, in 2013 found that 0.21% (50/24,134) of the mothers who did not take folic acid had autism in children<sup>22</sup>. Black C, Kaye AJ, Jick H, in 2002, conducted a nested case control study found a significant relation of gastrointestinal disorders with autism (odds ratio 1.0, 95% confidence interval 0.5-2.2) as compared to children without autism<sup>23</sup>.

## MATERIALS AND METHOD

Qualitative approach with retrospective research design was used. The study was conducted in two settings in Ernakulam district- Kusumagiri mental health centre, Kakkanad and Adarsh special school, Kurekkad. In Kusumagiri mental health centre, there are two schools- Navajyothi training centre which has a total of 60 under five children and Nirmala special education school with 70 children aged 6 to 15 years. Adarsh special school for disabled children has total 46 children with autism in all age group. Non-

probability purposive sampling technique was used. The subjects of the study were the mothers of children with autism and include 60 mothers of children with autism.

Data collection technique used for the study was interviewing the mothers of children with autism. The tool used was a semi-structured questionnaire designed to elicit the information through verbal responses of the subject. It was developed by the researchers which has two parts. Part I includes the demographic profile of the child, comorbid conditions of the child and the predisposing factors related to child. Part II includes demographic profile of the parents and predisposing factors related to the parents. The researchers collected data by interview schedule using a semi-structured questionnaire including eleven predisposing factors among which only some factors experienced by mothers and such factors interviewed in detail explanations. The data was analysed using descriptive statistics and were presented in frequency and percentage.

**FINDINGS**

The first objective of the study was to explore the predisposing factors among the children with autism.

1. The study findings shows that among 60 children, 44 (73.3%) were male and 16 (26.7%) were female.
2. The current study results reveal that 30 (50%) of the fathers were 35 to 40 years and 18 (30%) were 30 to 35 years at the time of child birth.
3. Among the children with autism, 55 (91.7%) have comorbidity of which 26 (47.3%) had one, 16 (29.1%) had two, 10 (18.2%) had three and 3 (5.5%) had four comorbid conditions.
4. The study result identifies the point that 26 (43.3%) children with autism having intranatal factors in which 4 (6.7%) had breech presentation, 3 (5%) with meconium aspiration as well as umbilical cord around neck and 2 (3.3%) had fetal distress. The current study findings depict the fact that 28 (46.7%) had immediate postnatal complaints which 7 (11.7%) had respiratory distress, 6 (10%) had delayed birth cry and 3 (5%) had injury at birth. More than half the number of the children, 36 (60%) had complaints during postnatal period which 11 (18.3%) had neonatal jaundice, 7 (11.7%) had blood type incompatibility, 6 (10%) had feeding difficulty and 2 (3.3%) developed anemia.

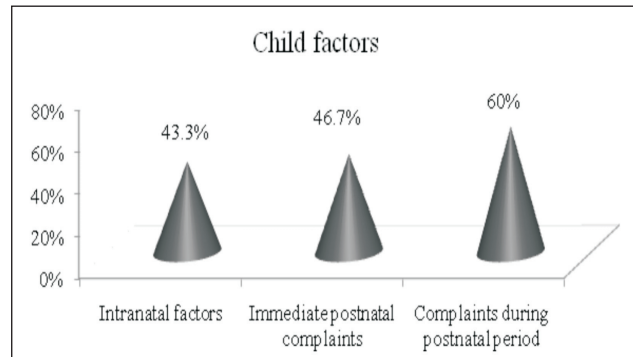


Fig. 1. Frequency and percentage distribution of the child factors

5. Of the 60 mothers, 34 (56.7%) had disease during the antenatal period of which 9 (15%) had hyperemesis gravidarum, 5 (8.3%) had gestational diabetes and 4 (6.7%) developed pre-eclampsia.
6. The present study results also depicts that 13 (21.7%) of parents having a family history of psychiatric illness of which 8 (13.3%) of the family members suffer from bipolar disease while 3 (5%) had schizophrenia and 2 (3.3%) had mental retardation.

The second objective of the study was to identify the high risk factors among the children with autism.

1. Of the 60 children with autism, 23 (38.3%) children had O positive and 19 (31.7%) had A positive blood groups. About the parents, 30 (50%) mothers and 17 (28.3%) fathers were O positive and 17 (28.3%) mothers and 19 (31.7%) fathers were A positive.

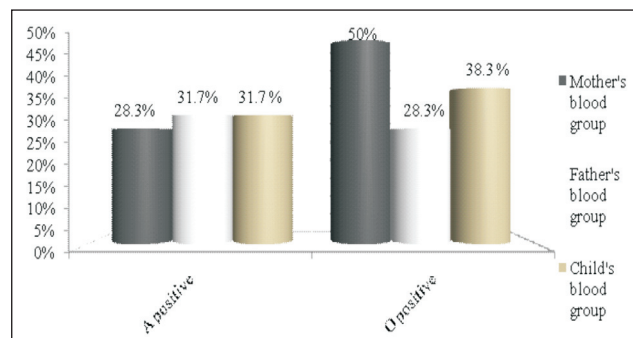


Fig. 2. Frequency and percentage distribution of the blood group

2. The study also shows the fact that among the children with autism, 39 (65%) having ADHD, 24 (40%) having seizures and 21 (35%) having mental retardation.

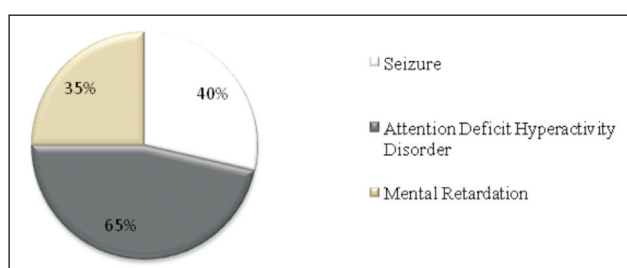


Fig. 3. Frequency and percentage distribution of each comorbid conditions of the child

- The present study reveals that two of the children are twins of which 1(1.7%) has autism and developmental disability.
- The present study findings shows that, of the 60 children with autism, 17 (28.3%) had gastro intestinal abnormalities of which 15 (25%) had problems with indigestion and absorption.

### CONCLUSION

The study findings are drawn to the conclusion that most of the autistic children and parents had O and A blood groups. The children had high incidence of comorbidities such as seizure, ADHD and mental retardation. Most of the mothers had history of abnormal delivery and children had abnormal positions and complications in intranatal and postnatal period. During the pilot study, the parents had complaints about the digestion and absorption problems among children and the question were included in the tool. The interesting finding of the study was that nearly one-fourth of 60 children had complaints with indigestion and absorption to gluten protein from wheat, oats, rye and barley and to casein protein in milk. The researchers strongly recommended further research to be carried out with a view to investigate the metabolism of such food products in children with autism.

**Acknowledgement:** Nil

**Conflict of Interest:** Nil

**Source of Funding:** Self-finance

**Ethical Clearance:** Ethical clearance obtained from Thesis Review committee, Amrita Institute of medical sciences, Kochi.

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# "New Innovation In Health Sector" the Application of Nanotechnology in Health Care Services

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## ABSTRACT

Nanotechnology and nanomedicine both fields are vast and rapidly growing. By 2020, nanomedicine is expected to make biomedicine more predictive, preventive, personalized, and regenerative. Innovations in health care particularly focus on nanotechnology and how it will change the health care landscape. This technology can help healthcare organizations tap into the remote and rural access, making healthcare a lot more affordable.

**Keywords:** Nanomedicine, Nanorobotics, Nanodentistry

## INTRODUCTION

The healthcare sector in India is increasingly depending on sophisticated technologies to deliver better care to the clients. Hospitals are increasingly looking for innovative technology to diagnose and monitor the diseases. Going forward, nanotechnology has the potential to change the entire healthcare business.<sup>9</sup>

### What is Nano?

The vision of nanotechnology introduced in 1959 by late Nobel Physicist Richard P Feynman

NANO is a GREEK word meaning EXTREMELY SMALL.<sup>5</sup>

- Nanotechnology deals with sizes from 1-10 0nm range

A nanometer is very very small its  $10^{-9}$  m.

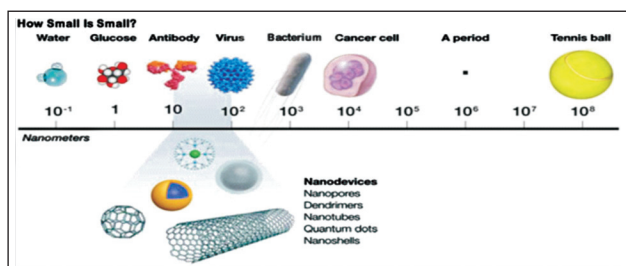


Fig. 1

Source: Wikipedia

### Definition of Nanotechnology:

(Sometimes shortened to “nanotech”)

*Nanotechnology is defined as the research and development of materials, devices, and systems exhibiting physical, chemical, and biological properties that are different from those found on a larger scale (matter smaller than scale of things like molecules and viruses).*

**Is the study of manipulating matter on an atomic and molecular scale.**

### Applications of nanotechnology:

#### Nanomedicine

- The application of nanotechnology in medical science and human healthcare. It's defined as the repair, construction and control of human biological systems using devices built upon nanotechnology standards. Still in a formative phase

#### Application of nanomedicine

- Drug delivery
- Surgery
- Cancer treatment
- Tissue engineering
- Gene therapy

- Nanodentistry
- Arthroscopy
- Nanonephrology
- Antimicrobial effects
- Medical robotics
- Therapeutic application

**Drug delivery:** It is done by specially designed drug-carrying nanoparticles. It is activated only at the disease site

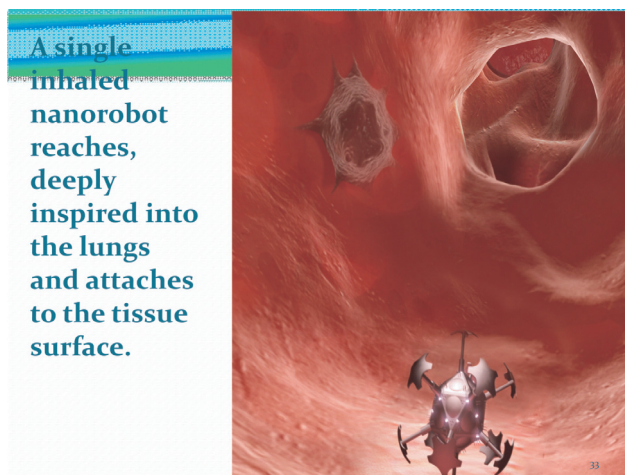


Fig. 2

(source: www.google.in-images for nanomedicine)

**Surgery:** A surgical nanorobot, programmed or guided by a human surgeon, could act as a semiautonomous on site surgeon inside the human body, when introduced into the body through vascular system or cavities. It is coordinated by an onboard computer while maintaining contact with the supervising surgeon via coded ultrasound signals with nanotechnology, minute surgical instruments and robots can be made which can be used to perform microsurgeries on any part of the body. Visualization of surgery can also be improved. Instead of a surgeon holding the instrument, computers can be used to control the nano-sized surgical instruments. "Nanocameras" can provide close up visualization of the surgery. Surgery could also be done on tissue, genetic and cellular levels.<sup>6</sup>

**Cancer treatment:** *Detection of harmful cancer cells.*

**Its benefits**

- Deliver nanoparticles directly to the cancer tissues

- Minimize undesirable toxicity to the rest of the body
- This nanoparticle therapy leads to the extermination of the tumor from the body.
- It does not leave Secondary Effects on the body.

**Diagnostics:** In vitro diagnostics and in vivo imaging

**In vitro:** Outside the living organism

**In vivo:** within a living organism

**Diagnostic Applications:** Imaging

- *Improved imaging of the human.*
- *Emit magnetic field.*
- *Detect tumors .*



Fig. 3

(source: www.google.in-images for nanomedicine)

**Nanonephrology:** Nanonephrology is a branch of nanomedicine that seeks to use nanomaterials and nanodevices for the diagnosis, therapy, and management of renal diseases. It includes the following goals:

- *The study of kidney protein structures at the atomic level*
- *Nano-imaging approaches to study cellular processes in kidney cells*
- *Nanomaterial treatments that utilize nanoparticles to treat various kidney diseases*

**Tissue engineering:** Nanotechnology may be able to help reproduce or repair damaged tissue. "tissue engineering" makes use of artificially stimulated cell



proliferation by using suitable nanomaterial-based scaffolds and growth factors. Tissue engineering might replace today's conventional treatments like organ transplants or artificial implants.

### Nanotechnology in gene therapy

#### Respirocytes

- *Respirocytes are hypothetical artificial red blood cell are nanodevices*
- *It can function as red blood cells with greater efficacy*

#### Microbivores

- *Microbivores are hypothetical structures which function as white blood cells*
- *It enables the action of phagocytosis.*

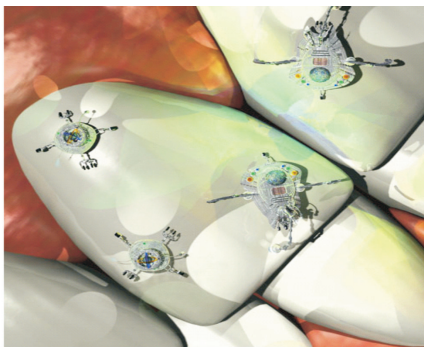
#### Therapeutic applications

- *To cure skin diseases,*
- *Cleaning of mouth.*
- *Removal of atherosclerotic deposits,*
- *Detection of virus.*

#### Nanorobots: What are they?

- *Nanorobots are nanodevices.*
- *To repair or detect damages and infections.*
- *Effuse themselves through human excretory system.*

### Dental Robots



Four remote-controlled nanorobots examine and clean the subocclusal surfaces of a patient's teeth, near the gumline.

Fig. 4

(source: www.google.in-images for nanodentistry)

#### Medical robotics

- *Potential applications include early diagnosis and targeted drug delivery for cancer, biomedical*

*instrumentation, surgery, pharmacokinetics, monitoring of diabetes, and health care.*

- *Future medical nanotechnology expected to employ nanorobots injected into the patient to perform treatment on a cellular level.*

#### Miscellaneous Applications of Nanotechnology in Health

- *Snapshots of the human body for better understanding of how it works.*
- *The workings of cells, bacteria, viruses etc can be better explored. The causes of relatively new diseases can be found and prevented.*
- *Biological causes of mental diseases can be monitored and identified.*

#### Future predictions

- *By 2020 nanomedicine is expected to*
- *Revolutionize healthcare practice*
- *Create new diagnostic and therapeutic applications*
- *Lead to advances in molecular and cell biology*
- *Make biomedicine more predictive, preventive, personalized, and regenerative*

#### Advantages of nano medicine:

- *Detection is very easy.*
- *No side effects.*
- *No surgery required.*
- *Diseases can be easily cured*

#### Disadvantages

- *Not practical yet.*
- *High cost.*
- *Implementation difficulties.*

#### Nano horrors

- *Self replicating Nano Robots*
- *A threat to the existence of human beings*<sup>8</sup>

### CONCLUSION

Nano medicine, one of the important applications of the nanotechnology has made a revolutionary development in the medical field.

- *It can help healthcare organizations tap into the remote and rural access, making healthcare a lot more affordable.*
- *This is especially true in the Indian context that has to deal with infrastructural constraints such as availability of trained staff, power and connectivity.*

**Acknowledgement:** I wish to acknowledge my philosopher Mr. Murugesan for his dedication in mentoring and encouraging me

**Ethical clearance:** None

**Sources of Funding:** Self

**Conflict of Interest:** None

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# Assessment of Nursing Aptitude on Entry to Nursing Programme: Can it be Assessed?

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## ABSTRACT

Nursing is an art, a skill and a profession in demand to help nations realize their health care goals. Effective nurses transform the health status of individuals and families. However the incoming reports of poor quality nursing care and growing attention of Health Care Managements to select competent nurses have called nursing professionals to give a thought on 'quality of potential nurses'.

This paper reports the development of a Nursing Aptitude Test (NAT) for selecting candidates for B. Sc. Nursing programme. It was developed based on the various skills considered necessary for nursing profession. The tool revealed positive relationship of nursing aptitude with academic and clinical performance, moreover was sensitive to training. The tool might be used to predict academic and clinical performance of BSc Nursing students in India. There is scope for exploration on usefulness of the tool to predict competent nurse workforce and effective nursing care.

**Keywords:** *Nursing Aptitude, India, Quality Nursing Care, Academic Performance, Clinical Performance*

## INTRODUCTION

Nursing is an art, the work that speaks of itself. It is the skill of communication and the therapeutic relationship a nurse maintains that lays the foundation for healing and transformation. A culture sensitive, caring, compassionate, empathetic communication imparted with the knowledge of sciences including math, processed through accurate perception and sound reasoning skills is primarily expected of a competent nurse. However the report on poor quality of nursing care in UK, invite nursing community to give a thought on revitalizing the system of nursing care through the system of nursing education, even in India. <sup>1-2</sup>

It is a proven fact that a good input processed effectively yields relatively a good output. Thus for the purpose of quality assurance in nursing practice, one of the strategies could be to screen the input to the system (quality of potential nurses) for its appropriateness. Introduction of aptitude tests for student selection in nursing was recommended by Francis<sup>1-2</sup>, Newton & Moore<sup>3</sup>, the High Power

Committee<sup>4</sup>, Pataliah<sup>5</sup>, Bhasan<sup>6</sup> and a surgeon in one of the studies<sup>7</sup> of the investigators. However, for assessment of nursing aptitude, a valid measure is required.

While there are a good number of tests available in USA for assessment of nursing aptitude on entry to course<sup>8</sup>, India is in need of one. Jiwan<sup>9</sup> in India developed a tool for similar purpose however, methodological constraints in the tool development process is a limitation for its use. Thus, there is a need for development of a valid measure to assess nursing aptitude of nursing students in India, which can predict both academic success and clinical performance. An effort undertaken to develop the tool (NAT INDIA), to measure nursing aptitude of B. Sc. Nursing students on entry to course and to assess its psychometric properties is summarized in this article.

## MATERIALS AND METHOD

This cross sectional study was held in Karnataka. The target population of the study were the entrants to B. Sc. Nursing programme enrolled in nursing

colleges in India. Number of nursing colleges, in India, in the year 2013 was 1661 and in Karnataka state alone was 344. Twenty colleges among the thirty which permitted conduct of this study were chosen in phase 1 (cluster random sampling) and one college each (referred as College A and College B), from two different universities were selected for phase 2 (purposive sampling). Students who completed their Pre University Course (PUC) in India, available on the day of data collection and consented for the study were only administered NAT. The sample size in phase 1 were 894 students of first year B. Sc. Nursing and in phase 2 were 191 first year (99 in college A and 92 in college B) and 142 fourth year (87 in college A and 55 in college B) B. Sc. Nursing students.

The study was approved by the Ethics Committee and permission from heads of Colleges of Nursing was obtained. The tools used for the study were NAT INDIA and the background proforma. Nursing aptitude was defined as the physical and psychological predisposition to take care of the sick and the well, in whichever setting one may function. NAT INDIA comprised of six subscales measuring different abilities namely, Communication (CA), Reasoning (RA), Numeracy (NA), Knowledge of Science (SA), Spelling, Grammar, Vocabulary (SVA), and Perception, observation and documentation (PEA). These subscales were finalized based on expert suggestion, focus group discussion and small group discussion with nurses and nursing faculty. The items (210 MCQ with four alternatives) developed based on available literature, were subjected to cognitive interview. The tool was edited by an English language expert. Content validation was done by six experts (Medical Education (1), Clinical Psychology (2) and Nursing (3)).

The criteria set for selection of items in the pilot trials were: 1) content validity index of 0.83 and above 2) Item difficulty level between 20% and 80% 3) Item discrimination index of 0.2 and above, and 4) plausible distractors. Among the 180 items which fulfilled the criteria of content validity index, a total of 87 items met the selection criteria set for item analysis. The final scale (87 items) had 15 items per subscale except PEA which had 12 items. Readability ease of the entire scale was 74 (Grade level of 5) on a scale of 0 to 100, which means 'Fairly easy' to read for a fifth grader in USA.

Data was collected by the investigator between August 2013 and July 2014. In phase 1, upon obtaining the informed consent from participants, the

participants were gathered in the largest classroom, wherein the seating arrangement was three feet distance between participants. A wall clock was available. Students were guided on filling the background proforma following which time was given to read the directions and guidelines for taking the NAT INDIA test. The response booklet was inclusive of a 'page for rough work'. Students were informed, maximum time limit of 75 minutes to complete the test. Calculators or mobiles or discussion among participants was not permitted inside the hall. Time was monitored. Each right answer was assigned a score of one and the wrong or unattended item was scored zero. There was no negative scoring.

Background proforma included demographic information and the reason for the choice of career. Data was collected, from first years in the first week of admission to the course and fourth years on completion of the course. Scores of Physics, Chemistry, Biology and English (PCBE) subjects of PUC and university examination of first year students of phase 2 was collected from respective college offices. In this study, score of Nursing Foundation (university) theory examination, was referred to as academic performance and of practical examination was referred to as clinical performance. Owing to difference in curriculum implementation and evaluation between institutions and universities selected in phase 2, the analysis of data was performed institutionwise in phase 2.

## FINDINGS

Mean age of first years was 19.23 years (SD of 0.93) and of fourth years was 22.16 years (SD of 0.86). Majority of the first year nursing students were Christian (76.7%), females (97.9%), from Kerala (80.6%) and rural residents (73.2%). Majority of the fourth year nursing students were also females (93%), Christian (87.3%), rural (71%) and from Kerala (77.46%). While one half of fourth year students (56.3% in college A and 49.1% in college B) chose nursing career because of job opportunity, only 29.1% of first year students chose nursing because of job opportunity.

Reliability of NAT INDIA: The internal consistency reliability ( $\alpha$ ) was 0.887 ( $n=894$ ) and the test retest reliability (Intra class Correlation Coefficient) was 0.814 ( $n=41$ ). Standard Error of Measurement (SEM) of NAT INDIA was 3.91. The reliability coefficient ( $\alpha$ ) of subscales is presented in table 1.

**Table 1: Internal consistency reliability of subscales of NAT INDIA**

n=894

Subscale	No. of items	$\alpha$	Subscale	No. of items	$\alpha$
Communication	15	0.65	Perception, Observation and Documentation	12	0.6
Knowledge of Science	15	0.68	Reasoning	15	0.52
Spelling, Grammar Vocabulary	15	0.55	Numeracy	15	0.63

Description of scores: The mean nursing aptitude scores of fourth year nursing students ( $55.24 \pm 10.19$ ,  $n=142$ ) were higher than that of first year on entry to course ( $42.3 \pm 11.66$ ,  $n=894$ ) and on completion of one year of training of first year students ( $53.54 \pm 11.54$ ,  $n=178$ ). The mean NAT scores of first year students on entry were the least in reasoning ( $5.68 \pm 2.5$ ) and perception, observation and documentation abilities ( $6.51 \pm 1.94$ ). The mean scores of fourth year in

reasoning were  $8.1 \pm 2.73$  and perception, observation and documentation were  $7.01 \pm 1.71$ . In the subsample of first years ( $n=169$ ) of phase 2, the mean scores in perception, observation and documentation remained unchanged ( $7.32 \pm 1.81$ ) on completion of one year of training. Among the sample selected for phase 2 of the study, the scores of participants of whom the data was available of NAT, PCBE and university examination are described in table 2.

**Table 2: Description of NAT, PCBE percentage, academic performance and clinical performance scores of first year B. Sc. Nursing students**

	College A (n=90)				College B (n=81)			
	Min	Max	Mean	SD	Min	Max	Mean	SD
NAT INDIA	22	69	47.17	10.39	19	72	49.83	11.0
PCBE	51.75	91.9	75.15	9.88	46.75	89.13	70.63	9.87
Academic performance	20	74	59.88	8.14	42	87	65.56	8.45
Clinical Performance	138	177	162.5	7.62	119	170	138.35	9.76

Predictive validity: The predictive validity of NAT INDIA is presented in Table 3. In college A, NAT explained a variance of 49% in academic performance and 28% in clinical performance, which was more than, the PCBE (24% for academic and 14.44% for clinical performance) scores. In college B, NAT explained a

variance of 31.4% in academic and 9.6% in clinical performance, which was higher than, that of PCBE scores (12.3% in academic and 5.76% in clinical performance). This finding affirms that NAT INDIA is a better predictor of academic and clinical performance when compared to PCBE scores.

**Table 3: Correlation between NAT INDIA, PCBE, academic and clinical performance scores**

	College A						College B (n=81)		
	With extreme value (n=90)			Excluding extreme value (n=89)			PCBE	CP	AP
	PCBE	CP	AP	PCBE	CP	AP			
NAT	.48	.41	.54	.47	.53	.70	.29	.31	.56
PCBE	1	.38	.41	1	.38	.49	1	.24	.35
CP		1	.57		1	.57		1	.55

CP: Clinical Performance; AP: Academic Performance

The tool was tested among fourth year nursing students (trained) in order to identify the discriminating property of the tool. The difference in mean NAT scores between first year students on entry to course (untrained) and fourth year students on completion of course was significant ( $t_{(318)} = 5.214$ ,  $P=.001$ , 95% CI = 0.39 – 8.58).

Sensitivity of NAT INDIA: NAT INDIA scores of first year students ( $n=169$ ) improved upon one year of training (mean difference of 4.81,  $t_{(168)} = 7.352$ ,  $P=0.001$ ). Mean NAT score of students who joined the course with interest ( $n=166$ ) was less ( $39.5 \pm 11.02$ ) compared to those who joined for other reasons ( $42.73 \pm 11.73$ ,  $n=728$ ). There was significant difference ( $t_{(776)}$

= 2.48,  $P=0.014$ ) in mean NAT scores of students from Karnataka ( $n=57$ ) and Kerala ( $n=721$ ) as well as between Buddhist students ( $n=30$ , Mean = 52.73, SD = 8.493) and other religious groups ( $t_{(892)} = 5.13$ ,  $P = 0.001$ ). Mean (SD) NAT score of Christians ( $n=686$ ) was 41.89 (11.58), Hindu ( $n=161$ ) was 41.23 (11.82) and Muslim ( $n=17$ ) was 41.82 (9.825).

## DISCUSSION

Aptitude tests identify a candidate's potential to master the skills of a profession. A candidate with potentials, acquire professional competencies faster.<sup>10</sup> Admission to professional courses like engineering, medicine, law and teaching in India are on the basis of aptitude test results unlike nursing. Nursing admissions currently are on the basis of eligibility criteria (medical fitness and an aggregate of at least 45% in PCBE) set by Indian Nursing Council (INC).

Nurses are an indispensable manpower in health care industry, moreover, are accountable to the care planned and rendered. Modern nursing is a relatively complex skill expecting nurses to demonstrate competency in observation, measurement, reasoning, documentation, communication and application of knowledge from related fields apart from other non cognitive skills namely caring, compassion, empathy and the like. Aptitude tests for nursing admissions are used abroad, and testing is advisable in India too. Development of NAT INDIA filled the gap of non availability of a valid measure for assessment of nursing aptitude o entry to nursing course..

NAT INDIA was developed systematically, by following the steps of tool development, suggested by Artino et al.<sup>11</sup> Items with difficulty level between 20% and 80% as well as discrimination index of 0.2 and above were accepted as per the guidelines recommended for medical education research.<sup>12</sup> The readability level was maintained as 'fairly easy'.<sup>13</sup>

The content validity index of 0.83 and above for each item;<sup>14</sup> internal reliability (alpha) coefficient of subscales between 0.52 and 0.68,<sup>15</sup> internal consistency reliability (coefficient  $\alpha$ ) of 0.887, Test re test reliability (ICC) of 0.814,<sup>16</sup> SEM of 3.91,<sup>17</sup> were within the acceptable limits. The finding on prediction of academic performance was similar to studies held in USA<sup>18-20</sup>, and Philippines.<sup>21</sup> Moreover, NAT INDIA is convenient for group administration within the duration of 75 minutes and is easy for scoring (MCQ

items) which makes it user friendly.

Valid aptitude tests can be used 1) to identify strength and deficits of an aspirant to pursue the carrier of nursing, 2) to rank or compare candidates for the purpose of admission, 3) to design a short term training programme and 4) to predict scholastic performance. This study revealed that NAT INDIA is trustworthy, could discriminate potentials of trained and untrained nurses, predict academic and clinical performance and is sensitive to participant exposure and experiences. Thus NAT INDIA could be used for purposes mentioned above. The property of prediction of clinical performance invite nurse researchers to study further, the usefulness of the tool in predicting 'quality nursing care'.

A few limitations in the tool development process were: 1) Lack of a meta theory in nursing. 2) Limitations of number of items to make the tool user-friendly and convenient. 3) Majority (80.6%) of the participants were from Kerala and 4) Interest taken or seriousness to answer the items by the participants. There is scope for refinement of NAT INDIA by adding more items (length of tool has influences reliability) with item difficulty level between 40% and 60% as it is believed to enhance the item discrimination property of the tool.<sup>17</sup>

## CONCLUSION

NAT INDIA is a reliable, valid, sensitive, cost effective, convenient and user friendly instrument to assess nursing aptitude of students who seek entry to nursing programmes in India.

**Funding/Sponsorship:** None

**Conflict of Interest:** None

**Acknowledgement:** Participants of the study and Health Sciences Library of MU, Manipal.

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# Nursing Students' Perception of Objective Structured Practical Examination (OSPE) in a Selected Institute, Guwahati, Assam

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## ABSTRACT

**Background:** An integral part of a nursing curriculum is an appropriate assessment of skill of the nursing students. The Objective Structured Practical Examination (OSPE) can assess practical competencies in an appropriate, step-wise, methodical, objective and time-orientated manner with direct observation of the student's performance during planned clinical test stations.<sup>1</sup>

**Aims & Objective:** The purpose of the study was to determine the nursing students' perception of OSPE.

**Material and Method:** A descriptive survey approach was adopted to determine the nursing students' perception of OSPE. A sample of 55 2nd year BSc Nursing Students of Sankar Madhab College of Nursing were selected by using nonprobability purposive sampling technique. The data collection was done in two phases after the approval from the Institutional Ethical Committee and informed consent was taken from the individual student. In Phase I, the students participating in the study were introduced to OSPE system by a short lecture and an orientation programme was organized for faculty members participating in the study as observers. A total of 55 students were divided into 2 groups of 27 & 28 each, examined for 2 days. For the OSPE, students were oriented by an OSPE map and a written instruction list before the start of the exams. The OSPE consisted of five stations on Intravenous Cannulation (3 Observed station, 1unobserved station and a Rest Station) of 3-6 minutes each. The stations were Station 1(Unobserved)-Sites of Intravenous cannulation (3 mins), Station 2 (Observed)-Identification of the size of Cannula (3 mints), Station 3(Unobserved)- Complication of Intravenous Cannulation (3 mints), Station 4- Rest Station, Station 5-Intravenous Procedure Demonstration.(6 mints). Marks were allotted for each station except for rest station. In Phase II, at the end of OSPE session data were collected by using a self-administered structured checklist consisting of five broad based themes as (1) Information received on OSPE (2) Atmosphere of OSPE (3) Stations of OSPE (4) Conduction of Examination (5) Overall view on OSPE with 27 items. Frequencies and percentages were used to analyse and interpret the data.

**Results:** The findings reveal a positive perception towards information received on OSPE (87%), atmosphere of OSPE (79%), stations of OSPE (90%), conduct of examination on OSPE (89%) and overall view on OSPE (89%).

**Conclusion:** In spite of the limited use of OSPE in nursing in India, the current study showed a positive perception towards OSPE as a fair, unbiased, valid, reliable assessment method.

**Keywords:** OSPE- Objective Structured Practical Examination, Students' Perception, Intravenous Cannulation



## INTRODUCTION

Nursing education is one of the most structured and well planned educational systems with its specific curriculum. Nursing curriculum has well planned skill requirement for each group of students. Nursing is incomplete without having any expert skills. Students are trained to be skilful during their course of studies. Various methods have been used by the nursing teachers to teach the nursing students about the skills required in Nursing. But the question is ..... How far the nursing teachers evaluating their skills objectively? ..... It's high time that we all move out of the traditional ways of assessing the skills of our students and adopt more objective methods of evaluating their skill.

The conventional method of practical assessment is found to be subjective and at times may be biased.<sup>2</sup> Objective Structured Practical Examination (OSPE) is one of the methods of objectively testing the student's competence. The term Objective Structured Practical Examination is derived from Objective Structured Clinical Examination (OSCE) in 1975, when it was later modified to include practical examination.<sup>3</sup> The OSPE can assess practical competencies in an appropriate, step-wise, methodical, objective and time-orientated manner with direct observation of the student's performance during planned clinical test station. It has been introduced in many professions as a valid and reliable assessment tool.<sup>1</sup>

The students should get exposure to various form of assessment method in addition to the existing traditional methods of assessment to make students' learning more effective. Thus the current study was designed to introduce OSPE to the 2<sup>nd</sup> year BSc nursing students and to understand their perception of OSPE and whether it would be acceptable as an assessment method.

### Problem Statement

A study to assess the nursing students' perception of objective structured practical examination (OSPE) in a selected institute, Guwahati, Assam

## OBJECTIVES

1. To determine the nursing students' perception of OSPE

### Review of Literature

Small LF (2011) conducted a study to explore and describe the perceptions of 1<sup>st</sup> and 3<sup>rd</sup> student nurses

with regard to the OSCE in Namibia. A quantitative, cross-sectional, analytical research design was used. A questionnaire on the perceptions of OSPE was used to collect data from 403 student nurses from which 204 completed questionnaires, indicating a 51% response rate. The findings indicated that the overall perception towards the approach appeared to be well organised and the majority of students appreciate the format of OSCE approach. However, the study further highlighted the fact that more extensive training of students on time management and the relief of emotional stress is necessary during the implementation of this approach.<sup>4</sup>

Wani P D and Dalvi VS (2013) assessed the 1<sup>st</sup> year MBBS students' perception of OSPE in comparison of their views of traditional clinical examination (TCE) in Mumbai. 50 students were administered a questionnaire for quantitative as well as qualitative analysis. Quantitative analysis of students' perception involving 5 broad themes as (1) is OSPE a better stimulus to learning? (2) Content of the OSPE (3) Is OSPE a reliable and fair examination? (4) Administration of OSPE, (5) OSPE vs. Traditional Clinical Examination with 23 questions. The results showed a positive perception of the OSPE as a better stimulus to learning (58%) with satisfactory content of OSPE (72%), OSPE being objective, fair and unbiased (54%), having effective administration (60%) and the OSPE being better than TCE (52%).<sup>1</sup>

## MATERIAL AND METHOD

A descriptive survey approach was adopted to determine the nursing students' perception of OSPE. A sample of 55 2<sup>nd</sup> year B.Sc. Nursing Students of Sankar Madhab College of Nursing were selected by using nonprobability purposive sampling technique. The data collection was done after the approval from the Institutional Ethical Committee and a written informed consent from the participants. The data was collected in two phases-

**In Phase I:** the students participating in the study were introduced to OSPE system by a short lecture and an orientation programme was organized for faculty members participating in the study as observers. A total of 55 students were divided into 2 groups of 27 & 28 each, examined by 4 examiners for 2 consecutive practical days. Structured checklist (answer key) for observed and unobserved stations was prepared along with examiners' and students' instruction manual and all validated by senior faculty

members. For the OSPE, students were oriented by an OSPE map and a written instruction list before the start of the examination.

After the initial orientation students were exposed to the OSPE stations, consisting of five stations on Intravenous Cannulation (2 Observed Stations, 2 Unobserved Stations and a Rest Station) of 3-6 minutes each, arranged in the Medical Surgical Nursing Laboratory in a clockwise manner. The stations were as follows:

Station 1: (Unobserved): Sites of Intravenous cannulation (3 mins)

Station 2: (Observed): Identification of the size of Cannula (3 mints)

Station 3: (Unobserved): Complication of Intravenous Cannulation (3 mints)

Station 4: Rest Station

Station 5: (Observed): Intravenous Procedure Demonstration (6 mints)

Marks were allotted for each station except for rest station.

**In Phase II:** At the end of OSPE sessions data on students' perception on OSPE were collected by using a self-administered structured checklist consisting of 5 broad based themes as (1) Information received on OSPE (2) Atmosphere of OSPE (3) arrangement of Stations of OSPE (4) Conduction of Examination (5) Overall view on OSPE with 27 items. At the end of the questionnaire, an open ended question was asked to elicit their opinions regarding this assessment method. The tool was validated by 03 experts in the field of nursing education. In the checklist, the students were instructed to tick mark the best response to the 27 statements either AGREE or DISAGREE. Each AGREE carried a score 1 (one) and each DISAGREE carried a score 0 (zero). The participation was voluntary and anonymous. The students were assured that no action will be taken against them if they wish not to answer to the questionnaire. The students were instructed to reply to their own answer sheet without any discussion with the peers. Frequencies and percentages were used to analyse and interpret the data.

**FINDINGS**

All the 55 students (100%) participated in the study.

Section I: Students' overall perception on OSPE in 5 broad areas N=55

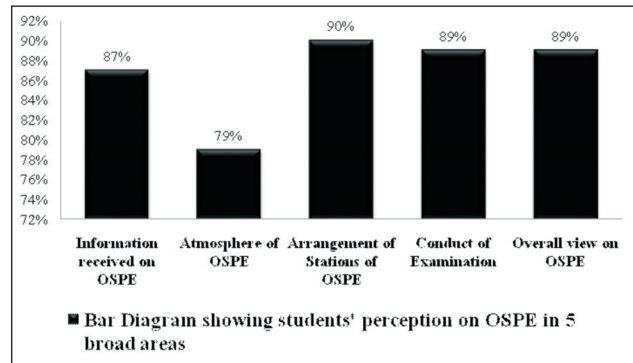


Fig. 1. Bar diagram showing students' perception on OSPE in 5 broad areas

Figure 1 depicts that majority of the students (90%) agreed on the overall arrangement of stations of OSPE. 89% of the students agreed on overall conduction of examination and 89% also showed positive response on overall view on OSPE. Majority of the students (87%) showed positive responses on overall view on OSPE. 79% of the students had positive responses on overall atmosphere of OSPE.

Section II: Students' perception on OSPE on different sub areas

**Table 1: Theme (1): Information received on OSPE**

N=55

Areas	Agree	Disagree
Information received on OSPE	87%	13%
1. Instruction given before the OSPE was adequate	98%	2%
2. OSPE Map was helpful	95%	5%
3. Opportunity was given to seek clarification	67%	33%

Table 1 showed that in regard to information received on OSPE, majority of the students majority of the students (98%) felt that instruction given before the OSPE was adequate. Majority (95%) also felt that OSPE map was helpful. More than the half of the students (67%) felt that opportunity was given to seek clarification.

**Table 2: Theme (2): Atmosphere of OSPE**

N=55

Areas	Agree	Disagree
Atmosphere of OSPE	79%	21%
1. Space was adequate & comfortable	84%	16%
2. There was less distraction	76%	24%

Table 2 depicted that in regard to the atmosphere of OSPE, majority of the students (84%) felt that space

was adequate and comfortable and 76% felt that there was less distraction.

**Table 3: Theme (3): Arrangement of Stations of OSPE**

N=55

Areas	Agree	Disagree
<b>Stations</b>	90%	10%
1. Stations were sequentially arranged	93%	7%
2. Each station had clear instruction about the task to be performed	98%	2%
3. Each station had clear instruction of time allotted and Marks	95%	5%
4. Time allotted for each station was adequate	76%	24%
5. Number of stations was adequate for the area assessed	98%	2%
6. Easy to switch from one station to another	87%	13%
7. Enough time was given to switch from one station to another	89%	11%
8. Arrangement in each station was adequate	85%	15%

Table 3 showed that regarding the arrangement of stations of OSPE, most of the students (93%) felt that stations were sequentially arranged. Majority (98%) also felt that each station had clear instruction about the task to be performed. Majority of the students (95%) felt that each station had clear instruction of time allotted and Marks. 76% of the students felt that time allotted for each station was adequate. Most of the students (98%) felt that number of stations was adequate for the area assessed. Majority (87%) found easy to switch from one station to another. 89% of the students felt that enough time was given to switch from one station to another. Majority of the students (85%) felt that arrangement in each station was adequate

**Table 4: Theme (4): Conduction of Examination**

N=55

Areas	Agree	Disagree
Conduct of examination	89%	11%
1. Examination covered all types of questions related to area	85%	15%
2. Examination assessed both theory and skill part	98%	2%
3. Examination was stress free	73%	27%
4. Scoring was objective	91%	9%
5. Covered relevant areas	96%	4%

Table 4 represents that in regard to conduction of examination, majority of the students (85%) felt that examination covered all types of questions related to area. Most of the students (98%) felt that examination assessed both theory and skill part. 73% of the students found that examination was stress free. 91% and 96% of the students felt that scoring was objective and covered relevant areas respectively.

**Table 5: Theme (5): Overall view on OSPE**

N=55

Areas	Agree	Disagree
Overall view on OSPE	89%	11%
1. Is a fair and unbiased means of evaluation	96%	4%
2. More uniform and objective since all the students are asked similar questions with same difficulty level	84%	16%
3. Less fear of examiners as no direct interaction with examiners	76%	24%
4. OSPE is more satisfying compared to traditional method of assessment	100%	0%
5. Would like to repeat the OSPE regularly	81%	19%
6. OSPE should be a part of curriculum	78%	22%
7. OSPE tests details of procedure in steps	100%	0%
8. Builds confidence to conduct a similar procedure on a real patient	84%	16%
9. Provided opportunity to learn	100%	0%

Table 5 showed that regarding overall view on OSPE, majority of the students (96%) felt that OSPE is a fair and unbiased means of evaluation. 84% of the students felt that OSPE is more uniform and objective since all the students are asked similar questions with same difficulty level. 76% of the students felt less fear of examiners as no direct interaction with examiners. All the students (100%) felt that OSPE is more satisfying compared to traditional method of assessment. 81% of the students would like to repeat the OSPE regularly. 78% of the students felt that OSPE should be a part of curriculum. All the students (100%) felt that OSPE tests details of procedure in steps. 84% of the students felt that it builds confidence to conduct a similar procedure on a real patient. All the students (100%) felt that they were provided with an opportunity to learn.

**Table 6: Comments from students**

Comments from students
<ul style="list-style-type: none"> <li>OSPE is a better way of conducting our practical procedure. It enables all the students to perform the procedure as well as answers to the related questions.</li> </ul>
<ul style="list-style-type: none"> <li>Felt more relax and confident during performing the procedure</li> </ul>
<ul style="list-style-type: none"> <li>It was a fun learning experience and there was no confusion as general instructions were given clearly</li> </ul>
<ul style="list-style-type: none"> <li>All the students were treated equally without partially. It helps the students to think smartly and act actively as a specific time is allotted in every station.</li> </ul>
<ul style="list-style-type: none"> <li>Although this method is nice, but it is time consuming and we are not confident to do the same procedure with real patient</li> </ul>
<ul style="list-style-type: none"> <li>OSPE is less stressful and it is expensive as more numbers of articles are required</li> </ul>
<ul style="list-style-type: none"> <li>It is very time consuming at the same time it is very effective</li> </ul>

### CONCLUSION

In spite of the limited use of OSPE in nursing in India, the current study showed a positive perception towards OSPE as a fair, unbiased, valid, reliable assessment method. Nevertheless, there is a need for the careful preparation and organisation of the OSPE for the practical assessment of nursing students. Thus the present study emphasizes the utilization of OSPE as one of the practical evaluation tool. The results of this study can be used during curriculum planning process in order to motivate the continuation, discontinuation or adaptation of the current practice being followed at the Schools of Nursing and Colleges of Nursing with regard to the utilisation of OSPEs.

**Acknowledgement:** The researchers acknowledge the contribution and cooperation provided by the Institutional Head, Ms. Pallabi Chetia, Ms Krishna, Mr Badondor, Mr. Lokendro and 2<sup>nd</sup> Year B Sc Nursing students of Sankar Madhab College of Nursing, Guwahati, Assam.

**Conflict of Interest:** The researchers declare that they have no financial or personal relationship(s) which

may have influenced them inappropriately in the writing of this paper.

**Source of Funding:** Self

**Ethical Clearance:** Ethical clearance for the study was obtained from the Institutional Ethical Committee. In addition, informed written consent was obtained from the students and they were assured of both anonymity and confidentiality. The students also participated voluntarily after being briefed.

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# Estimate the Prevalence of Non-Nutritive Sucking among the Pre-School Children in Selected Schools at Ernakulam

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## ABSTRACT

**Introduction:** NNS is a continuous behavior practiced unconsciously, leading to a deleterious oral habit. The purpose of the study was to estimate the prevalence of NNS among the pre-school children in selected schools at Ernakulam.

**Method:** Design adapted was descriptive survey. Mothers of 300 preschool children were selected by convenience sampling method, using a semi-structured questionnaire.

**Results:** The prevalence of NNS habits practiced were 56(18.67%). Among the 300 children, the prevalence rate was higher in girls 35(21.21%) than the boys 21(15.56%). The common sucking habit was TS 37(12.3%). The oral problems were found more among the children with NNS 27(48.2%). A significant association found between the prevalence of NNS and birth spacing ( $p=0.013$ ), oral problems ( $p=0.001$ ), frequency of feeding from 1 to 1 ½ years ( $p=0.000$ ) and 1 ½ to 2 years ( $p=0.046$ ).

**Conclusion:** The prevalence of NNS depends on the breast feeding practices. The other sucking patterns followed by TS were FS 15(5%) and the PS 4(1.3%). Some children had the practice of cloth sucking 40(13.3%), toy sucking 22(7.3%), and hair sucking 10(3.3%). The study findings recommended strongly to conduct further study on the best controlling measures of NNS.

**Keywords:** NNS - Non Nutritive Sucking, TS- Thumb Sucking, FS- Finger Sucking, PS- Pacifier Sucking

## INTRODUCTION

The NNS begins by the 28<sup>th</sup> week of gestation in the human fetus. Although the neonate who discovers his or her thumb probably does so accidentally, the child typically finds TS pleasurable, and the behavior is reinforced (Colin, et al. 2003)<sup>1</sup>. According to Freud's psychoanalytic theory, an infant associates sucking with pleasurable feelings such as hunger, satiety and being held. These events will be replaced in later life by transferring the sucking action to the most suitable object available (Sachdev, et al. 2007)<sup>2</sup>. Sucking is a physiological act that provides nourishment and comfort. NNS can turn into a continuous behavior practiced unconsciously, leading to a deleterious oral habit. The extent of damage caused by this habit is dependent on the duration, frequency and intensity. Till the age 3 is considered to be a normal act but later certain intervention has to be taken. This habit can have

a negative impact on speech, psychology and dental development of the child. (Victoria, et al. 2012)<sup>3</sup> When an active thumb sucker removes his or her thumb from the mouth, a popping sound often is heard. Some aggressive thumb suckers may cause problems with their primary (baby) teeth. (Olinto, et al. 2007)<sup>4</sup>. The study results by Ngom PI, et al. (2008)<sup>5</sup> indicated a prevalence rate of 16.50% for digit sucking and 17.20% for pacifier sucking in this population. A study conducted by Bhat IA, et al (1991)<sup>6</sup>, revealed the fact that the children using pacifiers also had the habit of thumb (64.71%), knuckle (16.43%), toe (3.53%) and cloth (5.29%) sucking. the study of Al Johara et al. (2009)<sup>9</sup>, who investigated the prevalence of NNS habits in preschool children found out that the prevalence of both digit and dummy sucking habits was significantly less in children who were breastfed for one year or longer ( $p=0.0001$ ).

**MATERIALS AND METHOD**

The approach of this study was quantitative. Descriptive survey design was used for the study. The selected settings were schools of Maradu municipality in Eranakulam district. The selected schools were St. Mariys U P school, Lipi pre – primary school, Kid’s World and Euro Kids. The study was also conducted in 8 Anganwadies of Maradu municipality.

**Description of the instrument**

**Tool I:** This tool consists of four parts. The subjects were asked to tick the most appropriate one from given options.

**Section A:** Socio - demographic data of the mother:

Demographic profile of the mother includes 8 items; age, religion, educational status, occupation, monthly income of the family, place of residence, birth spacing and mode of delivery.

**Section B:** Breast feeding practices.

The questions for breast feeding practices were asked under the topics such as initiation of breast feeding to the child, total duration of each feeding, breast milk secretion during lactation, frequency of breast feeding per day up to 6 months to 2 years, and discontinuation of breast feeding.

**Section C:** Socio - demographic data of the child.

Demographic profile of the child includes 7 headings with 2 to 5 options. It includes age, sex, birth order, gestational age at birth, care taker during infancy and non nutritive sucking habits of the child.

**Section D:** Health problems related to non- nutritive sucking.

Two questions were asked to the parents; the occurrence of recurrent infections and oral problems of the child. Each questions had 5 options given to choose most appropriate one.

**Tool II**

Tool II is a semi-structured questionnaire only for the mothers whose children have the thumb or pacifier sucking habit.

**Section 1:** Thumb sucking habit.

It includes nine areas to understand the TS practices

with 4 to 5 options such as sucking habit during infancy, when and how the child started TS, often sucking finger, duration of thumb sucking per day, when does the child suck the finger, appearance of the sucking finger and till what age he had the habit.

**Section 2:** controlling measures.

This section deals with the controlling measures initiated by the parents to stop the thumb sucking habit. It consists of 3 topics with 4 to 6 options. The questions asked were as follows; whether the parents are tried to stop the habit, what are the measures they have taken and which is the most effective one.

**Section 3:** Pacifier sucking habit.

This is for the mothers whose children have the PS habit. It includes 3 questions regarding how the habit started, till what age the child had the habit and total duration of the pacifier sucking per day. Each of the questions has 3 to 5 options.

**FINDINGS**

**The first objective of the study was to estimate the prevalence of non- nutritive sucking habits among preschool children.**

In the present study the prevalence of NNS was identified by using a semi-structured questionnaire which includes 40 questions. Of the 300 preschool children 56(18.67%) had NNS habit. 37(12.3%) of children had TS habit, 15(5%) had FS habit and only 4(1.3%) of children had PS habit. The prevalence of sucking habits among the girls 35(21.21%) were higher than among the boys 21(15.56%). The study findings also revealed that the NNS habit was higher in rural areas 17(20.74%) than urban 39(17.88%)

(n=300)

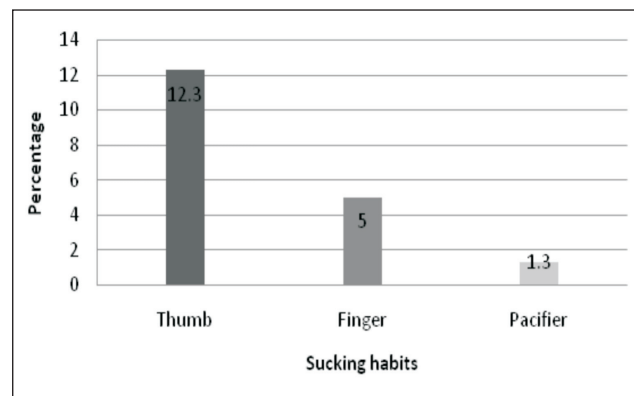


Fig. 1. Distribution of children based on pattern of sucking habit

Fig 2 depicts that among 56 preschool children who have NNS habits, majority of children 37(12.3%) had the habit of TS. Finger sucking habit was found with 15(5%) of children and very few 4(1.3%) children had the habit of PS.

**The second objective of the study was to explore non-nutritive sucking patterns among pre-school children.**

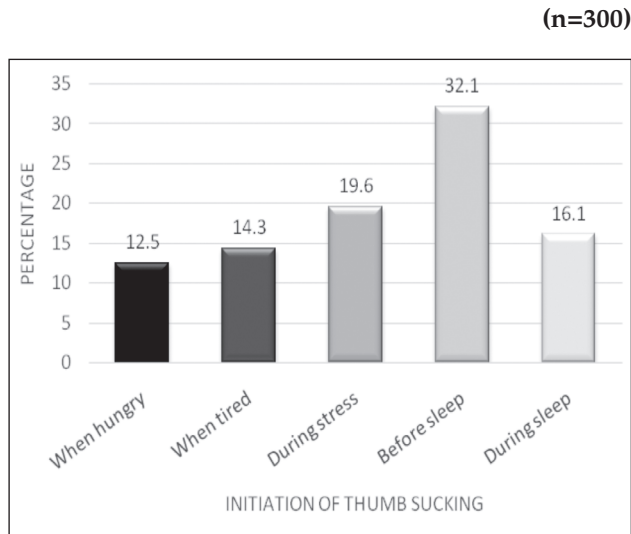


Fig. 2. Distribution of preschool children based on the initiation of thumb sucking habit.

**Table 1 : Association between prevalence of NNS and oral problems of the child.**

Oral problems	Non- nutritive sucking of the child					df	X <sup>2</sup>	Table value
	Present		Absent					
	Frequency	%	Frequency	%				
Tooth decay	9	13.24	59	86.76	3	15.576*	7.82	
Protrusion of anterior teeth	9	47.36	10	52.64				
Misalignment of the teeth	9	31.04	20	68.96				
Does not have any problem	29	15.76	155	84.24				

\* = significant at 0.05 level

Table 1 illustrates the point that there is statistically significant association between the NNS and oral problems of the child, X<sup>2</sup> value 15.576 is more than table value 7.82, and it reveals that 9(47.36%) of preschool children with NNS had protrusion of anterior teeth.

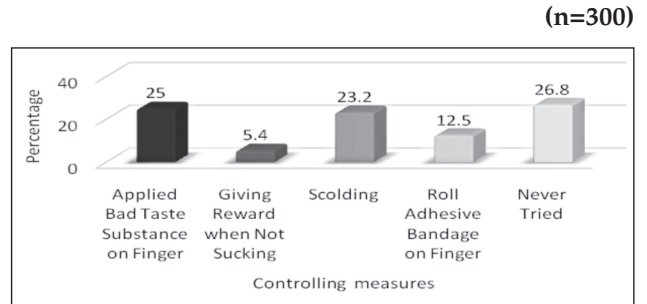


Fig. 3. Distribution of controlling measures followed by parents to stop thumb/finger sucking.

Fig 3 depicts the fact that among the 56(18.67%) preschool children, 14(25%) of the parents of preschool children with NNS had tried to stop the TS habits by applying bad taste substance on the sucking finger, 13(23.2%) of parents scolding their children while sucking thumb, 7(12.5%) of parents tried to stop the habit by rolling adhesive bandage on the finger. Only 3(5.4%) of the parents were given reward to the child when he is not sucking the thumb or finger. Hence they are reinforcing the child not to do TS. Nearly 15(26.8%) of parents never tried any measures to stop the habit.

**The third objective of the study was to find the association between non-nutritive sucking habits among pre-school children and selected demographic variables.**

**Distribution of preschool children with and without non-nutritive sucking habits based on oral problems.**

The preschool children with NNS 27 (48.2%) have more oral problems when compared to children without NNS 89(36.5%).

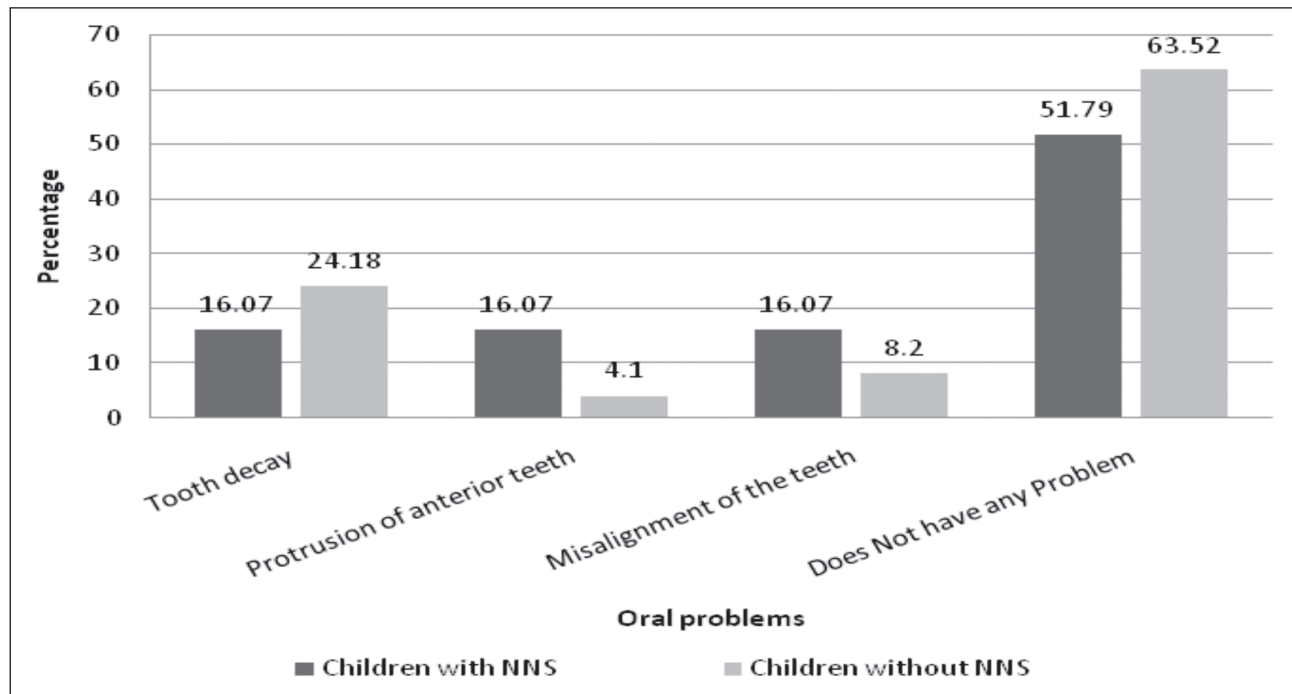


Fig. 4. Distribution of children based on oral problems.

Table 2: Association between prevalence of non – nutritive sucking and frequency of breast feeding from birth to 2 years.

Demographic variables	Non – nutritive sucking					df	X <sup>2</sup>	Table value
	Present		Absent					
	Frequency	%	Frequency	%				
<b>Feeding up to 6 months</b>								
Every 2 to 3 hours	43	18.6	188	81.38	2	0.961ns	5.99	
Only when the child cries	10	16.94	49	83.05				
Not given	3	30	7	70				
<b>Feeding from 6 months to 1 year</b>								
Every 4 to 5 hours	23	15.03	130	84.97	3	7.66ns	7.82	
Demand feed	29	18.81	82	81.19				
Night and morning only	6	23.08	20	76.92				
Not given	8	40	12	60				
<b>Feeding from 1 to 1 ½ years</b>								
Every 4 to 5 hours	13	12.15	94	87.85	3	17.94*	7.82	
If needed for the child	16	14.95	91	85.05				
Night and morning only	8	21.05	30	78.95				
Feeding discontinued	19	39.58	29	60.42				
<b>Feeding from 1 ½ to 2 years</b>								
Every 4 to 5 hours	7	12.28	50	87.72	3	7.99*	7.82	
If needed for the child	17	15.74	91	84.26				
Night and morning only	9	10.91	46	89.09				
Feeding discontinued	23	29.11	56	70.89				

\*= significant at 0.05 level

ns= non significant at 0.05 level



Table 2 depicts the fact that there is association between prevalence of NNS and frequency of feeding from 1 to 1 ½ years and 1 ½ to 2 years. Most of the children 19(39.58%), who discontinued breast feeding at 1 to 1 ½ years had developed non-nutritive sucking. Also, a mild association has found between prevalence of NNS and frequency of feeding from 1 ½ to 2 years. Statistically, there is no association found with frequency of feeding from birth to 1 year.

**The secondary objective of the study was to prepare a guideline for awareness regarding the preventive measures of non-nutritive sucking habit.**

The present study findings revealed that, most of the parents of preschool children with non – nutritive sucking habits 15(26.8%) never tried any preventive measures to stop the habit. About 14(25%) parents of preschool children with non- nutritive sucking had tried to stop the thumb sucking habits by applying bad taste substance on the sucking finger, 13(23.2%) parents scolding their children while sucking thumb and 7(12.5%) of parents tried to stop the habit by rolling adhesive bandage on the finger. Only 3(5.4%) of parents giving reward for the child when he is not sucking the thumb or finger, hence they are reinforcing the child not to do thumb sucking.

During the data collection the researcher were noticed that the mothers were interested to get remedy to stop such habits. Based on this need of mothers, the researcher constructed a guideline regarding the preventive measures of non-nutritive sucking habit.

### How to stop thumb sucking

Most thumb suckers break the habit by their own before turning five years. The timing of the parent's intervention is of great importance. Here, are some suggestions for breaking the habit.

- **Reward system:** Offer incentives. Rewards may increase the chances of a child will practicing a new behavior. Find ways for your child to be motivated to stop (eg: toys, chocolates, new dress, etc.). Making your child an active participant in his or her treatment will increase the willingness to break the habit.
- **Remainder therapy:** Painting something that tastes bad on the thumbs can make them less satisfying. Physical barriers like band aids, gloves, etc., can also be used.
- **Thumb buddy to love:** This is commercially available and is a positive teaching tool and chemical-free method. It contains thumb puppet that is inserted into the child's thumb. By having the thumb puppet, the child stays motivated to stop the habit.
- **Thumb cover:** This is the most recent concept. In this, a small bag is given to the child to tie around his wrist during sleep and it is explained to the child that just as the child sleeps in his home, the thumb will also sleep in its house and so the child is restrained from thumb sucking during night .
- Choose a "penalty" for thumb sucking. (Remember, no nagging or fussing.) For example, insist that your child will not get the things which he likes most (a toy, chocolates, etc.), if he sucks the thumb.
- Introduce an alternate activity to replace the thumb sucking. The activity should occupy both hands.
- If the child is sucking when he or she is anxious, work on alleviating the anxiety rather than focusing on the thumb sucking. Take note of the



times your child tends to suck (long car rides, while watching movies) and create diversions during these occasions. Try to spend some time with him.

#### DOs

- Explain in a simple way what might happen to the teeth if he or she keeps thumb sucking.
- Try to limit the time that your child sucks his thumb by engaging the child in other activities. (Jumping rope, basketball, piano, card games, dressing a doll).
- Instruct the child that the remainder therapies are just to remind them to take the thumb out and it is not a punishment.

#### DON'ts

- Punish or yell at the child. You will only make him or her nervous and upset, which will probably lead to more thumb sucking.
- Make fun of an older child for thumb sucking. Nagging or scolding will only make your child feel guilty and may encourage the habit to continue. Advise friends and relatives to ignore it.
- Prohibit your child if he tries to suck his thumb or fingers after being hurt or injured.

#### CONCLUSION

The prevalence of non – nutritive sucking was 18.67% among 300 children. Most common non – nutritive sucking habit was thumb sucking and the oral problems were found among the children with non nutritive sucking. Birth spacing and frequency of breast feeding had significance in developing non-nutritive sucking habits. During the data collection the researchers noticed the mothers were showing greater interest to getting remedy to stop such habits. On account of the need of the mothers, the researchers constructed the care guidelines for controlling the non-nutritive sucking habits.

**Acknowledgement:** Administrative authorities of Primary schools-St. Mariys U P school, Lipi pre –

primary school, Kid's World and Euro Kids and 8 Anganwadies of Maradu municipality in Eranakulam district Kerala. All the 300 parents whom cooperated and interested in completing the questionnaire.

**Conflict of Interest:** Nil

**Source of Finding:** Self

**Ethical Clearance:** The thesis Review Committee Amrita Institute of Medical Sciences, Kochi -682041 Kerala.

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# A Descriptive Study to assess the Factors Affecting Missed Immunization in Children among Parents at Selected Areas, District Jalandhar, Punjab, 2014

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## ABSTRACT

The aim of this study to identify the factors affecting missed immunization in children among parents at selected areas, District, Jalandhar, Punjab. A Descriptive study was conducted among 200 parents, who were having children 5-8 years of age. Purposive sampling technique was used. Data were obtained by checklist to assess missed immunization in children and checklist for factors affecting missed immunization in children among parents. Analysis and interpretation of data was analyzed by using descriptive and inferential statistics. The present study concluded that Out of 200 samples majority of children were not immunized by DT vaccine. minimum missed immunization that is OPV 3. Lack of knowledge about immunization factor is more responsible for missed immunization in children.

### Objectives

1. To assess the missed immunization in children among parents.
2. To assess the factors affecting missed immunization in children among parents.
3. To find out the association between the factors affecting missed immunization with selected socio-demographic variables.

### Methodology

**Design:** Non Experimental (Descriptive Design)

**Setting:** Selected areas of District Jalandhar, Punjab

**Population:** All parents who were having children 5-8years of age.

**Sample size:** Total 200 Parents from selected areas of district Jalandhar, Punjab.

**Sampling techniques:** Purposive Sampling Technique

**Results and conclusion:** Findings of the study has shown that Majority of children 150(70%) were not immunized by DT vaccine. And 0.5% minimum missed immunization that is OPV-3. Majority of 46.5% was lack of knowledge falls in rank 1st. and 24.25% was negligence towards immunization fall in rank 6th.

**Keywords:** Children, Parents, Missed Immunization, Factors

## INTRODUCTION

Today, immunization is very essential part of children health. Immunization programme is a key step for the preventive services of children. It is defined as a process of protecting an individual from a disease through in troduction of live or killed organismsin the

individual body. The WHO launched global immunization programmed in 1974 also known as Expanded Programme on Immunization to protect children from diseases diphtheria, measles, pertussis, poliomyelitis, tetanus, and tuberculosis.<sup>1</sup> Globally, each year 130 million children are born, 91 million of which are in the developing countries. However, around 10

million children under the age of five years die every year and over 27 million infants in the world do not get full routine immunization. The estimate for global child deaths under five years was 10.8 million in 2000. About 41% of these were in Sub-Saharan Africa and 34% in South Asia.<sup>2</sup> The possible reasons for the same could be- Parental Reasons 1.) Concern about vaccine safety 2.) Long distance trekking/walking 3.) Long waiting time 4.) Lack of money 5.) Absence of personnel 6.) Child sickness 7.) Lack of vaccine 8.) Lack of information about day of immunization 9.) Forgetting the day of vaccination 10.) Mothers level of education 11.) Social engagement 12.) Religious beliefs 13.) Others Child reasons 1.) Any absolute contraindication to the vaccine 2.) Any adverse reaction to previous vaccination 3.) Severe illness in the past 4.) Others Doctor refused or didn't advise for immunization other reasons 1.) Vaccine was out of stock 2.) Vaccine scheduled not to be given that day 3.) BCG syringe out of stock Implications 1.) To find out the reasons for missed opportunities so that preventive measures can be taken for the same 2.) To create awareness among people regarding immunization in children 3.) To help in proper planning and formulation of Programs for immunization.<sup>3</sup> Missed opportunities are an obstacle to raising immunization coverage among children leading to resurgence of diseases such as tuberculosis, measles and poliomyelitis with high rates of infant mortality and frequent hospital admissions and increased demand on the available health facilities. Missed opportunities for immunization is said to have occurred when a partially or non immunized child misses the benefit of getting immunization during a visit to a health facility for an illness or check up when there is no absolute contraindication for that particular immunization as per national policy.<sup>4</sup>

## MATERIALS AND METHOD

The study was conducted at selected areas district Jalandhar, Punjab i.e. Salempur Masandha, Jamsher Khas, Kukad pind, Avtar Nagar, Sant Nagar, New Suroj Ganj, district Jalandhar Punjab to assess the factors affecting missed immunization in children among parents at selected areas district Jalandhar, Punjab 2014. Non Experimental Research Design (Descriptive Design) was adopted 200 Parents selected areas of district Jalandhar, Punjab by using Purposive Sampling Technique for the study, who met the inclusion criteria.

## RESULTS

The first objective revealed majority of children missed vaccines DT that was (70%) followed by (33.5%) Vitamin- A and less missed vaccine that was OPV booster dose that was (0.5%)

The second objective revealed that the factor lack of knowledge that was 46.5% falls in rank 1<sup>st</sup> which was most responsible for missed immunization whereas Negligence towards immunization factor that was 24.25% fall in 6<sup>th</sup> rank. So it is less responsible factor for missed immunization in children among parents. According to items analysis results revealed that:

- 22.5% Lack of knowledge about immunization.
- 16.4% Lack of health care facilities.
- 10.4% Concern about vaccines.
- 15.3% Long distance travelling
- 11.9% Negligence towards immunization.
- 21.5% Miscellaneous

According to third objective revealed that Place of delivery, order of child, area of residence, occupation of informer, source of information regarding immunization are significant associated with factors affecting missed immunization.

## CONCLUSION

From the findings of the study following conclusions were drawn:

- The missed immunization in children majority of missed vaccines DT that was (70%) followed by (33.5%) Vitamin- A and less missed vaccine that was OPV booster dose that was (0.5%)
- The factor lack of knowledge that was 46.5% falls in rank 1<sup>st</sup> which was most responsible for missed immunization whereas Negligence towards immunization factor that was 24.25% fall in 6<sup>th</sup> rank. So it is less responsible factor for missed immunization in children among parents.
- Place of delivery, order of child, area of residence, occupation of informer, source of information regarding immunization are significant associated with factors affecting missed immunization.

## DISCUSSION

In this section the investigator interpretively discusses the results of the study. It is in the discussion, the researcher ties together loose ends of the study. The findings of the present study have been discussed according to objectives of research.

The study was conducted on 200 parents regarding factors affecting missed immunization in children Salempur Masandha, Jamsheer khas, Kukad pind rural areas and Avtar Nagar, New Suroj Ganj, Sant Nagar urban areas district Jalandhar, Punjab.

### Objective 1

To assess the missed immunization in children from selected areas of district, Jalandhar, Punjab.

The result of present study shows that Out of 200 samples majority of children 150(70%) were not immunized by DT vaccine. 0.5% was minimum missed immunization that is OPV-3.

At birth (for institutional deliveries) BCG 5 (2.5%) was missed immunization and OPV was 0% missed vaccine. At 6weeks DPT 1 19(9.5%) was missed immunization, whereas OPV- 1 was 0% missed vaccine, followed by 22(11%) Hepatitis B-1 missed immunization.

At 10 weeks DPT-2 21(10.5%) missed where as OPV-2 0% missed, followed by Hepatitis B-28(14%). At 14 weeks DPT-3 23(11.5%) missed and OPV was 1(0.5%) missed vaccine, followed by Hepatitis B-3 29(14.5%).

At 9 month 29(14.5%) measles missed immunization, followed by Vitamin –A 67(33.5%) was missed. DPT booster 29(14.5%) missed immunization, followed by OPV booster 92(1%) missed.

The findings of the study are supported by BN Tagbo, C onuvassigue (2005) Conducted a study

Negerian Journal of Paediatrics. Shows the frequencies / percentage of missed opportunity-es for each antigen. Only (5%) of children missed the opportunity of receiving BCG, followed by (10%) who missed OPV, at the other extreme 70% missed measles immunization, followed by DPT which was missed by 48.3%.

### Objective 2

To assess the factors affecting missed immunization in children among parents from selected areas of district, Jalandhar, Punjab.

The result of present study shows that 46.5% Lack of knowledge about immunization factor is more responsible for missed immunization in children. 34% Lack of health care facilities. 25.12% Concern about vaccines. 31.75% Long distance travelling. 24.25% Negligence towards immunization. 43.6% Miscellaneous. Missed immunization due to lack of knowledge about immunization the highest factors is 45.6% that was lack of education regarding immunization. Missed immunization due to lack of health care facilities the highest factors is long waiting hours 45.2%. Missed immunization due to concern about vaccines safety the highest factor is natural immunity is better than acquired immunity that was 58.7%. Missed immunization due to long distance travelling the highest factors is low socioeconomic status that was 46.0% Missed immunization due to Negligence towards immunization the highest factors is lack of time that was 59.8% Missed immunization due to Miscellaneous the highest factors is Social engagement that was 35.2%.

The findings of the study are supported by Abdullaheam IS.Onajole A.T.,Jemoh A.A.G,Oladipo A.R. Conducted a study various reasons were adduced by the mothers for incomplete vaccination of their children. These include long waiting time at the health facility (15.2%), lack of vaccine on the appointment day (3.5%), absence of personnel at the health facility (5.4%), child ill-health at the time of immunization (3.6%), lack of information about the days for vaccination (2.5%), forgetting the days of immunization(1.5%), long distance walking (17.5%), mother's illness on the day of vaccination (0.5%), social engagements (0.4%), lack of money (10.6%), schooling mothers (0.5%), parents objection, disagreement or concern about immunization safety (38.8%) and other miscellaneous reasons (3.5%). Understanding of the importance of vaccination, education and occupational status showed significant differences with respect to children with complete and incomplete vaccination status. Factors such as mothers' age, marital status, schooling level and gender of the child.

**Acknowledgement:** I want to express my gratitude especially Counsellors of Selected Urban areas and

Sarpanches of Selected Rural Areas, Jalandhar, Punjab, who allowed me to conduct the study and the subjects those are participated in the study. I also want to thank my affectionate and adoring Parents, my lovely brothers Amarbir and Harman and my friends specially Ms. Neha Kohli, Ms Jasroop kaur, Ms .Jaskarandeep Kaur for their constant support and encouragement.

#### **Ethical Clearance**

- Written permission from principal of S.G.L Nursing College Semi, Jalandhar was taken.
- Written permission from ethical clearance committee of S.G.L Nursing College Semi, Jalandhar was taken.
- Written permission was obtained from Sarpanches of Villages and Counselors of Urban areas District, Jalandhar.
- Written informed consent was obtained from parents of each study subject.
- Confidentiality and anonymity of each sample was maintained throughout the study.

**Source of Funding:** Self

**Conflict of Interest:** Nil

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# A Comparison of Tools used to assess Quality of Life at Menopause

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## ABSTRACT

Health-related quality of life refers to the effects of an individual's physical state on all aspects of psycho-social functioning. Generally speaking, quality of life may also be defined as "the extent to which our hopes and ambitions are matched by experience"<sup>1</sup>. Recently, there is growing awareness of the aspects of quality of life and aging. Quality of life is a subjective parameter and direct questioning is therefore a simple and appropriate way of accruing information about how individuals feel and function. Accordingly, measures of quality of life (QOL) attempt to gauge the effect of ill health across a number of physical, psychological and social parameters.

**Keywords:** Menopause, Quality of life, Greene Climacteric Scale, Women's Health Questionnaire, Qualifemme, Menopause-Specific QOL Questionnaire, Menopausal Symptom List, Menopause Rating Scale, Menopause Quality of Life Scale, Utian QOL Scale

## INTRODUCTION

Those years of life in which a woman passes through a transition from the reproductive stage of life to the postmenopausal years form a period marked by waning ovarian function, best referred to as the climacteric. The majority of women feel healthy and happy and do not seek contact with physicians. Medical intervention at this point of life should rather be regarded as an opportunity to provide and reinforce a program of preventive healthcare. These issues of preventive healthcare for women include family planning, cessation of smoking, control of bodyweight and alcohol consumption, prevention of heart disease and osteoporosis, maintenance of mental wellbeing (including sexuality), cancer screening, and treatment of neurological problems.

### How to assess quality of life in ageing and climacteric women

Among clinicians and researchers, there is a trend to increasing recognition of the role of patient-reported

data as outcome measure for clinical and drug research. Health authorities are in support of this growing interest. As a result, multiple attempts have been undertaken for a state-of-the-art development of health-related quality of life scales applicable to women in their menopausal transition. There are four criteria by which scales would qualify as standardized or disease specific

1. They have been constructed on the basis of a factor analysis.
2. They consist of several subscales, each measuring a different aspect of a specific symptomatology.
3. The scales possess sound psychometric properties.
4. They have been standardized using adequate populations of women.

With these criteria being fulfilled, a series of instruments currently dominates international practice. The following scales are introduced according to their chronological order of construction.

**Standardized Menopause-Specific QOL Scales<sup>2</sup>**

Name of scale	Number of items	Rating	points	Scoring Number of	subscales
Greene ClimactericScale	21	4	Likert Scale	4	0.83 – 0.87
Women’s HealthQuestionnaire	32	2	Present / Absent	8	0.78 – 0.96
Qualifemme	15	6	VAS 100 mm	4	0.84 – 0.98
Menopause-SpecificQOL Questionnaire	16	7	Likert Scale	4	0.55 – 0.85
MenopausalSymptom List	25	6	FrequencySeverity	3	0.73 – 0.83
Menopause RatingScale	11	5	Likert Scale	3	0.74 – 0.82
Menopause Quality ofLife Scale	48	6	Likert Scale &VAS	7	0.69 – 0.91
Utian QOL Scale	23	5	Likert Scale	4	0.73 – 0.84

**Greene Climacteric Scale**

This was the first properly analyzed climacteric symptom scale. In 1976, J. G. Greene developed his original 30-item self-administered scale<sup>3</sup>. It was derived from an earlier study by Neugarten and Kraines<sup>4</sup>. Based on endocrine and emotional factors underlying the etiology and dynamics of menopause, Greene investigated the relationship between menopausal symptoms. Factor analysis of climacteric symptoms established independent domains such as vasomotor and physical. The original 50 women aged 40 to 55 years were scored on a four-point Likert scale (0 to 3). The results were inter-correlated using product-moment coefficients with a resulting matrix being submitted to principal component analysis. The final scale yielded three independent symptom groups or factors, equivalent to subscales. These were psychological, somatic and vasomotor symptoms. Items with factor loadings greater than +0.40 on one factor and less than 0.30 on the other two factors were included in the questionnaire. The resulting 21 items from an initial list of 30 were included in the scale. Those items with factor loading above +0.50 were given a weighting factor of 2. Gerald Greene’s tool represents a pioneering piece of work. While the original scale was never designed to be a genuine HRQoL instrument as defined today, it first applied quantitative techniques to questionnaire construction and marked the beginning of the use of factor analysis in clinical studies with “patient-reported” outcomes as endpoint in the field of women’s health. Since these days, factor analysis has been applied world around in order to generate new menopausal scales. Later, Gerald Greene tried to reconcile the findings of seven other factor analytic studies and meet the demand for a “communal and comprehensive measure” of

climacteric symptoms; this revised new tool was based on a sample of 200 rather than 50 women. It was published in 1998<sup>5</sup> and looked at the optimum number of factors or domains to be established with resultant “communal” scales of psychological, somatic and vasomotor symptoms. By only selecting symptoms found to have a factor loading of more than 0.35 in three or more studies, he also determined which symptoms should be included. These new studies therefore replaced four items from the original 1976 scale by four new ones. Four other symptoms underwent a change in the wording. An additional item on loss of sexual interest was added, and the psychological symptoms domain was broken down into an anxiety and a depressed mood scale. The result is a 21-item, four-level questionnaire.

**Women’s Health Questionnaire**

The Women’s Health Questionnaire (WHQ), developed by Myra Hunter, is a self-administered questionnaire which measures physical and emotional experience and functioning of women aged 45 to 65 years<sup>6</sup>. It was designed specifically to study possible changes in perceptions of health and well-being during the menopausal transition. The questionnaire was initially developed in UK English and is composed of 36 items. Of those, 35 items investigate nine domains providing scale scores: depressed mood, somatic symptoms, memory/concentration, vasomotor symptoms, anxiety/fear, sexual behavior, sleep problems, menstrual symptoms and attractiveness.

Recently, the structure of the WHQ was examined in a UK sample; a revised model was developed and verified to be used in multi-center, international studies<sup>7</sup>. The revised WHQ comprised 23 items, investigating six domains. The cross sectional



psychometric properties of the 23-item WHQ were good and better than those of the 36-item version. The 23-item WHQ was assessed with multi-national data to evaluate cross-cultural equivalents of linguistically adapted versions. Reproducibility and responsiveness need to be documented.

### **Qualifemme**

The Qualifemme questionnaire was developed in France to measure the impact of menopausal hormone deficiency on a woman's quality of life. The first version consisted of 32 items delineated from several other validated and accepted HRQoL instruments. These items were translated and linguistically validated for use in France<sup>8</sup>. The Qualifemme is scored using a visual analogue scale. Item weighting was achieved by a group of menopausal experts contributing their clinical experience. The original investigation consisted of a subject pool of 351 women aged 51 to 68. A principal component analysis identified five domains with 32 items: general (9), psychological (12), vasomotor (2), urogenital (6), and a final domain covering pain and problems with hair and skin (3). Internal consistency was demonstrated by a Cronbach's alpha coefficient of 0.87. Subsequently, a

reduction process removed 17 items from the original instrument and resulted in the current 15-item questionnaire. This reduction did not alter the instrument's quality psychometric standards. Internal consistency (Cronbach's alpha) was 0.73.

### **Menopause-Specific Quality of Life Questionnaire**

The Menopause-Specific Quality of Life Questionnaire (MENQOL) was developed by a group of researchers from Canada during the mid-1990s<sup>9</sup>. The final questionnaire collected 106 items. The final 32-item menopause-specific HRQoL instrument encompasses four subscales (physical, vasomotor, psychosocial and sexual) plus one overall HRQoL item. Each domain is scored separately within a possible range from 1 (not experiencing a problem) to 8 (extremely bothered). The mean of the subscale serves as the overall subscale score. As with the WHQ, no overall score can be obtained from this questionnaire, as the relative contribution of each domain to an overall score is unknown. Internal consistency (Cronbach)

from 0.81 to 0.89. Construct validity (evaluative and discriminative) oscillates between 0.40 and 0.65 or 0.28 and 0.60, respectively.

### **Menopausal Symptom List**

The Menopausal Symptom List (MSL) was developed in 1997 to measure the severity of symptoms commonly associated with menopause. The theoretical symptom check list was sent to 40 women aged 45 to

55 years living in Australia. Following two principal component analyses, 25 significant items emerged in three domains, labeled psychological, vaso-somatic, and general somatic<sup>10</sup>. The latter combines the anxiety and depression subscales of the Greene Climacteric Scale and the Women's Health Questionnaire. The vasomotor subscale, besides two vasomotor symptoms, also includes other somatic symptoms for reasons not quite apparent. The items are scored on a six-point Likert scale of both frequency and severity. The MSL is a symptom inventory in terms of the selection, wording of items and its scoring. Validation experience is limited.

### **Menopause Rating Scale**

The first version of the Menopause Rating Scale has been used since 1992<sup>11</sup>. The new MRS questionnaire was standardized in early 1996 using a representative random sample of 689 German women aged 40 to 60 years<sup>12</sup>. This revision of the questionnaire mainly concerned the layout, some adjustments regarding the number, structure, and wording of items; these were made to support applicability as self-administered questionnaire. The MRS was formally standardized following up-to-date psychometric rules. Factor analysis of the standardized eleven-item version encompassed three domains: psychological, somato-vegetative, and urogenital dimension. Scoring is based on a 5-point Likert scale ranging from no symptoms to mild, moderate, marked or severe complaints. A follow-up investigation was performed from August to October 1997 in 306 women from the original study. The retest reliability of scores between the two points was evaluated using Pearson's correlation coefficient. The results of the follow-up survey demonstrate stability in the individual scores. The total score and

scores of the three defined dimensions have significant agreement as demonstrated using  $\kappa$  statistics<sup>13</sup>. The validity of the MRS to measure HRQoL in postmenopausal women was determined by comparing the instrument to both the Kupperman Index<sup>14</sup> and the SF-36<sup>15</sup>.

The MRS proved to be a much more sound and accurate instrument than the Kupperman Index; the differences between the scores could easily be explained by the domains resulting from factor analysis. Truly more important were the results of comparing the MRS to SF-36. The psychological and somato-vegetative MRS subscales did not correlate equally well across all eight domains of the SF-36. However, the pattern of correlation was understandable, as the highest degree of correlation occurred in the domains of the SF-36 that are most relevant to women during the menopausal transition<sup>17</sup>. Thus, the MRS is a reliable, well-defined instrument for measuring the impact of climacteric symptoms on quality of life<sup>18</sup>. The first translation was into English<sup>19</sup>, the following versions are currently available: Brazilian, Bulgarian, Belgium-French, Belgium-Dutch, Chilean, Chinese, Croatian, English, French, German, Greek, Indonesian, Mexican/Argentinean, Polish, Spanish, Swedish, Romanian, Russian, South African English, South African Afrikaans, Turkish, Ukrainian (Russia), Ukrainian (Ukraine) language. Some of these versions are available in published form.

### **Menopausal Quality of Life Scale**

The Menopausal Quality of Life Scale (MQOL) was developed in 2000<sup>20</sup>. It was intended as a condition-specific questionnaire that examines the effects of menopause on HRQoL as well as the impact of employment, age, and medical history; in addition, cross-sectional information on differences in HRQoL was obtained in a community-based sample of women consequent to a self-rated change in menopausal status. Based on interviews of 32 and later another 29 women, a pilot questionnaire was developed containing 63 items divided into seven domains. These were energy, sleep, appetite, cognition, feelings, interactions, and symptoms impact. Each of these items is reported using a six-point Likert scale. The return of 99 questionnaires served for psychometric analysis

and resulted in a 48-item questionnaire as well as a global HRQoL question to rate the overall quality of life. Oblimin rotation was applied in a second analysis with a resultant seven-factor hierarchical structure, which accounted for 57 % of the data variance. This structure proved unstable across sub-samples. Therefore, the MQOL questionnaire was given an overall instead of seven subscale scores for each of the seven domains<sup>21</sup>. Strong correlations of interdependence between domains were demonstrated. Consequently, the global quality of life index was disregarded as a single factor; all the items were evaluated with the same importance and were added in a total score.

### **Utian Quality of Life Score**

The Utian Quality of Life Score (UQOL) is a modification of the original Utian questionnaire from the 1970s<sup>31</sup>. It was developed from the old questionnaire designed to assess the sense of well-being of participants in a treatment study comparing estrogen to placebo<sup>22</sup>. The UQOL is focused on general quality of life rather than QOL in menopausal women. Factor analysis was applied through two stages. The 23-items are rated with a five point Likert scale and create four subscales (occupational, health, emotional, and sexual). A field study was conducted on 327 women aged 46 to 65, recruited from eleven separate communities throughout the east and mid-west of the United States. The resulting 23-item instrument was then administered to a second sample of 270 menopausal women and subsequently readministered and determine test-retest validity. The SF-36 was concurrently administered to determine scale validity. The UQOL can measure severity of QOL burden. However, only limited data on reliability and validity are as yet available.

### **Practical considerations**

- Random and representative samples of the population should be investigated in sufficient numbers and over prolonged periods of time. In terms of statistics, quality of life is, by definition, an assessment of multiple variables. The use of many measures and multiple statistical tests reduces the statistical power of the analysis.

Health-related quality of life certainly is a multi-dimensional concept.

- It may be inappropriate to utilize the same QOL measuring instrument across continents and maybe not even across regional ethnicities, unless linguistic and cultural adaptation is provided.
- Interdisciplinary consensus can also help to determine the most suitable measure for a particular application. Researchers should undertake comprehensive literature searches to ascertain whether any suitable measure is available before they decide to develop a new one.
- For routine application in clinical practice or in clinical trials, it is essential that the instruments employed are simple and comparatively short. The majority of patients or test persons welcome the opportunity to report how symptoms and their subsequent treatment affect daily life.

### CONCLUSION

Researchers have been criticized for their failure to use appropriate measures of health related quality of life in the evaluation of the impact of any intervention through assessment of patient outcome. Trials may either neglect outcomes other than conventional clinical, laboratory and radiological measures or may use limited, inappropriate, or poorly validated indicators as surrogates of the patient's own experience.

**Acknowledgement:** Nil

**Ethical Clearance:** Nil

**Source of Funding:** Nil

**Conflict of Interest:** Nil

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# STP on Knowledge Regarding ADHD in Children among Teachers

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## ABSTRACT

**Background of the study:** Attention Deficit Hyperactive Disorder is a pervasive developmental disorder characterized by poor attention span with distractibility, hyperactivity and impulsivity. Due to poor attention span child is not able give close attention to details, easily distracted by external stimuli. Hyperactivity is characterized by excessive psychomotor activity that may be purposeful or aimless, accompanied by physical movements and verbal utterances that are usually more rapid than normal. Whereas impulsivity is the trait of acting without reflection and without thought to the consequences of the behavior. These characteristics affect not only the academic lives of students with Attention Deficit Hyperactive Disorder; they may affect their social lives as well.

### Objective

1. To assess the pre test knowledge score regarding Attention deficit hyperactive disorder in children among teachers of experimental and control groups.
2. To assess the post test knowledge score regarding Attention deficit hyperactive disorder in children among teachers of experimental and control groups, after implementation of structured teaching programme on experimental group.
3. To compare pre test and post test knowledge score regarding Attention deficit hyperactive disorder in children among teachers of experimental and control groups.
4. To find out the association between knowledge score regarding Attention deficit hyperactive disorder in children among teachers and their selected socio demographic variables.

### Research Methodology

**Design:** Quasi Experimental(pre test post test control group) design

**Setting:** Selected Schools of District Jalandhar, Punjab.

**Target Population:** Teachers of selected schools of District Jalandhar, Punjab.

**Sample size:** 80 teachers

**Sampling Technique:** Convenience sampling technique

**Result and Conclusion:** The Pre test mean knowledge score of experimental group was 9.8 and Post test mean knowledge score was 24.85. The Pre test mean knowledge score of control group was 9.5. And Post test mean knowledge score was same. The significant difference was 23.182\* in experimental group, research hypothesis was accepted at  $p < 0.05$  level of significance and null hypothesis was rejected. Experience of teaching and teaching to level of class has impact on knowledge regarding Attention Deficit Hyperactive Disorder in children among teachers. Hence, it was concluded that structured teaching programme was useful in providing knowledge regarding Attention Deficit Hyperactive Disorder in children.

**Keywords:** "Knowledge" "Attention Deficit Hyperactive Disorder in children" "teachers" "selected schools"

## INTRODUCTION

ADHD was first recognized as a disorder in 1902 by a British doctor, Dr. Still, documented cases of impulsive behaviour. He gave the disorder its first name, "Defect of Moral Control." Despite this name, he believed that the disorder was a medical problem, not a spiritual defect. In 1980 the name "Attention Deficit Disorder" was invented by the American Psychiatric Association and finally revised as "Attention Deficit Hyperactive Disorder" in 1987.<sup>1</sup>

Attention Deficit Hyperactive Disorder is a pervasive developmental disorder characterized by poor attention span with distractibility, hyperactivity and impulsivity.<sup>2</sup>

Predisposing factors which can lead to Attention Deficit Hyperactive Disorder are biological factors genetic environmental influences and psychosocial influences. According to biochemical theory neurotransmitters like dopamine, nor epinephrine and possibly serotonin are associated with symptoms of Attention Deficit Hyperactive Disorders.<sup>2</sup>

The sign and symptom shown by a child with this disorder are like often fails to give close attention to details, makes careless mistakes in schoolwork, difficulty sustaining attention in tasks or play activity, does not seem to listen when spoken to directly, not follow through on instructions, fails to finish schoolwork, often fidgets with hands or feet, leaves seat in classroom, runs from school, often remain "on the go", answer before question completed.<sup>3</sup>

The first line treatment of Attention Deficit Hyperactive Disorder include pharmacotherapy in which stimulant medications like Dextrose-amphetamine, Methylphenidate are included whereas other treatment options are psychotherapy and nursing management which play very important role in treatment. Behaviour therapy, social skill training is given to the child to learn appropriate social behaviour and rewarding for positive behaviour.<sup>4</sup>

## MATERIALS AND METHOD

This study was conducted in school teachers in different schools of Jalandhar. i. e. Guru Ram Das Public School, Dashmesh Public School, J.D. Public School, Thomas International public School, St. Soldier Divine Public School and Punjab National Academy Jalandhar, Punjab, India. Quasi - Experimental Design (non equivalent pre-test, post-test control group

design) was adopted. And a total of 80 school teachers were selected for the study, who met the inclusion criteria.

## RESULTS

The first objective revealed that the pre test knowledge score in experimental group, majority (82.5 %) of teachers had average knowledge score followed by poor knowledge score (17.5%). Among control group, majority (75%) of the teachers had average knowledge score, followed by poor knowledge score (22.5%).

The second objective revealed that post test knowledge score after administration of structured teaching programme in experimental group was 12.5% of teachers had excellent knowledge score, 87.5% had good knowledge score, and no one had average or poor knowledge score. Among control group, majority (72.5%) of the teachers had average knowledge score followed by poor knowledge score (25%) followed by good knowledge score (2.5%).

According to third objective in present study comparison, the post test mean knowledge score 24.85 in experimental group was higher than post test mean knowledge score 9.5 in control group and it was statically significant at  $p < 0.05$  level as calculated 't' value ( $t = 20.3758^*$ ) was more than the table value at  $p < 0.05$  level of significance.

The fourth objective revealed that in control group significant association were found in post test with level of classes teaching variable whereas in experimental group, all the selected socio demographic variables are non significant except experience of teaching.

## CONCLUSION

A total number of 80 samples were selected for this study. The Pre test mean knowledge score of experimental group was 9.8 and Post test mean knowledge score was 24.85. The Pre test mean knowledge score of control group was 9.5. And Post test mean knowledge score was same. The significant difference was 23.182\* in experimental group, research hypothesis was accepted at  $p < 0.05$  level of significance and null hypothesis was rejected. Experience of teaching and teaching to level of class has impact on knowledge regarding Attention Deficit Hyperactive Disorder in children among teachers.

Hence, it was concluded that structured teaching programme was useful in providing knowledge regarding Attention Deficit Hyperactive Disorder in children.

## DISCUSSION

The first objective was to assess the pre test knowledge score regarding Attention deficit hyperactive disorder in children among teachers. The findings of the present study revealed that in experimental group, majority (82.5%) of teachers had average knowledge score followed by poor knowledge score (17.5%). Among control group, majority (75%) of the teachers had average knowledge score, followed by poor knowledge score (22.5%).

According to second objective in the present study structured teaching programme was implemented through lecture-cum-discussion method, and with audio-visual aids. After that post test findings of the present study revealed that in experimental group 12.5% of teachers had excellent knowledge score, 87.5% had good knowledge score, and no one had average or poor knowledge score. Among control group, majority (72.5%) of the teachers had average knowledge score

In present study comparison, the post test mean knowledge score 24.85 in experimental group was higher than post test mean knowledge score 9.5 in control group and it was statically significant at  $p < 0.05$  level as calculated 't' value ( $t = 20.3758^*$ ) was more than the table value at  $p < 0.05$  level of significance. It showed that the post test of control and experimental were significantly related. Pre test and post test of experimental group were also significantly related as calculated 't' value ( $t = 23.182^*$ ) was more than the table value at  $p < 0.05$  level of significance.

The fourth objective was to find out the association between knowledge score regarding Attention deficit hyperactive disorder in children among teachers and their selected socio demographic variables. Present study revealed that in control group significant association were found in post test with level of classes teaching variable whereas in experimental group, all the selected socio demographic variables are non significant except experience of teaching.

The finding of study were supported by Patil Prashant (2013) who conducted a study to

Study the Effectiveness of Structured Teaching Programme on Knowledge and Attitude of Primary

School Teachers Regarding Attention Deficit Hyperactivity Disorder.<sup>5</sup>

**Acknowledgement:** I want to express my gratitude especially to the Principals of the schools, who allowed me to conduct study and the subjects those are participated in the study. I also want to thank my affectionate and adoring Parents, brother and sisters and my co-guide Mr. Kishanth Olive for their constant support and encouragement.

## Ethical Considerations

1. Written permission was taken from principal of S. G. L. Nursing College Semi Jalandhar.
2. Written permission was taken from ethical clearance committee of the S.G.L Nursing College Semi Jalandhar.
3. Written permission was taken from principals of selected schools of District Jalandhar, Punjab.
4. Informed consent was taken from each study sample.
5. Confidentiality and anonymity of study samples maintained throughout study.

**Source of Funding:** Self

**Conflict of Interest:** Nil

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# Communication Board Satisfaction among Clients on Mechanical Ventilator

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## ABSTRACT

**Introduction:** Communication difficulties are all too often devastating in health care settings. They can, and often do, create huge barriers between patients and health care staff. In health care settings, communication breakdowns between patient and caregiver can have dire consequences: increased patient pain, misdiagnoses, drug treatment errors, and unnecessary extensions in length of hospital stay, even death.

### Objective

- Assess the level of satisfaction in communication among clients on mechanical ventilator using communication board and using the routine board.
- Evaluate the effectiveness of communication board on the level of satisfaction in communication while comparing with clients using routine method.

**Design:** Quasi experimental approach, Post test-only design with a comparison group.

**Setting:** The study was conducted in PSG Hospitals, Coimbatore.

**Participants:** 15 samples were selected (experimental group, n=15 and comparison group n=15) total samples were 30.

**Intervention:** The communication board consists of the pictures related to physiological needs such as physical needs discomfort, psychological needs and social needs.

**Measurements and tools:** Rating scale was used to assess the level of satisfaction in communication among the clients on mechanical ventilator.

Descriptive and inferential statistics were used to analyze the data.

**Findings:** The findings of the study revealed that In the experimental group the mean value was  $83.5 \pm 5.5$  whereas in the comparison group the mean value was  $65 \pm 3.6$  with the 't' value of 14 which was statistically highly significant at  $p < 0.001$  level which showed that the communication board was effective among the clients on mechanical ventilator.

**Conclusion:** The present study assessed the effectiveness of communication board on the level of satisfaction in communication among the clients on mechanical ventilator. The results suggested that communication board could be used for the patients on mechanical ventilator in order to enhance their satisfaction with communication.

**Keywords:** Communication board, Level of satisfaction, Communication



## INTRODUCTION

Communication difficulties are all too often devastating in health care settings. They can, and often do, create huge barriers between patients and health care staff. In health care settings, communication breakdowns between patient and caregiver can have dire consequences: increased patient pain, misdiagnoses, drug treatment errors, and unnecessary extensions in length of hospital stay, even death. A communication aid helps a person to communicate more effectively with those around them. These aids range from simple letter boards to sophisticated pieces of computer equipment.

Effective communication of the nurses can modify the patient's sensory perceptual alteration. Effective communication has a valuable contribution towards the well being of the patient, the family, and it positively affects the outcome of illness.<sup>4</sup>

### Need for the study

Communication difficulties are all too often devastating in health care settings and it can often create huge barriers between patients and health care staff. In health care settings, communication breakdowns between patient and caregiver can have dire consequences such as increased patient pain, misdiagnoses, drug treatment errors, unnecessary extensions in length of hospital stay and even death. In a six-year (1997-2002) study of the root causes of "sentinel events" in hospitals, the Joint Commission on Accreditation in Health Care Organizations (JCAHO) in fact placed "communication" at the very top of the list of root causes.<sup>6</sup>

The mechanically ventilated patients often find difficult to communicate their basic needs. The common basic needs that the ventilated patients' wants to communicate are bathing, brushing, and teething, and combing hair, elimination, eating, drinking and sleeping. Other examples include simple requests or statements such as "too hot", "too cold", "turn me", "up", "down", "my arm hurts", "I can't breathe" and "moistened my lips".<sup>2</sup>

The Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) strongly emphasizes that "The patient has a right and need for effective communication". It is very important for the

nurse to understand and interpret the messages of critically ill patients. Effective communication also helps the patient to select their treatment during the end of their life. Communication between nurses and patients is critical in providing and receiving quality care. The nurse investigator emphasizes the use of communication board as an intervention to enhance the communication of clients on mechanical ventilation thereby it improves the quality of care.

### Review of literature

Research studies related to communication of the clients on mechanical ventilator

A study conducted on the communication experience of nonvocal ventilated patients in rehabilitation settings. The aim of the study was to understand the reality of being voiceless by using interpersonal theory. The author used an interpretive phenomenological approach and analyzed the data using thematic analysis. Nineteen patients were interviewed and they described their nonvocal experience as 'Being trapped in a silent world makes them feel frustrated and incomplete'.<sup>1</sup>

A study has investigated the patient and staff communication in the ICU. From the 8 participants, two participants reported that the tracheostomy tube as being a barrier to communication. The study revealed a disparity between these groups interception of communication. They concluded that failure in communication results in feelings of frustration and powerlessness.<sup>5</sup>

Research studies related to the effectiveness of communication board on the level of satisfaction in communication among the clients on mechanical ventilator:

A study conducted to assess the effect of communication board in meeting the needs of the intubated patients in Vijaya Heart Foundation, Chennai. The investigator selected 400 intubated patients with 200 subjects in each experimental group and control group through true experimental design. The data was collected by using the observational checklist to assess the ability of intubated patients in meeting their needs such as physiological, psychological and spiritual aspects. A combined numerical and categorical scale was developed to

assess the level of satisfaction towards the communication board in meeting their needs. The results showed that the in the experimental group, 192 (96%) of the subjects were able to meet their needs adequately after using the communication board as compared to 7 (3.5%) in control group.<sup>3</sup>

New Jersey University Hospital's use of communication picture boards to bridge communication barriers between health care professionals and patients. The New Jersey Department of Health and Senior Services (NJDHSS) have distributed more than 2,200 boards to facilities across the state in its efforts to ensure that every patient receives effective medical care. The article strongly advocated the use of communication boards, stating that they should become an integral part of the U.S. Department of Health and Human Services' "Effective Communication in Hospitals" program. Although communication boards may not be an appropriate tool for diagnosing diseases or requesting consent, they are useful for every day communication purpose.<sup>7</sup>

### Statement of the problem

Effectiveness of communication board on the level of satisfaction in communication among the clients on mechanical ventilator in psg hospitals, coimbatore.

### OBJECTIVES

- Assess the level of satisfaction in communication among clients on mechanical ventilator using communication board and routine method.
- Evaluate the effectiveness of communication board on the level of satisfaction in communication while comparing with clients using routine method.

### Assumptions

- Patients on mechanical ventilator have communication difficulties.
- Patients on mechanical ventilator are in need of some aid to communicate their needs.
- Communication board helps to improve the level of satisfaction in communication of client on mechanical ventilator.

**HYPOTHESES:** There will be a significant difference between the level of satisfaction in communication between the clients using the communication board and routine method.

### OPERATIONAL DEFINITION:

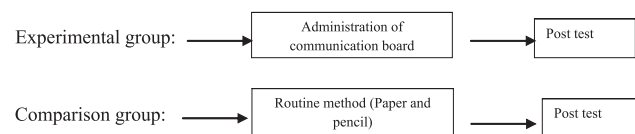
**Communication Board:** This is a light weighted board with different pictures that helps the client to communicate the physiological needs, psychological needs and social needs while on mechanical ventilator.

**Level of Satisfaction:** Level of satisfaction is meant in terms of client's satisfaction in expressing their basic needs and it was classified as highly satisfied, moderately satisfied and unsatisfied in communication.

**Projected Outcome:** The communication will be effective among the clients on mechanical ventilator using the communication board than the clients using routine method.

### Research Design

Quasi experimental approach, Post test-only design with a comparison group.



### Variables

#### Independent Variable

Communication Board.

#### Dependant Variable

Level of Satisfaction in Communication.

#### Setting

The study conducted in Medical Intensive care unit, PSG Hospitals, Coimbatore.

#### Population

The study population comprises of clients on mechanical ventilator in the Medical Intensive Care Unit.

#### Samples

Mechanical Ventilator clients

#### Sample Size

Sample size of the study was 15 samples were selected (experimental group, n=15 and comparison group n=15) total samples were 30.

**Sampling Technique**

Purposive sampling technique

**Intervention**

Communication board and Routine method.

**Communication Board:** The board consists of the pictures related to physiological needs such as physical needs (pain, orientation, hygiene, suctioning, hunger, thirst, sleep and comfort), discomfort (sick, dizziness, heat and cold, breathing difficulty and vomiting), psychological needs (emotions, recreation, privacy, environment and the prayer and chaplain) and social needs (paper and pencil, meeting the health team members and the family).

**Development and description of the tool**

The tool constructed for this study consists of 2 parts.

**Section A:** This section consists of 8 items including the demographic variables such as sample number, sex, age, education, marital status, type of family and occupation.

**Section B:** This section consists of 9 items. Patient medical history including the diagnosis, duration of illness, mode of ventilation, duration of ventilation, previous history of hospitalization, diet, medication and sleep pattern.

**Section C:** This consists of 20 items to assess the level of satisfaction in communication among the clients on

mechanical ventilator and it was categorized under three subheadings such as physiological needs, psychological needs and social needs. The physiological needs had 10 items, the psychological needs had 5 items and the social needs had 5 items.

Each statement has five options such as highly satisfied, moderately satisfied, less satisfied, dissatisfied and highly dissatisfied. The maximum score of the questionnaire was 100 and the minimum score was 20.

**The Scoring Key**

- Highly Satisfied : 5
- Moderately Satisfied : 4
- Less satisfied : 3
- Dissatisfied : 2
- Highly Dissatisfied : 1
- The total score is : 100

**Score and Interpretation of rating scale to assess the level of satisfaction in communication**

Score	Interpretation
≥ 80%	Highly satisfied
61-80%	Moderately satisfied
≤ 60%	Unsatisfied

**FINDINGS**

**Table 1: Frequency distribution of level of satisfaction in communicating the physiological needs in the experimental group and the comparison group:**

n=30

S.No	Level of satisfaction	Physiological needs	
		Experimental group	Comparison group
1	Highly satisfied (≥ 80%)	11	0
2	Moderately satisfied (60-80%)	4	12
3	Unsatisfied (≤60%)	0	3

**Table 2: Frequency distribution of level of satisfaction in communicating the psychological needs in the experimental group and the comparison group:**

n=30

S.No	Level of satisfaction	Physiological needs	
		Experimental group	Comparison group
1	Highly satisfied (≥ 80%)	7	0
2	Moderately satisfied (60-80%)	8	9
3	Unsatisfied (≤60%)	0	6

**Table 3: Frequency distribution of level of satisfaction in communicating the social needs in the experimental group and the comparison group:**

n=30

S.No	Level of satisfaction	Social needs	
		Experimental group	Comparison group
1	Highly satisfied ( $\geq 80\%$ )	15	0
2	Moderately satisfied (60-80%)	0	14
3	Unsatisfied ( $\leq 60\%$ )	0	1

**Table 4: Comparison of mean value on level of satisfaction in communication between the experimental group and the comparison group:**

n=30

S. No	Level of satisfaction	Experimental Group	Comparison Group
1	Physiological needs	32.6	30
2	Psychological needs	19.8	15.6
3	Social needs	22.6	16.73

**Table 5: Mean and standard deviation of scores regarding the level of Satisfaction in communication in experimental and comparison group.**

n = 30

S.No.	Group	Mean	S.D	df	't' value	P value	Level of significance
1	Experimental Group	83.5	5.5	28	14	3.67	*p<0.001
2	Comparison Group	65	3.6				

\*significant

- Demographic variable was no significant relationship between the age, sex, educational status, occupational status and the duration of illness with the level of satisfaction in communication.

### Implications

#### Nursing practice

Communication board can be used regularly while taking care of the mechanically ventilated clients as it enhances good interpersonal relationship between the nurses and patients, reducing communication errors, improves patients' comfort and saves time in providing care thereby communication board plays a role in improving the quality of life among clients on mechanical ventilator

#### Recommendations

Training can be provided to the staff nurses on the utilization of the communication board among mechanically ventilated clients.

### CONCLUSION

The present study assessed the effectiveness of communication board on the level of satisfaction in communication among the clients on mechanical ventilator. The results showed that communication board had significantly improved the level of satisfaction in communication than the routine method. So the researcher suggested that communication board could be used for the patients on mechanical ventilator in order to enhance their satisfaction with communication.

**Acknowledgement:** The study was conducted in the Medical Intensive Care Unit, PSG hospitals, Coimbatore after getting the ethical clearance and formal permission from the Medical Director, in charge of MICU and the Nursing Superintendent of PSG hospitals. PSG IMS&R Institutional Human Ethics Committee for their constant support and encouragement.

**Conflict of Interest:** Nil

**Funding:** Self funded

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# A Study to assess the effectiveness of ICE Application on Injection Site in Reducing Pain among Toddlers in Selected PHC, Bangalore

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## ABSTRACT

Pediatric nursing is now focusing to provide atraumatic care to the children. Minimizing pain during childhood vaccination can help to prevent distress, development of needle fears and subsequent health care avoidance behaviors, such as non-adherence with vaccination schedules. A quasi experimental study was conducted to assess the effectiveness of ice application on injection site in reducing pain among toddlers. The study was conducted at a rural PHC, Bangalore among 60 toddlers and the samples were selected using non-probability convenience sampling technique out of which 30 were assigned to experimental and 30 to control group. A structured questionnaire was used to collect the demographic data from the caretakers of toddlers. In experimental group, ice-cube wrapped with cotton cloth is applied for toddlers receiving vaccines like DPT/MMR/HIB for duration of 30 seconds prior to intramuscular injection and in control group, the PHC routine interventions were carried out. The level of injection pain was assessed with the help of FLACC scale after intervention in both experimental and control group. The data collected were tabulated and analyzed using frequency distribution, percentage, mean, standard deviation, chi-square test and Mann-Whitney U test. The findings of the study showed that in the experimental group, 21(70%) subjects had pain score between 1-4(mild pain) and 9(30%) had score 0(no pain). In control group, 4(13.3%) subjects had pain score between 1-4(mild pain) and 26(86.7%) had score between 5-7(moderate pain), which signifies that application of ice was effective in reducing the injection pain among the toddlers.

*Keywords: ICE Application, Pain, Toddler, FLACC Scale*

## INTRODUCTION

Disease prevention is the key to public health. It is always better to prevent a disease than to treat it.<sup>1</sup> Children are prone to get many diseases in childhood because of their poor immunity. One of the most important things that a parent can do for their child is to make sure that they have all their routine childhood vaccinations. It's the most effective way of keeping them protected against infectious diseases. Most of the vaccines are injections. A child gets more vaccinations before the age five and most of the injections are given in the toddler period.<sup>2</sup>

Most toddlers and many school-age children experience high distress during immunization

injections. In part due to concern for pain, parents may not complete vaccination series. About 10% of the population avoids vaccination and other needle procedures because of needle fears.<sup>3</sup> The pain associated with such injections is a source of distress for children, their parents and those administering the injections. If not addressed, this pain can lead to pre-procedural anxiety in the future, needle fears and health care avoidance behaviours, including non-adherence with vaccination schedules.<sup>4</sup>

In India 77.2% of rural and 80 % of urban children are immunized with vaccines annually. However the children vaccinated will experience severe to moderate pain. Hence there are many

non-pharmacological measures to reduce the level of pain.<sup>5</sup> Non-pharmacological techniques to reduce immunization pain are generally less costly and can be performed independently by nurses. A number of non-pharmacological techniques, such as distraction, play therapy, cutaneous stimulation, cold application, etc provide coping strategies that may help reduce pain perception, make pain more tolerable, decrease anxiety and enhance the effectiveness of analgesics.

Applying ice or cold packs to the skin produces a cooling sensation that may reduce the sensation of pain during vaccine injections. The physiologic effects of cold application include immediate vasoconstriction with reflexive vasodilation, decreased local metabolism and enzymatic activity, and decreased oxygen demand. Cold decreases muscle spindle fiber activity and slows nerve conduction velocity; therefore it is often used to decrease spasticity and muscle guarding. It is commonly used to alleviate the pain of intramuscular injections.<sup>6</sup> The nurse caring for a child during a vaccination procedure is presented with a double challenge: helping the child and parents through the procedure effectively, and ensuring that the procedure is done as efficiently as possible. So nurses can use simple interventions like ice-

application to relieve procedural pain in children and promote comfort for them.

**OBJECTIVES OF THE STUDY**

1. To assess the level of pain among toddlers receiving IM injection in the experimental group.
2. To assess the level of pain among toddlers receiving IM injection in the control group.
3. To compare the level of pain among toddlers receiving IM injection between experimental and control group.
4. To associate the level of pain with their selected demographic variables in both experimental and control group receiving IM injection.

**MATERIALS AND METHOD**

**Research approach**

In the present study a quantitative research approach was used to assess the effectiveness of ice application on injection site in reducing pain among toddlers in selected PHC.

**Research design**

Quasi experimental- control group post test only design was adopted for the study.

Group	Pretest O <sub>1</sub>	Intervention X	Post test O <sub>2</sub>
Experimental group	-	Application of ice	Pain assessment
Control group	-	-	Pain assessment

**Variable**

In this study the dependent variable is level of pain and the independent variable is ice application. The demographic variable consists of baseline characteristics of toddlers such as age (years), sex, religion, educational status of caretaker, family income(month), type of vaccine to be received and site of IM injection.

**Settings**

The study was conducted at Ramohalli PHC, Bangalore.

**Population**

Population refers to all the toddlers attending the immunization clinic in Ramohalli PHC, Bangalore.

**Sample**

Children who fulfil the inclusion criteria was the sample and sample size was 60.

**Sampling technique**

The sampling technique adopted for the study was non-probability convenience sampling.

**Criteria for sample collection**

**Inclusion criteria:** The study includes:

1. Toddlers between the age group of 15-18 months attending the immunization clinic
2. Toddlers receiving DPT or HIB or MMR vaccine.
3. Parents accepting their toddlers to participate in the study.

**Exclusion criteria:** The study excludes:

1. Toddlers with developmental delays.
2. Toddlers with seizure disorder.

**Description of the tool**

The tool consisted of the following sections

**Section A:** Demographic Performa consisted of items on children’s age, sex, religion, educational status, family income (month), type of vaccine to be received and site of IM injection.

**Section B :** FLACC scale was used to assess the level of injection pain in toddlers. This tool includes five categories of pain behaviours, including facial expression, leg movement, activity, cry, and consolability.

The prepared tool with the objectives was submitted to 4 child health nursing experts, 1 paediatric medical expert and 1 to biostatistician. Reliability of the tool was established through inter-rater method by using Spearman’s rank correlation,  $r = 0.97$  and the developed tool found to be reliable. Since the computed correlation of the numeric pain intensity scale was high, the reliability of the tool for the study was established.

**Procedure for data collection**

It consists of the following phases

**PHASE I**

Demographic data was collected from caretakers of toddlers in the experimental and control group.

**PHASE II**

In experimental group, ice-cube wrapped in cotton cloth was applied for toddlers receiving vaccines like

DPT/MMR/HIB for duration of 30 seconds prior to intramuscular injection.

In control group, the usual routine interventions were carried out for toddlers receiving vaccines like DPT/MMR/HIB prior to intramuscular injection.

**PHASE III**

The level of injection pain was assessed with the help of FLACC scale after intervention in both experimental and control group.

Duration of data collection:- 4-6 weeks.

**Data analysis**

The data collected was analyzed by means of descriptive and inferential statistics.

**Descriptive statistics**

- Frequency, Percentage distribution was used to describe demographic variables.
- Mean and Standard deviation was used to assess the level of pain after intramuscular injection.

**Inferential statistics**

- Mann-Whitney U test was used to find out the post test measures in experimental and control group by comparing their level of pain.
- Chi-square test to find out the association of level of pain with selected demographic variables in experimental and control group.

**FINDINGS**

Analysis of the study was based on objectives.

**Section 1:** Description of demographic variables of toddlers

**1.1 Frequency and percentage distribution of toddlers according to demographic variables in experimental and control group**

Si. no	Demographic variables	Characters	Experimental (n=30)		Control (n=30)	
			No.	%	No.	%
1.	Age in years	15 months	8	26.7	5	16.6
		16 months	9	30.0	8	26.7
		17 months	9	30.0	9	30.0
		18 months	4	13.3	8	26.7
2.	Gender	Male	16	53.3	17	56.7
		Female	14	46.7	13	43.3



### 1.1 Frequency and percentage distribution of toddlers according to demographic variables in experimental and control group (Contd.)

Si. no	Demographic variables	Characters	Experimental (n=30)		Control (n=30)	
			No.	%	No.	%
3.	Religion	Hindu	18	60.0	20	66.7
		Christian	6	20.0	5	16.7
		Muslim	6	20.0	5	16.7
		Others	-	-	-	-
4.	Educational status	No formal education	2	6.7	2	6.7
		Primary	6	20.0	8	26.7
		Secondary	16	53.3	14	46.6
		PUC	6	20.0	6	20.0
		Graduate	-	-	-	-
5.	Family income (month)	< 5000	6	20.0	6	20.0
		5000-10000	20	66.7	16	53.3
		>10000	4	13.3	8	26.7
6.	Type of vaccine to be received	MMR	10	33.4	10	33.4
		HIB	10	33.3	10	33.3
		DPT	10	33.3	10	33.3
7.	Site of IM injection	Anterolateral thigh	22	73.3	18	60.0
		Deltoid Muscle	8	26.7	12	40.0

### Section 2: Evaluation of the effectiveness of ice application on injection site in reducing pain among toddlers

**Table 2.1: Distribution of toddlers according to the level of pain after receiving IM injection in both the experimental and control group.**

SI no.	Level of pain	Experimental group		Control group	
		No.	%	No.	%
1.	No Pain	9	30.0	-	-
2.	Mild Pain	21	70.0	4	13.3
3.	Moderate Pain	-	-	26	86.7
4.	Severe Pain	-	-	-	-
5.	Total	30	100	30	100

**Table 2.2: Mean, standard deviation and statistical significance of level of pain in experimental and control group.**

Groups	Post test		Mann-Whitney U test	
	Mean	SD	Test value	P- value
Experimental group	5.07	1.04	6.718*	P< 0.05
Control group	8.66	0.72		

Note: \*- denotes the significance at 5% level ( $p < 0.05$ )

### Hypothesis testing

In order to evaluate the effectiveness of ice application in reducing injection pain among toddlers the following hypothesis were tested.

#### Hypothesis -1

$H_1$ . There is significant difference in the level of pain among toddlers receiving IM injection between experimental and control group.

### Null hypothesis

$H_{01}$ . There is no significant difference in the level of pain among toddlers receiving IM injection between experimental and control group.

From the above table 2.6 shown the outcomes of post test pain scores and statistical significance based on Mann – Whitney U test. For the experimental group the post test mean was 5.07 and SD was 1.04 and in control group post test mean was 8.66 and SD was

0.515. Mann – Whitney U test was worked out to compare post test mean scores of pain between the experimental and control group and it was found to be significant at 5% level (P<0.05). Thus the research hypothesis was accepted and null hypothesis rejected.

**Section 3:** Association between levels of pain after IM injection with selected demographic variables of toddlers

**Table 3.1: Association between levels of pain after IM injection with demographic characters of toddlers in experimental group.**

n= 30

SI no.	Demographic variables	Characters (n=30)	Experimental IM injection		Level of pain after				$\chi^2$ - value	p-value
					≤ median		>median			
			No.	%	No.	%	No.	%		
1.	Age in years	15 months	8	26.7	5	26.3	3	27.3	0.514, df=3, NS*	p>0.05
		16 months	9	30.0	6	31.6	3	27.3		
		17 months	9	30.0	5	26.3	4	36.4		
		18 months	4	13.3	3	15.9	1	9.1		
2.	Gender	Male	16	53.3	13	31.6	3	27.3	4.739, df=1,S*	p<0.05
		Female	14	46.7	6	31.6	8	72.7		
3.	Religion	Hindu	18	60.0	10	55.6	8	72.7	1.531, df=2, NS*	p>0.05
		Christian	6	20.0	4	21.3	2	18.2		
		Muslim	6	20.0	5	26.3	1	9.1		
		Others	-	-	-	-	-	-		
4.	Educational status of caretaker	No formal education	2	6.7	2	10.6	-	-	2.98, df=3, NS*	p>0.05
		Primary	6	20.0	3	15.8	3	63.8		
		Secondary	16	53.3	9	47.4	7	63.6		
		PUC	6	20.0	5	26.3	1	9.1		
		Graduate	-	-	-	-	-	-		
5.	Family income (month)	< 5000	6	20.0	5	26.3	1	9.1	4.88, df=2, NS*	p>0.05
		5000-10000	20	66.7	10	52.6	10	90.9		
		>10000	4	13.3	4	21.1	-	-		
6.	Type of vaccine to be received	MMR	10	33.4	9	47.4	1	9.1	4.59, df=2, NS*	p>0.05
		HIB	10	33.3	5	26.3	5	45.5		
		DPT	10	33.3	5	26.3	5	45.5		
7.	Site of IM injection	Anterolateral thigh	22	73.3	14	73.7	8	72.7	0.03, df=1, NS*	p>0.05
		Deltoid Muscle	8	26.7	5	26.3	3	27.3		

Note: S\*- Significant at 5% level (p<0.05), NS\*- Not significant at 5% level (p>0.05)

**Table-3.2: Association between levels of pain after IM injection with demographic characters of toddlers in control group.**

n=30

SI no.	Demographic variables	Characters	Control (n=30)		Level of pain after IM injection				$\chi^2$ - value	p-value
					≤ median		>median			
			No.	%	No.	%	No.	%		
1.	Age in years	15 months	5	16.7	3	23.1	2	11.8	0.792, df=3, NS*	p>0.05
		16 months	8	26.6	3	23.1	5	29.4		
		17 months	9	30.0	4	30.8	5	29.4		
		18 months	8	26.7	3	23.1	5	29.4		

**Table 3.2: Association between levels of pain after IM injection with demographic characters of toddlers in control group. (Contd.)**

n=30

SI no.	Demographic variables	Characters	Control (n=30)		Level of pain after IM injection				$\chi^2$ - value	p-value
			No.	%	≤ median		>median			
					No.	%	No.	%		
2.	Gender	Male	17	56.7	6	46.2	11	64.7	4.033, df=1,S*	p<0.05
		Female	13	43.3	7	53.8	6	35.3		
3.	Religion	Hindu	20	66.6	9	69.2	11	64.7	0.068, df=2, NS*	p>0.05
		Christian	5	16.7	2	15.4	3	17.6		
		Muslim	5	16.7	2	15.4	3	17.6		
		Others	-	-	-	-	-	-		
4.	Educational status of caretaker	No formal education	2	6.7	1	7.7	1	5.9	2.46, df=3, NS*	p>0.05
		Primary	8	26.7	2	15.4	6	35.3		
		Secondary	14	46.6	6	46.2	8	47.1		
		PUC	6	20.0	4	30.8	2	11.8		
		Graduate	-	-	-	-	-	-		
5.	Family income (month)	< 5000	6	20.0	1	7.7	5	29.4	2.17, df=2, NS*	p>0.05
		5000-10000	16	53.3	8	61.5	8	47.1		
		>10000	8	26.7	4	30.8	4	23.5		
6.	Type of vaccine to be received	MMR	10	33.4	3	23.1	7	41.2	1.08, df=2, NS*	p>0.05
		HIB	10	33.3	5	38.5	5	29.4		
		DPT	10	33.3	5	38.5	5	29.4		
7.	Site of IM injection	Anterolateral thigh	18	60.0	7	53.8	11	64.7	0.36, df=1, NS*	p>0.05
		Deltoid Muscle	12	40.0	6	46.2	6	35.3		

Note: S\*- Significant at 5% level (  $p < 0.05$ ), NS\*- Not significant at 5% level (  $p > 0.05$ )

## Hypothesis - 2

$H_2$ . There is significant association between the levels of pain among toddlers receiving IM injection in the experimental and control group with their selected demographic variables.

## Null hypothesis

$H_{02}$ . There is no significant association between the levels of pain among toddlers receiving IM injection in the experimental and control group with their selected demographic variables

The above tables 3.1 and 3.2 shown that Chi-square test was used to find out the association of level of pain with selected demographic variables. The results of chi square analysis indicated that there exist significant association between the pain score with gender. There is no significance association between the pain score with age, religion, educational status,

family income per month, type of vaccine to be received and site of IM injection.

## CONCLUSION

The present study assessed the effectiveness of ice application on injection site in reducing pain among toddlers who received DPT, MMR or HIB vaccine. The findings of the study showed that in the experimental group, 21(70%) subjects had pain score between 1-4(mild pain) and 9(30%) had score 0(no pain). In control group, 26(86.7%) subjects had pain score between 5-7(moderate pain) and 4(16%) had score between 1-4(mild pain). It was clear that the mean post test pain score of experimental group 5.07 with standard deviation of 1.04 was significantly less than the mean post test of control group 8.43 with standard deviation of 0.72, which signifies that application of ice was effective in reducing the injection pain among the toddlers. Hence, the ice application was found to be

effective and appropriate than the routine measures used in the PHC in reducing injection pain among toddlers.

**Acknowledgement:** I thank God Almighty who's the source of all wisdom and knowledge and who provided me with the strength to finish my task successfully. My heartfelt gratefulness to Prof. Bhima Uma Maheswari, M. Sc (N), HOD of Child Health Nursing and the subject guide for her sincere words of inspiration, expert guidance and support from the initial to the final level that enabled me to complete my dissertation successfully. I offer my regards and blessings to all those who supported me in any respect during the completion of the thesis.

**Conflict of Interest:** There was no conflict of interest.

**Source of Funding:** Self financed

**Ethical Clearance:** Ethical approval to conduct the study was obtained from Institutional Ethical Committee of Padmashree Institute of Nursing, Bangalore. Written consent was obtained from caretakers of study subjects according to their willingness to participate in the research project.

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# A Descriptive Study to assess the Level of Stress and its Coping Strategies among Cancer Patients in Selected Hospitals of Punjab, 2014

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## ABSTRACT

Stress is a normal part of life that can either help to learn and grow or can cause significant problems. The effects of stress may vary from person to person. The term "stress", was coined by Hans Selye in 1936, who defined it as "the non-specific response of the body to any demand for change." Stress symptoms can affect the body, thoughts and feelings, and behaviour of the individual. Stress management refers to the wide spectrum of techniques and psychotherapies aimed at controlling a person's levels of stress, especially chronic stress, usually for the purpose of improving everyday functioning. Stress is more common in the cancer patients. Due to taking lot of stress it weakens the immune system of the person.

### Objective

- 1) To assess the level of stress and its coping strategies among the cancer patients in selected hospitals of Punjab.
- 2) To find out the relationship between the stress and its coping strategies.
- 3) To find out the association between level of stress and its coping strategies and their selected socio-demographic variables.

### Methodology:

**Design:** Non- experimental (Descriptive Design)

**Setting:** Oncology department of selected hospitals of Punjab

**Population:** All cancer patients

**Sample size:** 200 cancer patients selected from selected hospitals of Punjab

**Sampling techniques:** Convenience Sampling Technique

**Results and conclusion:** Findings of the study has shown that profound level (73%) of stress present in cancer patients and 90% cancer patients had use poor coping strategies.

**Keywords:** "Level of stress", "Coping strategies", "Cancer patients", "Hospitals", "selected"

## INTRODUCTION

Stress is a normal part of life that can either help to learn and grow or can cause significant problems. Stress is simply a fact of nature forces from the inside

or outside world affecting the individual. The individual responds to stress in ways that affect the individual as well as their environment. Stress releases powerful neurochemicals and hormones that prepare for action.<sup>1</sup>

The effects of stress may vary from person to person. Stress is not considered as positive or negative, but it is defined as an individual's response.<sup>2</sup> The term "stress", was coined by Hans Selye in 1936, who defined it as "the non-specific response of the body to any demand for change".<sup>3</sup>

Stress symptoms can affect the body, thoughts and feelings, and behaviour of the individual. The common stress signals which can affect the human body - headache, muscle tension or pain, chest pain, fatigue, change in sex drive, stomach upset, and sleep problems. Mood Symptoms of the individual are Anxiety, Restlessness, Lack of motivation or focus, Irritability or anger, Sadness or depression and the unhealthy behaviour symptoms are Overeating or under eating, anger outbursts, Drug or alcohol abuse, Tobacco use, smoking and Social withdrawal.<sup>5</sup>

Stress management involves the use of coping strategies in response to stressful situation. Coping strategies are learned by observation of those who model them in family and social environment. Social and emotional support available to the person helps him/her to effectively cope with stress. Persons maintaining close relationship with friends and families are able to use more adaptive strategies.<sup>8</sup> But the main three broad types of coping strategies are Appraisal-focused (adaptive cognitive), Problem-focused: Any coping behaviour that is directed at reducing or eliminating a stressor, Adaptive behavioural, Emotion-focused: Directed towards changing one's own emotional reaction to a stressor.

## MATERIALS AND METHOD

The study was conducted in different hospitals of Punjab i.e. Patel Hospital of Jalandhar, Oswal Hospital of Ludhiana, Guru Nanak Dev Hospital of Amritsar and Rajindra Hospital of Patiala in Punjab to assess the level of stress and its coping strategies among the cancer patients in selected hospitals of Punjab 2014. Non-experimental Descriptive design was adopted and 200 cancer patients those attending oncology department in selected hospitals of Punjab were selected by using Convenience Sampling Technique for the study, who met the inclusion criteria.

## RESULTS

The first objective revealed that the majority of 147 (73.5%) cancer patients had profound stress score i.e. 101-125, followed by cancer patients 51 (25.5%) had

severe stress i.e. 76-100, moderate stress score 51-75, 2 (1%) and there were no cancer patients with mild stress. And the majority of cancer patients 180 (90%) were using poor coping strategies i.e. 25-58 coping strategies score followed by 20 (10%) cancer patients were using average coping strategies i.e. score of 59-92.

The second objective revealed that the relationship between the stress and coping strategies majority of cancer patients had profound level of stress with the overall mean of stress score was 104.36 and those cancer patients were using poor coping strategies with overall mean coping strategies score was 48.87

According to third objective revealed that the level of stress significant association were found with the religion and occupation of the patient and the coping strategies significant association were found with the category of cancer, degree/stage of cancer.

## CONCLUSION

From the findings of the study following conclusions were drawn

- The mean level of stress score of cancer patients was 104.35. Majority of 147 (73.5%) cancer patients had profound level of stress.
- The mean coping strategies score was 48.87. Majority of 180 (90%) cancer patients were using poor coping strategies.
- Selected socio-demographic variables i.e. religion and occupation of the patient had impact on level of stress among cancer patients. Selected socio-demographic variables i.e. category of cancer and stages/degree of cancer had impact on coping strategies among cancer patients

## DISCUSSION

In this section the investigator interpretively discusses the results of the study. It is in the discussion, the researcher ties together loose ends of the study. The findings of the present study have been discussed according to objectives of research.

The study was conducted among 200 cancer patients, those attending oncology department in selected hospitals of Punjab i.e. Patel hospital (Jalandhar), Guru Nanak Dev hospital (Amritsar), Oswal hospital (Ludhiana) and Rajindra hospital (Patiala).

### Objective 1

To assess the level of stress and its coping strategies among cancer patients in selected hospitals of Punjab.

In present study 147 (73.5%) cancer patients had profound level of stress followed by 51 (25.5%) cancer patients had severe level of stress. There were 2 (1%) cancer patients had moderate level of stress. The overall mean of stress was 104.36. Cancer patients 180 (90%) were using poor coping strategies followed by 20 (10%) cancer patients were using average coping strategies. The overall mean score was 48.87.

The findings of the study were discussed with the results of descriptive study conducted by Kim HS, Yeom Ha, SeoYs, Kim Nc, YooYs, (2002), conducted study on Stress and coping strategies of patients with cancer- A Korean study. In this cross-sectional descriptive study stress levels and coping strategies of 257 cancer patients in South Korea. Lazarus and Folkman's theory of stress and coping scale was used. The data were collected by face-to-face interviews. Women and the patients in the third-stage of cancer showed higher stress but less coping than other groups. Patients with cancer used emotion-focused coping strategies more than problem-focused coping strategies.<sup>28</sup>

### Objective 3

To find out the association between level of stress and its coping strategies and their selected socio-demographic variables.

In present study the association of level of stress was significant with the religion and occupation of the patients and association of coping strategies was significant category of cancer and stages of cancer.

The findings of the study were discussed with the results of longitudinal study conducted by Pudrovska T, Carr D, McFarland M, Collins C (2013) conducted study on higher status occupation and breast cancer. 3682 sample were selected in the study. The result revealed that there were significant association between the occupation and occupation. The women in professional occupations had 72-122% and women in managerial occupations had 57-89% higher risk of a breast cancer diagnosis than housewives and women in lower-status occupations.

**Acknowledgement:** I want to express my gratitude especially to the medical superintendent of selected hospital of Punjab, who allowed me to conduct study

and the subjects those are participated in the study. I also want to thank my affectionate and adoring Parents, brother, sister, uncle and aunt and my friends specially Ms. Parul and Mr. Shalz for their constant support and encouragement.

### Ethical Clearance

- Written permission from principal of S.G.L Nursing College Semi, Jalandhar was taken.
- Written permission from ethical clearance committee of S.G.L Nursing College Semi, Jalandhar was taken.
- Written permission from medical superintendent of selected hospitals of Punjab was obtained.
- Written consent from cancer patients who participating in the study was taken.
- Confidentiality and Anonymity of samples maintained throughout the study.

**Source of Funding:** Self

**Conflict of Interest:** Nil

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# Effectiveness of Information, Education and Communication (IEC) Programme on Maternal Role Adaptation during Postpartum Period in a Selected Hospital, Mangalore

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## ABSTRACT

The post partum period is the interval between the birth of the newborn and the return of the reproductive organs to their non pregnant state. During this period mother has to adapt to various physiological, psychological, social, emotional wellbeing. It is noted that a women's perception for the motherhood role influences postpartum adaptation and satisfaction with motherhood roles. Studies on the impact of education on childbirth have revealed that women were able to increase their knowledge about childbirth experience. The health education helps in adapting well during the postnatal period.<sup>1</sup>

An evaluatory approach quasi experimental design was adopted for this study.100 postnatal mothers who met the inclusion criteria were selected through Non-probability Purposive sampling technique for the study. The conceptual framework for the study was based on Adaptation Model developed from the Roy's adaptation Theory. On the first day a structured rating scale was administered to the women to find out the pre-test maternal role adaptation level during postpartum period. The Information education communication programme was given on the same day for a period of one hour after pre-test. The post test was conducted on the fifth day of teaching programme by administering the same rating scale.

Data was analyzed by using descriptive and inferential statistics. The findings revealed that majority of women 37%were within 23-27yrs, 28 %had Puc level Education, 62% were Hindus, 53% had the family income of RS-5000-10000/ month,58% were Home makers,45% had Nuclear family,53% had Married life between 1-3 years,51% were Primi paras,63% had undergone Normal vaginal delivery,43% were in the Gestational age of 37-38 weeks,57% newborn babies weighed between 2.5-3 kg.

The study findings revealed that before the administration of Information education communication programme most of the women, 95% had moderate adaptation, 4 % had poor adaptation, 1% of the women had good level of adaptation. The Information education communication programme facilitated the women to improve their maternal role adaptation. Among the women the post-test knowledge score was 100% good level of maternal role adaptation. The data showed that the mean post - test knowledge scores of women were significantly higher than their mean pre- test knowledge scores after the administration of Information education communication programme

The't' value showed that there was significant gain in maternal role adaptation among the women through the structured teaching programme. The mean post-test adaptation scores of subjects were significantly higher than their mean pre-test adaptation scores. 't' calculated value =38.113 is greater

than the 't' table value (100) = 2,  $p < 0.05$ . In the present study association was computed by using Chi - square test and Fisher's exact test. There was no significant association between maternal role adaptation during postnatal period with selected demographic variables.

Findings of the study revealed that majority of the women had good level of adaptation. The Information education communication programme helped them to improve maternal role adaptation. Hence Information education communication programme is very essential and beneficial to educate the postnatal mothers.

**Keywords:** *Information Education Communication Programme, Women, Postnatal Period, And Effectiveness*

## INTRODUCTION

The post partum period is the interval between the birth of the newborn and the return of the reproductive organs to their non pregnant state. During this period mother has to adapt to various physiological, psychological, social, emotional wellbeing. It is noted that a women's perception for the motherhood role influences postpartum adaptation and satisfaction with motherhood roles. Studies on the impact of education on childbirth have revealed that women were able to increase their knowledge about childbirth experience. The health education helps in adapting well during the postnatal period.<sup>1</sup>

## OBJECTIVES

- 1) To assess the level of adaptation to motherhood among postnatal mothers.
- 2) To evaluate the effectiveness of Information Education Communication on postnatal adaptation.
- 3) To find out the association of postnatal adaptation with selected demographic variables

## METHOD

An evaluatory approach quasi experimental design was adopted for this study. 100 postnatal mothers who met the inclusion criteria were selected through Non-

probability Purposive sampling technique for the study. The conceptual framework for the study was based on Adaptation Model developed from the Roy's adaptation Theory. On the first day a structured rating scale was administered to the women to find out the pre-test maternal role adaptation level during postpartum period. The Information education communication programme was given on the same day for a period of one hour after pre-test. The post test was conducted on the fifth day of teaching programme by administering the same rating scale.

## RESULTS

Data was analyzed by using descriptive and inferential statistics. The findings revealed that majority of women 37% were within 23-27yrs, 28% had Puc level Education, 62% were Hindus, 53% had the family income of RS-5000-10000/ month, 58% were Home makers, 45% had Nuclear family, 53% had Married life between 1-3 years, 51% were Primi paras, 63% had undergone Normal vaginal delivery, 43% were in the Gestational age of 37-38 weeks, 57% newborn babies weighed between 2.5-3 kg.

In the present study, the result showed that majority of the subjects (28%) studied up to PUC and majority of the subjects (58%) were home makers which is supported by the study conducted by Narasimhiah from Bangalore which shows that most of the postnatal mothers (91%) were literate and (77%) house wives.<sup>41</sup> The findings of the present study shows majority of the subjects (51%) were primi para; similar findings were reported in a study conducted by Kapzawni in New Delhi which showed that most of (51%) subjects were primi para.<sup>2</sup>

The study findings revealed that before the administration of Information education communication programme most of the women, 95%

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had moderate adaptation, 4 % had poor adaptation, 1% of the women had good level of adaptation. The Information education communication programme facilitated the women to improve their maternal role adaptation. Among the women the post-test knowledge score was 100% good level of maternal role adaptation. The data showed that the mean post – test knowledge scores of women were significantly higher than their mean pre- test knowledge scores after the administration of Information education communication programme

The finding of the study was supported with a study which was done to evaluate the effectiveness of STP on knowledge regarding physiological changes during puerperium among primigravida women in a selected hospital at Mangalore among 50 postnatal mothers and the study results revealed that the mean post-test score was 14.1 which was higher than the mean pre-test knowledge score 8.96 and the obtained 't' value was 30.77, which was higher than table value i.e, 1.68, indicating significant difference in the knowledge level before and after the structured teaching programme.<sup>3</sup>

The 't' value showed that there was significant gain in maternal role adaptation among the women through the structured teaching programme. The mean post-test adaptation scores of subjects were significantly higher than their mean pre-test adaptation scores. 't' calculated value =38.113 is greater than the 't' table value (100) =2 ,  $p < 0.05$ . In the present study association was computed by using Chi – square test and Fisher's exact test .There was no significant association between maternal role adaptation during postnatal period with selected demographic variables

### Interpretation and conclusion

Findings of the study revealed that majority of the women had good level of adaptation. The Information education communication programme helped them to improve maternal role adaptation. Hence Information education communication programme is very essential and beneficial to educate the postnatal mothers.

**Acknowledgement:** Grateful to Nitte University for giving an opportunity to conduct the study.

Thanks to DR. Fatima Dsilva, Principal NUIINS for the support. Thanks to Dr. Sanal T.S. Statistician , Kshema for his statistical analysis.

**Conflict of Interest:** Nil

**Source of Funding:** Self

**Ethical Clearance:** Obtained from institutional ethical committee, Nitte Usha Institute of Nursing Sciences, Nitte University – Mangalore – 575018

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# Assessment of the Pregnancy Outcome among Non Anemic and Anemic Mothers: a Comparative Study

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## ABSTRACT

The aim of the study was to compare and identify the effects of anemia on pregnancy outcome among non anemic and anemic mothers. a comparative study was utilized to assess the pregnancy outcome among non anemic and anemic mothers. Hundred samples were taken i.e.fifty non anemic and fifty anemic mothers were selected by using purposive sampling technique. The tool was consisted of three parts. Part A was consisted of 11 items socio demographic variables. Part B consisted of checklist which included 16 items to assess the pregnancy outcome in terms of maternal outcome, fetal outcome and placental outcome . Part C consisted of recording sheet for pregnancy outcome . Reliability was established by split half method and was calculated by Karl's pearson coefficient of correlation and Spearman's Brown method . The reliability of the tool was 0.9. Data analysis was done by using descriptive and inferential statistics. Tables , bar diagrams were used to depict the findings. Research findings of the study revealed the percentage of pregnancy outcome among non anemic and anemic mothers . Out of 100 samples, 50(100%) non anemic mothers had good pregnancy outcome whereas in case of anemic mothers 22(44%) had good pregnancy outcome and 28(56%) had poor pregnancy outcome. The present study emphasizes the conduct of health education programme to impart the knowledge to antenatal mothers regarding prevention of anemia to improve pregnancy outcome.

*Keywords: Pregnancy Outcome , Non Anemic, Anemic*

## INTRODUCTION

Anemia is a global public health problem affecting both developing and developed countries with major consequences for human health as well as social and economic development. It occurs when the concentration of hemoglobin falls below what is normal for a person's age, gender and environment, resulting in the oxygen carrying capacity of the blood being reduced.<sup>1</sup> Globally , anemia affects 1.62 billion people which corresponds to 24.8% of the population. Out of which the prevalence in pregnant women is 41.8% and population affected is 56 millions.<sup>2</sup> According to WHO, the prevalence of Anemia in pregnancy in south East Asia is around 56%. In India incidence of anemia pregnancy has been noted as high as 40-80%. Pregnancy anemia is one of the important public health problems not only in India but also in

most of the south East Asian countries. About 4- 16% of maternal death is due to anemia.<sup>3</sup> Anemia is regarded as a major risk factor for unfavorable pregnancy outcomes. Acute onset of anemia during pregnancy will greatly increase the risk of death because this can lead to rapid cardiac decompensation. In addition, anemia has been associated with a number of adverse pregnancy outcomes, including preterm birth, restricted fetal growth, and perinatal mortality . It also increases the maternal morbidity, fetal and neonatal mortality and morbidity significantly.<sup>4</sup>

Anemia was associated with reduced likelihood of growth restriction for placental weight and chorionic plate area. Pre-pregnancy BMI and pregnancy weight gain were associated with a reduced likelihood of growth restriction and an increased likelihood of hypertrophy for all three dimensions of placental

growth. Placental structure and function determine the growth trajectory of the fetus. Several studies show that abnormal placental growth is associated with adverse pregnancy outcome. A disproportionately heavy placenta, suggestive of placental hypertrophy, may indicate an adaptive response to an adverse intrauterine environment. Placental hypertrophy may occur in the presence of conditions such as maternal anemia.<sup>5</sup>

As a nurse, it's our responsibility to find the adverse effects of anemia on pregnancy. Keeping these aspects in mind the researcher felt the need to identify and compare pregnancy outcome among non anemic and anemic mothers.

## METHODOLOGY

### Research Design and Samples

For the present study Non-experimental descriptive (Comparative) design was used to accomplish the stated objectives because descriptive designs are used to observe, document, and describe a phenomenon occurring in its natural setting without any manipulation or control and gain more information about characteristics within particular field of inquiry. The study was carried out in three selected hospitals i.e Shaheed Babu Labh Singh Civil hospital, Jalandhar, Vasudev hospital, Jalandhar and Bath hospital, Jalandhar. The total 100 pregnant mothers whose hemoglobin was known through record analysis and admitted for delivery were taken i.e  $n_1=50$  Non anemic mothers and  $n_2=50$  anemic mothers. Purposive sampling technique was used to select the sample from both the groups i.e fifty non anemic and fifty anemic mothers.

### Instrument and data collection

To accomplish the objectives of the study a Checklist to assess the pregnancy outcome among Non anemic and anemic mothers was developed. It consists of three parts.

PART- A consisted of 12 items for obtaining information about socio demographic variables such as Age, Educational status, Age at marriage, Duration of marriage, Gravida, Para, BMI Type of family, Dietary pattern Type of residence, Monthly Family income (in Rs), Hemoglobin level.

PART-B Checklist which includes three main components such as maternal outcome, fetal outcome and placental outcome. First component was Maternal outcome which further consists of six items i.e Low Hb level, PIH, Prolonged labour, abnormal labour, primary PPH, intercurrent infections, second component Neonatal outcome consists of seven items i.e Preterm birth, low birth weight, Low APGAR score, IUGR, IUD, LOW ballard score, any congenital abnormalities and third component was placental outcome which consists of two items i.e big placenta and calcification of placenta. Checklist contains two options Yes and No having one mark for Yes and zero mark for No. Maximum score was 16 and minimum score was 0.

PART-C included recording sheet for pregnancy outcome among non anemic and anemic mothers. Criterion measures to assess pregnancy outcome as good pregnancy outcome with score  $<4$  and poor pregnancy outcome with score 4-16 with maximum score 16 and minimum score 00.

Content validity was established by obtaining valuable opinions and suggestions from 10 experts from different nursing colleges of Punjab to know about the adequacy, appropriateness and completeness of the content of instrument and to make amendments in the tool to get better results. Reliability was established by split half method and was calculated by Karl's Pearson co-efficient of co-relation and Spearman's brown method. The reliability of the tool was 0.9. Hence, the tool was reliable. The pilot study was conducted on minimum 10% of total samples, 5 non anemic and 5 anemic mothers were selected for data collection. The researcher introduced herself and written informed consent was taken from each study sample and their confidentiality was maintained.

The data collection procedure of the study was carried out from Shaheed Babu Labh Singh Civil hospital, Jalandhar, Vasudev hospital, Jalandhar and Bath hospital, Jalandhar, Punjab. Investigator filled the tool by asking and observing each respondent and the time taken for each respondent at an average was 1-2 hrs.

Data analysis and interpretation was done according to the objectives of the study. Analysis was

done by using descriptive and inferential statistics. Descriptive statistics used was Frequency, Percentages, Mean and S.D. Inferential statistics were calculated by using t-test and one way ANOVA. Tables and bar diagrams were used to depict the findings.

**RESULTS**

Out of 100 samples, 50 were non anemic and 50

were anemic. All 50(100%) followed by non anemic mothers had good pregnancy outcome whereas in case of anemic mothers 22(44%) had good pregnancy outcome and 28(56%) had poor pregnancy outcome. Hence it was concluded that non anemic mother’s good pregnancy outcome whereas in case of majority of anemic mothers 28 (44%) poor pregnancy outcomes was found. (Table. 1)

**Table 1: Frequency and Percentage distribution of pregnancy outcome**

Level of pregnancy outcome	Score	Non anemic mothers <sub>n<sub>1</sub></sub> =50		Anemic mothers <sub>n<sub>2</sub></sub> =50	
		n	(%)	n	(%)
Good	<4	50	100	22	44
Poor	4-16	0	0	28	56

Max. Score=16

Min. Score=0

Table 2. for shows that depicted that out of 100 samples, 50 were non anemic and 50 were anemic. all 50(100%) non anemic mothers had good pregnancy outcome with overall mean pregnancy outcome score 1.02 and standard deviation 1.72 , whereas the overall

mean pregnancy outcome score of anemic mothers was 4.56 and standard deviation was 2.89 .

Hence, it was concluded that all non anemic mothers had good pregnancy outcome as compared to anemic mothers.

**Table 2: Comparison of pregnancy outcome among non anemic and anemic mothers.**

**N=100**

Group	n	Mean	SD	Df	t
Non anemic	50	1.02	1.72	98	7.8104*
Anemic	50	4.56	2.89		

Max. Score=16

Min . Score=00

Table 3. Depicted the description of pregnancy outcome characteristics that in case of non anemic mothers in relation to maternal outcome , no mother had low Hb, Prolonged labour and intercurrent infections and PIH was present in 1 and 21(42%) under went caesarean section where as in case of anemic mothers 50(100%) mothers were with low Hb, 5(10%) were with PIH, 4(8%) mothers had prolonged labour, 22(44%) underwent abnormal delivery, primary PPH was present in 10(20%) mothers and 2(4%) had intercurrent infections. In relation to neonatal outcome, in case of non anemic mothers , premature birth 2(4%), LBW 2 (4%), Low APGAR score at 1 min 3(6%) and low APGAR score at 5 min 3(6%), low ballard

score 2(4%) was present and any congenital abnormality was absent that is 0 (0%). But in case of anemic mothers 12(24%) neonates were premature, 24(48%) were LBW, 20(40%) had LOW APGAR score at 1 min and 15(30%) had low APGAR score at 5 min , 3(6%) were IUD , IUGR were 3(6%) and any congenital abnormality were absent that is 0 % and 16(32)% had low ballard score. In relation to placental outcome, in non anemic mothers big placenta was found to be 0% and Calcification of placenta was 7(14)% . In case of anemic mothers big placenta and calcification of placenta was found to be 16 (32%) and 26(52%) respectively.

**Table 3. Description of pregnancy outcome characteristics.**

S.No	Pregnancy outcome characteristics	Non anemic mothers n <sub>1</sub> =50		Anemic mothers n <sub>2</sub> =50	
		N	%	n	%
<b>Maternal outcome</b>					
1.	Low Hb	00	00	50	100
2.	PIH	01	02	05	10
3.	Prolonged labour	00	00	04	08
4.	Abnormal delivery	21	42	22	44
5.	Primary PPH	02	04	10	20
6.	Intercurrent infections	00	00	02	04
<b>Neonatal outcome</b>					
7.	Premature birth	02	04	12	24
8.	LBW	02	04	24	48
9.	Low APGAR Score 1 min	03	06	20	40
10.	Low APGAR Score 5 min	03	06	15	30
11.	IUD	00	00	03	06
12.	IUGR	02	04	03	06
13.	Low ballard Score	03	06	16	32
14.	Any congenital abnormality	00	00	00	00
<b>Placental outcome</b>					
15.	Big placenta	00	00	16	32
16.	Calcification of placenta	07	14	26	52

## DISCUSSION

The purpose of this study is to assess and compare the pregnancy outcome among non anemic and anemic mothers. To assess the pregnancy outcome among non anemic mothers and anemic mothers. The data collected by the investigator revealed that out of 100 samples 50 were non anemic and 50 were anemic. 50(100%) non anemic mothers had good pregnancy outcome, having score <4. whereas in case of anemic mothers, majority 28(56%) had poor pregnancy outcome and 22(44%) had good pregnancy outcome having score between 4-16. The finding was consistent with the study conducted in Maulana AZad Medical College New Delhi (2002) on 447 pregnant women. women were divide in group 1(Hb>11 gms) 123 women and group 2(Hb<11gms) 324 women. Results showed that Hb <8.9 having 4 fold higher risk of poor pregnancy outcome. Study concluded that anemia is associated with poor pregnancy outcome.<sup>6</sup>

To compare the pregnancy outcome among non anemic mothers and anemic mothers. 50(100%) non anemic mothers had good pregnancy outcome with overall mean 1.02 and standard deviation 1.72, whereas the overall mean of anemic mothers was 4.56 and standard deviation was 2.89. Hence it was concluded that non anemic mothers had good pregnancy outcome as compared to anemic mothers.

The findings of present study are congruent with the study conducted by owais et al. (2005), to evaluate the maternal hemoglobin and perinatal outcome at railway hospital, Pakistan. The results showed that mothers with anemia had high risk of preterm delivery, low birth weight, IUGR, IUD. The risk for preterm delivery was 3.4 and that for low birth weight was 1.8 times more in anemic mothers. The study concluded that maternal anemia had high risk of perinatal complications in anemic mothers as compared to non anemic mothers.<sup>7</sup>

To find the association between pregnancy outcome in both non anemic and anemic mothers with their selected socio demographic variables. As per the association between pregnancy outcome and selected sociodemographic variables. In non anemic mothers educational status had impact on pregnancy outcome whereas in case of anemic mothers age at marriage and Hemoglobin level had impact on pregnancy outcome. The findings of the study were accordance with the study conducted by Francis S and Nayak S (2013) at Mangalore on maternal hemoglobin and perinatal outcome. The study showed a significant relation between maternal haemoglobin level and pregnancy outcome such as type of delivery and birth weight and a significant association was found between maternal haemoglobin and selected

demographic variables such as income and BMI. The findings of the study revealed that there is association between maternal haemoglobin level and pregnancy outcome.<sup>8</sup> Another consistent study conducted by sreerekha CS (2010) on comparative study to assess maternal and fetal outcome showed association of hemoglobin level and preterm labour among anemic gravid women.<sup>9</sup>

### CONCLUSION

The main conclusion drawn from this study was that all non anemic mothers had good pregnancy outcome with overall mean 1.02 and standard deviation 1.72 as compared to anemic mothers where the overall mean was 4.56 and standard deviation was 2.89. There is significant difference in pregnancy outcome characteristics related to maternal, neonatal and placental outcome among non anemic and anemic mothers .

Limitations of the study was that the present study was limited to only 100 samples. So it can be increased and the present study had no intervention to improve the Hb level of anemic mothers.

For future study I will recommend to conduct the similar study on large scale and a prospective study can also be conducted to assess the growth and development of neonates of anemic gravid women.

**Acknowledgement:** I would like to acknowledge Ms. Lalita Kumari Principal SGL Nursing College, Semi, Jalandhar for her guidance and support throughout the study.

### Conflict of Interest

- The procedure of data collection was time consuming.
- Mothers admitted in emergencies were not fulfilling the purpose of researcher

### Ethical Clearance

1. Witten permission was taken from Principal of S.G.L. Nursing College, Semi, Jalandhar.
2. Ethical Clearance was taken from S.G.L Nursing College, Semi, Jalandhar.

3. Written permission was taken from Medical Superintendent of Civil hospital, Jalandhar.
4. Written permission was taken from the Administrator of Vasudev hospital , Jalandhar.
5. Written permission was taken from the Managing Director of Bath hospital , Jalandhar.
6. Written informed consent was taken from the Non anemic and anemic mothers of Shaheed Babu Labh Singh Civil hospital, Jalandhar, Vasudev hospital, Jalandhar and Bath hospital, Jalandhar, Punjab.
7. Confidentiality and anonymity of each study sample was maintained throughout the study.

**SOURCE OF FUNDING:** This study is an individual effort of the researcher for partial fulfillment of requirement for the master's degree.

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# A Quasi-Experimental Study to assess the effectiveness of Cartoon Animation Movie on Pain During Intravenous Cannulation among Children at Pediatric Ward of Selected Hospitals, Jalandhar, Punjab, 2014

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## ABSTRACT

A Quasi-Experimental study was conducted on children of 5-12 years of age who were undergoing intravenous cannulation with gauze 22 at selected hospitals of Jalandhar, Punjab. The study comprised of 60 children selected by purposive sampling technique- 30 in experimental group and 30 in control group. Animated cartoon movie was shown during intravenous cannulation for experimental group and no animated cartoon movie was shown during intravenous cannulation for control group. Then the post pain score was assessed. The tool included was base line proforma- Wong-Baker Faces Pain Rating Scale. The results revealed that there is significantly ( $p < 0.05$ ) less pain felt by the children who viewed animated cartoon movie during intravenous cannulation than those children who did not receive it. The findings also revealed that there was no significant association between the level of pain and demographic variables. It was concluded that cartoon distraction is an effective distraction method for the children undergoing venipuncture.

## Objectives

1. To assess the pain score during intravenous cannulation after displaying cartoon animation movie in the experimental group among children.
2. To assess the pain score during intravenous cannulation in the control group among children.
3. To compare the pain score during intravenous cannulation in the experimental group and control group among children.
4. To find the association between pain score among experimental group and control group with their selected socio-demographic variables.

## Methodology

**Design:** Experimental Research Design Quasi-Experimental (Non-Equivalent control group posttest only design)

**Setting:** Pediatric Ward of selected hospitals of Jalandhar, Punjab

**Population:** Children brought to the pediatric ward for intravenous cannulation with gauze 22

**Sample size:** The total of 60 samples: 30 in experimental group and 30 in control group selected from Pediatric Ward of selected hospitals of Jalandhar, Punjab

**Sampling techniques:** Purposive Sampling Technique

**Results and conclusion:** Findings of the study has shown that in control group mean pain score was 4.86 and experimental group mean pain score was 2.96, hence the mean pain score differences are significant, test value 't'=10.9003, hence cartoon animation movie was effective among children during intravenous cannulation to reduce pain.

**Keywords:** Children, Pain, Distraction, Cartoon Animation Movie, Wong-Bakers Pain Rating Scale

## INTRODUCTION

According to Campbell, 1995 Pain is the fifth vital sign.<sup>1</sup> Pain is subjective. The pain response is individual and is learned through social learning and experience. The word pain is derived from the Latin word "poena" which means punishment, which in turn derived from the Sanskrit word "pu" meaning purification. The International Association for the Study of Pain's widely used definition states: "Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage"<sup>2</sup>. On the basis of duration pain is classified as acute pain and chronic pain. On the basis of underlying pathology pain is classified into nociceptive and neuropathic. The other types of pain on the basis of their areas and communicating patterns where they effect are phantom pain, psychogenic pain, breakthrough pain and incident pain.<sup>3</sup> Distraction is the most frequent intervention used in the emergency department to guide children's attention away from the painful stimuli and reduce pain and anxiety. It is most effective when adapted to the developmental level of the child.<sup>4</sup> Distraction techniques are often provided by nurses, parents or child life specialists. Current research has shown that distraction can lead to the reduction in procedure times, and the number of staff required for the procedure<sup>5</sup>. Distraction has also proven to be more economical than using certain analgesics<sup>6</sup>. Distraction is divided into two main categories: passive distraction, which calls for the child to remain quiet while the health care professional is actively distracting the child (i.e., by singing, talking, or reading a book) Active distraction, on the other hand, encourages the child's participation in the activities during the procedures<sup>7</sup>. Various Pharmacological interventions are generally topical formulas like eutectic mixture of local anesthetics (EMLA) that reduce pain by providing local anesthesia to the procedure site. Non-pharmacological interventions like (party blowers, cartoon movies and music) reduce pain by modifying pain signals via cognitive and affective pathways and along with these behavioral changes occurs by providing coping skills and are safer. These non-pharmacological interventions works on the principle of gate control theory. This theory discusses the idea of central control through modulation of nerve impulses in descending fibers from the brain. The gate tends to close when cognitive activities such as distraction (e.g. cartoon

animation movie) are processed along these fibres thereby preventing the transmission of pain through a descending blocking action. This mechanism also affects various pain entities such as anxiety anticipation and memory of prior experiences.<sup>8-9</sup> Hence it is the responsibility of health care professionals to educate their co-workers regarding the use of different distraction techniques like use of toys, music therapy, watching television or cartoons, party blowers etc., during any invasive procedure, according to their age, developmental level, cognitive and communication skills, previous pain experiences, and associated beliefs.

## MATERIALS AND METHOD

The study was conducted in different hospitals of Jalandhar, Punjab i.e. Civil Hospital of Jalandhar, Randhawa Hospital of Jalandhar, Sigma Hospital of Jalandhar and Ankur Hospital of Jalandhar to assess the effectiveness of cartoon animation movie on pain during intravenous cannulation among children at pediatric ward of selected hospitals, Jalandhar, Punjab, 2014. Experimental Research Design >ýQuasi-Experimental?ý (Non-Equivalent control group posttest only design was adopted and 60 samples: 30 in experimental group and 30 in control group selected from Pediatric Ward of selected hospitals of Jalandhar, Punjab by using Purposive Sampling Technique for the study, who met the inclusion criteria.

## RESULTS

The first objective revealed that maximum number of children, 10 came in Hurts even more category with 33.33%, 10 children came in Hurts whole lot category with 33.33%, minimum children, 9 children came in Hurts little more category with 30%, 1 child came in Hurts little bit category with 3.34% and no child came in Hurts worst category.

The second objective revealed that majority of children, 26 came in Hurts worst category with 86.67%, minority of children, 4 came in Hurts whole lot category with 13.33% and no child came in Hurts even more category, Hurts little more category, Hurts little bit category and No hurt category

The third objective revealed that in experimental group maximum children with 33.33% falls in Hurts even more category and Hurts whole lot category and

minimum children with 3.34% falls in Hurts little bit category and in control group majority of children with 86.67% falls in Hurts worst category and minority of children with 13.33% falls in Hurts whole lot category.

The fourth objective revealed that there is no influence of socio demographic variables in experimental group on mean pain score after display of cartoon animation movie among children during intravenous cannulation at  $p > 0.05$  level of significance.

## CONCLUSION

From the findings of the study following conclusions were drawn:

- Control group mean pain score was 4.86 and experimental group mean pain score was 2.96, hence the mean pain score differences are significant, test value 't'=10.9003, hence cartoon animation movie was effective among children during intravenous cannulation to reduce pain. The mean level of stress score of cancer patients was 104.35. Majority of 147 (73.5%) cancer patients had profound level of stress.
- Selected socio-demographic variables i.e. (informer, age, Gender, setting of hospital, residence) in experimental group and control group had no influence on mean pain score after display of cartoon animation movie among children during intravenous cannulation at  $p > 0.05$  level of significance.

## DISCUSSION

In this section the investigator interpretively discusses the results of the study. It is in the discussion, the researcher ties together loose ends of the study. The findings of the present study have been discussed according to objectives of research.

The study was conducted among 60 Children: 30 in experimental group and 30 in control group from pediatric ward of selected hospitals of Jalandhar, Punjab, Civil hospital (Jalandhar), Randhawa hospital (Jalandhar), Sigma hospital (Jalandhar) and Ankur hospital (Jalandhar).

### Objective 1

To assess the pain score during intravenous cannulation after displaying cartoon animation movie in the experimental group among children.

The result of the present study according to first objective shows that pain score is reduced among children of experimental group, 1 child came in Hurts little bit category 3.34%, 9 children came in Hurts little more category with 30%, 10 children came in Hurts even more category with 33.33%, 10 children came in Hurts whole lot category with score 33.33% and no child came in Hurts worst category and No hurt category.

The findings of the first objective is supported by the findings of the first objective of the study conducted by Ms. Melba Roshini Lobo and Mrs. Umarani.J (2013) *Cartoon Distraction Reduces Venipuncture Pain Among Preschoolers – a Quasi Experimental study*, indicated that in experimental group 73% of preschoolers reported moderate pain, 20% reported severe pain and 7% reported mild pain and there were no preschoolers in the category no pain<sup>10</sup>.

### Objective 2

To assess the pain score during intravenous cannulation in the control group among children.

The result of the present study according to second objective shows that pain score during intravenous cannulation among children of control group is increased during intravenous cannulation. Maximum number of children came under Hurts worst category with 86.67%, and minimum children came under Hurts whole lot category with 13.33% and no child came in Hurts even more category, Hurts little more category, Hurts little bit category and No hurt category.

The findings of the second objective is supported by the findings of second objective of the study conducted by Ms. Melba Roshini Lobo and Mrs. Umarani.J (2013) *Cartoon Distraction Reduces Venipuncture Pain Among Preschoolers – a Quasi Experimental Study* indicated that, In the control group 93% of preschoolers had severe pain, 7% had moderate pain and none of them had mild and no pain<sup>10</sup>.

### Objective 3

To compare the pain score during intravenous cannulation in the experimental group and control group among children.

The result of the present study according to third objective proved that cartoon animation movie has shown positive effects on pain score among children during intravenous cannulation i.e. the 't' value i.e.  $t_{cal}$

= 10.9003 which is greater than  $t_{tab}$  at 0.05 for 58 df is 1.645.  $H_0$  rejected differences of mean is significant research hypothesis accepted. This indicates cartoon animation movie is effective in reducing pain among children during Intravenous cannulation in experimental group.

The findings of the third objective is supported by the third objective of the study conducted by Ms. Melba Roshini Lobo and Mrs. Umarani.J (2013) Cartoon Distraction Reduces Venipuncture Pain Among Preschoolers – a Quasi Experimental study, showed that the mean post-test score of the experimental group is 5.9 is lesser than the mean post test score 8.7 of the control group. The independent 't' value computed between the pain score of preschooler in experimental group and control group was statistically significant at 0.05 level of significance. The calculated 't' value ( $t=7.3$ ) was greater than the table value ( $t=1.66$ ), this indicates the cartoon distraction was effective on pain during venipuncture in preschoolers.<sup>10</sup>

#### Objective 4

To find the association between pain score among experimental group and control group with their selected socio-demographic variables

The result of the present study according to fourth objective depicts that there is no influence of socio demographic variables in control group and experimental group on mean pain score among children during intravenous cannulation at  $p > 0.05$  level of significance.

The findings of the fourth objective is supported by the fourth objective of the study conducted by Ms. Melba Roshini Lobo and Mrs. Umarani.J (2013) Cartoon Distraction Reduces Venipuncture Pain Among Preschoolers – a Quasi Experimental study, the findings showed that there was no significant association of pain and selected socio-demographic variables of experimental group and control group at  $p > 0.05$  level of significance.<sup>10</sup>

**Acknowledgement:** I want to express my gratitude especially to the medical superintendent of selected hospital of Jalandhar, Punjab, who allowed me to conduct study and the subjects those who participated in the study. I also want to thank my affectionate and adoring Parents, my lovely brother Akshay and my friends specially Mr Sushil, Ms. Rajbeer kaur, Ms Jasroop kaur for their constant support and encouragement.

#### Ethical Clearance

- Written permission from principal of S.G.L Nursing College Semi, Jalandhar was taken.
- Written permission from ethical clearance committee of S.G.L Nursing College Semi, Jalandhar was taken.
- Written permission from medical superintendent of selected hospitals of Jalandhar Punjab was obtained.
- Written consent from parents of children who participated in the study was taken.
- Confidentiality and Anonymity of samples maintained throughout the study.

**Source of Funding:** Self

**Conflict of Interest:** Nil

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# A Qualitative Study of Nursing Leader's Perceptions of Professional Empowerment amongst Pakistani Nurses

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## ABSTRACT

Several researches focused on impeding and promoting factors of empowerment amongst nurses in western context; little is available in non-western settings including Pakistan.

Therefore, qualitative approach was used to explore nursing leaders' perception of empowerment amongst Pakistani nurses. Twelve Pakistani nursing leaders from the public and private sector were interviewed. The data revealed the concept of empowerment in five themes including status of a nurse, nursing profession, power relationships, value belief system and leadership and management. Dealing with challenges, adopting strategies, and achieving outcomes were also explored. However, this paper is going to focus empowerment in relation to educational context. The study concluded by offering recommendations for empowering nursing leaders.

**Keywords:** Empowerment, Oppression, Nursing Education, Competencies

## INTRODUCTION

Nursing profession is referred as caring, compassion, nurturing and is well regarded career path <sup>[1]</sup>. There still exist historical and social disapproval, particularly in the third world countries like Pakistan <sup>[2]</sup>. Nurses suffer lack of empowerment resulting in poor confidence, low self-esteem, and fear of freedom <sup>[3][4]</sup>. This necessitates exploring the phenomena of empowerment to help nurses recognize and internalize the concept, for positive professional change. A study was conducted to explore Pakistani nursing leaders' experience of empowerment. The purpose of this study based on the researcher's assumption that nurses' empowerment contributes to positive influence on nursing profession.

### Literature Review

Empowerment is defined as mastery over the affairs through which the underprivileged is aware of their oppression for better decision making. Empowerment is possible by rejecting the negative images of one's own culture and replacing it with pride and a sense of confidence <sup>[5][6]</sup>. When nursing itself is

valued and supported that leads to empowerment and control <sup>[7]</sup>. Studies revealed that empowerment enhances job satisfaction <sup>[8]</sup>, nurse's retention and productivity resulting in facilitating organizational goals achievements <sup>[9]</sup>. On the contrary nurses in Pakistan have a low social status, and face challenges in uplifting image of nurses in the country. It continues to face critical problems in preparing and retaining competent nurses. Hence the statistics reveals there will be greater needs for nurse than ever before <sup>[10]</sup>.

Nurses often lack higher education which compromises quality patient care, lack of influence on policy level and favorable working conditions. Though institutions such as the Aga Khan University, have reached milestones in uplifting the nursing profession in Pakistan, yet there is a gap in nurturing the process of empowerment <sup>[11]</sup>.

### METHOD

An explorative descriptive qualitative approach was used for naturalistic inquiry which has the basis that individuals understand the world differently, but these views can generate a common understanding <sup>[12]</sup>.

Approval from Ethical Review Committee of the Aga Khan University was sought. Study participants were recruited from four provinces of Pakistan.

### **Data collection and analysis**

Semi-structured interviews guide was used for data collection. Each interviews lasted for 45-60 minutes with the participant's consent to audio-taped it. Participant's anonymity and confidentiality was maintained by assigning them codes. The audio taped interviews were transcribed and translated from Urdu to English by an experienced research team member.

Content analysis was used for the data analysis and codes were assigned to a text which represented a single theme. The researchers looked for repetitions, metaphors, and transitions to identify the themes. To ensure rigor, researchers read the transcripts multiple times. While analysis new categories and themes emerged, and were added or removed as the researchers continued the data analysis. To develop an exhaustive description of the phenomenon congruence of the themes was also achieved to link them to each other <sup>[13]</sup>.

## **FINDINGS**

### **Participant's demographic data**

Twelve nurses in leadership positions were recruited from all provinces of Pakistan through purposive sampling method to collect the data with varying number of years of experience ranging from 10-41. All participants were registered nurses working in various administrative capacities having professional academic qualification varied from PhD (2), Master degree varying disciplines (3), BSc Nursing (3), Diploma in Teaching and Administration (3) and Diploma in nursing (1).

### **Study themes**

Following themes emerged as study findings including: a) status of a nurse; b) nursing profession; c) power relationships; d) value-belief system; e). leadership and management. However this paper focuses on themes related to higher education for nurses to gain empowerment along with the challenges encountered by nurses.

### **Status of a Nurse**

Most of the participants stated that lack of confidence due to dearth of higher education and

competencies leading to disempowerment. They reported low status is because of the dual role expectations and lack of insight of being oppressed. These characterized bytly defined as subcategories, using various quotes from participanmts. maintaining status quo, fearful, coward, introvert lack of motivation and confidence and having blame shifting behaviors.

"Almost all senior nurses are coward that they can't take a stand. They don't want to work hard; they want to keep everything at ease. How empowerment can be achieved in\_ in such circumstances?"

One participant said: "But really, to be able to be given empowerment means that you have to work competently and I am not sure if competence is there" Participants expressed that nurse's lack of initiative is one of the reasons to be less equipped with updated knowledge required for quality care and positive contribution to nursing profession.

A participant stated that the nursing education is dependent on what has been learnt while pursuing the diploma in nursing without integrating the updated knowledge "several new researches are coming up..., each issue has a research study, but our nurses are still relying on the past acquired knowledge. That's why it is very important to upgrade nurses for quality of care". The reported lack of infrastructural opportunities to pursue higher and continues nursing education. Accordingly this also influenced compromised nurse's role at policy level. A participant said "neither nurse' education is strong nor they do any reading, writing or speaking. They don't even know what policy is and how to make it. That is why they don't get involve policy formulation"

In addition household commitment was another constraint in pursuing the higher education.

They reported that economic survival forced them to work and compromise on higher education.

Secondly there is hardly any raise in salaries against the higher education. Being a woman was also reported one of the constraint, "in some part of country nurses were to wear veil they reported that as a caregivers veils affect the quality of care". On the contrary in some regions, nurses had a positive influence on socio-cultural values. A participant reported:

"In our province nurses are respected and honored due to cultural values of respecting women. High



respect is paid to women in Balochis in everyday life whether in shop, bus stop or a queue. This has also brought positive image of nurse. In past there used to be restrictions on women to work outside home; but now education has changed way of thinking and people realize the importance of nursing and encourage family members to join this profession"

### **Nursing Profession**

Due to several reasons the profession was held back including; a) lack of specialization, b) inadequate human resources, c). Ineffective regulatory bodies; and d) poor public image.

More so the low admission criteria, educational standards, inadequate well-trained teaching staff, and compromised delivery of the nursing curriculum are key issues in achieving higher standards of excellence in nursing. As a participant stated:

"There is a drastic change needed in our education system, not only at the planning level but also at the implementation level. Until then this profession will not be called a profession, rather it will remain an occupation".

The mushrooming of nursing schools to reach the breakeven point resulted in mediocre levels of nursing education in Pakistan. A participant reported "Everybody is opening a nursing school where quality is hardly ensured. The owners are not worried about the content rather the number of graduates they are interested...production of nurses has become a commercial activity...Under the circumstances producing the competent nurses is a dilemma"

Furthermore poorly trained teaching faculty is another setback in producing competent nurses a participant shared "We have acute shortage of faculty in the market, whether it's government or the private sector, we don't have enough competent faculty members due to brain drain". Participants also discussed nursing profession in relation to status of women and socio-cultural values in Pakistan. A participant shared that "Globally nurses are comparatively less empowered because they are women ....it has nothing to do with knowledge or the nursing degree but has to do with socio-cultural values and status of women"

The study findings also recognized important role of nursing regulatory bodies in Pakistan; such as Pakistan Nursing Council (PNC). However efforts

required to strengthen it for improved functioning. This was well reported by a participant that "despite of its role it needs more proficiency in uplifting nursing profession"

Several challenges to lack of empowerment in nursing profession were reported including limited sanctioned seats, political influence, scarce resources, poor collegiality, and lack of competent nursing leaders. A participant said: "I wish if nursing representation could have a seat at government level ... for fair decision making".

Nursing as a profession with empowerment brings dual gains including personal and professional. The professional gains include improving nursing image, quality care and nurses' role in policy and resource development; whereas personal gains include self-satisfaction, enhanced self-esteem and self-confidence. A participant stated that: "... empowerment transforms a woman and give the confidence which then can be transferred her own children so ... I feel that this empowerment goes a long way for nurses"

### **DISCUSSION**

Polo Friere a pioneer in theory of oppression defines it as a prescription of person or group's behavior that imposes own choices on others <sup>[14][15]</sup>. Studies suggest nurses possess characteristics of oppressed group of individuals with lack of competencies <sup>[14] [16]</sup> Nevertheless, perceived lack of competencies leads to oppression or vice-versa is a debate.

Furthermore nurses are being oppressed because of reluctance in pursuing higher education and maintain status quo; thereby indicating that they cannot be educated <sup>[17]</sup>. Study participants also identified that nurses in Pakistan were oppressed; and suggested meaningful change can be possible by creating awareness amongst nurses. Hence, group consciousness is a critical pre-condition to politics. As nurses collectively begin to identify their personal and private concerns and translate these as social issues in the political and public arenas to attain empowerment <sup>[18]</sup>. Friere (as cited in Roberts), suggested two essential phases for liberation; including a) Unveiling of the world of oppression, and b) Expulsion of the customary prevailed myths on oppression. The oppressor will not allow the freedom; but it is one's prerogative to reject negative images of one's own culture and replacing them with pride and a sense of ability to avail autonomy <sup>[19],[ 20]</sup>.

The nurses' dual role expectations in addition to low socio-economic profile were identified as key issues. This results in poor coping with high demands of a competitive professional world. Literature also narrate that nurses are not well paid and poorly regarded in the society which let them opt for another job <sup>[21], [22], [23]</sup>. In addition to remunerations, higher education also contributes towards nurses' empowerment. Recently profession has increasingly viewed as a respectable, profitable and rewarding job, attracting more people, particularly girls. This change in paradigm has occurred primarily due to higher education, which are required for nurses today as a response to the change in health care delivery <sup>[24]</sup>.

It was well emphasized that in order for empowerment to exist, nurses need an educational process that supports and encourages the development of attributes essential for empowerment <sup>[25]</sup>. Local literature also supports the idea and says that education is a fundamental prerequisite for empowering nurses and educating nurses is the key to empowering the people they serve <sup>[26]</sup>.

Public acceptance of the nursing profession is another critical element for the empowerment of nurses in Pakistan. People do not perceive nursing as a prestigious profession.

The findings from the data revealed that nursing is deprived of professionalism in Pakistan. Low admission criteria, shortage of well-trained faculty and their attitude towards teaching is disheartening in the country. Moreover, a professional body such as the role of PNC remains crucial in uplifting the profession <sup>[27]</sup>. Literature from local context highlighted most effective way to influence federal policy decision in health care is through a strong nursing organization <sup>[28], [29]</sup>; these bodies can bring positive change in profession and enhanced quality of care.

Despite challenges faced by nurses, the study finding reveals their persistent efforts in attaining empowerment through constant struggle, knowledge of politics and quality education.

### RECOMMENDATIONS

Empowerment includes promoting the image of nursing in the country. Thus strengthening the nursing educational system, creating shared governance, enhancing nurses' understanding of the political system and their active participation in policy dialogue is highly recommended. The study finding suggests

implicit nursing education system is root cause for current nurses' status in Pakistani society. Therefore efforts need to be directed towards strengthening and restructuring the nursing education system. Additionally nurses' education also needs to be geared toward specialization and providing evidenced based care.

### Limitations

The study participants were all females; though the data collected was very comprehensive; however in future studies male representation is also considered to understand males perspective of nurses being oppressed group of individuals.

### CONCLUSION

Empowerment is multi-dimensional phenomenon which significantly can uplift image of nursing profession. In this study empowerment amongst nurses has been predominantly identified as an outcome of poor continues nurses' education particularly pursuing advanced degrees in nursing.

Numerous bottlenecks including unfavorable working conditions, lack of advance educational competencies, poor state support, lack of infrastructure and poor motivation due to ignorance and financial constraints were significantly highlighted by study participants. Despite these; nursing workforce is highly motivated to continue progressing steadily.

**Source of Funding:** AKU seed grant

**Conflict of Interest:** None

**Ethical Clearance:** AKU-ERC

**Acknowledgment:** Aga Khan University

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# Effectiveness of the Structured Teaching Programme on Knowledge Regarding Cervical Cancer among Women: a Quasi Experimental Study

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## ABSTRACT

The aim of the study is to strengthen the knowledge regarding cervical cancer among women of selected Rural areas of district Jalandhar by Structured Teaching Programme. Quasi experimental design was utilized in the study. The study was conducted on 100 women of selected villages i.e. Salempur Masandha and Jamesher Khas of district Jalandhar, Punjab. Sample was selected through convenience sampling technique. Data was collected by Self Structured knowledge questionnaire regarding cervical cancer. Descriptive and inferential statistics used to analyze the findings. The findings were depicted in the form of Tables and Bar diagrams. The pre test mean knowledge score of control group and experimental group was 7.78 and 8.08 respectively where as the post test mean knowledge score of control group and experimental group 9.94 and 14.94 respectively. The difference of pre test and post test mean knowledge score of women in experimental group was statistically significant whereas it is non-significant in control group. Hence it was concluded that structured teaching programme had significant impact on knowledge of women regarding cervical cancer. Public teaching to be promoted in irrespective of urban and rural areas in order to reduce the prevalence of cervical cancer and decrease the financial burden on treatment of cervical cancer.

*Keywords: Knowledge, Structured teaching programme, Effectiveness, Women*

## INTRODUCTION

Cancer becomes the leading cause of death worldwide in the year 2010.<sup>[1]</sup> Globally cervical cancer is the third most common cancer among women. Worldwide, every two minutes women die from cervical cancer 86% of cervical cancer cases and 88% of deaths occurs in developing regions.<sup>[2]</sup> Projections showed that by 2030 almost half million women die of cervical cancer with over 98% of deaths expected to occur in low and middle-income countries<sup>[3]</sup>. Cervical cancer is a significant concern in India with an estimated 1,34,420 incidents cases and 72,825 associated mortalities in 2008.<sup>[4]</sup> Cancer is a generic term for a large group of diseases that can affect any part of the body. Other terms used are malignant

tumors and neoplasms. Cancer is a broad group of diseases involving unregulated cell growth. In cancer, cells divide and grow uncontrollably, forming malignant tumours, and invading nearby parts of the body. The cancer may also spread to more distant parts of the body through the lymphatic system or bloodstream. This process is referred to as metastasis.<sup>[5]</sup>

There are many causes of cervical cancer but some of the important are Human Papilloma Virus (HPV): Human Papilloma Viruses is a group of viruses that causes warts, cancerous and non-cancerous tumors. HPV can infect to the reproductive tract, external genital and closer part of anus. HPV can transfer from one person to other through sexual relationship.<sup>[6]</sup>

Often during the early stages people may experience no symptoms at all. That is why women should have regular cervical smear tests. The most common warning signs of cervical cancer are bleeding between periods, Bleeding after sexual intercourse, Bleeding in post-menopausal women, Discomfort during sexual intercourse, Smelly vaginal discharge, Vaginal discharge tinged with blood, Pelvic pain.<sup>[7]</sup> Cervical cancer is the easiest female cancer to prevent, with regular screening tests and follow-up. Two screening tests can help prevent cervical cancer or find it early, the Pap test (or Pap smear) and the HPV.<sup>[8]</sup> The average age range for the occurrence of cervical cancer is 40-50 years ,pre invasive conditions may exist for 10-15 years before the development of invasive carcinoma i.e in the age group 20-45 years .Lack of awareness and deep stigma associated with disease also pose significant barriers to access .

Indian government has introduced a variety of a national cancer control health program and screening camps in various states in order to fight against the rising numbers of incidence and mortality among women due to cervical cancer In spite of all these measures the number of incidences are not coming down, hence the investigator feels that learning package will be effective teaching strategy to strengthen the knowledge of women regarding cervical cancer. The teaching module consist of definition ,sign and symptoms ,diagnostic test ,treatment and prevention ,visual inspection test ,pap smear test of cervical cancers. As a nurse the investigator has a pivotal role in creating awareness among the women about how to identify the symptoms and modification to be brought in order to

prevent the further complications of cervical cancer.

## METHODOLOGY

### Research Design and sample

A Quasi Experimental research design was utilized in the study ,to assess the effectiveness of structured teaching programme on knowledge regarding cervical cancer among women. It was carried out in villages Jamesher khas and salempur masandha ,District Jalandhar ,Punjab. Total 100 women of age group 25-45 years were selected. 50 women from each village participate in the study .Samples were divided into two groups in experimental(50) and control group(50).

### Instrument and data collection

Data was collected by using self structured knowledge questionnaire which was developed by the researcher .It was evaluated properly by group of nursing educators ,to validate the appropriateness of the items. The investigator had taken written informed consent from the women to participation in the study. Participants were assured that their responses would be kept confidential and used only for research purpose. Pre test was conducted by Self structured knowledge questionnaire regarding cervical cancer was administered among both experimental and control group. structured teaching programme on cervical cancer was administered to experimental group only. Finally post test was conducted among both groups. The gap between pre test and post test was one week .The difference between the groups with significance level was set as  $p=0.05$ .

## RESULTS

**Table1: Frequency and percentage distribution of pre test knowledge score of women in experimental and control group.**

N=100

Level	Score	Level of knowledge			
		Control group Pre test		Experimental group Pre test	
		n	%	n	%
Excellent	20-25	00	00	00	00
Good	14-19	02	04	05	10
Average	08-13	24	48	19	38
Below average	00-07	24	48	26	52

Maximum score=25

Minimum score=00

Table (1) showed that the pre test knowledge score of women which was categorized into Excellent ,good average ,below average category It shows that no one had excellent knowledge both in control group as well as in experimental group .In control group 02(04%)

had good knowledge, 24(48%) had average knowledge and below average knowledge respectively , whereas in experimental group 05(10% )had good knowledge,19(38%) had average knowledge, 26(52%) had below average knowledge.

**Table 2 Frequency and percentage distribution of post test score of women in experimental and control group**

N=100

Level of knowledge	Score	Level of knowledge			
		Control group Post test		Experimental group Post test	
		n	%	n	%
Excellent	20-25	00	00	06	12
Good	14-19	03	06	23	46
Average	08-13	31	62	21	42
Below Average	00-07	16	32	00	00

Maximum score=25 Minimum score=00

Table2 It shows that in control group no one had excellent knowledge 03(06%) had good knowledge, 31(62%) had average knowledge and 16(32%) below average knowledge, whereas in experimental group 06(12%) had excellent knowledge, 23(46%) had good knowledge, 21(52%) had average knowledge and no one in below average category.

## DISCUSSION

To assess pre test knowledge regarding cervical cancer among women in the experimental and control group.In the present study the pre-test knowledge score of of women shows that 52% had below average knowledge, 38% had average knowledge, 10% had good knowledge and no one had excellent knowledge in experimental group. On the other hand 48 % had average knowledge and below average knowledge respectively, 4 % had good knowledge and no one had excellent knowledge in control group regarding cervical cancer.The study was conducted by Dr. Saadat Parhizkar Dr. Latiffah Abdul Latiff et al (2012)who did a quasi experimental (pre test/post design) to assess the efficiency of public awareness seminar on cervical cancer among women The study results revealed that in pre test knowledge score of women was 39% regarding cervical cancer<sup>[9]</sup>.

The post test knowledge score of women shows that 12% excellent knowledge 46% had good knowledge, and 42%had average knowledge no had poor knowledge in experimental group. In the control

group only 3 % had good knowledge, 62% had average knowledge, 32 % had below average knowledge no one had excellent knowledge.Another similar study was conducted by Dr. Saadat Parhizkar Dr. Latiffah Abdul Latiff et al(2012) who did a quasi experimental (pre test/post design) to assess the efficiency of public awareness seminar on cervical cancer among women. The study results revealed that after seminar there was increase in knowledge of women in the post test knowledge score of women was71% regarding cervical cancer. To compare the pre test and post test knowledge regarding cervical cancer among the women in experimental group and control group. The post test mean knowledge score 14.94 in experimental group was higher than post test mean knowledge score 9.94 in control group it was found that statistically significant at  $p<0.05$  level of significance as calculated "t" value ( $t=8.2047$ )is more than tabulated value at  $p<0.05$  level of significance<sup>[9]</sup> .

Pre test and post test of experimental group is also significantly related as calculated "t" value ( $t=9.337$ ) was more than table value of at  $p<0.05$  level of significance The difference in mean pre test and mean post test knowledge was 6.86 .Hence  $H_1$  is accepted and  $H_0$  is rejected .It shows that knowledge of women has increased with structured teaching programme and it has good impact on knowledge among women regarding cervical cancer.Dr. Saadat Parhizkar Dr. Latiffah Abdul Latiff et al (2012)who did a quasi experimental (pre test/post design) to assess the

efficiency of public awareness seminar on cervical cancer among women. The mean post test knowledge score was 6.26 which was higher than the mean pre test knowledge score 3.73. There was a significant difference in means scores of knowledge in pre test and post-test ( $P < 0.001$ ).

## CONCLUSION

From the findings of the study it was concluded that In experimental group majority of women had good knowledge as compared to control group during Post test .Hence Structured teaching programme was effective in improving the knowledge regarding cervical cancer among women.

### Limitations

1. The study was limited to participants who were willing to participate in the study.
2. The Study was limited to 100 samples.

Further recommendations are there is need to create awareness on vaccination regarding the prevention of cervical cancer and starting free of cost pap smear test at government hospitals after age group of 30 years to all women.

For future study researchers will recommend A comparative study to assess the knowledge and awareness of cervical cancer, HPV (Human papilloma virus) and HPV vaccine, and willingness and acceptability to vaccinate among women in selected rural areas and urban areas. A descriptive study assesses the knowledge of young females regarding cervical cancer and Pap smear, VIP (Visual inspection test), HPV vaccine. Similar study can be under taken with large sample to generalize the findings.

**Acknowledgement:** "We express our deep sense of gratitude to the Lord Almighty for blessings and mercy which enabled us to reach up to this step and complete our study. We are thankful to all the Study Participant from the Salempur Masandha and Jamesher Khas of district Jalandhar, Punjab for their whole hearted participation in the study, without whom this study would be an incomplete.

**Conflict of Interest:** Some of the study participants not willing to participate in the study due to lack of awareness regarding cervical cancer .

**Source of Support:** This present research was carried to the partial fulfilment of M.Sc(N)course .

### Ethical Consideration

1. Written permission was taken from the Principal of S.G.L Nursing college semi, Jalandhar, Punjab.
2. Written permission was taken from the ethical clearance committee of S.G.L nursing college, Semi, Jalandhar, Punjab.
3. Written permission from the Sarpanches of the selected villages /rural areas Salempur and Jamesher khas, District Jalandhar Punjab.
4. Written permission was taken from district civil surgeon.
5. Written informed consent was taken from each study sample. Confidentiality and anonymity of the samples was kept throughout the study.

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# Perspective Transformation in Nursing/Midwifery Faculty in Liberia

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## ABSTRACT

Liberia faces an acute need for increased numbers of health professionals following thirteen years of civil war. To address this need, new schools of nursing and midwifery are being opened and existing schools are expanding the number of students. Faculty to teach in these programs need to learn new instructional strategies that will prepare these students to meet international standards. This paper will describe outcomes from a Master of Nursing program offered in Liberia in which the graduates have undergone a perspective transformation from a rote learning teaching style to one that is learner centered. Examples of these learner centered activities are provided.

*Keywords: Liberia, Perspective transformation, Critical thinking, Student centered learning, Concept mapping*

## INTRODUCTION

As Liberia recovers from thirteen years of civil war, health care services need to be increased. New nurse/midwifery schools are opening and existing programs are expanding the number of students admitted to address this need. However there is an acute lack of faculty to teach in these programs due to both the absence of health care education during the war years and the loss of many professionals who fled the country.

To address this issue a Masters in Nursing Education (MSNE) program at Mother Patern College of Health Sciences in Monrovia was developed. It is the first program at the Master of Science level in Liberia to prepare faculty for nursing/midwifery schools. Faculty to teach in this program were recruited from nursing schools across the United States.

Seventeen students, all experienced nursing/midwifery faculty, were admitted in Fall 2010. These students completed the program in December 2011 and returned to their home schools as faculty or administrators. An additional sixteen (16) students were admitted in January 2012 and completed the program in June 2013.

## Literature Review

Educational practices in Liberia traditionally emphasize rote memorization while problem solving skills have not been taught.<sup>1</sup> Teachers use a monotone recitation method geared towards rote learning. Upper levels of education use similar methods. A paradigm shift is needed in which faculty learn to use more effective classroom instructional methods..

## Perspective Transformation

A person's view of the world includes how the world is perceived and understood. It is developed by factors such as the culture, environment, and social forces in which one lives. As a person matures, one's perspective often changes in response to life events<sup>2,3,4</sup>.

An educational experience can serve as the transformative event as reported in such diverse programs as literacy education<sup>2,3</sup> and theological education<sup>5,6</sup>. Mezirow's theory of perspective transformation states that a person does not make a transformational change as long as he is satisfied with the present situation. However, if discomfort is felt with the present situation, there is a possibility for change through critical reflection on the present

situation and the opportunity for rational discourse about the situation <sup>3,4</sup>. It is the vehicle by which one questions the validity of the present situation and is stimulated to explore new options.

Mezirow <sup>4</sup> outlines the phases of perspective transformation. The first is a disorienting dilemma followed by a period of self-examination with a sense of guilt. This is followed by an assessment of one's underlying assumptions. If in a supportive setting, one can explore new options for action and plan a new course of action. Important to this process is acquiring new knowledge and skills. The new role is then tried out in a supportive environment and the person develops a new sense of self confidence. Finally the new perspective is incorporated into one's life.

### **Study Methodology**

During the last semester of the MSNE program, all students returned to their home schools to participate in a practicum supervised by two of the program faculty. They were each assigned to teach a course. During this practicum each student submitted seven reflective journals on assigned topics related to the teaching experience. From these journals the paper author identified the theme of perspective transformation. Permission to use these comments was obtained from the MSNE students.

### **Educational Transformation**

Some students came to the program excited to be included in an opportunity that they perceived would be life changing. Others were not quite sure why they were there. One student said, "I was not sure why I was here when I started the program, but now I see how much I needed this education". All of the MSNE students came with a teacher centered approach in which the teacher lectured and the students wrote down what they think they heard. Some had heard from the Liberian Board of Nursing and Midwifery that they were supposed to develop critical thinking skills in their students. But the students enrolled in the program stated that they had no idea what critical thinking was or how to promote it. The journals of the MSNE students demonstrate that by program completion they had mastered strategies to achieve this goal.

### **Transformational changes**

A transformative change that was reported by all of the MSNE students was that of moving from a

teacher centered approach to a learner centered approach. A number of students reflected on their previous teaching style. A common refrain was "I was such a bad teacher". This sense of guilt reflects stages one and two of Mezirow's phases of perspective transformation. One student reported in his journal that a group of students came to him and said that they had been afraid when they heard that he was going to teach the course they were enrolled in. They had heard from older students that he was mean. But after several weeks in the course this perception had changed. They said. "We love this class". The MSNE student had changed; he now used a learner centered approach. Another responded to his students who were afraid to take his course "That was the old -.... Now I am new!" Another MSNE student reported the following:

To provide quality instruction requires transitioning to different pedagogical and andragogical approaches, one where didactic instruction coexists with relevant learning experiences...To aid in this transition, learning activities must shift from the teacher to the students.

### **Classroom Learning: MSNE program**

The first step in helping the students to become more effective teachers was the role modeling done by the MSNE faculty. An atmosphere of mutual respect was established between the students and the faculty. The students very quickly perceived that the classroom atmosphere was one where the emphasis was on the learner. This became the first step in their transformation as teachers. To support transition to a learner centered environment a number of strategies were explored. In the Learning Theory and the Teaching Strategies courses learner centered activities were examined. Some that the students responded to with great enthusiasm will be described here.

### **Lecture Strategy**

Most MSNE students report that they continue to use lecture as an important teaching tool. This is appropriate in a resource poor country such as Liberia where textbooks and internet access are limited. However, the way the lecture is conducted has changed. Many of the graduates report that they now begin their lecture with a story or illustration to promote student interest in the topic. Also, lecture is used intermittently with questions and class discussions to evaluate student learning. Also more

attention has been paid to promoting activities that encompass different student learning styles. Kleinfeld<sup>1</sup> stresses the importance of not assuming that students from a particular culture will all have similar learning styles. Because it is often not possible to know the preferred learning style of all students in a class, strategies need to be used that incorporate a variety of activities. A lecture strategy introduced to the students was the 4MAT Design<sup>7</sup> that is based on addressing all of the Kolb learning styles. In this approach, the lecture is begun with giving the students a reason why they need to learn the content of the lesson. This is followed by discussing *what* is involved in the lesson. Then *how* the lesson content is applied. The lecture ends with thinking about how to expand the ideas to new situations – the *if* idea.

An example of a student presentation using the 4MAT was a presentation on hypertension. It started with a story about a client who experienced a cerebral bleed due to undiagnosed hypertension. This captured the attention of the students. Then the pathology of hypertension was discussed. The “how” section of the lecture focused on the management of hypertension. The interesting part of the class was the discussion on case finding for hypertension, a hidden disease. One suggestion was that all patients who come to the health clinic will have their blood pressure checked. This was determined not to be very effective because only a small percentage of the population comes to the health clinic. Finally the students suggested that case finding could be done by holding community based health screening clinics. Involving the MSNE students in thinking about applying lecture content to an actual clinical situation was an exciting idea for them.

The 4MAT lecture style is widely reported to be used by the MSNE graduates. One wrote that using this lecture style has helped meeting the learning needs of all of the students. Another reported that using this style has helped her know how to organize a lecture in a logical sequence.

### Concept Mapping

Concept mapping is a technique that aids students to assimilate new knowledge through use of a diagram that shows relationships between ideas. Evidence based research shows that students who are exposed to concept maps increase their knowledge of a subject and develop critical thinking skills.<sup>8</sup> MSNE students found that initially there was some resistance because it was difficult for the students to think in this manner.

However, as they became familiar with the technique, it became a very popular learning strategy. The students were able to see difficult concepts and gain better understanding than through a lecture. They also said that no matter how difficult a concept is, when you can see it in a concept map, it becomes self-explanatory. One MSNE student said that his students requested that a concept map be produced for every disease taught. He also reported that students ascribed their success in the course to the use of concept mapping and role play.

### Interactive Strategies: Case Scenario and Role Play

Case scenario is an interactive method of teaching intended to give students the opportunity to critically analyze a problem fostering critical thinking. A well-structured case provides students a way to integrate knowledge gleaned from a lecture into a practical situation. Role play is a technique in which students act out the parts of various people in a given situation. It allows for students to experience a situation in a non-threatening manner helping them become sensitized to the feelings and thoughts of another person. It can either serve as a rehearsal for a future event or provide a practice area to try out new role. It can also be used to replay a clinical situation in which students have been involved to seek a better solution to a clinical management problem. Following the role play situation the situation is analyzed. In this way it can enhance critical thinking about a situation. A MSNE student reported on how his thinking about the use of role play has changed.

Before my admission at the graduate program, I never really believed that role play was a good teaching method... a waste of time. What I have found is that the students developed many skills in assessing and managing patients with tropical and communicable diseases by just watching other students dramatize them. Most students said that they understood how to manage and treat these diseases better than during lecture...

The interesting question is how utilization of student centered activities has affected the learning of the MSNE nursing/midwifery students. One student reported:

48.5% of the students passed the first test; 85% of the students passed the mid-term exam after introducing the strategies of role playing and concept mapping”.

## Clinical teaching

The primary clinical model in Liberia has been that of apprenticeship. Students were assigned to work in clinical areas with limited faculty supervision with an emphasis on performance of technical skills. This has led to little attention to development of clinical judgment. The MSNE students are making a significant difference in changing this mode by placing greater emphasis on clinical reasoning. They have also worked to provide better preparation of these preceptors. One MSNE student reported the following:

As clinical practice is about to commence, a meeting was held by the Director (a program graduate) with all seventeen clinical preceptors. Each clinical preceptor was given a document (outlining) their functions including participation in regular conference with students and faculties. As one preceptor, put it, "he feels he has been provided with a guideline on preceptor responsibilities and given the opportunity to help capture what they (the students) should be doing".

## Another graduate reports

The students are very active in doing procedures, but most of them do not make notes. I therefore encouraged all of them to critically think through the patient's issues/problems, make decisions concerning the care they provide with descriptive notes that effectively communicate with others in the health delivery system (in their notebooks). The notes then are used later to discuss and assess whether clinical outcomes have been achieved.

Another change is increased use of pre and post clinical conferring to support student learning.

We have pre-clinical conferences on Monday to discuss students' objectives, care plans and assess their readiness for the learning process and have post clinical conferences on Saturday to discuss their plans, changes made and reasons for them, as well as feedback on my observations. During the weekend prepare care plans for their new patients and present them at the beginning of the week. I review the plans individually and give feedback to ensure that the care outlined by the students is related to the patients' conditions and can contribute to the recovery of their health.

## Perspective Transformation in Practice

The question to be asked is if the changes that have occurred are lasting. The final phase of Meizerow's theory is that the new world view is incorporated into every day practice. An example of how this has occurred is the program at a school directed by a MSNE graduate. Faculty meet with students prior to a clinical learning event to discuss what knowledge and skills are needed to provide care and post clinical conference is held to reinforce clinical learning. At this school, an additional step is taken. The students are required to submit a reflective journal the week after the clinical experience to discuss what they learned. While this activity was initially very challenging, now the students appreciate the learning. These changes are a huge step forward from the prior apprenticeship model of clinical learning.

## CONCLUSIONS

An important outcome of the MSNE program has been the perspective transformation of the graduates in their approach to teaching. Their approach to teaching has shifted from teacher centered to learner centered. The degree of change, of course, varies among the group. The effect on the MSNE students was also important. One stated "teaching is more meaningful and interesting now". As the graduates move out into leadership roles in the country, it is hoped that their new perspective on teaching will spread to their fellow faculty members. The perspective transformation that has occurred in the graduates of the MSNE program is an important step towards enhancing the professional practice of nursing and midwifery in Liberia.

Add Conflict of interest , Source of Funding , and ethical clearance just before the references and resubmit.

**Acknowledgement:** Special thanks to Edna Johnson, RN. PhD who developed and coordinated the MSNE program and Sister Barbara Brilliant. FMM, Dean of the College for providing the needed support for the program. A special thanks to the August 2012 and August 2013 MSNE graduates.

**Ethical Clearance:** There is no Ethics Committee at Mother Patern College of Health Science. All students

whose work was cited in the paper gave permission to use their work.

**Source of Funding:** Self

**Conflict of Interest:** Nil

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# Assessment of Knowledge and Practices Regarding Osteoporosis and its Prevention among Women Attending Orthopedic OPD at GGS Medical Hospital, Faridkot, Punjab

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## ABSTRACT

**Aim:** This study is intended to assess the knowledge and practices regarding osteoporosis and its prevention among women attending orthopedic OPD at GGS Medical Hospital, Faridkot, Punjab.

**Material & method:** A descriptive approach with cross-sectional descriptive survey research design was adopted and total 100 women were purposively recruited for the present study. An interview schedule was prepared and socio demographic profile, knowledge questionnaire and self reported osteoporosis preventive practices scale were used to assess the knowledge and practices respectively.

**Results:** The findings revealed that majority (83%) had average knowledge regarding osteoporosis and its prevention. In preventive practices, majority (74%) had inadequate physical activity. All most (100%) were taking moderate diet. Regarding medical checkup and follow up majority (98%) had inadequate medical checkup and follow up

**Conclusion:** The study concluded that majority of women had some knowledge regarding osteoporosis and they were not taking appropriate preventable measures to prevent osteoporosis.

**Keywords:** Osteoporosis, Knowledge, Preventive Practices

## INTRODUCTION

Osteoporosis means 'porous bones'. The two Greek words which make the term osteoporosis are "osteon" which means bone and "poros" which means pore, is a progressive bone disease that is characterized

by a decrease in bone mass and density which can lead to an increased risk of fracture. In osteoporosis, BMD is reduced, bone micro architecture deteriorates, and the amount and variety of proteins in bone are altered<sup>1</sup>.

Osteoporosis is known as the silent disease as it is often not diagnosed until an individual presents with a low impact fracture. Early osteoporosis is not usually diagnosed and remains asymptomatic. Loss of bone density occurs with advancing age and rates of fracture increase markedly with age, giving rise to significant morbidity and some mortality<sup>2</sup>.

Osteoporosis is a global public health problem currently affecting more than 200 million people worldwide. In the United States alone, 10 million people have osteoporosis, and 18 million more are at risk of developing the disease, which can lead to fractures and other complications.

Osteoporosis is a major risk factor for fractures of the hip, vertebrae, and distal forearm. Hip fracture is the most detrimental fracture, being associated with 20% mortality and 50% permanent loss of function<sup>3</sup>.

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According to the National Institute of Arthritis and Musculoskeletal and Skin Diseases (USA), osteoporosis statistics show that 68 percent of the 44 million people at risk for osteoporosis are women. One of every two women over age 50 likely to have an osteoporosis related fractures in their lifetime. That's twice a rate of fracture in men; one in four.75 percent of all cases of hip osteoporosis affects women<sup>4</sup>.

This silently progressing metabolic bone disease is widely prevalent in India and osteoporotic fractures are a common cause of morbidity and mortality in adult Indian men and women. One in two women and one in eight men over the age of 50 will suffer an osteoporotic fracture.

Eighty percent of people who suffer osteoporosis are women. With the onset of menopause, rapid bone loss occurs which is believed to average approximately 2–3% over the following 5–10 years, being greatest in the early postmenopausal years.

A study conducted on 200 premenopausal and postmenopausal women in PGIMER Chandigarh, to assess the prevalence of osteoporosis found that the prevalence of low BMD was in more than half of this population (53%)<sup>5</sup>.

A community based cross sectional study was conducted in semi urban region of southern India illustrated that the prevalence of osteoporosis in postmenopausal women was 48% at the lumbar spine, 16.7% at the femoral neck, and 50% at any site. The mean dietary calcium intake was much lower than the recommended intake for this age-group<sup>6</sup>.

Researcher strongly felt that since the women are at higher risk and majority is unaware about this silent killer, imparting knowledge can prevent osteoporosis to certain extent. The need for prevention of this silent killer is must, as this has become the major life threatening disease in elderly. So, the researcher has chosen osteoporosis as the topic for study.

## **MATERIAL AND METHOD**

A descriptive approach and a cross-sectional descriptive survey research design was adopted for the present study and 100 women who were in the age group of 40 years and above attending orthopedic OPD at GGS Medical Hospital, Faridkot, Punjab were purposively selected for the present study. An interview schedule including three research tools was prepared i.e socio demographic profile, knowledge

questionnaire and self reported osteoporosis preventive practices scale were used to assess the knowledge and practices respectively. The socio demographic profile consist of 17 items such as age, educational status, marital status, habitat, occupation, life style pattern, total monthly income, food pattern, history of taking calcium supplement during/after pregnancy, history of fracture, menstrual history, history of taking steroids, number of children, duration of breast feeding to children, approximate sun exposure in a day, source of knowledge regarding osteoporosis. Knowledge questionnaire consists of 28 items related to knowledge regarding osteoporosis which includes concept, risk factors, sign and symptoms and prevention of osteoporosis. Self reported osteoporosis preventive practices scale consists of three parts related to preventive practices which include physical activity, diet and medical checkup and follow up.

Ethical approval for the study was taken from the college and university. A written permission for conducting pilot study and final study from medical superintendent at GGS Medical Hospital, Faridkot was taken before conducting the study.

## **FINDINGS**

- 1) Assessment of knowledge regarding osteoporosis and its prevention among women attending orthopedic OPD at GGS Medical Hospital, Faridkot, Punjab:- The findings of the present study revealed that majority of (83%) subjects had average knowledge regarding osteoporosis and its prevention and only (11%) had good and rest (6%) had poor knowledge.(Table no. 1)
- 2) Assessment of the practices regarding osteoporosis and its prevention among women attending orthopedic OPD at GGS Medical Hospital, Faridkot, Punjab.
  - a) Frequency and percentage distribution of subjects as per their physical activity to prevent osteoporosis: - Results revealed that majority of (74%) the subjects had inadequate physical activity i.e <150 min/week where as only (26%) of subjects had adequate physical activity.
  - b) Frequency and percentage distribution of subjects as per their diet to prevent osteoporosis: - Results revealed that most of (100%) subjects were taking moderate diet to prevent osteoporosis.

- c) Frequency and percentage distribution of subjects as per their medical checkup and follow up to prevent osteoporosis: - Majority of (98%) subjects had inadequate medical checkup and follow up whereas only (2%) of subjects had adequate medical checkup and follow up.
- 3) Association of knowledge and practices regarding osteoporosis and its prevention with selected demographic variables: - There is significant association of knowledge score with source of knowledge. Physical activity is statistically associated with age, educational status, habitat and source of knowledge and there is statistical association of medical checkup and follow up with education, occupation and source of knowledge at  $p < 0.05$ .

### DISCUSSION

The present study showed that majority of subjects (83%) had average knowledge regarding osteoporosis and its prevention, followed by (11%) had good and (6%) had poor knowledge. This is supported by a cross sectional survey which was conducted by Saneya A Wahba, Maysa S Tawheed et al (2010)<sup>7</sup> and results revealed that 88% were aware about osteoporosis and only 12% were unaware about osteoporosis.

Present study found that majority of the subjects (74%) had inadequate physical activity and (26%) of subjects had adequate physical activity. This was supported by Gomez Cabello A, Casajus JA et al (2012)<sup>8</sup> conducted a systematic review and revealed that multi-component exercise programmes of strength, aerobic, high impact and/or weight bearing training help to increase or at least prevent decline in bone mass with ageing, especially in postmenopausal women.

As per diet, majority of subjects (100%) were taking moderate diet to prevent osteoporosis. This finding was supported by Jha M. Ruchira, Mithal Ambrish et al (2010)<sup>9</sup> who revealed that increased activity, exercise, calcium and vitamin D supplements, almonds, fish, paneer (cottage cheese), curd (plain yogurt), and milk had protective effect. However, tea and other caffeinated beverages were significant risk factors for hip fracture. On the contrary, Porthouse Jill, Cockayne Sarah et al (2005)<sup>10</sup> reported that there was no evidence that calcium and vitamin D supplementation reduces the risk of clinical fractures in women with one or more risk factors for hip fracture.

Present study showed that maximum number of subjects (53%) was found in age group 40-50 years with mean age  $50.97 \pm 8.48$  which is supported by a study conducted by Aggarwal Neelam, Raveendran Ainaran et al (2011)<sup>5</sup> concluded that out of 200 peri and post menopausal women more than half (53%) with mean age  $52.50 \pm 5.94$  were having low BMD.

### CONCLUSION

Osteoporosis is a preventable disease. Through appropriate education and lifestyle changes, the incidence of osteoporosis can be reduced. In India most of the young adult women lack adequate knowledge regarding risk factors for osteoporosis and practices regarding preventive health behaviors. In the present study majority of the study subjects had average knowledge regarding osteoporosis and its prevention. Most of the study subjects had inadequate physical activity, almost all the subjects were taking moderate diet. Majority of the subjects had inadequate medical checkup and follow up.

**Table no. 1: Frequency and percentage distribution of subjects as per knowledge score regarding osteoporosis**

N=100

Level of knowledge*	Frequency (n)	Percentage (%)
Poor	06	06
Average	83	83
Good	11	11

\* Mean  $\pm$  SD = 16.6  $\pm$  3.68

**Acknowledgment:** The author acknowledge the study subjects who cooperated to conduct the study without which this study would not have been possible.

**Conflict of Interest:** None

**Source of Funding:** Nil

**Ethical Clearance:** Ethical approval for the study was taken from the college and university. A written permission for conducting pilot study and final study from medical superintendent at GGS Medical Hospital, Faridkot was taken before conducting the study

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# Evaluate the effectiveness of Health -Education Programme on Cervical Cancer among the Married Women

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## ABSTRACT

Cervical cancer is curable - almost half of all cancers are curable cancer, more than 75% of the cancers prevalent in India, are preventable in nature. Early diagnosis is the key. While people's awareness of signs and symptoms of cancer helps in early detection and potential treatment, Implementation of certain screening methods recommended based on age, sex and known risk factors are of paramount importance in this area. Towards this goal the present study is "A study to evaluate the effectiveness of health education programme on cervical cancer residing at Kadalu Village, Hassan - deals essentially the role of health -education programme on risk factors, signs and symptoms, early - detection and prevention of cancer cervix.

**Effectiveness:** refers to the extent at the which the knowledge level is improved.

**Health- Education programme:** It is a structure teaching programme consisting of definition causes, pre-disposing factors signs and symptoms, treatment and prevention about cervical cancer.

**Cervical Cancer:** Cervical cancer is the abnormal growth of the lining of cervix, which is the neck of the uterus.

**Married Women:** A female who is married living with her husband introduction (or) back ground.

**Keywords:** 1. Cervical cancer, 2. Health - education programme, 3. Pre-test, 4. Post - test, 5. Effectiveness, 6. Level of Knowledge, 7. Intervention

## INTRODUCTION

Cancer is a worldwide problem. There is an increasing incidence of cancer both in developed and developing countries, as it is one such disease which has both public fear and concern cancer in all forms is causing about 12% of death throughout the world (K.Park)<sup>1</sup>. The magnitude of the problem of cancer in India can be succinctly described as one of explosive dimensions. In the last two decades alone, the number of cancer patients in the country has tripled. Thus India has the maximum number of cancer patients among all developing countries. One in every 14 Indian is at risk of developing cancer; more than 15 million people suffer from cancer at any point of time in India,

(Anandhi)<sup>2</sup>. The world wide literature report that more than 50% of patients with cancer of cervix before the age of 50 years. Even though cancer screening has become prevalent with an aim of early diagnosis and treatment about 60% of patients still present with advanced stage <sup>3&4</sup>.

## MATERIALS AND METHOD

The analysis and interpretations of data of this study are based on data collected through interview schedule (structured interview schedule) of a group of women (n=50) in order to assess the effectiveness of a health -education programme on knowledge regarding cervical cancer. The results were computed

using descriptive and inferential statistics based on the objectives of the study. The data collected were entered into a master sheet for tabulation and statistical processing statistical tables were constructed in order to interpret the data mean and standard deviation of the knowledge scores, were computed before and after intervention tested statistically with the help of paired 't' test. and also the percentage knowledge score out of the total score, assigned to various assignment variables was computed to see the comparative

percentage scoring before and after intervention. Diagrams and chart were also drawn wherever necessary to substantiate the most salient factors.

### Comparison of knowledge scores before and after intervention

Analysis of before and after intervention knowledge scores of participants are presented in the table. Mean  $\pm$ SD of knowledge scores of before and after intervention and the level of significance.

**Mean + SD of Knowledge scores of before and after intervention and the level of significance**

Assessment Variables	Pre Test		Post Test		T Value	P Value
	Mean	SD	Mean	SD		
General Information about cancer	1.92	1.23	3.78	0.91	8.27	P<0.001
Knowledge regarding cervical cancer	12.06	2.87	27.64	2.5	27.03	P<0.001
Total knowledge score	13.98	3.25	31.42	2.53	29.53	P<0.001

The knowledge regarding various aspects of cancer cervix were gathered and analyzed by scoring technique. The important aspect covered includes general information about cancer, knowledge regarding cancer of cervix (risk factors, signs and symptoms, early detection and prevention).

It was observed that there was two fold increase in the knowledge level after intervention in all the assessment variables. As regards to general information about cancer the mean score prior intervention was only 1.92. It increased to 3.78 after the health education programme. The increase in knowledge regarding cervical cancer was also remarkable. (the mean score increased to 27.64) from 12.06. Invariably in all cases the paired "t" test was statistically highly significant. ( $p < 0.001$ )

In otherworld it is re inferred that the intervention was very much effective in increasing the knowledge level regarding cancer cervix. It was also attempted to see the effectiveness of intervention over the total knowledge score. During the pre-test the total knowledge score was only 13.98, which has increased to 31.42 after intervention. In this case too the improvement noted was highly significant.

### FINDINGS OF THE STUDY

Majority of the participants (44%) were in the age group of 30 or less than and (32%). Were in 31 – 40 years of age –group the remaining 24% belonged to < 40.

Majority of women (48%) had 2 children 2% had only 1 child.

More participants 62% were literate, 38% were illiterate. All of the subjects are belongs to Hindu religion. Majority of women 46%, were given birth to two children 32% were given birth to more than two children 22% were given only one child. Majority of the women 54% got married at the age of 16-20 yrs 44% got married at the age of 20-30 years 2% got married at the age of more than 30.

### Finding related to effectiveness of health education programme

Selected participants had inadequate knowledge on risk factors signs and symptoms, early detection and prevention of cancer cervix.

Health education programme increased the knowledge score of the participants regarding cancer cervix related to risk factors signs and symptoms early detection and prevention. The mean percentage of knowledge, score all the two sections of assessment variables was 33.08 only. As regards general information about cancer the pre test mean score was 1.92. The mean pre test knowledge scores regarding cervical cancer were 12.06 only.

The mean percentage of post test knowledge scores in all the two sections of assessment variable was 31.42 after intervention. Regarding general information about cancer has increased to 3.78.

## DISCUSSION/CONCLUSION

The following conclusion were drawn from the findings to the study. Majority of the participants were in the age group of 16-20 years they were literate.

The participants had inadequate knowledge in all two areas related to cervical cancer, which indicated the need for learning more about the same.

The health education programme was found to be a much effective method in terms of creating awareness regarding risk factors, signs and symptoms early detection and prevention of cervical cancer.

### Implication

The findings of the study have some implications for individual's society as a whole the health care system in general and in nursing practice and education in particulars. The findings imply that women need to be educated in identifying the risk factors, signs and symptoms early detection and prevention of cancer cervix.

Prevention is the key factor in health endeavor. Personal responsibility for adopting a health life style assumes added importance. Positive health behaviour is the conscious effort by an individual to an actively maintain her health and that of others.

Nurses serve as facilitators in creating awareness among women. Who are in the community to taking preventive measures in order to reduce the prevalence of gynecological cancers. This may be possible by motivating the women, through health education to adopt a healthy life style and by creating a better awareness of risk factors of cervical cancer. Nurses should be prepared to take leadership role in educating the female population on these factors. The health administrators at the local, state and national levels should focus their attention to make the public conscious about the harmful effects of practicing unhealthy life style which attract many of female population mass media may be utilized to educate the women. A comprehensive Intervention like Health education programme can be accomplished with little cost and scanty requirements of health care resources.

### Implication in Nursing Re-Search

Teachers can direct and motive the nursing researches, so that instructional material in the same and different specialty can be developed so that professional independence can be achieved.

Administrators should orient the staff about importance and need for nursing research.

## RECOMMENDATION

**The following recommendation was made on the basis of the findings of the present study**

1. A similar study can be conducted on a larger sample, there by findings can be generalized.
2. A follow up study may be conducted to evaluate the effectiveness of Health education programme on risk factors signs and symptoms early detection and prevention of cancer cervix.
3. Pap smear campaigns of women above 30 can be arranged by government health department.
4. In service training programme should be conducted for nurses and other health personnel who are responsible for the health care.
5. The material can be videotaped and can be encouraged in outpatient departments of hospital and primary health centre.
6. Health information regarding cancer cervix can be given to others by

### Talks

- Women's organization
- Voluntary organizations
- Public

### Classes

- Schools and colleges
- Anganwadi workers (I CDS)
- Premarital courses

### Articles

- Weekly (or magazines)
- News papers

### Radio Talks

### Pamphlet To

- Patients
- Public

**Television Programme**

**Ethical Clearance:** Ethical clearance obtained from study participant and consent authority

I express my utmost gratefulness to the almighty for the blessings, unseen presence, courage and strength throughout this study.

**Conflict of Interest:** Ni

**Source of Funding:** Self

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# An Exploratory Study to assess the Level of Stress and Associated Factors among Parents of Children with Thalassemia in Pediatric Unit at Selected Hospitals of Punjab, 2014

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## ABSTRACT

An Exploratory study was conducted on parents of children with thalassemia in selected hospitals of Punjab. The study comprised of 150 parents selected by purposive sampling technique. Data was collected by using Socio-demographic variables sheet and Modified perceived stress Scale to assess the level of stress and checklist to assess the factors affecting stress. The results shown that Majority of the parents 139 (92.67%) had moderate level of stress and minority of parents 11 (7.33%) had severe level of stress and Miscellaneous factors that were 71.33%, most responsible factors affecting stress which comes under 1st rank whereas social factors that were 18.16% is least responsible factor for affecting stress among parents of thalassemic children which comes under 4th rank. As per item analysis of factors in social factors the second statement (Do you hesitate to share feelings with your friends about your child's condition?) had more response it is 72(66.05%). The study concluded that the parents need more awareness and education about thalassemia to deal with their child's critical condition.

## Objectives

1. To assess the level of stress among parents of children with thalassemia.
2. To explore the factors affecting stress among parents of children with thalassemia.
3. To find out the association between the factors affecting stress among parents of children with thalassemia with selected socio-demographic variables.

## Methodology

**Design:** Non experimental, exploratory design (descriptive design)

**Setting:** Paediatric Units of selected hospitals of Punjab

**Population:** The parents of children with thalassemia

**Sample size:** The sample of the study consisted of 150 parents of children with thalassemia

**Sampling techniques:** Purposive Sampling Technique

**Results and conclusion:** The findings of the study has shown that out of 150 samples majority of parents 139(92.67%) had moderate stress and 11(7.33%) had severe stress and due to associated factors of stress, findings reveals that, Miscellaneous factors that are 71.33% falls in rank 1st and it is most responsible factor affecting stress whereas Social factors that are 18.16% falls in 4th rank. So it is less responsible factor for affecting stress among parents of thalassemic children.

**Keywords:** Thalassemia, Level of Stress, Factors Affecting Stress, Parents of Thalassemia Children

## INTRODUCTION

A genetic disorder can occur in two ways: one or both parents have a defect in their own genetic material which is then inherited, or a mutation occurs during the formation of the egg or sperm cell.<sup>1</sup> Thalassemia is most common single gene disorder in the world and represents a major stress worldwide. It is a heterogeneous disorder recessively inherited resulting from various mutations of the genes which code for globin chains of haemoglobin, leading to reduced or absent synthesis of globin chains and when beta chain is affected is called as beta thalassemia and when alpha chain is affected called alpha thalassemia. It is first described by Cooley and Ice in 1925 and the first case of beta thalassemia in India was reported by Dr. Mukherjee from Calcutta in 1938.<sup>2</sup> World Health Organization (2005) estimates 4.5% of the world population are carriers of hemoglobinopathies. Over thirty million people are carriers of thalassemia gene in India. Thousands of thalassemic children are born every year in India.<sup>3</sup> Hemoglobin contains two different kinds of protein chains named alpha and beta chains. Any deficiency in these chains causes abnormalities in the formation, size, and shape of red blood cells. There are two types of thalassemia: alpha-thalassemia and beta-thalassemia.<sup>4</sup> As there is no definitive cure for this disease, the majority exclusively depend on blood transfusions as a treatment option that creates a burden not only on health system but also on the affected families, who are vulnerable to, social, and psychological problems. Thalassemia is a disease which not only affects the patient but also leaves devastating psycho-social effects on the family of the patient. Most of the parents with Thalassemia traits do not know that they have been suffering from the disease. The disease is only discovered through special investigation of blood tests or when someone's detected to be patient of the disease.<sup>5</sup> Thalassemia challenges the children and their parents at the physical, emotional, cognitive levels and disrupts the quality of life. Its frequent and complex treatment might also lead to financial burden for the parents of children. Thus emotional distress, anxiety, fear, difficulties in dealing with feelings and the ensuing effects on normal family functioning are common problems in families with children who have thalassemia. Hence the families of patients with thalassemia must learn to deal with frequent hospital visits, resulting in a psychosocial burden. Recent

estimates revealed that more than 52 million caregivers are providing long term care in the home settings. Many caregivers have chronic health problems as a direct result of the stress or burden itself. Working caregivers reduce their work hours, take frequent leaves or absence, arrive late or leave early from their work setting and miss career opportunities. The caregiver must be recognized and supported by communities and the health care delivery system. Financial, emotional and hands-on help is needed to prevent stress on parents or caregivers.<sup>2</sup>

## MATERIAL AND METHOD

The main research study conducted among 150 parents of thalassemia children in Civil hospital Jalandhar, Civil hospital Ludhiana, GGS medical hospital Faridkot, Guru Nanak hospital Amritsar and Civil hospital Moga. The study was conducted on 150 parents of children with thalassemia in selected hospitals of Punjab. The Non-Experimental research design was selected to conduct the study. Purposive sampling technique was chosen to select the sample. Data was collected by using Socio-demographic variables sheet and Modified perceived stress Scale and checklist to assess the factors affecting stress. Collected data was analyzed by descriptive and inferential statistics.

## RESULTS

The first objective revealed that 92.67% parents had moderate stress whereas 7.33% parents have severe level of stress.

The second objective revealed that miscellaneous factors that are 71.33% falls in rank 1<sup>st</sup> and it is most responsible factor affecting stress whereas social factors that are 18.16% falls in 4<sup>th</sup> rank. So it is less responsible factor for affecting stress among parents of thalassemic children.

As per item analysis of factors in social factors the second statement (Do you hesitate to share feelings with your friends about your child's condition?) had more response it is 72(66.05).

The third objective revealed that there is no any association between factors affecting stress and socio-demographic variables.

## CONCLUSION

- The findings of the study has shown that maximum Out of 150 samples majority of parents 139(92.67%) had moderate stress and 11(7.33%) had severe stress.
- The findings reveals that, Miscellaneous factors that are 71.33% falls in rank 1<sup>st</sup> and it is most responsible factor affecting stress whereas Social factors that are 18.16% falls in 4<sup>th</sup> rank. So it is less responsible factor for affecting stress among parents of thalassemic children.
- There is no any significance between factors affecting stress with socio-demographic variables.

So, the present study was concluded that the parents of thalassemic children had moderate level of stress and many factors affecting stress related to thalassemia disease of their child.

## DISCUSSION

In this section the investigator interpretively discusses the results of the study. It is in the discussion, the researcher ties together loose ends of the study. The findings of the present study have been discussed according to objectives of research.

The study was conducted among 150 parents of thalassemia children in Civil hospital (Jalandhar), Civil hospital (Ludhiana), GGS medical hospital (Faridkot), Guru Nanak hospital (Amritsar) and Civil hospital (Moga).

**Objective 1:** To assess the level of stress among parents of children with thalassemia.

In the present study 139 (92.67%) parents had moderate stress and followed by 11(7.33%) parents had severe stress. None of them fall in mild stress.

The findings of the study was supported by A Pre-experimental study conducted by Masih A, Antony B, and M.K. Acharya (2011) on level of care burden among parents of thalassemia children in selected Hospitals, indore. The study indicated that 8(40%) parents had mild care burden and 7(35%) parents had moderate care burden, 5(25%) parents had severe care burden. None of them fall under none and extreme level of care burden.

**Objective 2:** To explore the factors affecting stress among parents of children with thalassemia.

In the present study the results revealed that Miscellaneous factors are more responsible factors, affecting stress that were 71.33%, followed by 68% were economic factors, 60% were hospitalization and 18.16% were social factors that were least responsible factors to affecting stress.

The findings of the present study is supported by A Pre-experimental study conducted by Masih A, Antony B, and M.K. Acharya (2011) on level of care burden among parents of thalassemia children in selected Hospitals, indore. Perform a study to explores the areas which were responsible for level of care burden. The structured interview schedule is used for data collection. The findings suggested that in daily activity area, majority of the parents 55% experienced moderate care burden, in physiological area majority of them 70% had mild care burden level , in area majority 55% reported mild care burden level, in social area majority 75% showed mild care burden level, in spiritual area 55% had no care burden level and in financial area 50% experienced no care burden level.

The findings of the study were also supported by the results of cross sectional study conducted by Prasomsuk S, Jetsrisuparp A, Ratanasiri T, Ratanasiri A (2007) on qualitative study to explore the lived experiences of mothers caring for children with thalassemia major in Thailand. The 15 mothers of children were interviewed by semi structured interview. Six themes were identified; lack of knowledge about thalassemia, psychosocial problems, concerns for the future, social support system, financial difficulty, and the effectiveness of healthcare services. The psychosocial problems were more affected to lived experience of mothers of thalassemic children.

**Objective 3:** To find out the association between the factors affecting stress among parents of children with thalassemia with their selected socio-demographic variables.

In the present study, selected socio-demographic variables were not significant with factors affecting stress among parents of children with thalassemia who came in pediatric unit at selected hospitals of Punjab.

The findings of the present study are not supported by any other study.

**Acknowledgement:** I want to express my gratitude especially to the medical superintendent of selected hospital of Punjab, who allowed me to conduct study and the subjects those who participated in the study. I



also want to thank my affectionate and adoring Parents, my lovely brother and my friends specially Mr Baljeet Toor, Ms. Rajbir kaur, Ms Jasroop kaur ,Ms Neha Kohli, for their constant support and encouragement.

#### **Ethical Clearance**

- Written permission from principal of S.G.L Nursing College Semi, Jalandhar was taken.
- Written permission from ethical clearance committee of S.G.L Nursing College Semi, Jalandhar was taken.
- Written permission from medical superintendent of selected hospitals of Punjab was obtained.
- Written consent from parents of children with thalassemia who participated in the study was taken.
- Confidentiality and Anonymity of samples maintained throughout the study.

**Source of Funding:** Self

**Conflict of Interest:** Nil

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# Written Emotional Disclosure Support to Alleviate Stress, Serum Cortisol and Intensify Quality of Life Outcome among Breast Cancer Patients

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## ABSTRACT

**Background:** Breast cancer is the most prevailing universal health problem occurring in female cancer in the world. Research gap exists with emotional support for breast cancer patients who had encountered with stress, elevation of serum cortisol slope and poor quality of life outcome.

**Objective:** The objective of this study was to examine the efficiency of Written Emotional Disclosure Support on stress, serum cortisol and quality of life outcome in breast cancer patients.

**Method:** Total 84 breast cancer patients were made to express their feelings and thoughts through written emotional disclosure followed by an informational support intervened by the researcher in Erode Cancer Centre at Erode. Pre experimental one group pretest and posttest design was selected for the present study. Proportionate stratification sampling was done based on I to IV stages of breast cancer in experimental arm.

**Results:** The study findings revealed that administration of Written Emotional Disclosure Support were highly significant to alleviate stress, slope down serum cortisol level and improve quality of life outcome among breast cancer patients.

**Conclusions:** The result shows the significant effectiveness of emotional support which helps the breast cancer patients for better prognosis followed by informational support.

**Keywords:** *Written Emotional Disclosure Support, Stress, Serum Cortisol, Quality Of Life Outcome, Breast Cancer Patients*

## INTRODUCTION

Effects of experimentally induced written emotional disclosure and benefit finding with a control condition on physical and psychological adjustment to breast cancer and also to test whether outcomes varied as a function of participant's cancer-related avoidance <sup>1</sup> Expressive writing, focusing the instructions on writing about one's living and dealing with a diagnosis of breast cancer is recommended for early breast cancer survivors as a feasible and easily implemented treatment approach to improve quality-of-life <sup>2</sup>

The reporting of stress at baseline might take place around the time of diagnosis among breast cancer patients. The relation between stress and breast cancer risk could also have a hormonal basis, since stress-induced disruption of the functions of the neuroendocrine axes. Future studies are needed to confirm these findings and further researchers could explore the potential role of an individual's stress marker and psychological coping styles in mediating or modifying the effects of stress due to the diagnosis of breast cancer.

The context of the diagnosis of breast cancer is an important one and of all the points along the cancer trajectory, it has received the least research study. In objectivity cortisol has long been regarded as a core concept in understanding stress with significant research study. Regarding stressful circumstances, those patients with higher symptom stress are particularly burdened. Beyond the adverse effects of symptoms on their quality of life, high symptom stress may also lead individuals to behave in ways which make the situation worse.

The observed benefits exceeded the threshold for clinically significant differences in overall quality of life after treatment in breast cancer patients. The promising findings of previously reported emotional support focused nurse directed intervention consequently although demonstrated improved quality of life over time Further research is needed to examine the differential effects for all comers versus at risk patients and to compare the benefits of verbal versus written and telephone emotional support. Selecting for very poor quality of life and longer term follow up will be necessary to examine the generalizability of the findings and to deepen the understanding of this promising emotional support to fill the research gap and draw evidence based practise in nursing.

Emotional support offers a total confidential environment in which the breast cancer patients can build a relationship to explore the problems, understand them, come to terms with them or resolve them. The role of Emotional Support is to build an alliance with one person, a two-way collaborative exchange that enable one to explore the situation, what's behind it or causing it, identifying what can be done and supporting one through decision making.

There have been an inadequate number of research studies with emotional supportive nursing interventions for breast cancer patients in India and these interventions have not been well defined. It is extremely important for psychiatric nurses to take an active role in the development and implementation of emotionally supportive interventions to help breast cancer patients' stress adaptation and to improve their quality of life.

## **METHOD**

A total of 84 breast cancer patients, who had fulfilled the inclusion criteria like tumour in the clinical stage of I to IV and with telephone access were recruited and enrolled in the study in Erode Cancer Centre at Erode. Women diagnosed with breast cancer having hearing impairment and with mental illness were excluded from the research work. The conceptual framework was established on Wiedenbach's Helping art and clinical Nursing theory (1969).

The proposed study was conducted after the approval of Institutional Human Ethical Committee clearance from Saveetha University at Chennai. The written permission was obtained from the chief medical officer, Erode cancer centre at Erode to conduct the study. Written informed consent of each participant was obtained before collecting the baseline data. Assurance was given to the participants that confidentiality and anonymity would be maintained throughout the study.

Pre experimental one group pretest and posttest design was adopted as the blue print for the present study. Proportionate stratification sampling was done based on I, IV stages of breast cancer in experimental arm. Participants were assigned randomly to experimental arm so that the groups were balanced evenly according to the stages of breast cancer through propensity matching.

The participants were interviewed before the intervention by using the demographic profile like age, education, occupation, work pattern, family monthly income, type of family, religion, residence, family history of breast cancer and history of bad habits. The level of stress was assessed by P.Herschbach Questionnaire on Stress in Cancer Patients (QSC-R23). In vitro Cytometry method was used to measure the level of Serum cortisol with 10 breast cancer patients in each arm during evening at 18 hour. QOL instrument -Breast Cancer Patient Version was used to determine the quality of life outcome.

After pretest experimental arm participants received Written Emotional Disclosure Support which comprises of one to one session conducted in a private room. The session schedule were as follows

Session	Treatment
I	Introduction: Creating trust worthy relationship by explaining the purpose and method of intervention.
II	<b>Psychosomatic complaints:</b> Encouraging the participants to ventilate feelings and thoughts regarding psychosomatic problems such as pain, sleeplessness, tiredness and sexual problems followed by informational support on the ways to overcome it was administered by the researcher.
III	<b>Fear:</b> Encouraging the participants to verbalize feelings and thoughts regarding inner fear about the breast cancer followed by informational support in order to relieve from fear.
IV	<b>Information Deficits:</b> Encouraging the participants to ventilate feelings and thoughts by expressing previous information on breast cancer and its treatment followed by informational support on breast cancer was provided.
V	<b>Everyday Life Restrictions:</b> Encouraging the participants to ventilate feelings and thoughts about the problems with everyday life activities such as sports, movie, hobbies followed by informational support to engage in relaxing activities.
VI	<b>Social Strains:</b> Encouraging the participants to ventilate feelings and thoughts regarding the social problems and relationships followed by informational support to strengthen the social support.
VII	<b>Spiritual well being:</b> Encouraging the participants to ventilate feelings and thoughts about the problems with spiritual wellbeing such as prayer, meditation followed by informational support to overcome it.

The duration of treatment was 30-45 minutes twice in a week for one month. Posttest was conducted by using the same assessment techniques after the follow up treatment for the period of 1 month. Descriptive, inferential and nonparametric statistical analytic method was used to analyze and interpret the data.

## RESULTS

In experimental arm age wise like more (50%) was observed above 55 years, slight more (38%) were between 36 and 55 years and slightly less (12%) were below 35 years. Educational status showed that the highest (51%) of them were higher secondary holders, (26 %) were graduates and (23%) were secondary schoolers. Occupation revealed highest (71%) were employed and (29%) were unemployed. More (45%) were moderate workers, (37%) were heavy workers and only (18%) were sedentary workers. Family monthly income stated the highest (81%) earned above Rs.3000, least (19%) earned below Rs. 3000 in experimental arm. Experimental arm represented utmost (75%) were from nuclear family, least (25%) were from joint family. Mid experimental arm presented with maximum (58%) were Hindu, (24%) were Christian and minimum (18%) were Muslim. On notification experimental arm exhibited more (57%) from urban area, less (43%) from rural area. Very many (98%) had no family history of breast cancer; fewer (2%) had family history of breast cancer. Likewise (85%) had no bad habits and only (15%) had bad habits in experimental arm.

Experimental arm all along before intervention by the whole of 84 subjects 15 (18%) realized mild stress level, 41 (49%) participants appreciated moderate stress level and 28 (33%) experienced severe stress. In the course of after intervention experimental arm

illustrated 25 (30%) perceived mild stress, 45 (53%) participants experienced moderate stress level and 14 (17%) were observed with severe stress.

Serum cortisol slope was measured in experimental arm before treatment from 10 subjects, 1 (10%) reported with mild elevation, 6 (60%) participants were noted with moderate elevation and 3 (30%) marked severe elevation. After treatment experimental arm depicted 1 (10%) participant with mild elevation of serum cortisol, 8 (80%) measured with moderate elevation and 1 (10%) marked with severe elevation of cortisol slope.

Data presented that during pre intervention by the whole of 84 participants none reported with best quality of life outcome in experimental arm. Besides poor quality of life outcome was demonstrated by 53 (63%) participants although 31 (37%) showed worst outcome. As long as post intervention reported none with best outcome, while 66 (79%) showed poor quality of life outcome and 18 (21%) revealed worst outcome.

Correspondingly comparison between mean, standard deviation and standard error concerning pretest stress scores with experimental arm, marked the mean score with 68.29, +13.60 and standard error score was 1.48 moreover posttest mean, standard deviation and standard error scores were 54.45+11.88 and 1.29 respectively.

Conclusion drawn contingent with significant difference between pretest and posttest stress mean scores with Written Emotional Disclosure Support, found to be effective to alleviate stress level.

Respective comparison between mean, standard deviation and standard error concerning pretest serum cortisol scores with experimental arm, marked the

mean score with 23, +6.46 and standard error was 1.95, moreover posttest mean, standard deviation and standard error scores were 20.1+6.19 and 1.87 respectively.

Culmination drawn contingent with significant difference between pretest and posttest serum cortisol mean scores with Written Emotional Disclosure Support, found to be effective to reduce serum cortisol level.

Comparison between mean, standard deviation and standard error concerning pretest quality of life outcome scores with experimental arm, marked the mean score with 69.98, +13.11 and standard error was 1.43, moreover posttest mean, standard deviation and standard error scores were 75.69+13.08 and 1.42 respectively.

Significant difference was observed between pretest and posttest quality of life outcome mean scores with Written Emotional Disclosure Support, found to be effective to improve quality of life outcome.

Equating the paired t test value of stress scores evidenced distinct clinical significance ( $p < 0.05$ ) with experimental arm (7.32). Compatible paired t test value of serum cortisol scores manifested distinct clinical significance ( $p < 0.05$ ) with experimental arm (4.01). Paired t test value commensuration on quality of life outcome scores evidenced distinct clinical significance ( $p < 0.05$ ) with experimental arm (9.43).

Association was found between posttest stress scores and occupation ( $\chi^2=7.35$ ), family history of breast cancer ( $\chi^2=9.19$ ) in experimental arm. Likewise association was determined between posttest quality of life outcome scores and occupation ( $\chi^2=9.85$ ) with experimental arm.

## DISCUSSION

Almost (50%) were noted above 55 years in experimental arm, this finding is anchored by the study findings of Annette, L., Stanton, et.al., (2002) with early stage of breast cancer patients who had a mean age of 49.53 years (SD, 12.16 years; range, 21 to 76 years).

Foremost (51%) were higher secondary holders in experimental arm, likewise Paivi Salonen, Marja Terttu, Tarkka, et.al., (2009) <sup>3</sup>stated that most women had a professional education.

Occupation revealed almost (71%) were employed in experimental arm and it is supported by the research

conducted by Annette, L., Stanton, et.al., (2002) <sup>1</sup>who revealed that 68% of breast cancer patients were employed outside the home.

Experimental arm II all the while before intervention by the whole of 84 subjects 41 (49%) participants appreciated moderate stress level and after intervention 45 (53%) participants experienced moderate stress level. This finding is consistent with the study findings of Sehlen, S., Hollenhorst, H., et.al., (2003) <sup>4</sup>who proved significantly higher level of stress between pretest and follow up care at 6 weeks.

Serum cortisol slope was measured in experimental arm before treatment from 10 subjects, 6 (60%) participants were noted with moderate elevation and after treatment 8 (80%) subjects were measured with moderate elevation of cortisol slope and the conclusion is backing the research findings of Cruess, DG., Antoni, MH., McGregor, BA., Kilbourn, KM., Boyers, AE., Alferi, SM., Carver, CS., Kumar, M., (2000) <sup>5</sup>who stated that intervention participants showed increased benefit finding and reduced serum cortisol levels whereas control subjects experienced no change.

Statistical analysis during pre intervention by the whole of 84 participants 53 (63%) demonstrated poor quality of life outcome and besides post intervention 66 (79%) participants showed poor quality of life outcome in experimental arm. This result is consistent with Patricia, A., Ganz, Katherine, A., Desmond, Beth Leedham, Julia, H., Rowland, Beth, E., Meyerowitz, and Thomas, R., Belin, (2002) <sup>6</sup> revealed in a multivariate analysis that past chemotherapy was statistically significant predictor of a poorer current QOL ( $P = .003$ ), however past systemic adjuvant treatment was associated with poorer functioning on several dimensions of QOL.

Alike paired t test value of serum cortisol scores manifested distinct statistical significance ( $p < 0.05$ ) with experimental arm (4.01). This is consistent with the findings of Daniela, Fetter, Telles, Nunes, et.al., (2007) examined the effects of relaxation and visualization therapy (RVT) on psychological distress, cortisol levels and immunological parameters of breast cancer patients undergoing radiation therapy and concluded that the psychological intervention was capable to attenuate the emotional distress presented during radiation therapy.

Association was determined between posttest quality of life outcome scores and occupation ( $\chi^2=9.85$ ), while no association was demonstrated

between posttest quality of life outcome scores and age ( $\chi^2=1.58$ ), education ( $\chi^2=0.59$ ), work pattern ( $\chi^2=2.90$ ), family monthly income ( $\chi^2=2.05$ ), type of family ( $\chi^2=0.04$ ), religion ( $\chi^2=0.96$ ), residence ( $\chi^2=0.04$ ), family history of breast cancer ( $\chi^2=0.51$ ) and history of bad habits ( $\chi^2=0.28$ ) with experimental arm. Result is supported by Kannan, K., Kokiwar, Prashant, R., Jogdand, Gopal Rao, S., (2011)<sup>7</sup> proved that the overall QOL was low among breast cancer patients and association was found with occupation.

### CONCLUSION

The conceptual framework was established on Wiedenbach's Helping art and clinical Nursing theory (1969). Identification of stress, serum cortisol and quality of life outcome aided the researcher in ministration of Written Emotional Disclosure Support. This theory supported the researcher in planning and executing the present study in phased manner. Further nurses should gain deeper insight on underlying cognitive, affective and conative processes which are involved in disclosure to identify the most effective manner of written emotional disclosure support.

**Acknowledgment:** The author expresses hearty gratitude for the exuberant guidance and support rendered by Dr. C. Susila, Principal, Billroth College of Nursing, Chennai and also appreciates the obligation by the Erode Cancer Centre.

**Conflict of Interest Statement:** Conflict of interest does not exist with the author, author's institution or with financial relationships.

**Statement of Informed Consent:** Prior to the study written informed consent was obtained from the subjects. Funding source was not obtained for the manuscript writing.

**Statement of Human Rights:** The data collection methods followed was in accordance with the ethical standards of the responsible committee on human experimentation.

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