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# Perceived Public Image of a Nurse and Work Meaningfulness among Nurses

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## ABSTRACT

**Background:** Despite remarkable developments in the profession, nurses are viewed as physician-dependent professionals with restricted career opportunities. Their humane services are barely acknowledged which could influence the meaningfulness of their work.

**Aim:** The aim of the study was to find the relation between perceived public image and work meaningfulness among nurses.

**Method:** In a quantitative cross-sectional survey design, data was gathered using work and meaning inventory (WAMI) and Porter Nursing Image Scale (PNIS) from nurses (n =163) employed in the government sector.

**Main findings:** The data show a significant relation between perceived public image of a nurse and work meaningfulness, between interpersonal power and interpersonal relations of a nurse and work meaningfulness. Area of work influenced work meaningfulness, qualification influenced perceived public image and the interpersonal relation, and marital status influenced interpersonal power.

**Managerial implications:** Public feedback and recognition of nursing profession favour recruitment and retention of individuals into this viable career. Nurse leaders should consider strategies to enhance nurses' morale and experience of their work.

**Keywords:** Nurses, Perceived public image, Work meaningfulness.

## INTRODUCTION

Meaningful work is defined as challenging work leading to a sense of achievement for self and making a difference in other person's life <sup>[1]</sup>. Meaningful work is also described as just and dignified work <sup>[2]</sup>. Martela <sup>[3]</sup> defined meaningful work as the work which offers a worker positive significance in life. Meaning is an significant variable in predicting work attitudes and behaviour such as satisfaction, engagement and performance <sup>[4][5]</sup>. Engagement in meaningful work brings about satisfaction and commitment at work <sup>[5]</sup>.

Quests for meaning in life are abstract and we live amidst demanding jobs, time pressures, and repetitive tasks <sup>[4]</sup>. Meaningful work is positively related to certain job characteristics and some varieties of work are felt as more meaningful compared to others. Such is a case among fire-fighters or a nurses where one doesn't have to contemplate much about the work meaningfulness as their experience of saving lives of others is felt as meaningful <sup>[3]</sup>. Nursing profession has paved through remarkable developments. However, research show that nurses perceive and in reality receive minimal recognition from public as well as media <sup>[6]</sup> which impacts their work meaningfulness.

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The stereotypical public image of nursing professionals is a major concern for nurses worldwide. Nursing images in accepted media often draw on stereotypes that can damage the potential students' appeal of nursing and defame status of the profession <sup>[7]</sup>. Nurses' current job perception can have negative

consequences for themselves (e.g. burnout) as well as for the profession (e.g. negative selection)<sup>[8]</sup>. Public feedback and recognition is greatly related to job satisfaction. Today, nursing profession is developing as a valuable public service. Focus should be towards retention of experienced nurses and attracting young individuals into the viable nursing career<sup>[9]</sup>.

Empirical research that investigates work meaningfulness is needed for greater understanding of the interplay between individual, organization and wider society and to understand the differences depending on the job characteristics. No studies have considered meaningful work experiences among nurses in relation to nurses' public image nor have considered factors such as type of employment or various areas of work in the health care industry. Hence this study aims at assessing the relationship between the perceived public image of a nurse and work meaningfulness among nurses and also finding the influence of the demographic variables on these two constructs.

## MATERIALS AND METHOD

This study was conducted using a quantitative approach in which 180 participants were conveniently selected from six clusters of nurses working in the different areas of the government sector in the state of Goa, India. A sample of 30 was selected from each of these clusters. Tools used for data collection include the demographic information guide (DIG), The work and meaning inventory (WAMI) developed by Sterger<sup>[5]</sup> which consists of 10 items which would be assessed on a five point scale from absolutely untrue (Score=1) to absolutely true (Score=5) and the score could range from 10-50. The Porter nurses image scale (PNIS) was developed by Porter and Porter<sup>[10]</sup> consisting of 30 adjectives describing a nurse on a semantic differential scale with seven point rating and the overall scores could range from a minimum of 30 to a maximum of 210. The PNSI has three sub area i.e. interpersonal power consisting of 13 items which describe the nurses' professional power (score range=13-91), the second area is the interpersonal relation which consists of 10 items (score range=10-70) and gives the description about the nurses interaction with the patient and patients' family and the third area consisting of 7 items (score range=7-49) highlight the intrapersonal abilities of a nurse. After informing the participants about the purpose

of the study, their written consent was obtained and confidentiality of their response was assured. The data collection tools were provided to the participants during their work hours and were collected back personally by the researcher after two days. One hundred seventy respondents returned the data filled tools back. However, only 163 responses (90.5%) were found to be complete and therefore used for analysis. Data were analysed using SPSS version 10.0.

**Data Analysis:** Data analysis was done using Windows SPSS version 10.0. Data were entered in the SPSS data base and assessed for consistency, completeness and missing values. Internal consistency of the tools was evaluated using Cronbach's alpha and the tools were found to be reliable (WMAI=.804, PNIS=.912). The data were analyzed using the descriptive statistics suitable for the scale of measurement. The relationships between work meaningfulness and perceived public image were evaluated using Pearson correlation coefficients and analysis of variance (ANOVA, Bonferroni) or independent K-tests (Kruskal-Wallis) were used to examine differences in group means for categorical variables and identify the association between the demographic variables and the main study variables, work meaningfulness and perceived public image.

## FINDINGS

### Section. I: Distribution of sample according to their demographic Variables

**Table I: showing frequency and percentage distribution of sample characteristics N = 163**

No.	Demographic Variables	Frequency	Percentage (%)
1.	<b>Age in years</b>		
	20-30	71	43.6
	30-40	47	28.8
	40-50	28	17.2
	50-60	17	10.4
2.	<b>Marital status</b>		
	Married	52	31.9
	Unmarried	111	68.1
3.	<b>Religion</b>		
	Christian	59	36.2
	Hindu	104	63.8

Conted...

4.	<b>Employment status</b>		
	Regular	134	82.2
	Contract	29	17.8
5.	<b>Qualification</b>		
	GNM	88	54
	B.Sc. N	75	46
6.	<b>Present rank</b>		
	Staff nurse	150	92
	Ward in-charge	13	8
7.	<b>Gender</b>		
	Male	15	9.2
	Female	148	90.8
8.	<b>Experience</b>		
	1-5 years	51	31.3
	5-10 years	37	22.7
	More than 10years	75	46

Conted...

9.	<b>Area of work</b>		
	Community	25	15.3
	Psychiatry	25	15.3
	Medicine	26	16.0
	Intensive care	30	18.4
	Maternal & child health	29	17.8
	Surgery	28	17.2

Data in Table I show that most (43.6%) of the sample were younger nurses (20-30) years of age), Majority were married (68.1), Hindu (63.8%), regularly employed (82.2%), diploma qualified (54%), females (90.8%), in the staff nurses rank (92%). Many of them had 1-5 years of experience (31.3%). In terms of area of duty the sample was almost uniformly distributed with a higher response rate from intensive care area (18.4%).

## Section II. Relationship between perceived public image and work meaningfulness

**Table II: showing relation between work meaningfulness and perceived public image and relation between work meaningfulness and sub scales of perceived public image. N = 163**

No.	Variables	Mean	SD	r	Significance
1.	Work meaningfulness	39.7730	5.4966		
2.	Perceived public image	140.5399	29.03877	.161*	Significant
3.	Perceived public image (IPR)	61.0307	12.31551	.177*	Significant
4.	Perceived public image (IPA)	45.0859	11.20923	.154*	Significant
5.	Perceived public image (IPP)	34.4233	8.82190	.086	Not Significant

Data in Table II show that nurses experienced much meaningfulness in their work (mean= 39.7730; range 16-49), and had positive perceived image of a nurse, (mean=140.5399, range= 60-210). There is a significant relationship between work meaningfulness and the perceived public image among nurses ( $r=.161$ ). There was a significant relationship between work meaningfulness and the subscales of perceived public image; Interpersonal power ( $r=.177$ ) and interpersonal relations, ( $r=.154$ ), but not with the subscale measuring intrapersonal ability.

## Section III. Association between demographic variables and the two major constructs; perceived public image and work meaningfulness

**Table III: Showing association between work meaningfulness and demographic variables N = 163**

No.	Demographic Variables	Chi-Square Value	df	Significance
1.	Age	.748	3	.525
2.	Gender	.080	1	.778
3.	Religion	.215	1	.643
4.	Marital Status	1.173	1	.279
5.	Employment Status	2.696	1	.101
6.	Area of work	2.674*	5	0.24*
7.	Qualification	2.774	1	.096
8.	Present Rank	1.319	1	.251
9.	Experience	.265	2	.767

\*Level of significance at  $P < 0.05$

Data in Table III show that there is a significant association between work meaningfulness and the area of work ( $X^2=2.674$ ;  $P=.024$ ). The experience of work meaningfulness among the sample in the community area (mean=42.2400; SD=4.675) is higher than the experience of sample in the area of maternal and child health (mean=37.5517; SD=5.61622).

**Table IV: showing association between perceived public image and demographic variables N = 163**

No.	Demographic Variables	Chi-Square Value	df	Significance
1.	Age	.893	3	.446
2.	Gender	.317	1	.574
3.	Religion	.258	1	.612
4.	Marital Status	2.625	1	.105
5.	Employment Status	.249	1	.618
6.	Area of work	1.119	5	.352
7.	Qualification	4.395*	1	.036*
8.	Present Rank	.098	1	.755
9.	Experience	1.463	2	.235

\*Level of significance at  $P < 0.05$

Data in Table IV show that there is a significant association between perceived public image and qualification ( $X^2=4.395$ ;  $P=.036$ ). The perceived public image among the diploma qualified nurses was more positive as compared to the degree qualified nurses.

**Table V: showing association between perceived interpersonal power and marital status and interpersonal relations and qualification N = 163**

No.	Demographic Variables	Chi-Square Value	df	Significance
1.	Perceived Interpersonal Power Marital status	4.277	1	.039*
2.	Perceived interpersonal relations Qualification	5.064	1	.024*

\*Level of significance at  $P < 0.05$

Data in Table V show that there was significant association between the sub area of perceived public image, i.e. interpersonal power and the marital status ( $X^2=4.277$ ;  $P<0.039$ ,  $df=1$ ), which indicate that married nurses perception of public view about them as having interpersonal power is stronger than the perceptions of unmarried nurses. Similarly, there was significant association between the sub area of interpersonal relations and qualification ( $X^2=5.064$ ;  $P<0.024$ ,  $df=1$ ), which indicate that the perception of diploma qualified nurses is more positive than the perception of degree qualified nurses. However, there was no significant association between the other demographic variables and neither interpersonal power, nor interpersonal relations nor intrapersonal ability.

## CONCLUSION

Meaningful work is a balance between the individual values and characteristics of work and both of these are influenced by organization and society. Organizations should aim at attracting and retaining proficient employees who having found meaningfulness in their work will be empowered to perform more productively. One of the ways to provide environment and meaningful work is in which employees can build up meaningful relationships. Meaningful work should support the solemnity of human beings and emphasize on the importance of employee autonomy. Identifying concerns and issues related to their public image of nurses and developing strategies towards its improvement will give way meaningful work outcomes for the profession, the organisation and the public. This study is limited to the nursing profession and nurses working in the government sector. Future research recommendations are to find the mediation role of work meaningfulness between public image and other employee behaviours such as job performance, citizenship behaviours and commitment among nurse professionals.

**Conflict of Interest:** Nil

**Source of Funding:** Self

**Ethical Clearance:** Verbal permission from the authorities and written consent from the participants were sought before the data collection.

## REFERENCES

1. Ayers DF, Miller-Dyce C, Carlone D. Security, dignity, caring relationships, and meaningful work: Needs motivating participation in a job-training program. *Community College Review*. 2008 Apr;35(4):257-76.
2. Geldenhuys M, Laba K, Venter CM. Meaningful work, work engagement and organisational commitment. *SA Journal of Industrial Psychology*. 2014 Jan;40(1):01-10.
3. Hoeve YT, Jansen G, Roodbol P. The nursing profession: public image, self-concept and professional identity. A discussion paper. *Journal of advanced nursing*. 2014 Feb 1;70(2):295-309.
4. Lips-Wiersma M, Morris L. Discriminating between 'meaningful work' and the 'management of meaning'. *Journal of business ethics*. 2009 Sep 1;88(3):491-511.
5. Marcinowicz L, Owłasiuk A, Perkowska E. Exploring the ways experienced nurses in Poland view their profession: a focus group study. *International nursing review*. 2016 Sep 1;63(3):336-43.
6. Martela F. Meaningful work—an integrative model based on the human need for meaningfulness. In *Academy of Management Annual Meeting in Montréal, Quebec* 2010.
7. Porter RT, Porter MJ. Career development: our professional responsibility. *Journal of Professional Nursing*. 1991 Jul 1;7(4):208-12.
8. Steger MF, Dik BJ, Duffy RD. Measuring meaningful work: The work and meaning inventory (WAMI). *Journal of Career Assessment*. 2012 Aug;20(3):322-37.
9. Wynd CA. Current factors contributing to professionalism in nursing. *Journal of professional nursing*. 2003 Sep 1;19(5):251-61.
10. Weaver R, Salamonson Y, Koch J, Jackson D. Nursing on television: student perceptions of television's role in public image, recruitment and education. *Journal of advanced nursing*. 2013 Dec 1;69(12):2635-43.

# A Comparative Study to Assess the Competency among ICU Nurses in Using Ventilator Associated Pneumonia Bundle to Prevent Ventilator Associated Pneumonia in Selected Government and Private Hospitals of New Delhi.

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## ABSTRACT

**Introduction:** Ventilator-Associated Pneumonia (VAP) is described as parenchyma lung infection occurring in more than 48 hours after initiation of mechanical ventilation. A Bundle is a structured way of improving the process of care and patient outcome. Components of the VAP bundle targets head of the bed elevation 30-45°, oral chlorhexidine care & suctioning, deep vein thrombosis prophylaxis, peptic ulcer disease prophylaxis, daily sedation vacation & Extubation trials.

**Objectives:** To assess and compare the level of competency among ICU nurses of government and private hospitals in the use of VAP bundle. To determine the relationship between knowledge and skills and to establish relationship between competency of ICU nurses with selected demographic variables (professional qualification, experience of ICU nurses, In-service education)

**Methodology:** Quantitative (Non Experimental) Research Approach, Comparative Descriptive Research Design. Structured Questionnaire and structured observational checklist was used. Non probability purposive sampling was adopted. Sample size 60 ICU nurses: 30-government hospital (Safdarjung) and 30-private hospital (Indraprastha Apollo) New Delhi, respectively.

**Result:** The gain in good skills of ICU nurses of government hospital in using VAP bundle to prevent VAP was not influenced by their knowledge but was influenced in private hospital. No significant association was found between level of knowledge and skills scores and the selected demographic variables.

**Conclusion:** The study concluded that the use of VAP bundle to prevent VAP by ICU nurses were better in private hospital than the government hospital.

**Keywords:** Intensive care unit, Intensive care unit nurses, ventilator associated pneumonia, ventilator associated pneumonia bundle, competency

## INTRODUCTION

Ventilator-Associated Pneumonia (VAP) is described as parenchymal lung infection occurring in more than 48 hours after initiation of mechanical ventilation.<sup>1</sup> A

Bundle is a structured way of improving the process of care and patient outcome. A small set of practices which are performed collectively have been proven to improve patient outcomes. Components of the VAP bundle targets head of the bed elevation 30-45°, oral chlorhexidine care & suctioning, deep vein thrombosis prophylaxis, peptic ulcer disease prophylaxis, daily sedation vacation & Extubation trials<sup>2</sup>.

**Need of the study:** This study is taken to assess the competency of ICU nurses as they are at the patient's bedside round the clock and therefore they play an

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important role in the prevention of VAP. Nevertheless nurses need to have an awareness of the problem as well as knowledge on the prevention strategies so as to adhere to preventive practices by using VAP bundle. Skilled and knowledgeable nurses are extremely important to make appropriate decisions in patient care and minimize risks to patients and bring confidence to make appropriate decisions and prevent poor outcomes in the recovery of mechanically ventilated patients.

## OBJECTIVES

- To assess and compare the level of competency among ICU nurses in the use of VAP bundle of selected government and private hospitals.
- To determine the relationship between the levels of competency of ICU nurses in the use of VAP bundle of government and private hospitals.
- To establish relationship between competency of nurses with selected demographic variables (professional qualification, experience of ICU nurses, In-service education)

## REVIEW OF LITERATURE

An experimental study was conducted by Delos Reyesto<sup>3</sup> to examine critical care nurses' knowledge about the use of the ventilator bundle to prevent VAP. Published reports were reviewed for current evidence and education sessions were held to present the findings to 61 nurses in coronary care and surgical ICU. Changes in the nurses' knowledge were evaluated by using a 10-item test, given both before and after the sessions. Results of the study were after the education sessions the nurses

performed better on 8 of the 10 items tested (P from .03 to <.001). The areas of most significant improvement were elevation of the head of the bed ( $P < .001$ ), charting of the elevation of the head of the bed ( $P = .009$ ), oral care ( $P = .009$ ), checking of the nasal gastric tube for residual volume ( $P = .008$ ). Contraindications to elevation of the head of the bed did not appear to affect the nurses' practices ( $P = .38$ ). The study concludes that, education sessions designed to inform nurses about the ventilator bundle and its use to prevent VAP have a significant effect on participants' knowledge and subsequent clinical practice.

## METHOD AND MATERIAL

Conceptual frame work:- clinical audit process model for evaluating prevention of VAP in relation to use of VAP bundle. Quantitative (non-experimental) Approach, Comparative Descriptive Research Design was used. Safdarjung Hospital (Government) & Indraprastha Apollo Hospital (Private), New Delhi was study setting. 30 ICU Nurses of government hospital and private Hospitals) were on probability Purposive Sampling Technique was adopted. Tools were Structured Questionnaire & Structured Observational Check list.

The knowledge scores were interpreted as

≥ 80% - good,

61-79% -average

≤60% - poor.

The skills scores were interpreted as

≥71%- good

51-70%- average

≤50%- poor

## ANALYSIS AND INTERPRETATION OF DATA

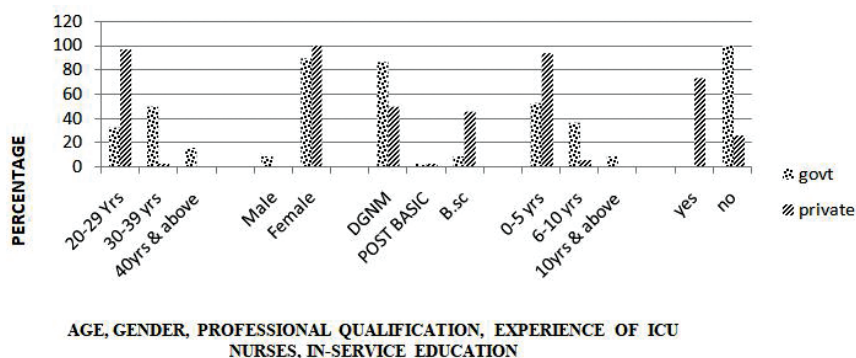
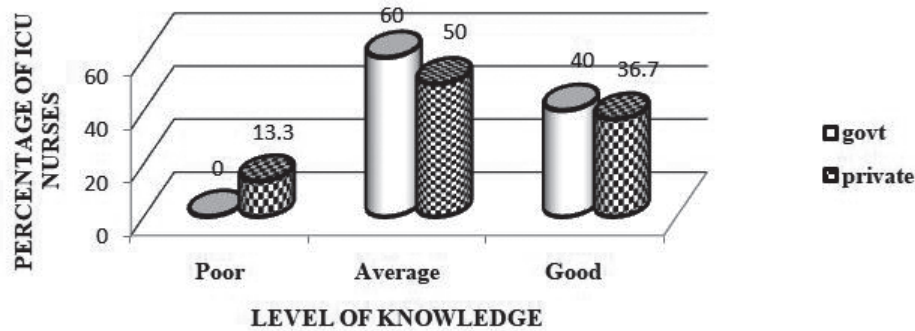


Figure 1: Findings related to Demographic Characteristics of ICU Nurses Working in Selected Government and Private Hospitals of New Delhi.

Component Bar Diagram representing the Percentage Distribution of Government and Private Hospitals ICU Nurses with their Age, Gender, Professional Qualification, Experience of ICU Nurses in Years, In-service Education.



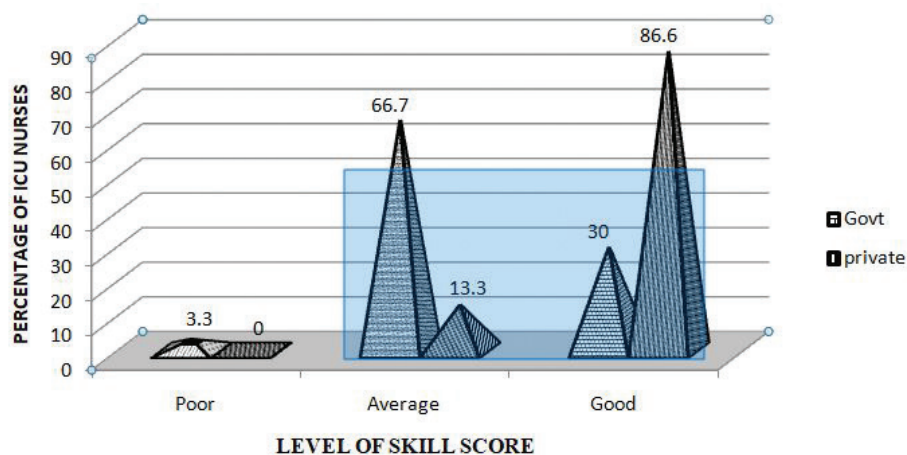
**Figure 2: Findings Related to Assessment of Level of Competency of ICU Nurses in the Use of VAP Bundle of Selected Government and Private Hospitals**

A Cylindrical Diagram Showing Percentage Distribution of ICU Nurses according to Level of Knowledge in Selected Government and Private Hospitals

**Table 1: Shows Area wise Analysis of Knowledge Mean, Modified Mean and Rank Order of ICU Nurses in the use of VAP Bundle to Prevent Ventilator Associated Pneumonia of Selected Government and Private Hospitals.**

$$n_1 + n_2 = 60$$

Components of VAP Bundle	Mean Score		Modified Mean		Rank Order	
	Govt. Hospital $n_1$	Private Hospital $n_2$	Govt. Hospital $n_1$	Private Hospital $n_2$	Govt. Hospital $n_1$	Private Hospital $n_2$
Peptic Ulcer Prophylaxis	0.96	0.8	0.96	0.8	I	III
Daily Sedation Vacation & Extubation trials	3.4	5.1	0.8	1.2	II	I
Oral care	2.3	2	0.76	0.66	IV	VI
Introduction to VAP	6.9	6.7	0.75	0.71	V	V
Head Elevation	2.2	2.7	0.73	0.92	VI	II
DVT Prophylaxis	0.01	0.6	0.01	0.6	VII	VII



**Figure 3: Cone Diagram represents Percentage Distribution of ICU Nurses according to Level of Skills of Selected Government and Private Hospitals**

**Table: 2 Shows Area wise Analysis of Skills Mean, Modified Mean and Rank Order of ICU Nurses in the Use of VAP Bundle to Prevent Ventilator Associated Pneumonia of Selected Government and Private Hospitals.** $n_1 + n_2 = 60$ 

Components of VAP Bundle	Mean Score		Modified Mean		Rank Order	
	Govt. Hospital $n_1$	Private Hospital $n_2$	Govt. Hospital $n_1$	Private Hospital $n_2$	Govt Hospital $n_1$	Private Hospital $n_2$
Head Elevation	0.83	0.8	0.83	0.8	I	I
Oral Care	9.8	11.8	0.7	0.8	II	III
Daily Sedation Vacation & Extubation Trails	2.9	3.2	0.72	0.81	III	II
Peptic Ulcer Prophylaxis	11.1	12.4	0.65	0.72	IV	V
Suctioning	11.9	14.1	0.66	0.7	V	IV
DVT Prophylaxis	1.9	2.7	0.47	0.67	VI	VI

Findings Related to the Comparison of Knowledge and Skills of ICU Nurses in use of VAP Bundle to Prevent Ventilator Associated Pneumonia of Selected Government and Private Hospitals.

**Table 3: Shows Mean, Mean Difference and Standard Error of Mean Difference and t Value of Knowledge Score of ICU Nurses in Use of VAP Bundle of Selected Government and Private Hospital** $n_1 + n_2 = 60$ 

Type of Hospital	Knowledge Score				
	Mean	Mean <sub>D</sub>	SE <sub>MD</sub>	d.f	"t"
Government Hospital $n_1 = 30$	23.7	0.4	0.75	58	0.53
Private Hospital $n_2 = 30$	23.3				

$t^{(58)}$  at 0.05 level of significance = 2.02, Not significant.

**Table 4: Shows Mean, Mean Difference and Standard Error of Mean Difference and t Value of Skills Score of ICU Nurses in Use of VAP Bundle of Selected Government and Private Hospitals** $n_1 + n_2 = 60$ 

Type of Hospital	Knowledge Score				
	Mean	Mean <sub>D</sub>	SE <sub>MD</sub>	d.f	"t"
Government Hospital $n_1 = 30$	40.3	6.7	1.39	58	4.8*
Private Hospital $n_2 = 30$	47				

"t" (58) at 0.05 level of significance = 2.02, \* Significant

**Findings Related To The Relationship of Knowledge and Skill Scores of ICU Nurses in use of VAP Bundle To Prevent Ventilator Associated Pneumonia In Selected Government And Private Hospitals.**

The coefficient of correlation between knowledge and skills scores of ICU nurses of government hospital was suggesting negative non significant correlation and in private hospital ICU nurses had positive non significant correlation between knowledge and skills scores.

**Findings Related to the Association between Knowledge and Skills Scores of ICU Nurses in the Use of VAP Bundle to Prevent Ventilator Associated Pneumonia with Selected Government and Private Hospitals.**

The Association between knowledge and skills scores of ICU nurses in the use of VAP bundle to prevent VAP with selected demographic variables (professional education, experience in ICU, In-Service education) is calculated by Fisher's exact test. The P value was found to be not significant at 0.05 level of significance. Therefore no significant association was found between the level of knowledge and skills of ICU nurses in the use of VAP bundle to prevent VAP and the selected demographic variable.

## DISCUSSION

In the present study it was found to be statistically non significant association between knowledge and skills in the use of VAP bundle of ICU nurses with professional qualification, experience of ICU nurses in years and In-service education. The findings are consistent with the findings of the study by Tatusaid ally<sup>4</sup> in Tanzania on knowledge and contrast with the practice of intensive care nurses on prevention of VAP .The cross sectional and observational research design was adopted on 118 nurses through convenient sampling technique, 30 nurses among 118 were tested by observation checklist & remaining by close ended questionnaire. Findings reveled that there was no significant association between ICU training, level of education, years of working experience and knowledge. Practice of ICU nurses on VAP prevention was statistically associated with education level but not with ICU training and years of working experience

In the present study it was showed that semi recumbent position was adopted to prevent VAP in both government and private hospital. This finding was found consistent with the findings of the study by Dr. Torres antoni<sup>5</sup>, on gravity- VAP trial comparing the semi recumbent position versus lateral trendelenberg position, as preventive strategies for VAP. A prospective multi center randomized trial was adopted. This study was carried out to reduce the incidence of VAP and included 800 patients and showed semi recumbent position as the best position for the prevention of VAP.

## LIMITATIONS

- The study is confined to a sample of only 30 ICU nurses each in selected hospitals, which limits to generalization of the findings.
- No attempt was made to assess the compliance of VAP checklist in the selected hospitals due to limited time frame for data collection.

## Recommendations

- An exploratory study can be done to identify the various factors responsible for occurrence of VAP in the selected government and private hospitals.
- A comparative study can be done between post graduate students of medical & surgical nursing and under graduate staff nurses in the use of VAP bundle.

- A study can be done to establish the relationship between the components of VAP to determine which nursing intervention are the most effective in reducing VAP.

## CONCLUSION

The study concludes that In the private hospital, majority of ICU nurses have good skills in the use of VAP bundle whereas in the government hospital majority of ICU nurses have average skills in the use of VAP bundle to prevent VAP. In the government hospital most of the ICU nurses have average knowledge in the use of VAP bundle whereas in private hospital few of the ICU nurses have poor knowledge in the use of VAP bundle to prevent VAP.

The study revealed that in both the hospitals the use of VAP bundle to prevent VAP were not good. Therefore there is a need to improve and renew the knowledge and skills of ICU nurses. Nurses working at critical unit are having knowledge gap to prevent incidence of VAP among ventilated patients. Retention of knowledge is still an issue and needs further investigation if there is a change in nurses' practice and decrease in the incidence of VAP. It would be worthy to explore the factors affecting retention of knowledge, focusing on attitudinal change seem to be an important area of research and Moreover, nurses own motivation towards availing opportunities for learning, through attending continuing education sessions. The hospital authority and the concerned authorities should regularly plan and send their ICU nurses for the update of knowledge and skills to get Equip with such knowledge and skills that may be able to bring these in to practice and thus refine their competency.

**Ethical Clearance:** Took from institutional journal of nursing education

**Source of Funding:** Self

**Conflict of Interest:** Nil

## REFERENCES

1. Vincett J.L., Bihari D.J., Suter P.M. The Prevalence of Nosocomial Infection in Intensive Care units in Europe : Results of the European Prevalence of Infection in Intensive Care (EPIC) Study. EPIC International Advisory Committee, 2002; 274:639-644.

2. Barry Evans. Best Practice Protocol: VAP Prevention. American Journal of Critical Care, 2005; 36(12): 10-16.
3. Delos R., Tolentino A. F., Ruppert D S. ShiaoK., Pamela.,Shyang Y. Evidence Based Practice: use of the ventilator bundle to prevent ventilator associated pneumonia.American Journal of Critical Care. 2010.
4. Tatusaid Ally. The Prevalence of Nosocomial Infection in Intensive Care Units in Europe: Results of the European Prevalence of Infection in Intensive Care (EPIC) study; EPIC International Advisory Committee. Jama. 2002; 274:639-644.
5. Dr.Antoni T .Best practice protocol: VAP prevention. American journal of nursing, December 2007; 36(11): 9-17.
6. Ruffell A., Adamcova L.Ventilator Associated Pneumonia:Prevention is Better than Cure. Nursing Journal in Critical Care, 2008;13:44-53.
7. Esperatti M., Ferrer M., Theessen A., Liapikou A., Valencia M., Saucedo L. M., Torres A. Nosocomial Pneumonia in the Intensive Care Unit acquired by Mechanically Ventilated Versus NonVentilated Patients. American Journal of Respiratory and Critical Care Medicine, 2010; 182: 1533-1539.
8. Efrati S., Deutsch I., Antonelli M., Hockey P. M., Rozenblum R.,Gurman G. M.
9. Ventilator Associated Pneumonia: Current Status and Future Recommendations. Journal of Clinical Monitoring and Computing, 2010;24:161-168.
10. Lawrence P., Fullbrook P. The Ventilator Care Bundle and Its Impact on Ventilator-Associated Pneumonia: A Review of the Evidence. Nursing Journal in Critical Care. 2011;16(5): 222-234.
11. OKeefe.,McCarthy S.,Santiago C., Lau G. Ventilator Associated Pneumonia Bundled Strategies: An Evidence Based Practice. Worldviews on Evidence Based Nursing. 2008; 5: 193-204.
12. Chastre J., Fagon J.Y. State of the Art. Ventilator Associated Pneumonia. American Journal of Respiratory Critical Care Medicine. 2002; 165: 867-903.
13. Muscedere J., Dodek P., Keena S., Fowler R., Cook D., Heyland D. Comprehensive evidence Based Clinical Practice Guidelines for Ventilator Associated Pneumonia: Diagnosis and Treatment. Journal of Critical Care.2008;23.
14. Muscedere J., Martin C., Heyland D. The Impact of Ventilator Associated Pneumonia on the Canadian Health Care System. Journal of Critical Care.2008;23.
15. Ashraf M., Ostrosky., ziecher L. Ventilator Associated Pneumonia: A Review Hospital Practice Journal.2012;40(1):93-105.

# Helfer Skin Tap Technique on Pain Associated With Intramuscular Injection among Adult Patients

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## ABSTRACT

An experimental study is undertaken to evaluate the effective of Helfer Skin Tap technique on pain associated with Intramuscular Injection among adult patients. The objective of the study to compare the level of pain experienced by patients receiving Intra Muscular injections with using the 'Helfer Skin Tap technique' and Usual Standard Technique & effectiveness of helper skin tap technique in reduction of level of pain. In this study simple random sampling technique is used to select 60 post operative adult patients (30 patients in each group). Group I is Experimental group got injection with Helfer skin tap technique where the Group II is Control group got injection with Usual Standard technique. An observation checklist with Numerical Rating Scale is used to assess the procedural pain among the patients. Post test is conducted twice a day for 2 consecutive days. Unpaired t test is applied to check the effectiveness of Helfer Skin tap technique. The calculated value of  $t = 42.02$  and the  $df = 58$ . The tabulated value of  $t$  under 5% level of significance for 58  $df = 2.01$  but the calculated value of  $t = 42.02$  which is much higher than the tabulated value. The study finding revealed that Helfer skin tap technique is more effective than the Usual standard technique in reduction of pain associated with Intramuscular Injection among adult patients.

**Keywords:** Helfer Skin tap technique, Intramuscular Injection, Pain

## INTRODUCTION

Pain is a complex, multi dimensional phenomenon. It is an unpleasant sensory and emotional experience associated with actual or potential tissue damage. It is an individual, unique subjective experience that may be difficult to describe or explain. Nurses are charged with accurately assessing & helping to reduce or relieve pain.<sup>1</sup>

Intramuscular (IM) injection is one of the most frequent procedures done almost everyday.<sup>2</sup> Intramuscular

route provides faster medication absorption than the other routes because of a muscle's greater vascularity.<sup>3</sup> It is fact that any intra muscular injection will cause pain at the site of injection. The pain of an injection may be lessened by prior application of ice or topical anesthetic, or simultaneous pinching of the skin.<sup>4</sup>

Pain relieving measures is a most fundamental requisite of human right, thus it's the responsibility of the nurse to use best approach to pain management.<sup>3</sup>

Tapping is one of the many techniques that stimulates these meridian points and energy flows to achieve healing. One of the main advantages of Tapping over other techniques that it is simple, painless, less expensive and less time consuming and anyone can apply it to himself/herself whenever or wherever he/she wants.<sup>5</sup>

Helfer skin tap technique offers a painless injection experience. In this technique rhythmic tapping before and during injection over the skin at the site of injection keeps the muscle relaxed and stimulates large diameter

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fibers. It provides a mechanical stimulation and distraction during intramuscular injection and thus helps to reduce pain.<sup>6</sup>

## METHODOLOGY

Quantitative research approach and Post-test-only control group research design is used for this study. The study is conducted at the Pradyumna Bal Memorial Hospital (KIMS) in surgery (both male and female) ward. Sample size consists of 60 postoperative adult patients (30 in Experimental group & 30 in Control group) who met the inclusion criteria by using the Simple Random Sampling technique (the lottery method) method has been used for selecting the sample. Observation Checklist & Numerical Rating Scale is used. Reliability of Observation Checklist is derived by using the split-half reliability method through Karl Pearson's formula and the score is with a reading of 0.7.

## RESULTS

**Description of demographic characteristics:** Majority of patients 17 (28.33%) belonged to the age group of 40-49 years, Female patients 31 (51.67%) are more, Majority of the patients 40 (66.67%) are married, Most of the patients 38 (63.33%) belonged to rural area, Maximum number of the patients 17 (28.33%) are illiterate, Most of the patients 14 (51.68%) of patients are unemployed, Majority of patients 35 (58.33%) had no previous experience of Surgery, Most of the patients 49 (81.67%) never used any complimentary therapy previously, Only 18.33% of patients had previous any complementary therapy previously, 30 (50%) of the patients are injected with Intramuscular Injection at Right Dorso gluteal region similarly 30 (50%) of the patients are injected with Intramuscular Injection Left Dorso gluteal region.

**Table 1: Frequency and Percentage Distribution of study sample according to Age in years.**

Age (Years)	Frequency (n)			Percentage (%)
	M	F	Total	
20-29	4	8	12	20%
30-39	9	6	15	25%
40-49	8	9	17	28.33%
50-60	8	8	16	26.67%
Total	29	31	60	100%

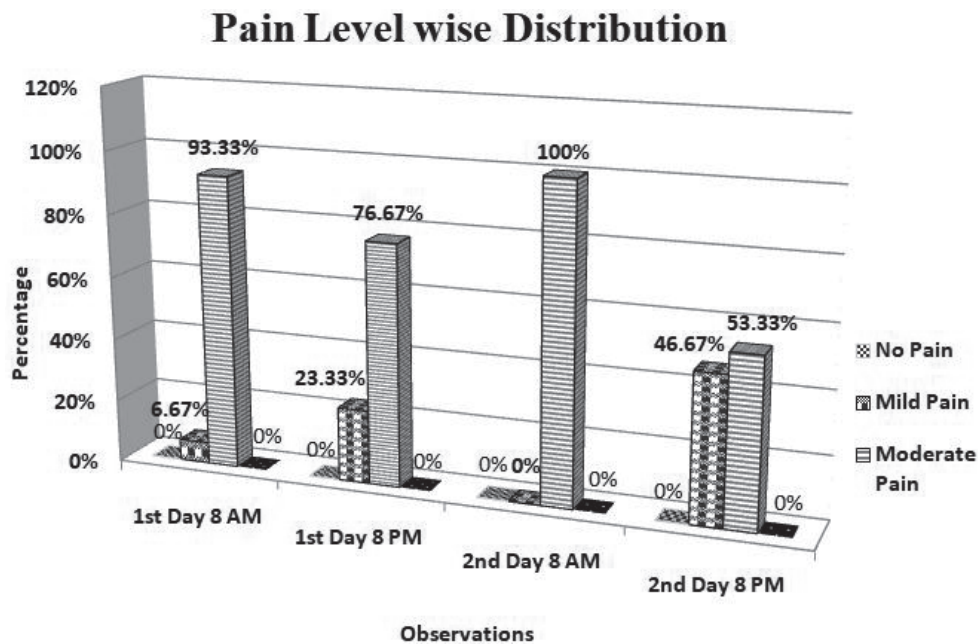
**Table 2: Frequency and Percentage Distribution of study population according to Marital Status**

Marital Status	Frequency (n)			Percentage (%)
	M	F	Total	
Single	5	9	14	23.33 %
Married	24	16	40	66.67%
Widow	0	6	6	10 %
Divorced	0	0	0	0 %
Total	29	31	60	100%

**Table 3: Frequency and Percentage Distribution of study population according to Educational Qualification**

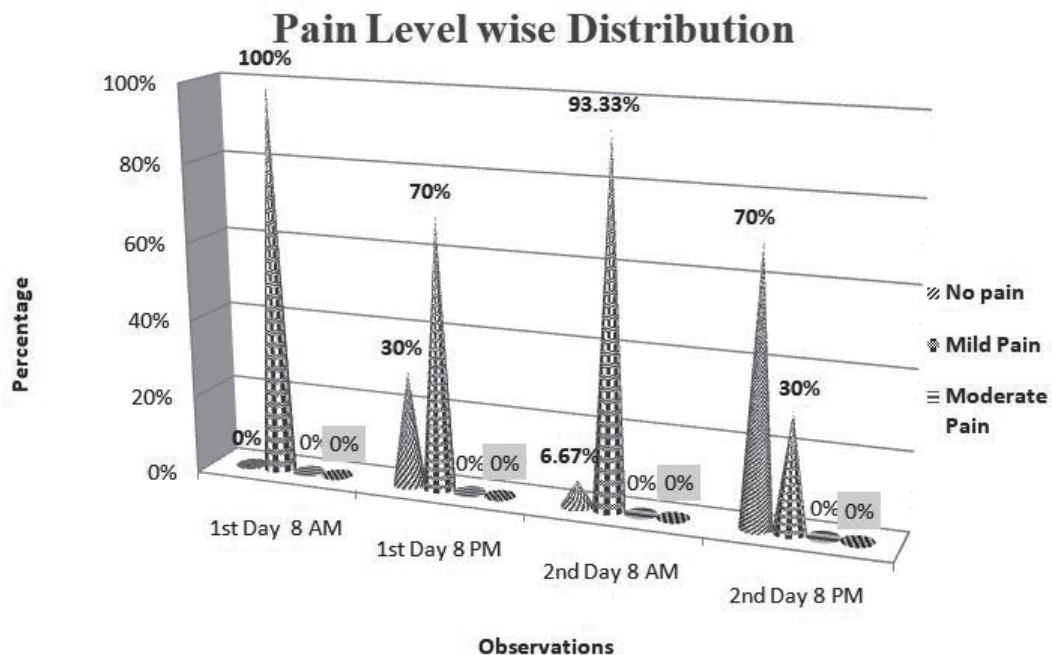
Educational Qualification	Frequency			Percentage (%)
	M	F	Total	
Illiterate	2	15	17	28.33%
Primary	9	3	12	20%
Secondary	13	2	15	25%
Higher Secondary	1	2	3	5%
Graduate	4	9	13	21.67%
Post Graduate	0	0	0	0%
Total	29	31	60	100%

**Pain experienced by adult patients receiving Intramuscular injections with Usual Standard technique:** Control group which is consist of 30 patients, got intramuscular injections by Usual Standard technique. Level of pain of the males and female assess on the 1<sup>st</sup> and 2<sup>nd</sup> day at 8AM and 8PM respectively. It is observed that none of the patients (male and female) had experienced 'no pain' and 'severe pain' in between the four observations of pain assessment in the Control group. Minimum no of patients that is 1 male and 1 female had experienced mild pain at 8 AM of the 1st day and 6 males and 1 female had experienced mild pain at 8PM of the 1st day. Majority of patients that is 12 males and 18 females had experienced moderate pain on 2nd day at 8AM. Similarly 6 males and 10 females had experienced moderate pain on 2nd day at 8PM. Mean pain score of postoperative adult patients in Control Group was 4.33, with a Standard deviation of 0.35 and Mean score percentage of 43.3.



**Graph 1: Compound Bar diagram showing distribution of Control Group according to the Level of Pain.**

**Effectiveness of Usual Standard technique on pain associated with intramuscular injection:** Experimental group 30 patients got intramuscular injections by Usual Standard technique. Level of pain of the males and female assess on the 1st and 2nd day at 8AM and 8PM respectively. It is observed that majority of patients, 17 (56.67%) of males had mild pain and 13 (43.33%) of females had mild pain on the 1st day at 8 AM, similarly 9 (30%) male patients and 12 (40%) female patients experienced mild pain on the 1st day at 8 PM. On the 2nd day at 8AM, the majority of patients 15 (50%) male patients and 13 (43.33%) female patients had experienced mild pain. Similarly at 8PM of the 2nd day 14 (46.67%) male patients and 7 (23.33%) female patients experienced no pain. It is observed that none of the male and female had experienced 'moderate pain' and 'severe pain' in between the four observations of pain assessment in the Experimental group. Mean pain score of postoperative adult patients in Experimental group was 1.117, with a Standard deviation of 0.23 and Mean score percentage of 11.17.



**Graph 2: Pyramid diagram showing distribution of Experimental Group according to the Level of Pain**

### Effectiveness of Helper Skin Tap technique and Usual Standard technique on pain associated with intramuscular injection

- In the comparison of pain level among experimental and control group receiving Intramuscular Injection by Helper Skin Tap technique and Usual Standard technique on Day 1 at 8AM (morning). The value of  $t = 23.1778$  and  $p$  value  $<0.0001$ . The  $df = 58$ . The table value of  $t$  under 5% level of significance is 2.00 and the calculated value of  $t = 23.1778$  is much greater than table value of  $t = 2.00$ .
- In the comparison of pain level among experimental and control group receiving Intramuscular Injection by Helper Skin Tap technique and Usual Standard technique on Day 1 at 8PM (evening). The value of  $t = 27.3407$ ,  $df = 58$  and  $p$  value  $<0.0001$ . The  $df = 58$ . The table value of  $t$  under 5% level of significance is 2.01 and the calculated value of  $t = 27.3417$  is much greater than table value of  $t = 2.01$ .
- In the comparison of pain level among experimental and control group receiving Intramuscular Injection by Helper Skin Tap technique and Usual Standard technique on Day 2 at 8AM (morning). The value of  $t = 22.7073$ ,  $df = 58$  and  $p$  value  $<0.0001$ . The  $df = 58$ . The table value of  $t$  under 5% level of significance is 2.01 and the calculated value of  $t = 22.7073$  is much greater than table value of  $t = 2.01$ .
- In the comparison of pain level among experimental and control group receiving Intramuscular Injection by Helper Skin Tap technique and Usual Standard technique on Day 2 at 8PM (evening). The value of  $t = 28.3571$ ,  $df = 58$  and  $p$  value  $<0.0001$ . The  $df = 58$ . The table value of  $t$  under 5% level of significance is 2.01 and the calculated value of  $t = 28.3571$  is much greater than table value of  $t = 2.01$ .
- T test was applied to test the significance of effect of Helper Skin tap technique. The value of  $t = 42.02$  and the  $df = 58$ . The value of  $t$  under 5% level of significance for 58  $df = 2.01$  but the calculated value of  $t = 42.02$  which is much higher than the table value. Helper Skin tap technique has significant effect in reducing pain of the patients in comparison to the traditional routine technique.

**Table 4: Comparison of pain level among experimental and control group receiving Intramuscular Injection by Helper Skin Tap technique and Usual Standard technique on Day 1 and Day 2 (n = 30)**

Days and time	Techniques						df	‘t’ test (unpaired)	2 tailed test
	Helper Skin tap technique			Traditional Standard technique					
	Mean	SD	SE mean	Mean	SD	SE mean			
1 <sup>st</sup> day 8AM	1.97	0.4	0.07	4.7	0.82	0.15	58	23.1778	<0.0001
1 <sup>st</sup> day 8PM	0.73	0.5	0.091	4.03	0.79	0.144	58	27.3407	<0.0001
2 <sup>nd</sup> day 8AM	1.37	0.55	0.101	4.9	0.65	0.119	58	22.7073	<0.0001
2 <sup>nd</sup> day 8PM	0.4	0.57	0.104	4.3	0.9	0.164	58	28.3571	<0.0001

**Association between the demographic variables with Helper Skin Tap technique and Usual Standard technique on pain associated with intramuscular injection:** For age, the value of Chi-square= 11.026,  $df = 3$ . The test is highly significant as the table value of  $\chi^2$  for 3  $df$  under 5% level of significance is 7.82. For Marital Status, the value of Chi-square= 7.886,  $df = 2$ . The test is highly significant as the table value of  $\chi^2$  for 2  $df$  under 5% level of significance is 4.99.

### CONCLUSION

The study result shows that Helper Skin tap technique was more effective to relieve pain associated

with Intramuscular Injection than the Usual Standard technique. Helper Skin Tap technique is cost effective, easy to learn and has no side effect. Nurses should increase the focus on the patient satisfaction and comfort. In-service Education & Training programme should be carried out among the nurses.

**Ethical Clearance:** Taken from Institutional Ethics Committee, Kalinga Institute of Medical Sciences(KIMS), KIIT University, Bhubaneswar.

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## REFERENCES

1. Black MJ, Hawks, Keene AM. Medical Surgical Nursing Clinical management for postoperative outcome. Philadelphia. W.B Saunders; 2007, 351-74
2. Potter PA, Perry AG. Basic Nursing- Essentials for practice. 5<sup>th</sup> edition. Noida: Mosby; 2007, 1052-61
3. Craig D. Blinderman, M.D., and J. Andrew Billings, M.D. Comfort Care for Patients Dying in the Hospital. *N Engl J Med*. 2015 December 24; 373:2549-61
4. Michelle L. Czarnecki, Helen N. Turner. Procedural Pain Management: A Position Statement with Clinical Practice Recommendations. *Pain Management Nursing*. 2011 June, Vol 12, No 2: 95-111
5. World Health Organization. Injection safety. Health Topics A to Z. 2011. Available from: URL:[http://www.who.int/injection\\_safety/en](http://www.who.int/injection_safety/en).
6. Sahngun Nahm. Pain from intramuscular vaccine injection in adults Intramuscular injection. *Rev Med Chile*. 2012; 140: 192-7.
7. Shinde, M. B., and Durgawale, P. M. Nursing Audit of Health Workers Providing Health Services in Rural Area with Special Emphasis to Community Satisfaction in Satara District. *International Journal of Science and Research*, 2014. 3(2), 94-104.
8. Kermode M. Unsafe injections in low income country health setting need for injection safety promotion to prevent the spread of blood born viruses. *Oxford J*. 2010 Sep 24; 19(1):95-103.
9. Church, Dawson, Brooks, Audrey. The effect of a brief Emotional Freedom Techniques (EFT) Self-Intervention on Anxiety, Depression, Pain and Cravings in Healthcare Workers. *Integrative Medicine: A Clinician's Journal*. 2010 Oct/Nov; 32(8):9-11
10. Sr. Serena. Rhythmic skin tapping: An effective measure to reduce procedural pain during IM injection. *Nurs J India*. 2010 Aug;101(8):178-80
11. Daniela Roditi, Michael. The role of psychological interventions in the management of patients with chronic pain. *E Robinson Psychol Res Behav Manag*. 2011; (4): 41-49.
12. Eric Leskowitz. Tapping on specific meridian points has a positive effect on cortisol levels. *Clin J Pain*. 2010 March;24(3):175-9
13. Toddio A, Illorsich AL.IPP.M. Physical interventions and injection technique for reducing injection pain during routine childhood immunization. Systematic review of randomised controlled and quasi-randomised controlled trials. *Clin ther*. 2009;31 Suppl 2:S48-76.
14. International Journal of Novel Research in Healthcare and Nursing. 2016 September - December ,Vol. 3, Issue 3:77-94
15. Navdeep Kaur Brar, HC Rawat. Textbook of Advanced Nursing Practice. New Delhi: JAYPEE publishers; 2015, 660-73
16. Suresh K Sharma. Nursing Research & Statistics. Haryana : ELSEVIER India Pvt.Ltd; 2013, 92-112
17. Nahm FS, Lee PB, Park SY, Kim YC, Lee SC, Shin HY, et al. Pain from intramuscular vaccine injection in adults. *Rev Med Chil*. 2012 Feb; 140(2):192-7.
18. Sartorius G, Fennell C, Spasevska S, Turner L, Conway AJ, Handelsman DJ. Factors influencing time course of pain after depot oil intramuscular injection of testosterone undecanoate. *Asian J Androl*. 2010 Mar; 12(2):227-33.
19. Yilmaz DK, Dikmen Y, Köktürk F, Dedeoğlu Y. The effect of air-lock technique on pain at the site of intramuscular injection. *Saudi Med J*. 2016 Mar; 37(3):304-8.
20. Dilek Kara, Ülkü Yapucu Günes, Kara D, Yapucu Günes. The effect on pain of three different methods of intramuscular injection: A randomized controlled trial. *International Journal of Nursing Practice*. 2016; 22: 152-9
21. Zainab Suhrabi, Hamid Taghinejad. Effect of accupressure (UB32) on pain intensity in intramuscular injections. *Iran J Nurs Midwifery Res*. 2014 Jan;19(1):24-7.
22. Tuğrul E, Khorshid L. Effect on pain intensity of injection sites and speed of injection associated with intramuscular penicillin. *Int J Nurs Pract*. 2014 Oct;20(5):468-74.

23. Day M, Ploen E. The effectiveness of cryotherapy in the treatment of exercise induced muscle soreness. *Bull Fac Phys Ther.* 2012 Oct 16;(2):137-45
24. Farhadi A, Esmailzadeh M. Effect of local cold on intensity of pain due to Penicillin Benzathin intramuscular injection. *International Journal of Medicine and Medical Sciences.* 2011. 31 October Vol. 3(11): 343-5
25. Rose Mary Jose, B Sulochana, Sheela Shetty . Effectiveness of skin tap technique in reducing pain response. *International Journal of Nursing Education.* 2012. Volume 4, Issue 1 :56-7.
26. Hanan Mohamed Soliman, Amira Ahmed Hassnein. Efficacy of Helfer Skin Tapping Technique on Pain Intensity as perceived by the patients receiving Intramuscular Injection. *IJND.* 2016. Vol 6. Iss2: 12-22
27. Omima Said M. H. Shehata. Effects of Helfer Skin Tapping and Z – Track Techniques on Pain Intensity among Hospitalized Adult Patients Who Receiving Intramuscular Injection. *International Journal of Novel Research in Healthcare and Nursing.* Month: 2016 September - December, Vol. 3, Issue 3: 77-94.
28. Ms. Nivedha, Ms. Nidhisha Susan Johny, Pushpakala Jagannathan. Effectiveness of Helfer skin Tap Technique vs Usual Standard technique in reducing pain during Intramuscular Injection among adult patients in selected Hospital, Kelambakkam, Kanchipuram District. 2016 July. Volume : 5, Issue 7: 90-5.
29. Maj Sivapriya S, Col Leena Kumari. A Study to Assess the Effectiveness of Helfer Skin Tap Technique on Pain During Intramuscular Injection Among Neonates Born in Labour Room of a Selected Tertiary Level Hospital, UP. *International Journal of Science and Research.* 2015 April. Volume 4 Issue 4:546-552.
30. Isaac Austin. Effectiveness of Heifer Skin Tapping Technique upon pain during administration of Intra -Muscular injection. *Research Gate.* 2014 December, Volume 10 Issue2:131-9
31. Prof. Dr. Maria A. Therese, Suriya Devi. Effectiveness of Helfer Skin Tap Technique and Routine Technique on Pain Reduction among Patients Receiving Intramuscular Injection at Government General Hospital, Puducherry. *International Journal of Science and Research.* 2014 October, Volume 3, Issue 10:1445-9
32. Gitanjali Zore, Ragina Dias. Effectiveness of Nursing Interventions on Pain Associated With Intramuscular Injection. *International Journal of Science and Research.* 2014 June. Volume 3 Issue 6:1994-2000
33. Saleena Shah, Asha Narayanan. Effect of Helfer Rhythmic skin tap technique on procedural pain among patients receiving intramuscular injection. *Manipal Journal of Nursing and Health Sciences.* 2016 January, Volume 2, Issue 1:3-9
34. Kanika, Rani KH, Prasad S. Effect of massage on pain perception after administration of intramuscular injection among adult patients. *Nursing and Midwifery Research Journal.* 2011 Jul; Volume 7,(3):130-9
35. Lautenbacher S, Peters JH, Heesen M, Scheel J, Kunz M. Age changes in pain perception: A systematic-review and meta-analysis of age effects on pain and tolerance thresholds. *Neurosci Biobehav Rev.* 2017 Apr; 75:104-113.
36. Lisa Fayed. Learning to Cope During Your Partner's Cancer Treatment. *Daily Life with Cancer.* 2017 July 13, 4: 41–49.

# Study on Effectiveness of Nurse Intervention Programme on Knowledge and Practice Regarding Impact of Baby Oil Massage on Maternal Bonding among Post-Natal Mothers in Selected Hospital Belgaum

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## ABSTRACT

**Introduction:** Bonding is essential for survival. The biological capacity to bond and form attachments is genetically determined. It is really a continuation of the relationship that began during pregnancy. The study was aimed to assess the knowledge and practice of mother regarding effect of baby oil massage on maternal bonding, and to evaluate the effectiveness of nurse intervention programme.

**Material and Method:** The research design adopted for this study was pre experimental i.e., one group pre-test post-test with evaluative approach. The sample size 30 postnatal mothers' structured questionnaire was used to measure the knowledge and practice of the post natal mothers

**Results:** The post knowledge and practice mean score is significantly higher than pre test knowledge and practice mean score at the level of significance  $p \leq 0.05$ .

**Conclusion:** The knowledge and practice of post natal mother can be further improved by providing ongoing teaching and training programme

**Keywords:** Practice, Knowledge, maternal bonding, post natal mothers

## INTRODUCTION

The first year of life is extremely important in terms of the baby's psychological development. It is during this period, that the sense of basic trust is formed. The relationship between the mother and the baby has been the subject of several recent research studies. Bonding is an emotional and expected condition between the mother and the baby that begins in the first day of life.<sup>1</sup>

According to Mercer; maternal bonding begins during pregnancy and continues with delivery. Maternal bonding is a unique, tender loving relationship that develops between the mother and the baby; its consistency leads to the development of feelings of trust in the baby as a result. Postpartum bonding and care between the mother and the baby is also equally important for the baby to lead a physical, spiritual, and emotional health in life.<sup>2</sup>

Mothers have an important role as the primary caregiver. If the relationship between mother and baby is inadequate, the baby may have severe developmental and psychological problems. A healthy bonding is also of great importance in the determination of the baby's character and habits.<sup>3</sup> Mothers have an important role as the primary caregiver. If the relationship between mother and baby is inadequate, the baby may have severe developmental and psychological problems. A healthy bonding is also of great importance in the determination of the baby's character and habits.<sup>3</sup>

In pregnancy mother can see, feel, and talk to the little person whom she knew only as the "bulge" or from the movements and the heartbeat mother heard through medical instruments. Bonding allows mother to transfer her life-giving love for the baby inside to care giving love on the outside. Inside, mother gave her blood; outside, mothers give her milk, eyes, hands, and voice - of entirely herself.<sup>4</sup>

Many, mothers in particular, begin bonding with their child before birth. The physical dependency the fetus has with the mother creates a basis for emotional and psychological bonding after birth. When the umbilical cord is cut at birth, physical attachment to the mother ceases, and emotional and psychological bonding begins. A firm bond between mother and child affects all later development, and it influences how well children will react to new experiences, situations, and stresses. While the first attachment provides everything we need to thrive inside the womb, many psychologists believe the second attachment provides the psychological foundation and may be even the social and physical buffer we need to thrive in the world.<sup>3</sup>

The first touches of the mother greatly strengthen the attachment behavior. The sense of touch is very important in the newborn period and infancy for perceiving the environment. Proper stimulation of the baby's sense of touch affects psychosocial development positively. Massage is one of the easiest and most natural ways of establishing a sense of touch and eye contact which improves bonding between mothers and babies<sup>5</sup>.

In different part of the world people use various techniques to nurture their young, but common practice that is used as massage. Touch research institute in Miami was established in 1990 cited the clinical benefits massage on infants and children that it is as important to improve their eating and sleeping habits. Touch therapy triggers many physiological changes that help infants and children grow and develop. Massage can stimulate nerves in the brain which facilitate food absorption, resulting in faster weight gain. It also lowers level of stress hormones, resulting in improved immune function. Baby oil massage has been traditional practice and custom in India, Bangladesh and other neighboring countries. In many cultures massage has been a consistent and beneficial technique in child development.<sup>8</sup>

Research shows that impaired bonding and poor maternal sensitivity during the first years of life can have a detrimental effect on the future psychological development of the child. After review of extensive literature over the subjects of baby oil massage the researcher had interest to study the mother and baby bonding which lays a ground for later development of the child.

"The researcher also convinced that infancy is a crucial period for psychological development if dealt carefully the child will turn to be a socially productive

citizen. The researcher intends to focus over this stage of development and makes an effort at educating and encouraging the mothers of babies to strengthen the psychological bond through skin touch, stroke in concise terms "Baby Massage". So, researcher developed the interest to assess the effectiveness of baby oil massage on maternal bonding

## OBJECTIVES

To assess the pre-test knowledge and practice regarding impact of baby oil massage on maternal bonding among post natal mothers.

To design and conduct a nursing intervention programme on knowledge and practice regarding impact of baby oil massage on maternal bonding among post natal mothers.

To assess the post –test knowledge and practice score regarding impact of baby oil massage on maternal bonding among post natal mothers

.To correlate knowledge and practice regarding impact of baby oil massage on maternal bonding among post natal mothers

To determine the association between knowledge and practice regarding impact of baby oil massage on maternal bonding with selected demographic variables among post natal mother

## METHODOLOGY

In view of the nature of the problem under study and to accomplish the objectives of the study evaluative approach was found to be appropriate to describe the nurse intervention programme on knowledge and practice regarding impact of baby oil massage on maternal bonding. Pre-experimental, i.e., one group pre-test post-test design was adopted for the study. Here only one group was observed twice, before and after introducing the independent variable. The effect of treatment would be equal to the level of the phenomenon after the treatment minus the level of phenomenon before treatment, the sample for the present study consists of 30 post natal mothers. Non probability convenient sampling technique was found appropriate to select 30 post natal mothers. In this study, the tools used by the researcher to collect data were structured questionnaire on knowledge, and practice regarding impact of baby oil massage on maternal bonding

## DATA COLLECTION

Prior permission was obtained from the concerned authority. Keeping in mind, the ethical aspect of research data was collected after obtaining informed consent from the subjects. The respondents were assured the anonymity and confidentiality of the information provided by them. The researcher himself has collected

data from the sample. Pre-test was conducted by using structured questionnaire followed by structured teaching programme. Lecture cum discussion was the method of instruction. LCD projector was used as an AV aid. The duration of the session was 45 minutes. After 7 days a post-test was conducted using the same structured questionnaires to evaluate the effectiveness of the structured teaching programme

## RESULTS AND DISCUSSION

**Table 1: Frequency and percentage distribution of knowledge score**

Variables		Inadequate (0- 30 %)		Moderately Adequate (31- 70%)		Adequate (71 – 100 %)	
		F	%	F	%	F	%
Knowledge	Pre	27	90	3	10	0	0
	Post	0	0	8	26.66	22	73.33

In pre test, 90%of post natal mothers had inadequate knowledge, 10% had moderate knowledge and 0% had adequate knowledge. In post test 0%of mothers had inadequate knowledge, 26.66% had moderate knowledge and 73.33% had adequate knowledge.

**Table 2: Frequency and Percentage Distribution of Practice Scores**

Variables		Poor (0- 30 %)		Fair (31- 70 %)		Good (71 – 100 %)	
		F	%	F	%	F	%
Practice	Pre	27	90	3	10	0	0
	Post	0	0	4	13.33	26	86.66

In pre test 90% of postnatal mothers inadequate healthy practice , 10% had Moderate healthy practice and 0% adequate healthy practice In post test 0% mothers had inadequate healthy practice, 13.33% had Moderate healthy and 86.66% adequate healthy practice.

**Table 3: Effectiveness of nurse intervention programme (NIP) on impact of baby oil massage on maternal bonding (N = 30)**

Areas	Pre test			Post test			Effectiveness of STP			Paired ‘t’ value
	Mean	Mean %	SD ±	Mean	Mean %	SD ±	Mean	Mean %	SD ±	
<b>Part B Knowledge</b>	9.83	24.5	5.83	29.26	73.16	2.8	19.43	48.66	3.03	40.8*
<b>Part C Practice</b>	5.23	20.93	6.36	16.33	65.33	4.2	11.1	44.4	2.16	30.47*

t (29) 3.66p<0.001 \* significant

The data presented in the above table shows that the total mean knowledge score is increased by 48.66% with mean  $\pm$ SD of 19.43 $\pm$ 3.03, and the total mean practice score is increased by 44.4% with mean  $\pm$ SD of 11.1 $\pm$ 2.16 after the administration of NIP. The ‘t’ value of knowledge (40.8), and practice (30.4) scores were found more than the table value 3.66, p< 0.001 with degree of freedom 29. Hence the NIP was found to be effective in terms of knowledge, and practice.

**On the basis of the findings of the investigative study, following conclusions were drawn:** Distribution of post natal mothers according to their level of knowledge showed that majority of them (90%) had inadequate level of knowledge and 10% had moderately adequate knowledge.

The total mean percentage of knowledge and practice scores of post natal mother in the pre-test was 22.71 with mean  $\pm$ SD of  $15.06 \pm 12.19$  and in the post-test, the total mean percentage of knowledge, and practice scores was 69.24 with  $45.49 \pm 7$  as mean  $\pm$  SD.

The mean post-test knowledge, and practice scores were significantly higher than the mean pre-test knowledge, and practice scores of the post natal mother in all the areas regarding impact of baby oil massage on maternal bonding. The study showed that the nurse intervention programme was very highly effective in improving the knowledge of post natal mothers regarding impact of baby oil massage on maternal bonding. Findings showed that there was no significant association between pre and post-test knowledge and demographic variables.

## DISCUSSION

Baby oil massage on maternal bonding was associated with many benefits to postnatal mothers as it prevents developmental and psychological problems among children's. These results indicate that teaching post natal mothers regarding baby oil massage will enhance maternal bonding and prevent future complications with children<sup>3</sup>

The present study finding portrays that there is a significant difference between the pre-test and post-test median scores. The pre and post tests median values of knowledge (8.94 and 27.88), and practice (4.16 and 16.73) respectively indicated that there is an increase in knowledge and practice among post natal mothers regarding impact of baby oil massage on maternal bonding after administration of NIP. Mother baby bonding affects aptitude, but it affects confidence, attitude and, subsequently, attendance and achievement. Anxious, poorly attached babies can become more secure if their mothers enter stable love relationships. Similar finding was revealed by a quasi-experimental study conducted on the effects of baby massage on attachment between mother and their newborns. This

study was carried out from June 2008 to February 2010 with 57 in the experimental group and 60 in the control group. Data were collected regarding their demographic characteristics and by using the Maternal Attachment Inventory (MAI). All mothers were assessed on the first and the last days of the 38-day study period. In the experimental group, the babies received a 15-minute massage therapy session everyday during the 38 days. There was no significant difference found in the pretest mean value baseline of the MAI score in both groups. The posttest mean values of the MAI of the experimental group mothers ( $90.87 \pm 10.76$ ) were significantly higher than those of control group ( $85.10 \pm 15.50$ ). There was a significant difference between groups ( $p < .05$ ). The results of the study have shown that baby massage is effective in increasing the mother infant attachment.<sup>13</sup>

## CONCLUSION

The finding of this study was the need of nurse to conduct training programme for the post natal mothers to enhance the knowledge and practice of post natal mothers regarding baby oil massage.

The study proves that post natal mothers gained knowledge and practice level remarkably when compared to their previous knowledge and practice prior to the administration of nurse intervention programme, through these knowledge post natal mother will enhance their bond with babies which will prevent upcoming complication and problems with children's who are future of tomorrow.

**Implications for Nursing Practice:** Lack of information regarding the bonding with their babies is a serious problem for them and is at the root of most physical mental problem. Nurses working with post natal mother and their babies in different settings such as the school, hospital, clinic or community are in a better position to understand their needs and provide information at appropriate time. Hence, nurses should take keen interest in preparing different teaching strategies suitable to the community. Nurses should always encourage parents and teachers to be involved in educating the post natal mother to have a good bonding with their babies to avoid future problems.

**Conflict of interest:** I Mrs Babita.P confirm that this manuscript is original and has not been published elsewhere and is not under consideration by any other

journal. I agree with submission to International Journal of Nursing Education. I have no conflict of interest to declare.

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## REFERENCES

1. Balyilmaz.,andcon..The effect of massage by mothers on growth in healthy full term infant. International Journal of Human Sciences. 6. .2009. 969 = 977.
2. Brandt, K. A. Andrews, C. M., & Kvale, J. Mother-infant interaction And Breastfeeding outcome 6 weeks after birth. Journal of Obstetric Gynecologic and Neonatal Nursing. (1998). 27. 169-174
3. Bonding Period.” Birthing Naturally. October 2003. Available online <http://www.birthingnaturally.net/barp/bonding.html> (accessed December 14, 2004). .Infants massage frequently asked questions.kris@aspectialbond.ord or aspectialbond@yahoo.com
4. Child health. Baby parent relation. September 2008..URL <http://www.parenting.nation.in>
5. Stratton. Andrew. Article shm article. Infant massage - bond between baby and Mother. 07-2008.
6. John Petter .Infant-Massag.-Bond-Between-Baby-and-Mother&id.1084144 By Andrew Stratton <http://ezinearticles.com/>
7. Field. Tiffany PhD. Touch research institute, university of mime school of medicine. Edited from the 0 to 3 journal, Oct / Nov 1993
8. Leonard.Julia. Exploring neonatal touch. the Wesleyan journal of psychology. 2008. Vol: 3, Page: 39 – 47
9. .Infants massage frequently asked questions. kris@aspectialbond.ord or aspectialbond@yahoo.com <http://www.lovingtouch.com/about-infant-baby-massage.international> loving torch foundation ,inc.Diane Moore foundation
10. Stratton. Andrew. Article shm article. Infant massage - bond between baby and Mother. 07-2008.
11. John Petter .Infant-Massag.-Bond-Between-Baby-and-Mother&id.1084144 By Andrew Stratton <http://ezinearticles.com/>
12. Ays, e Gürol, PhD, RN .The Effects of baby massage on attachment between mother and their Infants, Assistant Professor, Atatürk University. Health Services Vocational School. Erzurum. Turkey. Article history: Received 16 December 2011.journal homepage: [www.asian-nursingresearch.com](http://www.asian-nursingresearch.com)

# Assessment of Knowledge, Practice and Attitudes Regarding Preeclampsia among Women with Pregnancy Induced Hypertension at Selected Hospital, Bangalore

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## ABSTRACT

**Introduction:** Pregnancy is life-changing, exciting, moment in every women life. Women enjoy being pregnant and some found their experience of pregnancy more challenging, when pregnancy turns to high-risk complicating with physical, emotional reasons or a combination of both. Hypertensive disorders in pregnancy are the major threat and turns pregnancy challenging one.

**Objectives:** 1.To assesses the Knowledge, attitude and practice of preeclampsia among PIH women. 2. To correlate between knowledge, practice and attitude on women with pregnancy induced hypertension.3.To associate knowledge, attitude and practice score with selected demographic variables.

**Method:** A Descriptive design was selected.100 pregnant women were recruited by purposive sampling method and were assessed using structured knowledge questionnaire and checklist to assess their practice and attitude.

**Setting:** Selected tertiary care hospital at Bangalore.

**Results:** Overall Majority 71% of PIH women had moderately adequate knowledge, 28% of PIH women had inadequate knowledge and one percent of had adequate knowledge of preeclampsia.63% and 37% of women had favourable, unfavourable practice respectively. Considering the attitude majority 83% of them had favourable attitude on preeclampsia. There was positive correlation found between knowledge and the attitude of women. There was significant association between Age and place of residence with knowledge score.

**Conclusion:** The study evidenced that PIH women had inadequate knowledge in the aspects of basic knowledge, effects of preeclampsia and measure to manage the condition. Majority of PIH women had favourable level of practice and attitude. There was moderately significant correlation between knowledge and attitude. The PIH women attitude demonstrated significant association with their education.

**Keywords:** Preeclampsia, Pregnancy induced hypertension (PIH), knowledge, attitude, Practice.

## INTRODUCTION

Preeclampsia is serious disorder related to high blood pressure. It can happen to any pregnant women. Preeclampsia and other hypertensive disorders of pregnancy remain a leading cause of maternal and infant illness and death. Hypertensive disorders of pregnancy occur in about 10% of all pregnant women around the world. Preeclampsia affects 3–5% of pregnancies<sup>1</sup>. Along with preeclampsia, other diseases which are included in the group of hypertensive disorders of

pregnancy are eclampsia, gestational hypertension and chronic hypertension<sup>1</sup>

Preeclampsia a pregnancy related hypertensive disorder occurring usually after 20 weeks of gestation, is one condition left untreated, it progresses to eclampsia. Pregnancy induced hypertension is also called as Gestational hypertension. It is defined as high blood pressure measuring above 140/90mm Hg in pregnant women without the presence of proteinuria (protein casts present in urine) and which occurs beyond

20 weeks of gestation. Preeclampsia is defined as presence of high blood pressure along with presence of proteinuria occurring beyond 20 weeks of gestation. The term gestational hypertension or pregnancy induced hypertension (PIH) and pre-eclampsia are clinically more often considered as same with reference to management. The transition from pregnancy induced hypertension to pre-eclampsia is ill defined so both are considered as one for management. But prognosis for pregnancy induced hypertension is better than pre-eclampsia. The incidence of pregnancy induced hypertension in India is about 7-10% of all antenatal admission<sup>2</sup>. The likelihood of progression from gestational hypertension to preeclampsia is approximately 15-25<sup>3</sup>%. Hence pregnant women have hypertension are risk to develop preeclampsia and eclampsia and requires close monitoring of maternal and fetal conditions for the duration of pregnancy and may need the hospitalized care. The present study is conducted to assess the knowledge attitude and their practice related to preeclampsia among PIH women.

### OBJECTIVES

1. To assess the knowledge, attitude and practice regarding preeclampsia among PIH women at selected tertiary care hospital, Bangalore.
2. To correlate between the knowledge, Attitude and Practice score among PIH women
3. To identify the association between knowledge, attitude and practice score with selected demographic variables

### HYPOTHESES

**H<sub>1</sub>:** There will be significant Correlation between the knowledge, attitude and practice on preeclampsia among PIH women.

**H<sub>2</sub>:** There will be significant association between knowledge, attitude and practice score and selected demographic variables.

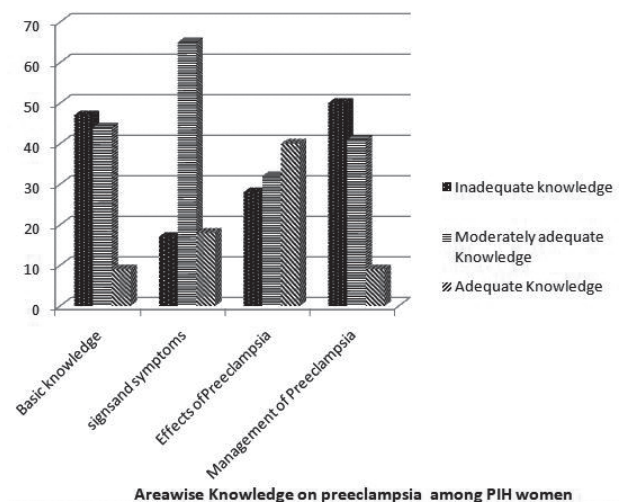
### MATERIALS AND METHOD

The non experimental descriptive design was adopted for the study. The study was conducted in selected tertiary care hospital at Bangalore. A formal written permission obtained from hospital authorities.

Formal consent obtained from the subjects to assess knowledge, attitude and the practices on preeclampsia using structure questionnaire and checklist. There were One hundred women diagnosed as PIH selected by Purposive sampling technique. Interview method used to collect data from subjects. Data was collected using a structured knowledge questionnaire which consisted 20 items, in the areas like basic knowledge, signs and symptoms effects of preeclampsia, measures to manage preeclampsia. Checklist used to assess the attitude and practice. Each woman took 30 – 40 min to answer all the questions.

### RESULTS

Description of demographic variable: majority 79% of participants in this study were 26 to 30 years and 49 of them completed their high school, remaining 28% were graduates. Majority 57% of participants were Hindu. 73% had family income per month is between 10000 to 15000 rupees. In relation to parity 61% of participants have one to 2 children, 18% were primi women. 86% of participants were from urban area. Majority of participants got information on preeclampsia from health personnel.



**Figure 1: Area wise knowledge score of PIH women regarding preeclampsia**

Overall, Majority 71(71%) women had overall moderately adequate knowledge, 28(28%) had inadequate knowledge and only 1% had adequate knowledge on preeclampsia among pih women. Considering the aspects, 65(65%) of mothers had knowledge of signs and symptoms, only 9(9%) of women had adequate knowledge on basic knowledge of preeclampsia and its

management. 40(40%) of women know the effects of preeclampsia. But 50(50%) of women had inadequate knowledge on measure to manage preeclampsia.

**Table 1: Frequency and percentage distribution of level of attitude among PIH women**

Level of attitude	Frequency	Percentage
Favourable Attitude (<50%)	83	83%
Unfavorable Attitude (>50%)	17	17%
Total	100	

Table 1 depicts that majority 83% of PIH women had favorable attitude and only 17% had unfavorable attitude towards preeclampsia. Among them 74% agreed that stress aggravates the disorders, 22% of women perceives preeclampsia is fate for them, 40% believed preeclampsia can be controlled.

**Table 2: Frequency and percentage distribution of level of practice among PIH women**

Level of practice	Frequency	Percentage
Favourable Practice (<50%)	63	63%
Unfavorable Practice (>50%)	37	37%
Total	100	

Table 2 shows that Overall majority 63% of participants had favourable practice and 37% had unfavorable practice towards preeclampsia. Considering their practice majority 80% come for regular antenatal visits, 34% of participants monitor fetal movements daily, 27% of participants take reduced salt, and 38% monitor their blood pressure at home.

**Table 3: Correlation of Knowledge, Practice and Attitude score of PIH women**

Domain	'r' Value
Practice with Knowledge	0.09
Attitude with Knowledge	0.04
Attitude with Practice	0.41

The table 3 reveals, the study results evidenced that there was moderately significant correlation  $r = 0.40$  at  $p < 0.05$  between knowledge and attitude, weak

correlation found between practice with knowledge  $r = 0.09$  and attitude with practice  $r = 0.41$  among pregnancy induced hypertension women. Hence the H1 is accepted.

H2 is accepted with regard to association of knowledge score and age ( $\chi^2 = 40.647$ )  $p < 0.001$ , place of residence ( $\chi^2 = 6.39$ )  $p < 0.05$ . Attitude score has association with education ( $\chi^2 = 7.2$ ) and religion ( $\chi^2 = 6.288$ )  $P < 0.05$  level. Attitude and education ( $\chi^2 = 7.2$ ) religion ( $\chi^2 = 6.288$ )  $p < 0.05$  level. There were no association found between practice and selected demographic variables such as age, education, religion, income, Gravida, place of residence, source of information.

## DISCUSSION

The current study results are similar to the study done on Knowledge Regarding Pre-eclampsia and Its Self-care Measures among Antenatal women at Belgaum. The study results revealed that majority of mothers 80(74.07%) had average knowledge, 14(12.96%) had good and poor knowledge; and with regards to self-care measures (60.18%) had average knowledge, 41(37.96%) had good knowledge and 2(1.85%) had poor knowledge, association between the knowledge of mothers and selected variables revealed that the variables age, educational status, occupational status, income, religion, parity and area of residence shows an association with knowledge scores at 0.05 level of significance<sup>4</sup>.

The present study showed association between knowledge, and selected variables such as age ( $\chi^2 = 40.647$ )  $p < 0.001$ , place of residence ( $\chi^2 = 6.39$ )  $p < 0.05$  level, attitude and education  $\chi^2 = 7.2$ , religion ( $\chi^2 = 6.288$ ) at 0.05 level.

The above study results are contradictory to the cross sectional quantitative study done to investigate knowledge, attitudes, and perceptions on preeclampsia among 180 first generation Nigerian women the study results indicated no statistical significance relation between knowledge, attitudes and perceptions of preeclampsia and demographic characteristics, socioeconomic status, acculturation, and access to healthcare<sup>5</sup>.

Another study conducted on Knowledge, attitude of pregnant women on management of PIH the results are consistent with the present study major participants

were between the age group of 21-30 years, had high proportion of knowledge and mostly had favourable attitude towards management of pregnancy induced hypertension<sup>6</sup>.

### IMPLICATIONS OF THE STUDY

The study finding shows that majority of PIH mothers require knowledge and attitude on various aspects preeclampsia especially in areas of diet, rest, basic knowledge, measure to manage the preeclampsia. Creating awareness about preeclampsia among PIH women can reduce the complications, maternal negligence towards preeclampsia complications. Improving knowledge on preeclampsia has correlation with attitude and Practice. Hence it ensures the maternal satisfaction on obstetric care.

Formulation and inclusion of standard midwife protocol for prevention and management of preeclampsia in urban and rural in the basic nursing syllabus could be beneficial for nurses to provide Quality of care.

### CONCLUSION

The study demonstrated PIH women knowledge need to be enhanced to adequate level, There is positive correlation between the knowledge, attitude and practice. The investigator selected the population who are at risk of the preeclampsia Targeting PIH women to have regular monitoring and enhancing their knowledge will be precautionary step to reduce maternal and fetal morbidity in terms of preeclampsia and eclampsia. Majority of PIH women agrees to visit the hospital regularly perceives stress can aggravate the condition. This positive attitude could be related to women's education level and Knowledge of preeclampsia. Identified lack of knowledge in this could be improved to adequate level.

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### REFERENCES

1. Zahid. Preeclampsia. National Health Portal (India); 2016, Jun 01 Available from: [Url:https://nhp.gov.in/disease/gynaecology-and-obstetrics/preeclampsia](https://nhp.gov.in/disease/gynaecology-and-obstetrics/preeclampsia)
2. Brown, M.A, de Swiet M. Classification of hypertension in pregnancy. Baillieres Best Practice & Research. Clinical Obstetrics and Gynaecology. 1999. 13(1):27-39.
3. Patrick Saudan, Mark A. Brown, Megan L. Buddle, Michael Jones. Does gestational hypertension become pre-eclampsia? British Journal of Obstetrics and Gynaecology. 1998. November, Vol. 105; pp.1177-1184 available from <http://onlinelibrary.wiley.com/doi/10.1111/j.1471-0528.1998.tb09971.x/pdf>
4. Namitha Jose, Sudha A Raddi, Sangeeta Kharde. Assess the knowledge regarding preeclampsia and its self care measures among antenatal women attending antenatal outpatient department of KLES Dr.Prabhakar Kore Hospital, Belgaum. South Asian Federation OF Obstetrics and Gynaecology.2010 May-August; 2(2):157-162
5. Okpomesine, Christine. Knowledge, Attitudes, and Perceptions of Preeclampsia among First-Generation Nigerian Women in the United States. 25th International Nursing Research Congress; 2014.17 November. Hong Kong. Available from Url <http://www.nursinglibrary.org/vhl/handle/10755/335508>
6. R.I.Fadare, O.A.Akpor, O.B.Oziegbe, Knowledge and Attitude of Pregnant Women towards Management of Pregnancy Induced Hypertension in Southwest Nigeria. Journal of Advances in Medical and Pharmaceutical Sciences. 2016 December; 11(2).xxx-xxx: 1-10.
7. Sibai B M, Diagnosis and management of gestational hypertension and preeclampsia. Obstetrics and Gynaecology. 2003, Jul; 102(1):181-92.available at <https://www.ncbi.nlm.nih.gov/pubmed/12850627>

# Exploring the Possibility to Develop Language Based Instruction to Improve Nurses' Oral Case Presentation Skills

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## ABSTRACT

Nurses as interlocutors play a crucial role in disseminating information among the health team members. Oral case presentation is one of the nurses' significant clinical communication tasks. A skillful presentation of a clinical case by nurses to doctors has a significant contribution to Health care realm. But no formal teaching is imparted to help students learn case presentation skills. Students learn oral presentation by trial and error through rhetoric practice based on observation rather than teaching. This may delay development of effective communication skills and result in acquisition of unintended professional values (Richard J Haber, and Lorelei A Lingard<sup>23</sup>). In recent times teaching instructions to improvise the clinical OCP skills have been attempted, yet most of them focus on improving 'what to say' i.e. Content (Nursing) Based OCP Instruction, rather the 'how to say' i.e. Language Based OCP Instruction. This paper proposes a teaching module to develop English competence to carry out OCP using the guidance of OCP genre reviews.

**Keywords:** Nurses, clinical communication, Oral Case Presentation (OCP), Language Based OCP Instruction

## INTRODUCTION

Nursing is a profession that highly relies on effective communication skills to carry out all its clinical activities. Nurses as interlocutors play a crucial role in disseminating patient related information among the health team members. A skillful presentation of a clinical case by nurses to doctors has a significant contribution to health care realm. Here the Oral Case Presentation (OCP) is defined as a comprehensive oral report of the care given to the patient under one's care from the time of admission till discharge (Robert Helán<sup>24</sup>) with expected good fluency (Steve McGee<sup>28</sup>). The presentation of the correct and important patient health details to the practitioners help physicians to arrive at the precise diagnosis and provide further recommendations. In contrast, lack of communication creates situations where medical errors occur. These errors are potential to cause severe consequences to both the patient and the medical team.

At present with most hospitals attaining international standards and recognitions, fluent oral communication in English has become a prerequisite need of nurses. Although a skillful presentation of a clinical case relies

on the information that are identified as significant through critical thinking (Danette K Dutra<sup>6</sup>), yet possessing a good English fluency to put it across is prerequisite to attain the expected standard. Ultimately, good speaking skill is the foundation for a good clinical case presentation skill. Therefore it is highly momentous to offer language preparation for student nurses to master the skillful presentation of clinical case in English.

## ENGLISH LANGUAGE RELATED CHALLENGES IN ACQUIRING OCP SKILL

Reviews on clinical learning experience of student nurses with LEP in Indian and South Indian context are unavailable, yet literature from west on immigrant ESL (English as Second Language) nursing students could help us to gain an insight on the nature of the learning difficulties. Studies show that less attention is paid to the development of case presentation skill (Melissa Giegerich<sup>19</sup>), and this lack of preparedness leads to regression during occupational activity. Further, professional practice itself could not spontaneously develop the needed communication skills (Włoszczak-Szubska A, Jarosz MJ<sup>3</sup>).

Most of the nursing students do not experience meaningful learning outcome due to limited language skills. They also have less possibility to work independently (Awe, Omobolape Omolola<sup>3</sup>).

Alana Gilbee and, Julie Baulch<sup>1</sup>, et al., (2014) Richard J Haber and Lorelei A Lingard<sup>23</sup> (2001) state that students were unsure what was expected by teachers of them during OCP.

Inadequate grammar, insufficient vocabulary, low listening comprehension, low speaking and pronunciation ability (C .Fang, et al<sup>9</sup>) learning of hundreds of strange, complicated hospital expressions were some of the language problems faced even if they had been honour students in their English classes at home (Jordheim<sup>13</sup>). Low self-esteem/self-confidence and lack of effective transition of Knowledge in to practice (Geraldine L. Cornell<sup>11</sup>), stress in communicating with interns, residents, and physicians were also observed (Esther Morales<sup>8</sup>).

Włoszczak-Szubzda A, Jarosz MJ's<sup>31</sup> assessment on the professional communication competences of nurses showed poor efficacy and general interpersonal communication due to lack of preparedness. This exemplifies that communication competences acquired during undergraduate nursing education, are subject to regression during occupational activity. Further, the study denies that professional practice itself could spontaneously develop the needed communication skills.

In India, although, Nursing Council Act has mandated the practice of OCP skills in nursing curriculum, yet students develop English skills for OCP only by trial and error through rhetoric practice. This lack of proper language related training may delay development of effective communication skills and result in acquisition of unintended professional values (Richard J Haber and Lorelei A Lingard<sup>23</sup>).

In the present South Indian scenario, the scope of the Nursing profession invites many students from the backward and rural setup to pursue the course (The Hindu, March 15, 2001). Unfortunately, the disparity in English teaching – learning experience between rural and urban, private – public schools of India, has created a vast inequality in the students' English proficiency at tertiary level (T. Bhaskar David<sup>4</sup>). When a student with LEP enters the Nursing college for graduation, they find it hard to meet the communication needs. The learning experience of these students in the nursing

programme is highly challenging. These students face negative experience due to their inability to cope with the expected standard of achievement.

The academic and clinical functioning of these students is crippled. Performing a good clinical communication skill with underdeveloped speaking skill is a far-fetched dream. With struggles to speak even a single sentence in English, presenting their cases for 20-30 minutes is impossible. It is needless to state that high level of stress could mount on these LEP student nurses when being assessed. The negative experience could result in lack of motivation and instill low self esteem. Further, developing OCP based English language skills on their own, out of observation could be very challenging with their poor English comprehending skill. A good language OCP training could help them cope.

**Development of Language Based OCP Learning Instruction:** Many reviews<sup>21 30 12</sup> to improvise clinical OCP skills have been found, yet they have focused on improving 'what to say' i.e. Content Based OCP strategy, rather than 'how to say' i.e. Language Based OCP strategy. But no English language enhancing modules for OCP has been designed so far.

But honing the English language of nursing graduates for OCP is the need of the hour in our Indian context, therefore the researcher has explored and piloted a Language Based OCP teaching module.

**Significant Language Features In OCP Genre:** The learning content was prepared based on the salient features of the case presentation that were identified through reviews on its genre analysis. The sociologists, Anspach, R. R<sup>2</sup>, Yuliia Lysanets, Halyna Morokhovets and Olena Bieliaieva<sup>32</sup>, Robert Helán<sup>24</sup>, Renee R. Anspach<sup>22</sup>, approached the genre of medical discourse with focus on case presentation to identify the rhetoric structural, lexico - grammatical characteristic features to help novice practitioners.

Yuliia Lysanets, Halyna Morokhovets and Olena Bieliaieva<sup>32</sup> brought out the distinctive quality of grammatical structures. With regard to tense usage in OCP, remarkable use of past simple tense is noted, especially to refer to the events that happened earlier, as in the presentation of the case history. The use of simple past is dictated by the content: since case reports describe a past event, they make abundant use of the past tense. Similarly, the research has also detected the occasional use of the present perfect, present simple tenses which

also serve particular communicative purposes of medical case reports. : What is also remarkable is the total avoidance of the future tense. The other rhetorical grammatical features were the use of personal pronouns and modal verbs.

OCP genre reviews identified the dominance of passive voice sentences. Renee R. Anspach<sup>22</sup> emphasizes the omission of the agent (e.g., use of the passive voice). Case presentations not only fail to mention the patient's personal identity, but they also omit the physician, nurses, or other medical agents who perform procedures or make observations.

The factive and non-factive predicators are another type of objectifying rhetorical lexical features. The term "factive verb" hints that the speaker presupposes the truth of the proposition expressed in that clause." Examples of factive predicators found in the corpus would be *note*, *observe*, or *find*. Similarly when presenting information received from the patient the verbs used tends to be non-factive thereby reducing the objectivity and potentially even trustworthiness of the patient's statements reported in the case. The most commonly used non factual verbs are complain(ed) report(ed). If the speaker (clinician) doubts the fact in the information shared by patient then the choice of verbs could be 'denied', 'stated'.

On observation, they identified that the information of patients were organized chronologically and presented in a sequence which formed a conventional pattern called structural moves. The standard structure contained 5 significant moves with Move 1–Introducing the case i.e., Description of the case (age, sex and, if relevant, ethnic origin) and the cause of presentation/referral (patient complaint/s); Move 2–Describing the diagnosis, Case history (past events that the patient experienced and that have significance in terms of the patient's current condition and past treatments/operations/ interventions); Move 3 detailing the Clinical signs and assessments done; Move 4–Explaining the Nursing intervention with relevance to the treatment.<sup>2 22 24 32</sup>

Based on these identified language sub skills, a language teaching module to enhance the OCP skills was designed as shown below-

### CONTENT DESIGN FOR LANGUAGE BASED OCP INSTRUCTION

#### Overall Objective of Language Based OCP Instruction:

- Communicate effectively using English during clinical case presentation.

#### Specific Objectives of Language Based OCP Instruction:

- Enable the students to understand the structural components of case presentation.
- Improve the tense usage.
- Expand the lexical usage.

The learning contents of Language Based OCP Module were organized in the recommended standard sequence (shown below, under the content coverage of framework) in order to help students correlate to OCP structural pattern. The language instruction was sub sequentially grouped into 4 units based on the 4 moves of OCP. Each move or the unit concentrated on its appropriate grammar and lexical sub skills needed for verbalize that specific move. Also this breaking up of entire presentation in to small segments or moves could help students master a small portion of the entire presentation at a time.

Further, only when all examples replicate real time case reports it can allow students to understand and appreciate on how language works in OCP. Therefore all worksheets tasks and examples were picked only from case reports. Sample cases available online were used as resources.

**Table 1: Teaching Framework for Language Based OCP Instruction**

Content Coverage	Grammar	Vocabulary
<b>MOVE-1</b> <ul style="list-style-type: none"> <li>● Self Introduction</li> <li>● Announcing the present case with learning objective/outcome.</li> </ul>	<ul style="list-style-type: none"> <li>● Personal Pronouns</li> <li>● Auxiliary Verbs</li> <li>● Tenses in CP – simple Present</li> </ul>	<ul style="list-style-type: none"> <li>● Terminologies to express Nursing Diagnosis</li> </ul>

<b>MOVE-2</b> <ul style="list-style-type: none"> <li>● Identifying information of Patient</li> <li>● History of the present Illness</li> <li>● with other Active medical problems, Medications, habits and allergies.</li> <li>● Clinical signs and symptoms</li> </ul>	<ul style="list-style-type: none"> <li>● Personal Pronouns</li> <li>● Auxiliary Verbs</li> <li>● Tenses in CP –Past Tense and Past Perfect Tense</li> <li>● Passive Voice</li> </ul>	<ul style="list-style-type: none"> <li>● Factive and Non Factive</li> <li>● Account Makers</li> <li>● Nursing Terminologies on clinical signs and symptoms</li> </ul>
<b>MOVE-3</b> <ul style="list-style-type: none"> <li>● Clinical Investigations/ Assessments</li> <li>● Physical Examination</li> </ul>	<ul style="list-style-type: none"> <li>● Tenses in CP –Past Tense</li> </ul>	<ul style="list-style-type: none"> <li>● Nursing Terminologies</li> <li>● Compare and Contrast</li> </ul>
<b>MOVE-4</b> <ul style="list-style-type: none"> <li>● Discussing the nursing interventions of the case.</li> </ul>	<ul style="list-style-type: none"> <li>● Passive Voice to state intervention</li> </ul>	<ul style="list-style-type: none"> <li>● Account makers</li> </ul>

### Language Content Coverage For Move-1

**Table 2: Grammar**

Grammar Topics	Strategies	Classroom Activities
<ul style="list-style-type: none"> <li>● Personal Pronouns</li> <li>● Auxiliary Verbs</li> </ul>	Individual worksheets	<ul style="list-style-type: none"> <li>● Cloze passages               <ul style="list-style-type: none"> <li>● The introductory details of patients are put in a paragraph with fill up gaps for personal pronouns/ auxiliary verbs.</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>● Simple Present</li> </ul>	Group Task	<ul style="list-style-type: none"> <li>● Picture sequence               <ul style="list-style-type: none"> <li>● Make a storyline using present tense on the given patient clues to share patient identification details.</li> </ul> </li> </ul>

**Table 3: Vocabulary**

Vocabulary Topics	Strategies	Classroom Activities
<ul style="list-style-type: none"> <li>● Terminologies to expressing Nursing Diagnosis</li> </ul>	Individual worksheets	<ul style="list-style-type: none"> <li>● Word Puzzles</li> <li>● Match the verbs with the terms Eg: To relieve-pain To provide-comfort</li> </ul>
	Group Task	<ul style="list-style-type: none"> <li>● Guess the Term Many nursing conditions are given and students are made to arrive at the right term.</li> </ul>

## CONCLUSION

OCP being a clinical skill, most of the training strategies available have been built by either doctors or

nurses, the teaching of OCP skills by language teachers could be felt arduous. But Laurence Anthony <sup>15</sup> assures the role of language teachers as facilitators by taking the students' clinical expertise and support to shape up

the content. Understanding the students' English needs to acquire a good foundation in written and spoken English it is the responsibility of the English teacher to offer supportive language training to give them confidence to enter into future work setup.

**Ethical Clearance:** Institutional Ethical Committee, Sri Ramachandra University

**Conflict of Interest:** None

**Sources of Funding:** Self

## REFERENCES

1. Alana Gilbee and Julie Baulch, et. al. A guide for interprofessional case presentations. 2014. John Wiley & Sons Ltd. THE CLINICAL TEACHER; 11: 297–300. Available from [https://www.rushu.rush.edu/sites/default/files/\\_Rush%20PDFs%20and%20Files/interprofessional-case-presentations.pdf](https://www.rushu.rush.edu/sites/default/files/_Rush%20PDFs%20and%20Files/interprofessional-case-presentations.pdf)
2. Anspach, R. R. Notes on the Sociology of Medical Discourse: The Language of Case Presentation. 1988. In: *Journal of Health and Social Behavior*. Vol. 29, No. 4. 357 – 375. Available from <https://deepblue.lib.umich.edu/bitstream/handle/2027.42/51147/379.pdf?sequence=1&isAllowed=y>
3. Awe, Omobolape Omolola, Communication Barrier during Clinical Placement: Challenges and Experiences of International Nursing Students. 2014. <https://www.theseus.fi/bitstream/handle/10024/80527/Thesis%20work.pdf?sequence=1>
4. Bhaskar David. T. The importance of speaking English to Rural students'. 2013. Available from <http://eltweekly.com/2013/05/the-importance-of-speaking-english-to-rural-students-by-t-bhaskar-david/>
5. Chang VY, Arora VM, Lev-Ari S, D'Arcy M, Keysar B., (2010) Interns overestimate the effectiveness of their hand-off communication. *Pediatrics*. 2010 Mar; 125(3):491-6. Available from doi: 10.1542/peds.2009-0351. Epub 2010 Feb 8.
6. Danette K Dutra, Implementation of case studies in undergraduate didactic nursing courses: a qualitative study Available from <https://doi.org/10.1186/1472-6955-12-15>
7. Dustyn E. Williams, and Shravani Surakanti, Ochsner J. Developing Oral Case Presentation Skills: Peer and Self-Evaluations as Instructional Tools 2016. Spring; 16(1): 65–69. Available from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4795506/>
8. Esther Morales. The Lived Experience of Hispanic new Graduate Nurses in the United States Esther Morales Marquette University Recommended. 2014. Available from [onlinelibrary.wiley.com/doi/10.1111/jocn.12339/](https://onlinelibrary.wiley.com/doi/10.1111/jocn.12339/)
9. Fang, C. Tsai, C. Huang. Needs and barriers in ESP education: Exploring the preference in ESL nursing students, *Proc. International Symposium on ESP and Its Application in Nursing & stylistic features Medical English education*, Taiwan. 2011
10. Frader, Joel E. and Charles L. Bosk. "Parent Talk at Intensive Care Rounds." *Social Science and Med-* 15E: 267-274. 1981
11. Geraldine L. Cornell, Implications for Nursing Faculty: Barriers to Learning for ESL Baccalaureate Student Nurses Available from [http://liupostdissertation.weebly.com/uploads/1/4/9/5/14956180/edu\\_1104.pdf](http://liupostdissertation.weebly.com/uploads/1/4/9/5/14956180/edu_1104.pdf)
12. Hammer RR<sup>1</sup>, Rian JD, Gregory JK, Bostwick JM, Barrett Birk C, Chalfant L, Scanlon PD, Hall-Flavin DK. Telling the patient's story: using theatre training to improve case presentation skills. 2011. Jun; 37(1):18-22. doi: 10.1136/jmh.2010.006429. Epub 2011 Feb 21. Available from <https://www.ncbi.nlm.nih.gov/pubmed/21593246>
13. Jordheim Anne Falkenstein *AJN The American Journal of Nursing*: September 1954 - Volume 54-Issue 9 - ppg 1124-1125 Trading Post: PDF Only Available from [https://journals.lww.com/ajnonline/Citation/1954/09000/I\\_Teach\\_Hospital\\_English\\_.45.aspx](https://journals.lww.com/ajnonline/Citation/1954/09000/I_Teach_Hospital_English_.45.aspx)
14. Kim S, Kogan JR, Bellini LM, Shea JA. A randomized-controlled study of encounter cards to improve oral case presentation skills of medical students. *J Gen Intern Med* 2005; 20:743-747.
15. Laurence Anthony (2007) The Teacher as Student in ESP Course Design Laurence Anthony Center for English Language Education in Science and Engineering Waseda University,

- Japan Available from [http://laurenceanthony.net/research/20071005\\_06\\_fooyin\\_keynote/20071005\\_06\\_fooyin\\_keynote\\_proc.pdf](http://laurenceanthony.net/research/20071005_06_fooyin_keynote/20071005_06_fooyin_keynote_proc.pdf)
16. Madeleine, B. L. L. (2007). Lost in translation. *Nature*, 445, pp. 454-455. Available from [https://www.tesolfrance.org/uploaded\\_files/files/Coll08-Ahmadi.pdf](https://www.tesolfrance.org/uploaded_files/files/Coll08-Ahmadi.pdf)
17. Majid Ahmadi, (2008) Who should teach ESP? Available from [https://www.tesol-france.org/uploaded\\_files/files/Coll08-Ahmadi.pdf](https://www.tesol-france.org/uploaded_files/files/Coll08-Ahmadi.pdf)
18. Maughan BC<sup>1</sup>, Lei L, Cydulka RK. ED handoffs: observed practices and communication errors. Available from *Am J Emerg Med.* (2011) Jun;29(5):502-11. doi: 10.1016/j.ajem.2009.12.004. Epub 2010 Apr 28.
19. Melissa Giegerich (2006) . A Survey of Foreign-Educated Nurses: Workforce Experience Available from <https://digitalcommons.iwu.edu/cgi/viewcontent.cgi?article=1002&context=nursinghonproj>
20. Miguel. C. S., F .Rogan, K. Kilstoff, D. Brown, Clinically speaking: A communication skills program for students from non-English speaking backgrounds. *Nurse Education in Practice*, 6(5), 2006, 268-274.
21. Norma Ponzoni. (2014). Contributing factors to ineffective nurse–physician communication: Survey results 2nd Annual World wide Nursing Conference (WNC 2014) copyright Gstf 2014 issn 2315-4330, from doi: 10.5176/2315- 4330\_WNC14.66
22. Renee R. Anspach (1989) Case presentations provide faculty with an opportunity to evaluate (house Officers)’ competency--their mastery of the details of the case, clinical judgment, medical management, and conscientiousness.
23. Richard J Haber, and Lorelei A Lingard, (2001) Learning Oral Presentation Skills: A Rhetorical Analysis with Pedagogical and Professional Implications, *J Gen Intern Med.* 2001 May; 16(5): 308–314. doi: 10.1046/j.1525-1497.2001.00233.x Available from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1495213/>
24. Robert Helán (2012). Analysis of Published Medical Case Reports: Genre-Based Study Available from [https://is.muni.cz/th/18899/ff\\_d/ DISSERTATION\\_-\\_ROBERT\\_HELAN.pdf](https://is.muni.cz/th/18899/ff_d/ DISSERTATION_-_ROBERT_HELAN.pdf)
25. Rosann Colosimo, (2006) Research on Shame: Implications for English as a Second Language Nursing Students Available from <http://journals.sagepub.com/doi/pdf/10.1177/1084822306292226>
26. Sarang Kim, MD,<sup>1</sup> Jennifer R Kogan, MD,<sup>2</sup> Lisa M Bellini, MD,<sup>2</sup> and Judy A Shea, PhD<sup>2</sup> Available from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1490196/>
27. Semra Kunt-Akbaş (2013), *A Genre Analysis of Medical Case Reports* Available from [www.academia.edu/2452076/A\\_Genre\\_Analysis\\_of\\_Medical\\_Case\\_Reports](http://www.academia.edu/2452076/A_Genre_Analysis_of_Medical_Case_Reports)
28. Steve Mcgee, Oral Case Presentation Guidelines Available from [nmfm.pbworks.com/w/file/fetch/.../Oral%20Case%20Presentation%20Guidelines.doc](http://nmfm.pbworks.com/w/file/fetch/.../Oral%20Case%20Presentation%20Guidelines.doc)
29. Velayutham Gopikrishna (2010) A report on case reports *J Conserv Dent.* 2010 Oct-Dec; 13(4): 265–271. doi: 10.4103/0972-0707.73375 Available from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3010033/>
30. Wiese J, Varosy P, Tierney L., ( 2002) Improving oral presentation skills with a clinical reasoning curriculum: a prospective controlled study. *Am J Med.* 2002 Feb 15;112(3):212-8. Available from <https://www.ncbi.nlm.nih.gov/pubmed/11893348>
31. Włoszczak-Szubzda A<sup>1</sup>, Jarosz MJ. (2013) Professional communication competences of nurses -- a review of current practice and educational problems *Ann Agric Environ Med.* 2013;20(1):183-8. Available from <https://www.ncbi.nlm.nih.gov/pubmed/23540236>
32. Yuliia Lysanets, Halyna Morokhovets and Olena Bieliaieva (2017) Stylistic features of case reports as a genre of medical discourse *Journal of Medical Case:83*. DOI: 10.1186/s13256-017-1247-Available from <https://jmedicalcasereports.biomedcentral.com/articles/10.1186/s13256-017-1247>

# A Study to Evaluate the Effectiveness of Structured Psychomotor Clinical Module on Knowledge and Attitude among Nursing Students in Selected Colleges

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## ABSTRACT

**Aim:** To evaluate effectiveness of structured psychomotor clinical module on knowledge and attitude among nursing students in selected colleges.

**Background:** The advanced method of the skill required for successful practice and learning can only be accomplished when student nurses are supported and guided by their teacher in the teaching and learning system for clinical subjects<sup>1,2</sup>.

**Methods: Research approach:** Qualitative approach, **Research design:** Quasi experimental design. **Sampling:** The students of B.sc nursing and GNM second year and third year whose are undergoing training in the hospital. The number of students was influenced by the nature of the design and number of respondents. The purposive sampling technique was adopted. It is the participant sense of reality and truth therefore the researcher recruited 60 samples for the study.

**Results and Discussion:** The findings revealed that majority of the students (68.3%) belongs to 17 -20 years, 87.3% of the students were from rural background and 57.7% of the students were from urban background. The study revealed that 70.8% of the nursing students had moderately adequate knowledge, 24. 6% had inadequate knowledge and only 4.4 % only the nursing students had adequate knowledge in the pretest. The study revealed that 50.8% of the nursing students had moderately adequate knowledge, 4. 6% had inadequate knowledge and only 44.6 % only the nursing students had adequate knowledge in the post test. The present study revealed that overall, 39.3% of the nursing students had a favorable attitude, 30.7 % of the nursing students had moderately favorable attitude and 30% of the nursing students had unfavorable attitude in the pretest The study revealed that overall, 69.7% of the nursing students had a favorable attitude, 31.3 % of the nursing students had moderately favorable attitude in the post test. There was no significant difference between mean pretest knowledge score ( $t=1.670, p>0.05$ ). But there was significant difference between mean post test knowledge score ( $t=10.914, p<0.05$ ). The results implied that the structured psychomotor clinical module was effective improving knowledge among nursing students. There was no significant association between pretest knowledge level among nursing students and age, religion, years and working areas. There was association between pre test levels of knowledge among nursing students regarding structured psychomotor clinical module with their source of information. It was found to be statistically significant at  $p<0.05$ .

**Conclusion:** The nursing students had average knowledge and attitude before planned structured psychomotor clinical module, and then the source of information had impact on knowledge and attitude of nursing students. There was no significant association between pretest knowledge level among nursing students and age, religion, years and working areas. There was association between pre test level of knowledge among nursing students regarding structured psychomotor clinical module with their source of information. It was found to be statistically significant at  $p<0.05$ .

**Keywords:** Effectiveness, Structured psychomotor clinical module, knowledge, Attitude, Nursing students

## INTRODUCTION

The ability to effective quality care depends on the philosophical assumptions and the methods that have been installed in aspirant student nurses during their psychomotor based clinical training. Since all health care systems are labour intensive, they require properly trained, well qualified and experienced nurse administrators and nurse educators to produce optimal results. Since nurse educators those who train student nurses are the ultimate responsible for the standards and quality of the nursing profession, they also function as the mentors of those whom they teach<sup>3,4</sup>.

The advanced method of the skill required for successful practice and learning can only be accomplished when student nurses are supported and guided by their teacher in the teaching and learning system<sup>5</sup>. The broad area of psychomotor clinical skills is an essential part of learning to be a nursing students are well trained in clinical skills, the quality of care for the patients in the hospitals and clients in the health care settings are improved. The well established training will be done in the pre clinical teaching as part of curriculum in nursing institutions<sup>7,9</sup>.

The students are supposed to start structured advanced clinical training during theory and practice in the basic clinical labs. The skills required continuous effort in the clinical area. The role of clinical teachers in this study is to help the students getting unnecessary skills, which have direct effect on patient care as they are the benchmark for nursing and nursing skills practice<sup>11, 12</sup>. This is stipulated in the curriculum which is being implemented in all nursing colleges in Andhra Pradesh. The recommended curriculum contains the following courses that are taught to student to at different levels. In the level of students are medical surgical nursing, sociology, community health nursing and Communication education technology<sup>13,14</sup>.

While at level two, students are taught about mental health nursing, pediatrics nursing and OBG Nursing. When students have learnt theory, they are allowed to practice in the skills laboratory to master skills before they are exposed to real clients in the clinical area<sup>15,16</sup>. Quality nursing care is compromised due to shortage of well trained nurses. Most of the nursing care is provided by well qualified nurse educators in the state<sup>17, 18</sup>.

High quality health care demands a nursing workforce with competence in the clinical skills. However the clinical competency of newly qualified nurses from selected colleges of clinical skills education. Such continues to stimulate debate about the adequacy of current method of clinical skills education. Such that, people have wondered as to how nurses are being trained in selected colleges<sup>19,21</sup>.

Despite curriculum improved and skills of lab in nursing procedures also improved but still nurses graduated from colleges are not competent enough to deliver quality care to the needy people. It has also been observed the pattern of exams and way of teaching also has to change for welfare of public and nursing care competency skills<sup>20,22</sup>. Of particular that lack of advanced technology in nursing and lack published papers in research in the selected colleges on factors affecting the psychomotor skills in the clinical areas by nursing students. It was against this background that this research study was conducted with the purpose of exploring the factors that the structured psychomotor clinical skills by students graduating from nursing colleges. Specifically this aimed at describing: students experience on the factors that hinder updating the psychomotor clinical skills, describing nurses and tutors experiences on factors that hinder acquisition of psychomotor clinical skills. The study was guided by the following research question. What are the factors that influence improving research questionnaire of psychomotor skill development?<sup>17,21</sup>.

### Operational definitions

**Clinical nurse:** A qualified nurse who has registered from state nursing council and she can able provide care to public.

**Clinical teacher:** A qualified person who teaches the students in clinical area where they posted.

**Student nurse:** As per the norms of the Nursing councils student who undergo training for active learning about nursing profession.

**Nursing college:** College which is recognized to nursing councils and able to provide nursing programme at graduate level.

**Clinical instructor:** A qualified nurse whose responsible for provide clinical instructions to students during clinical practice.

## METHOD

**Research approach:** Qualitative approach

**Research design:** Quasi experimental design

**Study settings:** the study was conducted selected college of nursing and hospitals which are attached with nursing colleges which trains the nurses in East Godavari District, Andhra Pradesh. The hospital are provides integrated health services to the marginalized population of the Andhra Pradesh.

The students of Bsc nursing and GNM second year and third year whose are undergoing training in the hospital. The number of students was influenced by the nature of the design and number of respondents.

**Sampling:** The purposive sampling technique was compromised of respondents who are likely to be able to provide information and the phenomenon under study. The nursing students were targeted as a sample to respond questionnaire.

The identified participants were then approached by researchers and requested to participate in the study. Written consent was taken from the student to maintain confidentiality of the study. The sample size for qualitative research was not predetermined and therefore sampling was done until saturation<sup>6</sup>.

The purposive sampling technique was adopted for the study and according the authors and researchers sample size was sufficient in providing complete and accurate information within a particular cultural context, as long as participants posses a certain degree of expertise about the domain of inquiry. It is the participant sense of reality and truth therefore the researcher recruited 60 samples for the study<sup>8,10</sup>.

**Tool: Structured knowledge questionnaire and attitude scale**

Part A: demographic variable of nursing students

Part B: Structured knowledge questionnaire

Part C: Attitude scale

**Validity of tool:** The self administered structured knowledge questionnaire attitude scale and structured psychomotor module are given to experts and got suggestions and modification were accepted and incorporated.

**Reliability of tool:** Reliability of the questionnaire and attitude scale computed by applying split half method using karl pearson coefficient formula i. e.,  $r = 0.91$  which shows tool was internally consistent.

**Data collection:** Data was collected through the depth in questionnaire about knowledge and attitude scale basis for convergence on truth because it was hoped that true information could be sorted out, a researcher with an opportunity to probe more on the issues under study.

The data was collected thoroughly with permission from the participant they wished to make any comments pertains to the study topic. Following this the researcher thanked each participant for their time and valuable contribution. The data collection totally took six weeks of time. As there ere no overlaps of staff between departments and the departments were far apart contamination between subjects were negligible<sup>10</sup>

**Protection of Human Rights:** The study was performed after getting approval from the research and ethical committee. Permission was obtained from the concerned Authorities in the nursing college to conduct the study. An informed consent was obtained from all the students after informing them about the details of the study. Confidentiality of the information was achieved by maintaining anonymity of the subjects.

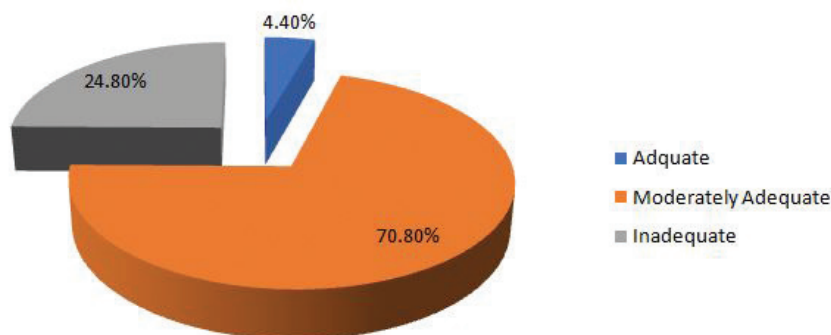
**Data analysis:** The transcribed data and written notes made by researcher followed questionnaire distribution the means to begin exploring the data obtained. The data was analyzed descriptive and analytical way of transmission of data<sup>10</sup>.

**Results and Discussion:** The findings revealed that majority of the students (68.3%) belongs to 17 -20 years, 87.3% of the students were from rural background and 57.7% of the students were from urban background.

The study revealed that 70.8% of the nursing students had moderately adequate knowledge, 24. 6% had inadequate knowledge and only 4.4 % only the nursing students had adequate knowledge in the pretest.

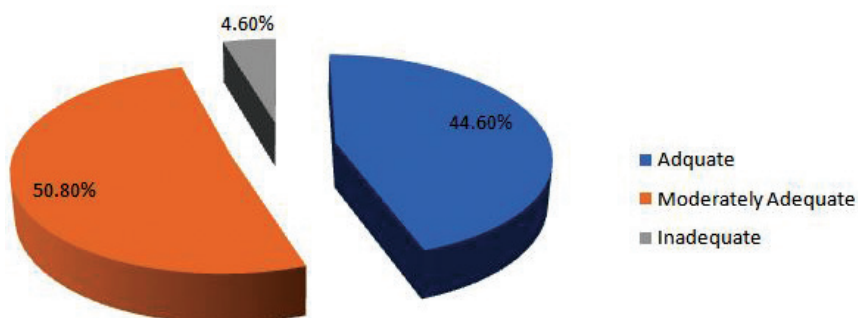
The study revealed that 50.8% of the nursing students had moderately adequate knowledge, 4. 6% had inadequate knowledge and only 44.6 % only the nursing students had adequate knowledge in the post test.

### knowledge of psychomotor clinical skills



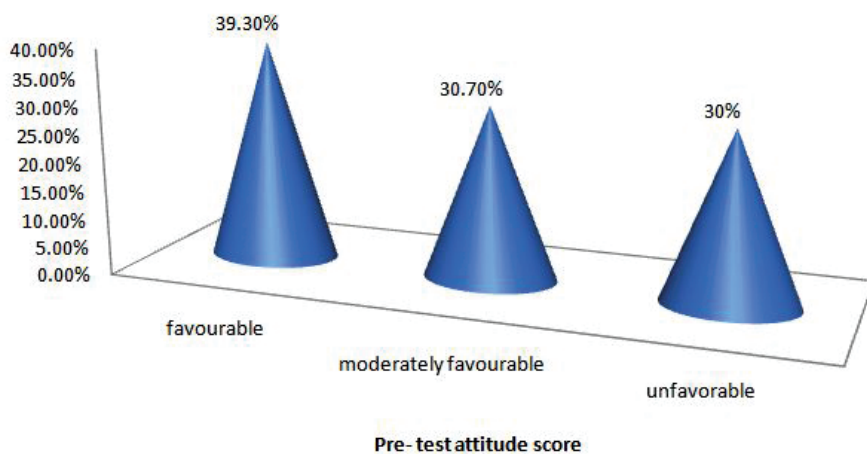
**Figure 1: Overall Knowledge of Nursing students regarding structured psychomotor clinical module in pre test (N = 60)**

### knowledge of psychomotor clinical skills



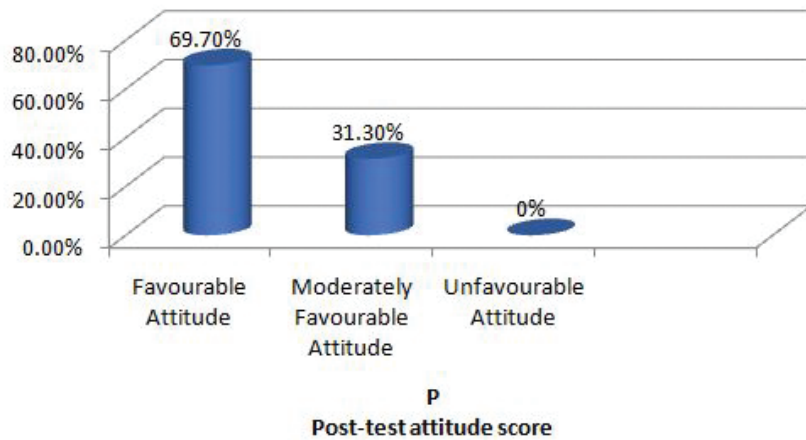
**Figure 2: Overall Knowledge of Nursing students regarding structured psychomotor clinical module in post test (N = 60)**

The present study revealed that overall, 39.3% of the nursing students had a favorable attitude, 30.7 % of the nursing students had moderately favorable attitude and 30% of the nursing students had unfavorable attitude in the pretest



**Figure 3: Overall Attitude of Nursing students regarding structured psychomotor clinical module in pre test (N = 60)**

The study revealed that overall, 69.7% of the nursing students had a favorable attitude, 31.3 % of the nursing students had moderately favorable attitude in the post test.



**Figure 4: Overall Attitude of Nursing students regarding structured psychomotor clinical module in post test (N = 60)**

**Table 1: Comparison of pretest and post test level of knowledge among nursing students (N = 60)**

Knowledge score	pretest	Post test
Mean	15.0	20.2
Standard deviation	3.4	1.9
Upaired t,df, p value	1.670,5,0.100	-10.914,5,0.000

There was no significant difference between mean pre test knowledge score ( $t=1.670, p>0.05$ ). But there was significant difference between mean post test knowledge score ( $t=10.914, p<0.05$ ). The results implied that the structured psychomotor clinical module was effective improving knowledge among nursing students.

**Table 2: Association between pretest level of knowledge among nursing students and selected socio demographic variables N = 60**

Socio demographic variables	Inadequate	Moderately Adequate	Adequate	Total	X <sup>2</sup> ,df,p value
<b>Age</b>					6.2914,0.178 <sup>NS</sup>
17-19	2(50.0)	7(17.1)	3(20.0)	12(20.0)	
19-20	2(50.0)	17(41.5)	3(20.0)	22(36.7)	
20-22	0(0.0)	17(41.5)	9(60.0)	26(43.3)	
<b>Religion</b>					8.205,40,0.084 <sup>NS</sup>
Hindu	0(0.0)	16(39.0)	7(46.7)	23(3.3)	
Muslim	2(50.0)	2(50.0)	2(50.0)	2(50.0)	
Christian	2(50.0)	2(50.0)	2(50.0)	2(50.0)	
<b>Years</b>					0.925,20.630 <sup>NS</sup>
Second year	4(100.0)	34(2.9)	12(80.0)	50(83.3)	
Third year	0(00.0)	7(17.1)	3(20.0)	10(16.7)	
<b>Working areas</b>					5.936,4,0.204 <sup>NS</sup>
Medical ward	3(75.0)	8(19.5)	2(13.3)	13(21.7)	
Surgical ward	0(0.0)	7(17.1)	2(13.3)	19(15.0)	
Orthopedic ward	1(25.0)	26(63.4)	11(73.3)	38(63.3)	

Conted...

Source information					7.092,2,0.029*
Printed material	4(100.0)	38(92.7)	10(66.7)	52(86.7)	
Electronic media	0(0.0)	3(7.3)	5(33.3)	8(13.3)	

\* Indicated highly significant at  $p < 0.05$ 

There was no significant association between pretest knowledge level among nursing students and age, religion, years and working areas. There was association between pre test level of knowledge among nursing students regarding structured psychomotor clinical module with their source of information. It was found to be statistically significant at  $p < 0.05$ .

### CONCLUSION

The nursing students had average knowledge and attitude before planned structured psychomotor clinical module, then the source of information had impact on knowledge and attitude of nursing students. There was no significant association between pretest knowledge level among nursing students and age, religion, years and working areas. There was association between pre test level of knowledge among nursing students regarding structured psychomotor clinical module with their source of information. It was found to be statistically significant at  $p < 0.05$ .

**Conflict of Interest:** None

**Source of Funding:** Self

### REFERENCES

1. Morag G, Lorraine NS. The qualities of an effective mentor from the student nurse's perspective: findings from a longitudinal qualitative study. *J Adv Nurs*. 2015;32(6):1542-9
2. Bloom fields j, While A. The effect of computer-assisted learning versus conventional teaching methods on the acquisition and retention of hand washing theory and skills in per-qualification nursing students. A randomized controlled trail. *Int J Nurs Stud*. 2015;14:314-6
3. Malawi News (2010) Outcry by the public. June 26-July 2 Vol. 10 No 216: 9-10.
4. Meyer S, Naude M, Van Niekerk S. the unit manager. A comprehensive guide. 2<sup>nd</sup> ed. south Africa: JUTTA;2014.
5. Burns N , Grove KS. The practice of nursing research. Conduct critique and utilization. USA: Lee Henderson: 2010.
6. Polit FS, Hungler PB. Nursing research. Principles and methods. 5<sup>th</sup> ed. Philadelphia: Lippincott: 2017.
7. Guest G, Bunce A, Johnson L. How many interviews are enough? An experiment with data saturation and variability, fields methods. *Family Health International Journal*. 2016;18:59-82.
8. Streubert HJ, Carpenter DR. Qualitative research in nursing advancing the haumanistic imperative. Philadelphia: J.B Lippincott Company: 2015.
9. Bogdan RC, Biklen SK. Qualitative research for education. An introduction to theories and methods. 5<sup>th</sup> ed. Boston: Allyn \$ Bacon: 2014.
10. Grbich C. Qualitative data analysis. An introduction. Los Angeles: SAGE Publications: 2014
11. Polit FD, Beck TC. Essentials of nursing research. Appraising evidence for nursing practice. 7<sup>th</sup> ed. Lippincott: William Wilkins: 2012.
12. Schmidt NA, Brown JM. Use of the innovation-decision process 2015;23(3):150-6.
13. Cook TH, Gilmer ML, Bess CJ. Nursing education in the clinical setting. *Health Sci j*. 2013;1:1-67.
14. Rhodes M, Morris A, Lazenby R. (February 25, 2011)"Nursing at its Best: Competent and Caring". *OJIN: The Online Journal of issues in Nursing* Vol. 16 no. 2:10.
15. Walters M, Furyk J. Nursing education in a resource limited environment: an evaluation of an educational teaching package on intramuscular injections, in Blantyre, Malawi. *Journal of Nursing Education in practice*. 2014;5:256-61.
16. Quinn FM. Principles and practice of nurse education. 4<sup>th</sup> ed. Cheltenham: Stanley Thornes; 2010.

17. William R. clinical education program strategies for challenging times. Focus on Health Professional Education: a Multi- Disciplinary Journal. 2013;2(2):1-17.
18. World Health Organization. The World Health report 2000. Health Systems: Improving Performance. Geneva: 2016.
19. Chen SL, Brown JW, Groves ML, Spezia AM. Baccalaureate education and American nursing homes: a survey of nursing schools. Nurse Educ Today. 2014;27(8):909-14.
20. Leaders M. the theory/practice gap in nursing: the views of students. The all Ireland Journal of nursing and Midwifery. 2007;1:142-7.
21. Pfeil M. the skills- teaching myth in nurse education: from Florence nightingale to project 2000. International History of Nursing Journal. 2015;7:32-40.
22. Cormack C. The research process in nursing . 4<sup>th</sup> ed. Great Britain: MPG Book Limited: 2010.

# Effectiveness of Self Worth Therapy on Depression among Elderly in Selected Old Age Homes, Kancheepuram District

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## ABSTRACT

In our ageing society, the problem of depression can reach further than the undoubted emotional suffering of elderly individual. The objective was to determine the effectiveness of self worth therapy on depression among elderly in study group. The quantitative approach and quasi experimental-Pretest-post test control group design was used for this study. The study was conducted with 62 samples of elderly with mild depression using purposive sampling technique. The study was conducted at selected old age homes, Kancheepuram District. The data was analyzed and interpreted based on the objectives using descriptive and inferential statistics. Self worth therapy was found to be effective in reducing the level of depression. There is no association between post-test level of depression among elderly with their demographic, personal and clinical variables in study and control group. self worth therapy was highly effective in reducing depression of elderly persons those who were in selected old age homes, Kancheepuram District.

**Keywords:** depression, self worth therapy

## INTRODUCTION

Self-worth is the quality of being worthy of esteem or respect. Self-worth is integrally related to self-image and sense of self-esteem. Self-worth relates to issues of control. The greater the sense of self-worth, the greater the confidence, that you can take and keep control over your life. Often, people with low self-worth are those who set impossible, rigid, or inflexible standards for themselves. World Health Organization conducted a prevalence study on depressive disorders among the elderly in India. Depressive disorders generally vary between 10 and 20%, depending on the cultural situations.<sup>1</sup> N.Bayapa Reddy conducted a cross sectional study on prevalence of depression among the elderly population in Rural Geriatric Population of Tamil Nadu was determined to be 47.0%<sup>2</sup>.

Depression affects about 6 million elderly, globally. Elderly women experience depression more often than elderly men. Elder people as a group are more at a risk for suicide. One quarter of suicides are committed by elderly. Depression occurs in 15% of those over the age 65. Elderly with depression have about 50% higher health care costs. Depression also weakens immune system making the body more prone to physical illness. The national institute of mental health considers depression in elderly as a major health problem<sup>3</sup>.

Mary Anne Basilio conducted a prevalence study on depression among the elderly in Indian population was determined to be 21.9%<sup>4</sup>.

Psychotherapy is an efficient and effective therapy for individuals who want to achieve greater personal happiness through rebuilding self confidence and self esteem, adjusting to challenging work environment, alleviating depression, managing uncertainty and change, reducing anxiety and sorting out important relationships. There are many psychotherapy like Cognitive Behavior Therapy, Group Therapy, Family Therapy, Reminiscence Therapy, Self-worth Therapy, Validation Therapy and

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Individual Therapy and thus nurses can also effectively intervene with the use of self-worth therapy to overcome the problems of elderly. Thus nurses can also effectively intervene with the use of self-worth therapy to overcome the problems of elderly<sup>5</sup>.

Yun-Fang Tsai (2008) conducted an experimental study to assess the effectiveness of Self-worth therapy for depressive symptoms in older nursing homes residents. Older people were sampled by convenience from residents of a nursing homes in northern Taiwan. Participants in the experimental group (n = 31) received 30 minutes of one-to-one self-worth therapy on 1 day per week for 4 weeks. Control group participants (n = 32) received no therapy. Data were analyzed by mean, standard deviations, t-test, chi-squared test. The depressive status of the experimental group (mean = 16.1, SD = 3.0) was statistically significantly higher than that of the control group (mean = 14.3, SD = 3.4) at baseline (T = 2.21, d.f. = 61, P = .03). At the first post test (immediately after the four week intervention), the average GDS scores for the experimental and control groups were 12.8 (SD = 2.9) and 11.3 (SD = 4.8) respectively. Two months after the intervention, the average GDS scores for the experimental and control groups were 10.0 (SD = 3.6) and 12.0 (SD = 4.9) respectively. The result shows that Self-worth therapy immediately decreased depressive symptoms relative to baseline, but not relative to control treatment. Self-worth therapy is an easily-administered, effective, treatment with potential for decreasing depressive symptoms in older nursing homes residents<sup>5</sup>.

Self worth Therapy refers to teaching strategies to self manages depressive symptoms and provides dignity therapy. Dignity Therapy is based on Question Protocols. Studies shows that Dignity Therapy is a part of self worth therapy and their findings proved that it is an effective way to enhance individual's dignity, self esteem and to diminish sufferings and depression. Self worth Therapy helps to improve the physical, psychological, social, and emotional well-being; Therapy helps for a normalized, balanced lifestyle for all people, and essential as a means of self-expression, release, and socialization, to achieve the highest possible level of independence and quality of life. The Advantages of this therapy are the trainees learn a vocation, gain a sense

of self worth, economic independence, learn to improve inter personal relationship<sup>5</sup>.

Nurses roles are to establish a therapeutic relationship (understanding participant's physical and emotional needs), explore support systems, spiritual needs and relationships (exploring the most important people, impact of religion and current personal relationships in participants lives), seek meaning and purpose in life (exploring participants roles in the family and society, their hopes and goals in life), appreciate or affirm the persons value ( exploring the proudest moment or event in their life)<sup>5</sup>.

Depression is a common problem in elderly, self worth therapy enhances self esteem and reduces depression. As there are limited literatures pertaining to depression, hence the researcher felt the need for conducting self worth therapy to generate the evidence of usefulness on self esteem, depression.

## MATERIALS AND METHOD

The study was conducted in Sivananda Saraswathi Sevashram, Kattankuthur and Little Drop Old Age Home. The sample size is 62 elderly and Purposive sampling technique was adopted to select the study samples. The investigator collected the data within the stipulated time; a brief explanation was given explaining the purpose of the study with their consent so as to gain their co operation during the process of data collection. Using the structured questionnaire, [section-A demographic data of the elderly were collected and using section-B J.A. Yesavage's Geriatric depression Scale [GDS] was used to assess depression respectively. Study group was divided into four groups for the investigator's convenience. Each group had 8 members. The study groups were given 45 minutes session of self worth therapy on alternative days and got feedback from them regarding their emotional experiences after self worth therapy over the period of 4 weeks. Totally 5 sessions within the 3 weeks were conducted for the study groups. Meanwhile, the participants of the control group were allowed to follow the routine practices. The post assessment was done after 7 days of the intervention for the study group and control group. The findings were analyzed using the descriptive and inferential statistics.

## RESULTS

**Table 1: Frequency and percentage distribution of pre and post test level of depression among elderly in study and control group N = 62**

	Study Group [n = 31]						Control Group [n = 31]					
	Normal		Mild depression		Severe depression		Normal		Mild depression		Severe depression	
	no	%	no	%	no	%	no	%	no	%	no	%
Pre Test	0	0	31	100	0	0	0	0	31	100	0	0
Post Test	28	90.3	3	9.7	0	0	0	0	31	100	0	0

**Table 2: Comparison of mean and standard deviation of pre and post-test level of depression among elderly in study and control group N = 62**

	Statistical Measures	Pretest	posttest	t-test
Study Group	Mean	14.81	8.23	t = 11.7, p < 0.0001**
	Standard deviation	2.10	2.32	
Control Group	Mean	16.00	16.06	t = 0.13, p = 0.89NS
	Standard deviation	2.02	1.59	
t-test		t = 2.27, p = 0.02**	t = 15.59, p < 0.0001**	

## CONCLUSION

The present study assessed the effectiveness of Self worth therapy on depression among elderly residing in selected old age homes, Kancheepuram District. The result of the study concluded that Self worth therapy has reduced the depression among elderly.

This shows that the imperative need to understand the purpose of administration of self worth therapy in reducing depression among elderly in old age home and it will enhances an overall sense of well being.

## IMPLICATIONS

- As a member of health team, nurses play a vital role in reducing the depression among elderly.
- Nurses should develop skill in implementing Self worth therapy.
- Nurse administrators should motivate the public to involve in scientific meetings regarding self worth therapy.
- As a nurse researcher, promote more research on reducing depression among elderly.

**Conflict of Interest:** Declared none

**Source of Funding:** Self-funded

## REFERENCES

1. World health day, 2001. Indian Journal of Psychiatry. 2001; 43:1-4.
2. ReddynB. A psychological morbidity status among the rural geriatric population of Tamil nadu, India: a cross sectional study. Indian Journal of Psychological Medicine.2012; 34(3):227-231.
3. Back, Rawlins, Williams's .Mental Health Psychiatric Nursing. 2nd edition. St Louis: The C.V.Mosby Company; 1998.
4. Marry Anne Basilio. Prevalence of depressive disorder among elderly. Journal of Annals of Saudi Medicine. 2013; 31(6): 620-624.
5. Yun-fang Tsai, Thomas K.S Wong, hsiu-hsintsai.“Self-worth therapy for depressive symptoms in older nursing homes residence”. Jan. Blackwell. July 2008; p.240-246.

# Perception of Neuroscience Nursing OSCE among Undergraduate Nursing Students

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## ABSTRACT

Clinical competence is the crux of Nursing Education. Evaluation of this clinical competence is of paramount importance and provides nursing students the confidence required to practice in real life scenarios. Objective Structured Clinical Examination (OSCE) is an approach to students' assessment in which the aspects of clinical competence are evaluated in a comprehensive, consistent and structured manner, with close attention to the objectivity of the process<sup>1</sup>. The OSCE was introduced for the first time among III Year Bachelors in nursing students at College of Nursing, Christian Medical College, Vellore. In order to improve further in the conduct of OSCE in future, the faculty of Neuroscience nursing were interested in knowing the perception of nursing students on the Quality of Performance of OSCE. Hence, a retrospective design was utilized to analyze the feedback from 96 students. The overall perception of the students' feedback was positive and these feedbacks were valuable and helped faculty to further develop and enhance OSCE.

**Keywords:** Objectively Structured Clinical Examination, Quality of Performance

## INTRODUCTION

The review of literature reveals that Objectively Structured Clinical Examination (OSCE) is recommended as a powerful and effective tool for evaluating nursing students' clinical performance<sup>2</sup>. Though OSCE was first introduced in the medical evaluation by Harden in Scotland in the year 1975, it is now widely utilized in the other disciplines of medical sciences<sup>3</sup>. Assessing a clinical performance is something complex and no single assessment strategy can provide all the information required to evaluate a student. Compared to other forms of evaluation methods, OSCE with relevance to topic under examination may be considered a valuable strategy for enhancing the assessment of student's clinical competence<sup>4</sup>.

Clinical evaluation of students should be effective, accurate and however, there is a reasonable expectation in terms of objectivity, fairness, specificity, communication

and documentation skills. The students should be oriented to specific objectives by which they will be evaluated. Therefore, a performance based assessment fairly meets these criteria. One such performance based assessment is OSCE and it is now widely and increasingly used. Studies have shown OSCE as an effective tool to assess practical skills. In nursing education, principles of OSCE can be used in a formative way to enhance skills acquisition through simulation. The feedback received regarding this teaching method is useful and shows that OSCE are favorably perceived<sup>5</sup>.

The OSCE is the performance of a predefined timed task by student. Depending on the level of students, the number of task station is determined by the Faculty. Each student is given a stipulated time to complete the task and at the ring of the bell, they will have to leave the task station to rotate around in a sequence to complete the rest of the other tasks. There are interactive and non-interactive stations. The interactive station has a non-medical person as a 'standardized patient' to play the role of a patient in a simulated environment. Studies have shown that use of standardized patients have empowered the reliability of OSCE. The reliability co-efficiency ranged from 0.40-0.91, with majority between 0.60-0.91 ranges. This is done to make the student feel at ease, reduce their stress levels and provide a comfortable environment<sup>6</sup>.

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Miller in 1990 describes a framework for the clinical competence which outlines four levels of assessment: *Knows, knows how, shows how, and does*. The OSCE conforms to the third *shows how* level of Miller's pyramid. This is done in a controlled setting<sup>7</sup>. Therefore, it is strongly recommended to integrate OSCE in the undergraduate curricula to assess safe practices in terms of performance of psychomotor and communication skills.

Nursing students' feedback on OSCE suggests that it is an objective tool for the evaluation of clinical skills. Students perceived OSCE scores as a true measure for essential clinical skills being evaluated, standardized, and not affected by student's personality or social relations<sup>8</sup>. An evaluation of OSCE by nursing students highlighted some areas for improvement. This included inadequacy of time in some stations and limited period of orientation<sup>9</sup>. Students are positive about the quality of OSCE performance in terms of clarity of instructions, sequence of OSCE stations, reflection of the tasks taught and the time at each station<sup>10</sup>. Students acknowledge the OSCE is stressful, they felt they were well prepared and appreciated the efficacy and relevance of this assessment method<sup>11</sup>.

In this research project we assessed the III year Bachelors in nursing students' perception regarding OSCE. The OSCE was conducted at the end of two weeks of the Neuroscience Nursing clinical posting. Since the OSCE will be introduced as part of clinical examination from the following academic year by the University, we wanted students to undergo and familiarize with OSCE. The students virtually spent five hours per day in the clinical and regular clinical teaching conferences were organized to complement their learning. Students were oriented to OSCE during theory classes and at the beginning of their clinical posting. At the end of the second week, OSCE was conducted for each batch of ten students.

The OSCE comprised of five workstations, each lasting five minutes. The practical skills included Glasgow Coma Scale assessment, Cranial Nerve assessment of any one nerve and this was changed for each batch, the FAST assessment in stroke, and application of cervical hard collar. Students performed these skills on a standardized patient. Relevant communication skills were assessed whenever indicated. At the end of the assessment at each station, they were asked to document the findings. A non-interactive station was matching of drugs against the disease conditions. There were five neurological conditions listed on a paper and a tray containing drugs including distractors kept on the table.

The students were asked to select the drug of choice, place it against the neurological disorder and write one important nursing consideration for the drug selected.

All instructions were typed and fixed on the walls or writing desk and writing materials were available at each station. The evaluator was present at each station. At the beginning of the OSCE, the evaluators were oriented to the workstation, the checklist and scoring pattern. The evaluators were Faculty, Tutor and Ward Incharges in the unit. The standardized patient was non-medical personnel and they were oriented to their simulated performance. Prior to the OSCE, students were oriented to the nature of workstations and timing. At the end of the OSCE, the students were given a feedback form and this was an OSCE evaluation tool by Pierre et al (2004). Since this was the first time OSCE was conducted in Neuroscience Nursing Department, we wanted to obtain the feedback in terms of the conduct of OSCE. Hence, we used only the Quality of Performance of OSCE feedback by Pierre et al (2004).

The use of checklist as opposed to rating scales, standardized training of patients to maximize the reproducibility of station performances, minimum of 3-4 hrs of testing time, stations assessing hands-on clinical skills with patients as opposed to stations using written items and use of checklists have shown to improve reliability of OSCE<sup>12</sup>. We did our best to incorporate this in our OSCE and engaged standardized patients, scored on a check list, and ensured more interactive sessions. Each student was given 5 minutes at each stations and a total of 25 minutes per student was allotted to complete all 5 stations. Since students were undergraduates and appeared for OSCE in batches of ten, owing to availability of faculty and feasibility of examination, we limited timings and stations. Our checklist had a minimum of 4 items to 8 items in each station, with total items ranging from 42-46 during each OSCE.

**Objective of the Study:** Explore the perception of Neuroscience Nursing OSCE among nursing students

**Hypothesis:** It is hypothesized that students will have a positive perception regarding OSCE

## METHOD

The study incorporated a retrospective design to retrieve data. The study was conducted in the Neuroscience Nursing Department of the College

of Nursing, Christian Medical College, Vellore. The population consisted of B.Sc. Nursing students. The III year students who participated in the OSCE and provided feedback on OSCE were included in the study. A total enumeration sampling technique was adopted to select samples and 96 students' feedbacks were included in the study. The Pierre et al (2004) OSCE evaluation on Quality of Performance of OCSE was used to collect the feedback. It has eight statements and students rated their opinion on a Likert scale. The statements were 1. Fully aware of exam's nature 2. Tasks reflected skills performed 3. Time at stations was adequate 4. Settings and contents of the stations were authentic 5. Instructions

were clear and unambiguous 6. Tasks asked to perform were fair 7. Sequences of stations were logical and appropriate 8. OSCE provided opportunity to learn real life scenarios. It has eight items and we measured it on a 4 point Likert scale and we had added the *strongly agree* to the original *agree*, *neutral* and *disagree* ratings. All of the eight statements were rated and highest score was given as 4 for *strongly agree*, 3 for *agree*, 2 for *neutral* and 1 for *disagree*. It was interpreted according to the students' perception against each statement. Descriptive statistics was used to analyze the perception of students on their Quality of Performance of OSCE and results are presented in tables.

**Table 1: Distribution of students' perception according to Quality of Performance in OSCE (N = 96)**

Sl. No.	Quality of Performance of OSCE	Strongly agree		Agree		Neutral		Disagree	
		N	%	N	%	N	%	N	%
1.	Fully aware of the nature of exam	52	54.2	33	34.4	10	10.4	1	1.0
2.	Tasks reflect skills performed	49	51.0	41	42.7	6	6.3	0	-
3.	Time at the stations were adequate	57	59.3	30	31.3	9	9.4	0	-
4.	Settings and content of stations were authentic	50	52.1	37	38.5	5	5.2	4	4.2
5.	Instructions were clear and unambiguous	52	54.2	33	34.4	8	8.3	3	3.1
6.	Tasks asked to perform were fair	60	62.5	30	31.3	6	6.3	0	-
7.	Sequence of stations were logical and appropriate	58	60.4	32	33.3	5	5.2	1	1.0
8.	OSCE provided opportunity to learn real life scenarios	60	62.5	32	33.3	4	4.2	0	-

**Table 2: Overall distribution of students perception according to Quality of Performance in OSCE (N = 96)**

Perception score	Percentage score	Perception regarding OSCE	
		Frequency (n)	Percentage (%)
Strongly agree	81–100%	60	62.5
Agree	61–80%	32	33.3
Neutral	41–60%	4	4.2
Disagree	< 41%	0	0.0
Minimum score		8	
Maximum score		32	

## RESULTS AND DISCUSSION

Overall perception of OSCE from students' feedback on Quality of Performance of OSCE was positive (Table 1). More than half of the students 54.2% strongly agreed

and 33.4% agreed that they were fully aware of the nature of the exam. Only 10% of them were neutral this aspect. Students strongly agreed that at each station instructions were clear (59.3%) and time allotted was adequate (54.2%) as compared to the findings of Hatamelah

and Saheeb (2015) who reported a 9.1 % and 10.9% respectively for both aspects<sup>13</sup>. They had 12 OSCE stations and 6 minutes for each station to complete the task. Also, in this study none of the students felt that time was inadequate at stations though Abraham et al (2009) reported in their study that more than 50% of the students felt that time were a common concern<sup>14</sup>. Similar findings by Pierre et al (2004) reported that time at stations were insufficient among final year medicine students. However, Amina et al (2009) reported that majority (88.8%) of the students agreed that time was adequate at each station and they had included 20 stations and 5 minutes for each station<sup>15</sup>. The reason for our students' increased positive perception could be because they had 5 stations and 5 minutes for each station. The end of posting OSCE was done in batches throughout the academic year. Hence, examination time for students was less compared to other studies. This, we presume would have had some impact on a positive feedback.

Around 51% and 42.7% of the students strongly agreed and agreed respectively to the statement that tasks performed were reflective of clinical skills and the findings commensurate with that of Aung et al (2016) who reported that 90.1% of students agreeing on this<sup>16</sup>. Nearly 62.5% and 31.3 % of students strongly agreed and agreed respectively that tasks asked to perform were fair. Around 95.8% (62.5% strongly agreed and 33.3% agreed) agreed that OSCE provided opportunity to learn real life scenarios. Here we used standardized patients as actors for the case scenarios and hence nearly mimicked a patient. However, in a simulated scenario where a manikin is used, students should be able to immerse themselves within the scenario and role playing; they have to feel the scenario is a believable situation. In a qualitative study Fidment (2012)<sup>17</sup>, students felt that environment and equipment are not realistic enough to make them feel in a real life scenario. One student commented *"I felt silly being in a room with a doll (SIM baby). Just that it doesn't seem like real life. You forget things you would normally do..."* Nevertheless, in this study, students felt positive towards using standardized patients and had a positive perception towards OSCE in terms of learning real life scenarios. Also, students rated positive towards setting and authenticity of the stations (52.1% strongly agreed and 38.5% agreed). The overall perception on the Quality of Performance of OSCE revealed that 62.5% of students strongly agreed to the positive attributes and 33.3% of them agreed (Table 2).

## CONCLUSION

The students' response to OSCE had helped to ensure that the findings are a valid representation of students' opinion. The feedback from students' perception on OSCE is highly rated positive and it is encouraging enough for the faculty and students to justify its continued use. From our experience and feedback from students, we strongly recommend a minimum number of stations, limited time and specific items to be tested for undergraduate students. Further research is required to draw a correlation between the OSCE scores and students' perception.

**Ethics:** The study was conducted following the permission from the College of Nursing Research Committee. Anonymity of the students' feedback was maintained by asking students not to mention their names. The feedback forms were provided and received from students by a clerical staff. Hence, the researcher was blinded to the data. The data was retrieved only after the approval by the College of Nursing Research Committee. However, the feedback was discussed with the students following every OSCE.

**Confidentiality of Data:** The feedback forms obtained from students are kept under lock. The principal investigator has the access to these documents.

**Limitation of the Study:** The study was a retrospective analysis of the feedback provided by students. The feedback was regarding the overall Quality of Performance of OSCE and did not provide feedback for each station. It is also essential to understand the psychological aspects of students during OSCE which we did not look into owing to limited time during the time of feedback.

**Conflict of Interest:** The authors state no conflict of interest

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## REFERENCES

1. Byrne E, Smyth S. Lecturers' experiences and perspectives of using an objective structured clinical examination. *Nurse Education in Practice*. 2008 Jul 1;8(4):283-9.
2. Ross, M., Carroll, G., Knight, J., Chamberlain, M., Fothergill-Bourbonnais, F. and Linton, J.

- (1988), Using the OSCE to measure clinical skills performance in nursing. *Journal of Advanced Nursing*, 13: 45-56.
3. Harden RM. What is an OSCE?. *Medical teacher*. 1988 Jan 1;10(1):19-22.
4. Smith, V., Muldoon, K., and Biesty, L. The Objective Structured Clinical Examination (OSCE) as a strategy for assessing clinical competence in midwifery education in Ireland: A critical review. *Nurse Education in Practice* 2012 September, 12(5):242–247
5. Alinier, G., (2003). Nursing students' and lecturers' perspectives of objective structured clinical examination incorporating simulation. *Nurse Education Today*, 23(6): 419-426.
6. Carraccio C, Englander R. The objective structured clinical examination: a step in the direction of competency-based evaluation. *Archives of pediatrics & adolescent medicine*. 2000 Jul 1;154(7):736-41.
7. Miller, G.E. (1990). The assessment of clinical skills/competence/performance. *Academic Medicine (supplement)* 65, S63-S7.
8. Ahuja, J. (2009). OSCE: A Guide for Students, Part 1. *Practice Nurse*, 37(1), 37 – 39.
9. Pierre, R., Wierenga A., Barton M., Branday J.M. & Christie, C., (2004). Student Evaluation of an OSCE in Pediatric at the University of the West Indies, Jamaica. *BMC Medical Education*, 4(22):1-7.
10. Alinier G. Nursing students' and lecturers' perspectives of objective structured clinical examination incorporating simulation. *Nurse Education Today*. 2003 Aug 1;23(6):419-26.
11. Dorothy Devine Rentschler PhD RN, Paula McWilliam MS AR. Evaluation of undergraduate students using objective structured clinical evaluation. *Journal of Nursing Education*. 2007 Mar 1;46(3):135.
12. Swanson DB, van der Vleuten CP. Assessment of clinical skills with standardized patients: state of the art revisited. *Teaching and Learning in Medicine*. 2013 Jan 1;25(sup1):S17-25.
13. Hatamelah W, Saheeb Z.A. Nursing Students Perception of an Objective Structured Clinical Examination. *International Journal of Healthcare Sciences*. 2015;2(2): (52-56).
14. Abraham R, Ragavendra R, Surekha K, Asha K.A trial of Objective Structured Practical Examination in Physiology at Melaka Manipal Medical College. India. *Adv. Physiol Educ.*,2009;35(1):21-23
15. El-Nemer A, Kandeel N. Using OSCE as an assessment tool for clinical skills: nursing students' feedback. *Australian Journal of Basic and Applied Sciences*. 2009;3(3):2465-72.
16. Aung KT, bintiZakaria AN. Nursing Students' Perceptions on Objective Structured Clinical Examination (OSCE). *perception*. 2016;3(96.7):100-0.
17. Fidment S. The objective structured clinical exam (OSCE): a qualitative study exploring the healthcare student's experience. *Student engagement and experience journal*. 2012 Feb 3;1(1).

# The Relationship between Item Difficulty and Non-functioning Distractors of Multiple Choice Questions

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## ABSTRACT

**Background:** Multiple choice questions (MCQs) are widely used for assessing student learning in universities. Item analysis is performed for assessing the quality of test items. Analysing the distractors is essential in order to determine if they are functioning.

**Aim:** The study aimed at performing item analysis of three MCQs exams and finding the relationship between the item difficulty and the number of non-functioning distractors.

**Material and method:** The 98 MCQs and 294 distractors used in the three exams: a child health nursing and two genetics in nursing exams, attended by a total of 178 students of a College of Nursing in Saudi Arabia, were analysed.

**Results:** Overall, the 98 MCQs had average mean difficulty index (68.26) and over half of the total items (55.10) were easy. The mean discrimination index was 0.28. More than one third (38.73%) of the 294 distractors were NFDs. The difficulty index correlated significantly with NFDs, collectively on the exams ( $r=0.555$ ;  $p<0.001$ ) as well as on individual tests. ANOVA showed that as the number of NFDs increased, the difficulty index (easiness) of the test increased. The study therefore confirmed that NFDs influence the quality of the test items by making the test easy for examinees.

**Conclusion:** Generating high-quality items is an important aspect of the educational assessment. Analyzing items and finding the relationship between the difficulty index and the NFDs is essential. MCQs that have more number of NFDs tend to be easier than those with fewer NFDs. The results of the study will provide an opportunity for faculty to improve the development and use of MCQ tests.

**Keywords:** Item analysis, Difficulty index, Non-functioning distractors, Multiple choice questions

## INTRODUCTION

Multiple choice questions (MCQs) are widely used in assessing student learning in universities and is one of the most popular formats utilised in nursing education<sup>(1)</sup>. Although designing MCQs is a time consuming and complex process, it is extensively employed by faculty

for assessing student's academic achievement. This format of question allows for assessment of a large number of students in a wide range of content area <sup>(1)</sup>. A typical MCQ consists of a question, or an incomplete statement referred to as a stem and a set of three or four options. Examinees are required to select from among the options. The correct answer is the keyed option, and the remaining are called distractors. MCQ tests have higher validity when compared to short answer and essay tests <sup>(2)</sup>. Further, ease of scoring makes the use of MCQs appealing to faculty, especially when assessing a large number of students.

Given the extensive use of MCQ exams, determining the quality of MCQs used in these exams is

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of paramount importance. One way to assess the quality is by determining whether the examiner has conformed to the item - writing guidelines. Failure in adhering to the standard guidelines can result in flawed items. Item writing flaws are common in faculty -constructed examinations<sup>(3)</sup>. The scores yielded through flawed items in examinations will not accurately reflect the extent to which the students have obtained knowledge in the content area. Further, flawed items make a test easier than intended and favour test-wise students or make it more complex and prevent well-informed students from showing their mastery of the content<sup>(4)</sup>. Whatever the types of flaws, faculty need to analyse the MCQs and modify them before future use, if the purpose of assessment has to be achieved.

Another way of assessing the quality of MCQs is through item analysis. This procedure allows faculty to observe the characteristics of the test and modify items that are very easy or difficult and those that fail to discriminate between achievers and non-achievers. By performing item analysis, faculty can assess the individual test items in terms of difficulty index (DIF I), discrimination index (DI) and distractor efficiency (DE)<sup>(5)</sup>. The difficulty level represents the proportion of students who select the correct answer, calculated in terms of the DIF I. Higher DIF I signifies easiness of the test. Typically, an item should discriminate between students who are well informed and who are not<sup>(6)</sup>. Performing item analysis is a step towards improving the quality of items.

For items to be of high quality, options should be well written<sup>(7)</sup>. It implies that distractors must be plausible. For a distractor to be functioning, it should be chosen by at least 5% of the examinees. When chosen by <5% of examinees, it is a non-functioning distractor (NFD)<sup>(8)</sup>. Using this definition, D'Sa & Visbal-Dionaldo reported over one-fourth of all distractors as non-functioning in a 48-item Anatomy exam for nurses with a good percentage of functioning distractors (74.30 %) <sup>(9)</sup>. A lower percentage of functioning distractors (36%) was reported by Ware & Vik (2009) in the analysis of 1557 distractors<sup>(10)</sup>. While some authors define a functioning distractor as one with a choice frequency of <5% of examinees, others consider it as one that is also negatively correlated with test scores<sup>(5)</sup>. Using this definition, Tarrant reported 52.2% of 1542 distractors were functioning effectively, in a review of 514 items of seven test papers administered to nursing students<sup>(8)</sup>.

Distractor analysis provides valuable information about DIF I and the DI of MCQs. Tarrant reported that items with a higher number of functioning distractors were more difficult and had a better ability to discriminate between examinees <sup>(8)</sup>. Generating items with functioning distractors is an essential aspect of educational assessment.

Studies have reported a relationship between difficulty index and the number of NFDs. In a 50 - single best response physiology paper used in dental education, Hingorjo and Jaleel reported 23.5% NFDs. Items with higher DIF I or *p* value (easiness) in their study had higher number of NFDs; items with 3 NFDs had a *p* value of 77.5% denoting easy items, those with 2, 1 and 0 NFDs had an average *p* value of 62.66, 54.44 and 44.38 respectively, which were all within the range of average DIF I <sup>(11)</sup>. Similarly, Abdulghani et al. reported higher DIF I in items with more NFDs compared to those with lesser NFDs. They reported significant relationship between the two variables <sup>(12)</sup>.

Classroom instructions must synchronise with the classroom tests. With extensive use of MCQs in exams, teachers ought to develop good questions and analyse them. Performing item analysis and finding whether there is a relationship between item difficulty and NFDs was, therefore, the primary aim of this study.

## MATERIAL AND METHOD

The data set for this study consisted of three faculty-constructed exams administered to three cohorts of undergraduate nursing students over two subsequent academic years (2016 and 2017) in a Saudi university. The ease of accessibility of the tests prompted the researchers to select the Child Health Nursing and Genetics in Nursing summative exams. Besides the four-option single best response MCQs, the three tests also had other forms of questions. The word 'exams' and 'test' is used synonymously in this article.

DIF I that demonstrates the difficulty or easiness of the items was computed using the formula  $H+L/N \times 100$ . While H denotes correct responses from the high group, L was for the low group. The 27% cut off was used for defining the high and low groups. N is the total number of examinees in both groups. The target value for an average item is between 30% and 70%, with lower values reflecting higher difficulty levels and

vice versa. Discrimination index (DI), computed using the formula,  $H-LX2/N$  establishes the power of the item to discriminate between high and low scorers on an examination. The values range from 0 to 1, with greater values indicating higher discrimination power. DI is interpreted as follows: 0.35 and above is 'excellent', 0.25-0.34 is 'good', 0.15 – 0.24 'marginal' and < 0.15 is 'poor'<sup>(13)</sup>. Items with negative indices may be flawed as low scorers answer the item more correctly than the high scorers. Options selected by <5% of the examinees were considered as NFDs. Reliability analysis was computed using Kuder Richardson Formula (KR -20). Further, product moment correlation was computed to

find relationship between item difficulty and number of NFDs per item. ANOVA was used, to find out if the number of NFDs affected the Item difficulty.

## RESULTS

Table 1 summarises the characteristics of the three tests. In all, there were 98 MCQs and 294 distractors. The number of items on the three tests ranged from 28 to 40, and the number of examinees ranged from 50 to 69. The mean percentage scores varied from 63.53 to 78.85. Kuder Richardson (KR- 20) reliability on the three tests ranged from 0.796 to 0.829.

**Table 1: Characteristics of the tests**

	Test A	Test B	Test C	Total
No. of items	28	40	30	98
No. of examinees	50	59	69	178
Mean test score% (SD $\pm$ )	78.85 (13.51)	68.35 (12.46)	63.53 (13.49)	70.24 (13.16)
KR 20 Reliability	0.796	0.826	0.829	

Test A: Child health nursing Test B & C: Genetics in nursing

Averaging across the 98 MCQs in the data set, the mean DIF I ( $68.26 \pm 18.59$ ), was within the range of average DIF I (Table 2). Over half of all items (55.10%) were easy (DIF I > 70) and 41.48 % items had average difficulty (DIF I = 30-70).

The mean DI of the three tests varied from 0.29 to 0.36, with an average of 0.28, showing good discrimination ability. Overall, 37.75% items were

excellent discriminators (DI >0.35), and 22.25% items were poor distractors, with a coefficient < 0.15.

Over one third (38.73%) of 294 distractors were NFDs having a choice frequency of < 5%. The remaining 61.22% distractors were functioning. Computing the percentage of NFDs per item, 38.78% of all items had one NFD, 34.69% had two NFDs, and only three items (3.06%) had three NFDs.

**Table 2: Item Analysis**

Parameters	Test A	Test B	Test C	Total
<b>Difficulty Index (DIF I) of items n (%)</b>				
>70 (Easy)	19 (67.85)	21 (52.50)	14 (46.66)	54 (55.10)
30-70 (Good/ average)	9 (32.14)	17 (42.50)	15 (50.00)	41(41.84)
<30 (Difficult)	0 (0.00)	2 (5.00)	1 (3.33)	3 (3.06)
Mean and SD	$78.69 \pm 13.09$	$65.85 \pm 18.72$	$65.00 \pm 20.11$	$68.26 \pm 18.59$
<b>Discrimination Index (DI) of items n (%)</b>				
$\geq 0.35$ (Excellent)	6 (21.43)	14 (35.00)	17 (56.67)	37 (37.75)
0.25-0.34(Good)	7 (25.00)	12 (30.00)	4 (13.33)	23 (23.70)
0.15-0.24(Marginal)	8 (28.57)	3 (7.50)	5 (16.67)	16 (16.32)
<0.15 (Poor)	7 (25.00)	11 (27.50)	4 (13.33)	22 (22.45)
Mean and SD	$0.29 \pm 0.16$	$0.36 \pm 0.38$	$0.31 \pm 0.17$	$0.28 \pm 0.32$
No. of test items	28	40	30	98

Conted...

No. of distractors assessed	84	120	90	294
Functioning distractors per test n(%)	37 (44.05)	78 (60.00)	65 (72.22)	180 (61.22)
Non functioning distractors per test n(%)	47 (55.95)	42 (35.00)	25 (27.78)	114 (38.78)
<b>Non- functioning distractors per item:</b>				
0 NFD	2 (7.14)	9 (22.50)	12 (40.00)	23 (23.47)
1 NFD	7 (25.00)	20 (50.00)	11 (36.67)	38 (38.78)
2 NFD	17 (60.71)	11 (27.50)	6 (20.00)	34 (34.69)
3 NFD	2 (7.14)	0 (0.00)	1 (3.33)	3 (3.06)

Pearson correlation to examine the relationship between item difficulty and number of NFDs showed a significant positive correlation on all three tests combined ( $r=0.555$ ;  $p<0.001$ ). Larger the number of NFDs, higher the difficulty index (easier the test). Similarly, significant positive correlation was found between DIF I and number of NFDs on individual tests (Test A:  $r=0.689$ ;  $p<0.001$ ; Test B:  $r=0.303$ ;  $p<0.05$ ; Test C:  $r=0.591$ ;  $p<0.001$ ).

One-way ANOVA was computed to find out to what extent NFDs had contributed to the item difficulty. The analysis was conducted, with the independent variable being the number of NFDs and the dependent variable being the difficulty index. Item difficulty was strongly related to the number of NFDs (Table 3). Thus, as the number of NFDs increased, the difficulty index of the items increased making the test items easier  $F(3717.02) = 15.603$   $p<0.001$

**Table 3: Item Difficulty as related to the Number of Non-functioning Distractors**

	Number of Non- functioning Distractors (NFDs)			
	0	1	2	3
NFDs per item	23	38	34	3
DIF I	57.73 (17.24)	63.62 (17.55)	80.98 (11.58)	96.43 (3.57)

Values shown are M (SD), DIF=Difficulty Index;  $F(3717.02) = 15.603$   $p<0.001$

## DISCUSSION

This study aimed at performing item analysis and finding relationship between item difficulty and number of NFDs. The 98 MCQs examined had a mean DIF I of 68.26 and the mean DI of 0.28 which were within the average limit. Half the number of all items were easy, (DIF I >70). These findings are similar to a previous study which suggests a potential for improving the construction of MCQs<sup>(9)</sup>. The lack of faculty training on MCQ development may account for these findings. Faculty training and use of guidelines improves the quality of faculty-developed MCQs<sup>(14)</sup>.

The overall mean DI (0.28), of items was within the range of good discrimination ability (0.25-0.34). Because the reliability of the test depends upon the discrimination ability of the items within it, there is no surprise that the DI in the three tests was good or excellent, and ranged from 0.29 to 0.36. However, a little over one-fifth of the items had poor discrimination power (<0.15). Acceptable reliability coefficients are reported,

that ranged from 0.796 to 0.829. Items with low DIF I or DI must be examined for possible deficiencies. Often MCQs fail to achieve its purpose because of poor options<sup>(8)</sup>. For MCQs to be of good quality, plausible options to the correct answer are essential. Therefore, distractors were analysed to determine their quality and usefulness in the test item. Options that have a choice frequency of <5% (NFDs) are of little use in the MCQs. Over one third (38.78%) of all distractors were non- functioning. Tarrent et al. in an assessment of 1542 distractors, reported 35.1% of items had a choice frequency of <5%, which is slightly lower than our study finding<sup>(8)</sup>. However, we assessed only three tests compared to a more substantial number of tests evaluated by Tarrant.

Item difficulty is affected mainly by the quality of distractors. Implausible distractors make the item easier and further fails to discriminate between the well informed and the uninformed. Rush et al. reported that an increased probability of poor discrimination and easy questions was associated with the use of implausible distractors<sup>(4)</sup>.

Further, in our study, less than one-fourth of all items (23.47%) had functioning distractors (0 NFDs), and the remaining 76.53% had NFDs. It is not surprising to find a high proportion of items with NFDs, given the fact that the tests were generated by faculty, most of whom lack training or expertise in developing MCQs. Decrease in the number of NFDs and improvement in the quality of MCQs were reported among those who attended a training workshop among medical faculty<sup>(14)</sup>. Training is essential for writing good MCQs with plausible options.

Significant positive relationship between the overall item difficulty and number of NFDs was found. The difficulty index increased when the number of NFDs increased. Similar findings were reported by researchers<sup>(11,12)</sup>. The student's performance, to a large extent, depends on the quality of items. The quality is influenced by how distractors are designed. Appropriate principles need to be employed for constructing MCQs for desired results.

A limitation of this study is that data were obtained from a single university, on only three tests. Findings will not necessarily reflect tests conducted in other courses and other institutions. Since MCQs are extensively used in student assessment, institutions should take active steps to prepare faculty in the construction of MCQs and item analysis. Studies may be conducted on larger number of tests in different courses. Generating items with average difficulty and with functioning distractors is essential for educational assessment.

**Ethical Clearance:** Permission was sought from the administrative head. As no human subjects were involved, clearance from Institutional Review Board was not sought.

**Source of Funding:** Self

**Conflict of Interest:** None declared

## REFERENCES

1. Tarrant M, Ware J. A comparison of the psychometric properties of three- and four-option multiple-choice questions in nursing assessments. *Nurse Educ Today*. 2010;30(6):539–43.
2. Gronlund NE, Waugh CK. *Assessment of student achievement*. 2008. Pearson, Upper Saddle River, NY
3. Palmer EJ, Devitt PG. Assessment of higher order cognitive skills in undergraduate education: Modified essay or multiple choice questions? *Research paper*. *BMC Med Educ*. 2007;7:1–7.
4. Rush BR, Rankin DC, White BJ. The impact of item-writing flaws and item complexity on examination item difficulty and discrimination value. *BMC Med Educ*. 2016;16(1):250.
5. DiBattista D, Kurzawa L. Examination of the quality of multiple-choice items on classroom tests. *Can J Scholarsh Teach Learn*. 2011;2(2):1–23.
6. Tarrant M, Knierim A, Hayes SK, Ware J. The frequency of item writing flaws in multiple-choice questions used in high stakes nursing assessments. *Nurse Educ Today*. 2006;26(8):662–71.
7. Haladyna TM, Downing SM. Validity of a taxonomy of multiple-choice item-writing rules. *Appl Meas Educ*. 1989;2(1):51–78.
8. Tarrant M, Ware J, Mohammed AM. An assessment of functioning and non-functioning distractors in multiple-choice questions: a descriptive analysis. *BMC Med Educ*. 2009; 9:40.
9. D'Sa JL, Visbal-Dionaldo ML. Analysis of multiple choice questions: item difficulty, discrimination index and distractor efficiency. *Int J Nurs Educ* 2017;9(3):109-114.
10. Ware J, Vik T. Quality assurance of item writing: During the introduction of multiple choice questions in medicine for high stakes examinations. *Med Teach*. 2009; 31(3):238–43.
11. Hingorjo MR, Jaleel F. Analysis of one-best MCQs: The difficulty index, discrimination index and distractor efficiency. *J Pak Med Assoc*. 2012;62(2):142–7.
12. Abdulghani HM, Ahmad F, Ponnampuruma GG, Khalil MS, Aldrees A. The relationship between non-functioning distractors and item difficulty of multiple choice questions: A descriptive analysis. *J Heal Spec* 2014;2(4).
13. Guilbert JJ. *Educational handbook for health personnel*. Revised edition. WHO Offset Publ. 1981
14. Abdulghani HM, Irshad M, Haque S, Ahmad T, Sattar K, Khalil MS. Effectiveness of longitudinal faculty development programs on MCQs items writing skills: A follow-up study. [cited 2017 Oct 19]; Available from: <http://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0185895&type=printable>

# A Comparative Study of Back Muscle Stretch Exercises and Warm Mustard Oil Massage to Reduce Back Pain among Postnatal Mother at PBMH, KIMS, Bhubaneswar, Odisha

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## ABSTRACT

A comparative study was undertaken to evaluate the effectiveness of back muscle stretch exercises and warm mustard oil massage to reduce back pain among postnatal mother. The conceptual framework adopted for this study was based on the Imogene King Goal attainment theory. In this study simple random sampling technique was used to select 40 postnatal mothers who were meeting the sampling criteria. An observational checklist was used to assess the back pain among postnatal mother by Behavioural pain rating scale was used during data collection. Pre test was conducted on day- 2 among the postnatal mother admitted in the postnatal ward of PBMH, KIMS, Bhubaneswar, Odisha. Post test was conducted on day 2<sup>nd</sup>, 3<sup>rd</sup> and day 4<sup>th</sup>. Descriptive and inferential statistics were used to analyze data in the study. The findings of the study revealed that back muscle exercises scores were significantly higher than the warm mustard oil massage score. The test result show 't' test value on 2<sup>nd</sup> day (pre test) for back muscle stretch exercises is 34.79. Again the results reveal that the 't' test value on 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> day (post test) for back muscle stretch exercises is 31.10, 23.97 and 13.07 which is more than the table value 3.88 with degree of freedom at 0.001 level of significance. The findings of the study revealed that the back muscle exercises was more effective than the warm mustard oil massage among the postnatal mother. The study was concluded with limitation, implications and recommendations for experimental study on large sample.

**Keywords:** (BMSE and WMOM), BMSE- Back Muscle stretch exercises, WMOM- Warm Mustard Oil Massage

## INTRODUCTION

Postnatal is the period beginning immediately after the birth of a child and extending for about six week. Biologically, it is the time after birth, a time in which the mother's body, including hormone levels and uterus size, return to pre-pregnant states. A strong back is essential for good posture and for proper balance during pregnancy, it can be achieved by Stretching exercise which helps in improving range of motion, flexibility, circulation, decreases stress, and releases tension. While experiencing pregnancy back pain, gentle exercises, such as stretching and light movement will decrease spasm of the muscles, and help decrease back pain. Many postpartum mothers know the feeling of tension in the back, especially in the morning time.<sup>[1]</sup> The stretching back exercises & warm mustard oil massage can help to bring back some suppleness and increase mobility, decreasing back pain

and discomfort. Exercise is a big plus for postpartum mother. This exercise & massage can increase the sense of control and boost the energy level. It not only make feel better by releasing endorphins (naturally occurring chemicals in brain) which relieves backaches and improve posture by strengthening and toning the muscles in back, buttocks, and thighs. It reduces constipation by accelerating movement in intestine, Prevent wear and tear of joints and which become loosened during pregnancy due to normal hormonal changes by the lubricating fluid in joints, and help to sleep better by relieving the stress and anxiety<sup>[7]</sup>

## NEED OF THE STUDY

The postnatal period or puerperium refers to the 6-weeks period following child birth. Back pain is

one of the major problems among postnatal mother, it disrupt normal breast feeding and makes mother to feel sick during the postnatal period. Warm mustard oil massage and back stretches exercise is an effective and inexpensive method of relieving back pain. A survey was conducted to collect information about pregnancy-related pain among 600 women. Out of them two-thirds reported back pain and nearly half of all women reported pain at mid-back pain. The findings also revealed that 85 percent of women having back pain at some point during their pregnancies<sup>[7]</sup> A study was conducted to determine the effect of stretching exercise in reduction of back pain among postnatal mother. Mothers were randomized to receive stretching exercise. All mothers were treated in physical therapy twice weekly for 3 weeks for a total of 6 visits. Mothers who received stretching exercise shows greater reduction in the intensity of back pain than mothers who did not. The results suggest that stretching is beneficial for reducing back pain.<sup>[8]</sup>

### OBJECTIVES

- To assess the level of pain in postnatal mother before and after use of back stretch exercises.
- To assess the level of pain in postnatal mother before and after use of warm mustard oil massage.
- To compare the level of pain between back stretch exercises and use of warm mustard oil massage.
- To find out the association between the selected demographic variables with the levels of pain in postnatal mother with back stretch exercises.

### Hypothesis

- **H1:** The Back stretches exercises is significantly more effective than the mustard oil massage.

- **H2:** There will be a significant association between Back stretches exercises and warm mustard oil massage with the select demographic variables.

### Variables

- **Independent variables:** Back stretches exercises and warm mustard oil massage.
- **Dependent variables:** Back pain.

### METHOD

**Research Approach:** A comparative research approach was adopted for the study to accomplish its objectives and it was felt that it would be appropriate for the purpose

**Research Design:** The true-experimental design is used in this study to answer the hypotheses and to find out the relationship between independent variable and dependent variables.

**Sample:** postnatal mothers who had normal vaginal delivery

**Sample Size:** The sample size was 40 postnatal mothers

**Sampling Technique:** In this study simple random sampling technique was used

**Data Collection Tool and Technique:** The back pain among postnatal mother was assessed with the following instruments:- Demographic variables and Behavioural pain rating scale

### FINDINGS

Findings related to effectiveness of back muscle stretch exercises on back pain reduction among postnatal mother.

**Table 1: Effectiveness of back muscle stretch exercises on back pain**

Days	N	mean	SD	SE mean	df	't'test(paired)	2 tailed test
Pre test 2 <sup>nd</sup> day	20	3.55	.510	.114	19	34.79	.001
Post test 2 <sup>nd</sup> day	20	2.85	.366	.081	19	31.10	.001
Post test 3 <sup>rd</sup> day	20	2.20	.410	.091	19	23.97	.001
Post test 4 <sup>th</sup> day	20	1.20	.210	.071	19	13.07	.001

The above test result show 't' test value on 2<sup>nd</sup> day (pre test) for back muscle stretch exercises is 34.79. Again the results reveal that the 't' test value on 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup>

day (post test) for back muscle stretch exercises is 31.10, 23.97 and 13.07 which is more than the table value 3.88 with degree of freedom at 0.001 level of significance.

It reveals there was effectiveness of back muscle stretch exercises on reduction back pain level among postnatal mother

Findings related to effectiveness of warm mustard oil massage on back pain reduction among postnatal mother.

**Table 2: Effectiveness of warm mustard oil massage on back pain**

Days	N	mean	SD	SE mean	df	't'test (paired)	2 tailed test
Pre test 2 <sup>nd</sup> day	20	3.60	.598	.133	19	41.00	.001
Post test 2 <sup>nd</sup> day	20	2.70	.470	.105	19	26.91	.001
Post test 3 <sup>rd</sup> day	20	2.05	.223	.050	19	25.68	.001
Post test 4 <sup>th</sup> day	20	1.30	.170	.041	19	12.36	.001

The above test result show 't' test value on 2nd day (pre test) for back muscle stretch exercises is 41.00. Again the results reveal that the 't' test value on 2nd, 3rd and 4th day (post test) for warm mustard oil massage is 26.91, 25.68 and 12.36 which is more than the table value 3.88 with degree of freedom at 0.001 level of significance. It reveals there was effectiveness of warm mustard oil massage on reduction back pain level among postnatal mother.

To comparison of effectiveness of back muscle stretch exercises and warm mustard oil massage.

**Table 3: Pre test and post test pain score comparison in both experimental group I and group II**

Group	Mean	SD	SE mean	df	't' test value	2 tailed test
Group I (Pre and post test)	1.58	.528	.094	19	15.42	.001
Group II (Pre and post test)	1.46	.424	.118	19	13.40	.001

The data presented in above table that the mean pre and post test score of Experimental Group I is 1.58 was higher than the Experimental group II score 1.46. paired 't' test value of both group is 15.42 and 13.40 which is more than the table value 3.88 with 19 df at 0.001 level of significance.

It means that the back muscle stretch exercises were more effective than the warm mustard oil massage for pain reduction.

**Table 4: Association of BMSE and WMOM score with demographic variables in both the experimental group I and group II**

Sl. No.	Demographic variables	GROUP		Chi Square Value	SIGNIFICANT /NOT SIGNIFICANT
1.	Age	BMSE	WMO		
	18-21yrs	5	5	Chi Square Value= 3.2, DF=3, P VALUE=0.362	NOT SIGNIFICANT
	22-25 yrs	5	5		
	26-29 yrs	5	9		
	30and above	5	1		
2.	Religion			Chi Square Value= 36.050, DF=2, P VALUE=0.001	NOT SIGNIFICANT
	Hindu	14	17		
	Muslim	4	3		
	Christian	2	0		
	If other, specify	0	0		

Conted...

3.	<b>Educational status</b>			Chi Square Value= 1.0, DF=3, P VALUE=0.801	NOT SIGNIFICANT
	Primary	4	4		
	Secondary	7	4		
	Graduate/diploma	6	6		
	Post graduate	3	6		
4.	Occupation			Chi Square Value= 36.60, DF=3, P VALUE=0.001	NOT SIGNIFICANT
	House wife	11	14		
	Government employee	4	0		
	Private employee	3	4		
	Any other(specify)	2	2		
5.	<b>Family income</b>			Chi Square Value= 20.150, DF=2, P VALUE=0.001	NOT SIGNIFICANT
	2000 or below	0	0		
	2001 to 6000	1	0		
	6001 to 10000	9	6		
	10,001 and above	10	14		
6.	<b>Gravida</b>			Chi Square Value=14.150, DF=2, P VALUE=0.001	NOT SIGNIFICANT
	1 <sup>st</sup> gravida	13	11		
	2 <sup>nd</sup> gravida	5	6		
	3 <sup>rd</sup> gravida	2	3		
	History of abortion	0	0		

The above chi square values show that the demographic variables are not significant so there is no association of demographic variables with pain level, so the chi square test was not applicable.

## CONCLUSION

After analysis it was found that back muscle stretch exercises is more effective to reduce the pain in post natal mothers than warm mustard oil massage.

**Source of Funding:** Self

**Conflict of Interest:** Nil

**Ethical Clearance:** Taken from Institute Ethics Committee, KIMS, KIIT deemed to be University.

## REFERENCES

1. Adele Pellettere. Maternal And Child Health Nursing.6<sup>th</sup> edition. New York: J.B.Lippincott Company publication; 2009.p- 57.
2. Basavanthappa BT. Essentials of midwifery & obstetrical nursing. 1<sup>st</sup> edition. Bangalore: Jaypee brothers medical publishers(p) Ltd ;2011. P-130.
3. Beneth V. Ruth, Linda Brown K. Text Book of Myles .3<sup>rd</sup> Edition. 2001. P-589-93.
4. Betty. R, Sweet. Mayer's. A Text Book of Midwives .12<sup>th</sup> edition. Philadelphia: Mosby Publications; 1997. P- 692-695.
5. Breslin. E.T. Women's Health Nursing E1. Philadelphia: Sevier Science Saunder's Company; 2003. P- 1897-98.
6. Chakravarthi S. Manual of Obstetrics. 1<sup>st</sup> Edition. Elsevier India (p) Ltd; 2003. P- 540– 542.
7. Dawn C.S. "Text book of obstetrics & gynaecology. 3<sup>rd</sup> Edition. 1997. P- 177-192.
8. Dawn C.S. "Text book of obstetrics & neonatology. 9<sup>th</sup> Edition. Calcutta: Dawn Book Centre; 1986. P- 243-245.
9. Denise F Polit, Bernadette P. Hungler. Nursing research. 6<sup>th</sup> ed. Philadelphia: Lippincott company; 1999. P-155-159
10. Dutta D.C.Text Book Of Obstetrics. 6<sup>th</sup> edition. Kolkata: Central book agency Publication; 2004. P- 43-45.

# Effect of Massage Therapy on Physical and Physiological Wellbeing of Jaundiced Neonates Receiving Phototherapy: A Hospital Based Interventional Study

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## ABSTRACT

Neonatal hyperbilirubinemia is one of the leading cause of admissions in nursery throughout the world. It affects approximately 2.4–15% of neonates during the first 2 weeks of life. The aim of this study was to evaluate the effect of massage therapy on physical and physiological wellbeing of jaundiced neonates receiving phototherapy. The total 40 samples were selected through purposive sampling technique from selected hospitals, out of which 20 were in experimental and 20 were in control group. The experimental group received massage therapy from the first day of phototherapy to three consecutive days twice a day, but the control group remained without this. The physical and physiological wellbeing of jaundiced neonates receiving phototherapy was assessed using structured follow up sheet. There was statistically significant difference in weight gain, sleeping pattern ( $p < 0.05$ ) and highly significant difference in serum bilirubin level ( $p = 0.01$ ) was found between the experimental and control group. Hence, Massage therapy is a natural way of improving the physical and physiological wellbeing among jaundiced neonates.

**Keywords:** *Massage therapy, Physical wellbeing, Physiological wellbeing, Jaundiced neonates, Phototherapy.*

## INTRODUCTION

Neonatal jaundice is a phenomenon of yellow-dyed skin, sclera and other organs in the neonatal period caused by blood bilirubin accumulation, which is a relatively prevalent disease in neonates.<sup>1</sup> Globally, it affects 60% of term and 80% of preterm infants in the first week of life.<sup>2</sup> In India, the incidence of physiological jaundice among neonates varied from 15-20%. This condition affects activity level, feeding pattern, sleeping pattern and responsiveness level of the normal infant and it is the most common cause of hospitalization in the first

month of life.<sup>3</sup> Neonatal jaundice or hyperbilirubinemia is mostly cured (20% cases) though it can still prove hazardous and need medical intervention.<sup>4</sup> The most life-threatening case arising from this condition is kernicterus. Thus a timely cure of neonatal hyperbilirubinemia can become a major preventive measure.<sup>5</sup>

At present, the treatment and nursing measures of neonatal jaundice mainly include phototherapy, infusion of plasma or albumin and liver protection. Phototherapy is most effective way of breaking down unconjugated bilirubin into conjugated bilirubin, which has several side-effects ranging from doing harm to the cornea and the genital region to causing dehydration, diarrhoea and bronze kid syndrome.<sup>6</sup> In recent years, to enhance the effectiveness of phototherapy numerous methods, including herbal oral administration, external application of traditional Chinese medicine, Chinese massage, acupuncture, massage and swimming, have been used by researchers to treat and care for neonates with jaundice.<sup>7</sup>

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Massage is regarded as a one of the most common and popular complementary medicine therapies with a positive effect on neonatal disease treatment and health care. There are various oils used for massage therapy. These include almond oil, coconut oil, safflower oil, herbal oil, sesame oil, mustard oil, or mineral oil. Among these almond oil and coconut oils found to more be effective than others.<sup>8</sup> Massage on newborns offer numerous advantages. Massage promotes physical and intellectual development, immunity, digestion and absorption and emotional communication between mothers and children and it also treat several neonatal diseases, such as hypoxic ischemic encephalopathy, jaundice and bilirubin encephalopathy.<sup>9</sup> At present, the effects of massage on neonatal growth and health care are well verified. However, the effect of massaging on physical and physiological wellbeing of jaundiced neonates receiving phototherapy is unclear at present. Therefore, this study evaluates the effect of massage therapy on physical and physiological wellbeing of jaundiced neonates receiving phototherapy.

## MATERIAL AND METHOD

This was a quantitative quasi-experimental study with nonrandomized pre-test post-test design conducted from February 2017 to April 2017 in phototherapy unit of selected hospitals, Hoshiarpur, Punjab. The total sample for the study comprised of 40 jaundiced neonates receiving phototherapy, out of which 20 were in experimental and 20 were in control group. The sample were selected through nonprobability purposive sampling technique. The inclusion criteria for sample selection included: well term, pre term and post term neonates of 1 day to 1 month of age suffering with physiological jaundice and receiving phototherapy. The exclusion criteria included: Neonates who are suffering with complicated jaundice, congenital anomalies and other acute health problems.

To execute the study, the researcher obtained official written permission from CMO/Directors of selected hospitals and written informed consent from mothers of newborns after explaining the study purpose and assuring for confidentiality and anonymity. The self structured tool was used for data collection and it consisted of two sections. Section A: Demographic variables of jaundiced neonates receiving phototherapy: it consisted of 7 demographic variables. Section B: Follow up sheet: It

includes assessment of physical wellbeing (weight gain) and physiological wellbeing (sleeping pattern, feeding pattern, defecation pattern and estimation of total serum bilirubin). Each parameter of physical and physiological wellbeing was rated against set criteria as: normal, average and poor. Massage therapy refers to provision of both tactile (Pressure stroking) and kinesthetic (Passive limb movement) stimulation with almond oil.

The content validity of tool and intervention was obtained from the eight experts in the field of medicine and nursing and reliability of tool was checked by inter-observer method and it was found 0.87, hence tool was considered reliable for data collection. The pre-test observation was conducted before initiation of intervention for both the experimental and control group to collect baseline data. After pre-test, the experimental group received the massage therapy with almond oil for 15 minutes per session twice daily from the first day of phototherapy to three consecutive days in accordance with international association of infants massage (IAIM) guidelines provided by investigator themselves. The post-test observation was conducted at 4<sup>th</sup> day by using the same questionnaire. The collected data was tabulated and analyzed in accordance with objectives of the study by using descriptive and inferential statistics with the help of Statistical Package for the Social Sciences version 16 software (SPSS Inc., Chicago, IL, USA) and Instat.

## FINDINGS

The baseline values were not significantly different between experimental and control groups for all the demographic variables including gestational age ( $p=0.87$ ), postnatal age ( $p=0.59$ ), gender ( $p=0.75$ ), birth weight (gms) ( $p=0.81$ ), birth order ( $p=0.28$ ), type of feeding ( $p=0.10$ ), mode of delivery ( $p=0.31$ ).

Table 1 demonstrate that in pre test, 100% of newborn had poor weight gain in both experimental and control group, 90% of newborn in experimental group and 95% in control group had average sleeping pattern, 55% of newborn in experimental group and 65% of newborn in control group had poor feeding pattern, 75% of newborn in experimental group and 80% of newborn in control group had average defecation pattern, 50% of newborn in experimental group and 65% of newborn in control group had moderate degree of neonatal jaundice. Where as in post test, 85% of newborn in experimental group and 80% of newborn in control group had normal

weight gain, 100% of newborn in both experimental and control group had normal sleeping pattern, 60% of newborn in experimental group and 65% of newborn in control group had average feeding pattern, 95% of newborn in experimental group and 85% of newborn in control group had normal defecation pattern, 65% of newborn in experimental group and 50% of newborn in control group had moderate degree of neonatal jaundice.

**Table 1: Frequency and percentage distribution of jaundiced neonates receiving phototherapy in experimental and control group according to pre-test and post-test levels of physical and physiological wellbeing N = 40**

Sl. No.	Parameters	Pre test				Post test			
		Experimental Group		Control Group		Experimental Group		Control Group	
		n	%	n	%	n	%	n	%
<b>A.</b>	<b>Physical wellbeing</b>								
1.	Weight gain								
	Normal (> 25 gm/day)	0	0	0	0	17	85	16	80
	Average (15- 25gm/day)	0	0	0	0	3	15	4	20
	Poor (<15gm/day)	20	100	20	100	0	0	0	0
<b>B.</b>	<b>Physiological wellbeing</b>								
1.	Sleeping Pattern								
	Normal (>16 hrs)	2	10	1	5	20	100	20	100
	Average (12-16 hrs)	18	90	19	95	0	0	0	0
	Poor (<12hrs)	0	0	0	0	0	0	0	0
2.	Feeding Pattern								
	Normal (>8 times)	0	0	0	0	4	20	0	0
	Average (6-8 times)	9	45	7	35	12	60	13	65
	Poor (4-5 times)	11	55	13	65	4	20	7	35
3.	Defecation Pattern								
	Normal (5-6 stool/day)	5	25	4	20	19	95	17	85
	Average (3-4stool/day)	15	75	16	80	1	5	3	15
	Poor (1-2 stool/day)	0	0	0	0	0	0	0	0
4.	Serum Bilirubin								
	Preterm								
	Normal (<5mg/dl)	0	0	0	0	0	0	0	0
	Mild (5-8mg/dl)	0	0	0	0	4	20	2	10
	Moderate (9-12mg/dl)	3	15	5	25	2	10	4	20
	Severe(>13mg/dl)	3	15	2	10	0	0	1	5
	Term								
	Normal (<7mg/dl)	0	0	0	0	3	15	1	05
	Mild (7-11mg/dl)	6	30	5	25	9	45	2	10
	Moderate (12-16mg/dl)	7	35	8	40	2	10	6	30
	Severe (>17mg/dl)	1	5	0	0	0	0	0	0

**Table 2: Comparison of the pre test mean score of physical and physiological wellbeing of jaundiced neonates receiving phototherapy between experimental and control group N = 40**

Parameters	Experimental group		Control group		't' value	p value
	Mean	S.D	Mean	S.D		
<b>[A] Physical wellbeing</b>						
Weight gain(gms)	9.10	2.22	8.75	2.42	0.47	0.63
<b>[B] Physiological wellbeing</b>						
Sleeping Pattern (Hrs)	14.80	1.10	14.50	0.88	0.95	0.34
Feeding pattern (No. of feeds/Day)	5.10	1.16	5.00	0.97	0.29	0.76
Defecation Pattern (No. of Stools/Day)	4.10	0.60	4.22	0.66	0.60	0.55
Serum bilirubin (mg/dl)	13.45	2.45	14.11	1.95	0.94	0.35

Table 2 shows that in pre test, mean scores of weight gain ( $t=0.47$ ,  $p=0.63$ ), sleeping pattern ( $t=0.95$ ,  $p=0.34$ ), feeding pattern ( $t=0.29$ ,  $p=0.76$ ), defecation pattern ( $t=0.60$ ,  $p=0.55$ ), and serum bilirubin ( $t=0.94$ ,  $p=0.35$ ) were not statistically significantly different between experimental and control group.

**Table 3: Comparison of the post test mean score of physical and physiological wellbeing of jaundiced neonates receiving phototherapy between experimental and control group N = 40**

Parameters	Experimental group		Control group		't' value	p value
	Mean	S.D	Mean	S.D		
<b>[A] Physical wellbeing</b>						
Weight gain(gms)	33.4	7.6	28.9	5.2	2.18	0.03
<b>[B] Physiological wellbeing</b>						
Sleeping Pattern (Hrs)	18.5	2.64	16.90	2.30	2.04	0.04
Feeding pattern (No. of feeds/Day)	7.05	2.34	5.95	1.24	2.92	0.07
Defecation Pattern (No. of Stools/Day)	5.70	0.47	5.29	0.67	2.34	0.02
Serum bilirubin (mg/dl)	8.55	2.53	10.24	1.58	2.53	0.01

Table 3 depicts that in post test, mean scores of weight gain ( $t=2.18$ ,  $p=0.03$ ), sleeping pattern ( $t=2.04$ ,  $p=0.04$ ), defecation pattern ( $t=2.34$ ,  $p=0.02$ ), and serum bilirubin ( $t=2.53$ ,  $p=0.01$ ) were statistically significantly different between experimental and control group and whereas mean scores of feeding pattern ( $t=2.92$ ,  $p=0.07$ ) were not statistically significantly different between experimental and control group.

**Table 4: Comparison of the pre test and post test mean score of physical and physiological wellbeing of jaundiced neonates receiving phototherapy in experimental group N = 20**

Parameters	Pre test		Post test		't' value	p value
	Mean	S.D	Mean	S.D		
<b>[A] Physical wellbeing</b>						
Weight gain(gms)	9.10	2.22	33.4	7.6	16.73	0.001
<b>[B] Physiological wellbeing</b>						
Sleeping Pattern (Hrs)	14.80	1.10	18.5	2.64	14.96	0.001
Feeding pattern (No. of feeds/Day)	5.10	1.16	7.05	2.34	4.38	0.01
Defecation Pattern (No. of Stools/Day)	4.10	0.60	5.70	0.47	9.68	0.001
Serum bilirubin (mg/dl)	13.45	2.45	8.55	2.53	7.02	0.001

**Table 5: Comparison of the pre test and post test mean score of physical and physiological wellbeing of jaundiced neonates receiving phototherapy in control group N = 20**

Parameters	Pre test		Post test		't' value	p value
	Mean	S.D	Mean	S.D		
<b>[A] Physical wellbeing</b>						
Weight gain(gms)	8.75	2.42	28.9	5.2	16.83	0.001
<b>[B] Physiological wellbeing</b>						
Sleeping Pattern (Hrs)	14.50	0.88	16.90	2.30	13.63	0.001
Feeding pattern (No. of feeds/Day)	5.00	0.97	5.95	1.24	2.99	0.01
Defecation Pattern (No. of Stools/Day)	4.22	0.66	5.29	0.67	6.67	0.001
Serum bilirubin (mg/dl)	14.11	1.95	10.24	1.58	7.95	0.001

Table 4 & 5 illustrate that the difference between mean pre test score and mean post test score of physical and physiological wellbeing was statistically highly significant ( $p < 0.01$ ) and very highly significant ( $p < 0.001$ ) among jaundiced neonates receiving phototherapy in experimental group as well as in control group, but the difference in mean score of pre test and post test was much in experimental group in comparison with control group.

There was no significant relationship found of physical wellbeing i.e. weight gain, and physiological wellbeing i.e. sleeping pattern, feeding pattern, defecation pattern, serum bilirubin of jaundiced neonates receiving phototherapy with gestational age, postnatal age, gender, birth weight, birth order, type of feeding and mode of delivery in experimental and control group.

## DISCUSSION

Infant massage is a natural way for caregivers to improve health, sleep patterns, and reduce colic. The present study aimed to investigate the effects of infant massage on physical and physiological wellbeing of jaundiced neonates receiving phototherapy. The present study findings revealed that with provision of 3 days massage along with phototherapy, there was significant improvement in weight gain, sleeping pattern, defecation pattern and reduction of serum bilirubin level among jaundiced neonates in experimental group in comparison with control group whereasthere was no significant difference found between feeding pattern of experimental and control group.

These findings are consistent in line with findings of the study reported by Anjali Kulkarni, Scafidia RA et al, that babies with oil massage had significantly

higher weight than control group.<sup>8,10</sup> Anjali Kulkarni and Scafidia RA et al also revealed that infant who receive massage therapy appear more alert and had better sleep wake pattern.<sup>8,10</sup> Anitha Robert, Mahdi Basiri M et al , Amna Nagaty et al, Chien-Heng Lin et al, Wexi X et al reported that the number of defecations was significantly higher among jaundiced neonates receiving massage therapy as compared to the control group.<sup>11-15</sup> Amna Nagaty et al, Chien-Heng Lin et al revealed that there was no significant difference related to feeding amount between the experimental and control group.<sup>13,14</sup> Anitha Robert, Mahdi Basiri M et al, Amna Nagaty et al, Chien-Henglin et al, Basiri et al, Chen J et al, Kianmehr M et al found that mean serum bilirubin concentration was significantly lower among experimental group than control group.<sup>11-14,16-18</sup>

## CONCLUSION

This study shows that by the 3 days of massage therapy, there was a significant improvement in physical and physiological well being of jaundiced neonates receiving phototherapy in experimental group. Massage therapy is an easy, safe and economic intervention that paediatric nurses can adopt in care of neonates with physiological jaundice at their clinical areas of practice and can trained the postnatal mothers regarding the use of therapeutic massage as part of routine newborn care at home care settings.

**Conflict of Interest:** Nil

**Source of Funding:** Self

**Ethical Clearance:** Ethical clearance was obtained from the Institutional Ethical Committee of Shri Guru

Dass College of Nursing, Hoshiarpur, Punjab and written informed consent was obtained from mothers of jaundiced neonates.

## REFERENCES

1. Cohen SM. Jaundice in the full-term newborn. *Pediatr Nurs* 2006; 32(3):202-8.
2. Bhutani V.K, Stark A.R, Lazzaroni L.C. Initial clinical testing evaluation and risk assessment for universal screening for hyperbilirubinemia screening group. *J Pediatr*. 2013; 162(3): 477- 82.
3. Public Health Foundation of India, All India Institute of Medical Sciences and Save the Children. State of India's Newborns (SOIN) 2014- a report. (Eds). New Delhi, India. Available at: [https://www.newbornwhocc.org/SOIN\\_PRINTED%2014-9-2014.pdf](https://www.newbornwhocc.org/SOIN_PRINTED%2014-9-2014.pdf).
4. Hoppenot C, Emmett GA. Neonatal bilirubin triage with transcutaneous meters: when is a blood draw necessary? *Hospital Pediatr* .2012; 2: 215-20.
5. Ghaffari V, Vahidshahi K. Study on diagnostic value of transcutaneous bilirubinometry in neonate patients. *J Mazandaran Uni Med Sci*. 2003; 13: 43-50.
6. Nabavizadeh SH, SafariM, Khoshnevisan F. The effect of herbal drugs on neonatal jaundice. *Iranian J Pediatr* 2005; 15: 133-8.
7. Mengjie Lei, Tingting Liu, Yufeng Li, Yaqian Liu, Lina Meng, Changde J. Effects of massage on newborn infants with jaundice: A meta-analysis. *International Journal of Nursing Sciences*.2018:1-9.
8. Kulkarni A, Sharma H, et.al. Massage and touch therapy in neonates: The current evidence. *Journal of Indian Pediatric*. 2010; 47(17): 771-76.
9. Liu Y, Du G, Wang J, Zhang H, Song H. Research development of massaging on Neonatal. *Prog Mod Biomed* 2013; 13(23): 4598- 600.
10. Scafidi F, Field T, Schanberg S, Bauer C, Tucci K, Roberts J, *et al*. Massage stimulates growth in preterm infants:A replication. *Infant Beh Dev* 1990; 13: 167
11. Robert A, Jeyaraj PR, Kanchana S. Effectiveness of therapeutic massage on level of bilirubin among neonates with physiological jaundice. *IJCIN*. 2015; 2(12): 1-6.
12. Moghadam MB, Moghadam KB, Kianmehr M. The effect of massage on neonatal jaundice in stable preterm newborn infants: A randomized controlled trial. *J Pak Med Assoc*.2015; 65(6): 602- 6.
13. Nagaty A, Dabash SAH, El-Guindy SR, Masoed ES, El-Houchi SZ. Effect of massage on health status of neonates with hyperbilirubinemia. *IJRANSS*. 2017;5(5): 33-44.
14. Lin CH, Yang HC, Cheng CS, Yen CE. Effect of infant massage on jaundiced neonates undergoing phototherapy. *Italian Journal of Pediatrics*. 2015;41: 1-6.
15. Wei X, Chen J, Liu Y, Zhuming B, Zhao Y Y, Mu Y, et al. Study of the influence of massage on the physiological jaundice of neonate. *Chinese J Product Health*. 2003; 14 (4): 1-6.
16. Basiri-Moghadam M, Basiri-Moghadam K, Kianmehr M, Jomezadeh A, Davoudi F. Effects of massage on weight gain and Jaundice in termneonates with hyperbilirubinemia. *J IsfahanMed School*. 2012; 30: 384-91.
17. Chen J, Sadakata M, Ishida M, Sekizuka N, Sayama M. Baby massage ameliorates neonatal jaundice in full-term newborn infants. *Tohoku J Exp Med*. 2011; 223: 97-102.
18. Kianmehr M, Moslem A, Basiri Moghadam K, Naghavi M, Pasban- Noghahi S, Basiri Moghadam M. The effect of massage on serum bilirubin levels in term neonates with hyperbilirubinemia undergoing phototherapy. *NAUTILUS*. 2014; 128: 36-41.

# A Study to Evaluate the Effectiveness of Structured Teaching Programme on Knowledge Regarding Family Planning Method among Women in Selected Villages of Panipat, Haryana

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## ABSTRACT

**Background:** Family planning (FP) means having the number of children you want and only when you want to have them. In spite of availability of a wide range of contraceptive and mass media information and education, the population control remains a distant dream to achieve. Because many women had never tried contraception because they had fear of side effects and religion beliefs. India was the first country in the world to implement national family program in 1952. Family planning is very necessary in communities where the birth rate is high and medical services and financial resources are poor. The success of any family planning method depends not only on its effectiveness in preventing pregnancy but on the rate of continuation of its proper use.

**Aims:** The of the study was to evaluate the effectiveness of structured teaching programme (STP) on knowledge regarding family planning methods among women in selected villages of Panipat, Haryana.

**Methodology:** The research approaches for the study was quantitative and evaluative approach. The research design selected for the present study was pre-experimental (one group pre test and post test) design. The setting for the study was selected Baroli village Panipat. The sample size for the present study was 60 women selected by no probability convenient sampling technique.

**Finding:** The pre test knowledge of the women on domains of family planning viz., age, religion, educational status, monthly family income, number of living children, source of information was found ( 0.136,1.319,0.266,0.451,0.761,1.319) and the total mean score was 8.40. The mean post test knowledge score was 21.37 with increase knowledge score in all the domains of family planning indicating remarkable improvement in knowledge score after STP.

**Conclusion:** The study highlights that if proper teaching programme made available to women, their knowledge may be improved.

**Keywords:** Structured teaching programme, family planning

## INTRODUCTION

*We all worry about the population explosion,  
but we don't worry about it at the right time.  
(Arthur Hoppe)*

Family planning is an important factor in fertility reduction. Rapid population growth is a critical issue in most developing countries. Family planning matters save women lives, preventing unintended pregnancies, slower population growth, conserve resources, improve health and living standards.<sup>1</sup>

India's census puts the country population at 1.210 billion to 1.4 billion during the period 201 to 2026. India s estimated to increase its population by about 13.57 percentages in twenty five years at the rate of 1.2 percentages every year. India population will grow to 1.533 billion by 2050 AD. This will make India the most populous is currently in the world, surpassing china.<sup>2</sup>

2.5 millions of India population is in the reproductive age-group every year. About 42 % of population increase is contributed by births beyond two children per family. 60% of eligible couples require family planning

coverage. 40% of eligible couples in the reproductive age group 15-44 were effectively protected against conception by one or the other family planning methods. Study on emergency contraception stated that about 47,000 (13.5%) women die from complication arising from illegal abortion every year in India.<sup>2</sup>

Family planning prevalence increase with age except at the older ages (8% among adolescent girls vs. 67% among women aged 35-39 years), with education (43% among illiterate women vs. 57% among women with high school education), with standard of living (40% among women from households with a low standards of living index vs. 61% among women from households with a high standards of living index) , and with number of living children (5% among women with no living children vs. 68% among women with three living children).<sup>4</sup>

In India there are generally two types of temporary birth control option: barrier and hormonal. Hormonal contraceptive are typically pills, injectable, implants, patches and vaginal rings. Some of the most common barrier contraceptive products include condoms, cervical caps, diaphragms, and IUDs (intrauterine devices).<sup>1</sup>

Data from **National Family Health Survey (NFHS)-2, 2010** indicate that nearly one-half of currently married women were using family planning method of contraception 2009-2010.<sup>3</sup>

According to the **Council on Foreign Relations' recent report "Family Planning and U.S. Foreign Policy," 2011** meeting the unmet need for family planning would result in a 32% decrease in maternal deaths, reduce abortion in developing countries by 70%, and reduce infant mortality by 10%.<sup>4</sup>

In Haryana, contraceptive prevalence is slightly higher in urban areas than in rural areas. Haryana 67% of users of modern contraceptives in urban area than in rural areas (60%) who are motivated by someone to use their methods were told about any other methods. In rural areas, acceptance of contraceptive increased as age of woman increased.<sup>5</sup>

**Statement of the problem: "A study to evaluate the effectiveness of structured teaching programme on knowledge regarding family planning methods among women in selected villages of Panipat, Haryana"**

## OBJECTIVES

1. To assess the pre-test level of knowledge of women regarding family planning methods.
2. To evaluate the effectiveness of structured teaching programme on family planning methods among women.
3. To find associate between the pre-test knowledge score regarding family planning methods with selected demographic variables among women.

## Operational Definition

1. **Evaluate:** A systematic, rigorous and meticulous application of scientific method to assess the design, implementations, improvements or outcomes of family planning methods through structured teaching programme.
2. **Effectiveness:** It refers to the extent to which the structured teaching programme has achieved the desired result as evident from the post test knowledge.
3. **Knowledge:** It is defined as expertise and skills acquired by a person through experience for education theoretical or practical understanding of family planning methods.
4. **Family Planning:** It refers to a programme to regulate the number and spacing of children in a family through the practice of contraception or to her methods of birth control.
5. **Women:** Referring to adult human beings who are biologically female, that is capable of bearing offspring (18-45yrs).

## MATERIAL AND METHOD

In this study, pre experimental one group pre test post test design was used to carry out the study.

"O<sub>1</sub>", X, "O<sub>2</sub>"

"O<sub>1</sub>"= Pre test knowledge on first day of contact.

"X"= Represent the intervention, planned teaching programme

"O<sub>2</sub>"= Post test knowledge after 7 days

The sample size considers for the present study was 60 women from Baroli village, Panipat by using non probability convenient sampling technique.

## Tool And Technique of Data Collection

Two section were used for data collection.

### Section A. Socio demographic variables.

### Section B. Structured knowledge questionnaire on family planning methods.

## RESULT

**Section A: Description of socio demographic variables:** The socio demographic variables were describe in terms of age, religion, educational status, occupation, family income, number of children, source of information, and previous knowledge regarding family planning methods.

**Section B. Structured knowledge questionnaire:** Structured knowledge questionnaire on family planning

methods consist of 30 multiple choice question based on knowledge about family planning methods. Total score of structured knowledge questionnaire was 25 and divided into 3 section, inadequate (>8), moderate adequate (9-15), adequate (16-25). For each correct answer respondent were given “1” marks and for each incorrect answer respondent were given “0” marks.

### Scoring:

Table 1

Level of knowledge	Scoring	Percentage
Inadequate	0-9	<36%
Moderate adequate	10-17	40%-68%
Adequate	18-25	>72%

**Objective No. 2: To evaluate the effectiveness of structured teaching programme on family planning method.**

Table 2: Showing the comparison of pre test and post test level of knowledge score of women in family planning methods

Area of knowledge	Pre-test		Post-test		Enhancement		Women paired t-test
	Mean	SD	Mean	SD	Mean	SD	
Overall knowledge score	8.40	1.077	21.37	1.025	12.967	1.301	77.175

### Paired t test-p-0.000

**As shown in table:** The post test knowledge score 21.37 was higher than pre test knowledge score 8.40 with a difference of 12.97. Thus it can be inferred that difference obtained between pre test and post test was a true difference and not by chance. There was marked gain in knowledge in post test than pre test. Research hypothesis  $H_1$  was accepted indicating that STP on family planning methods was an effective method for improving knowledge of women.

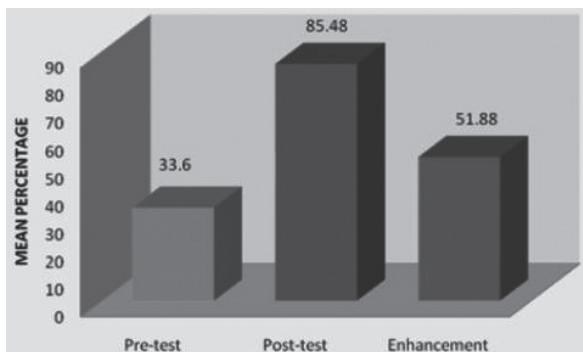


Figure 1: Area wise score, mean percentage score and mean percentage gain of pre test and post test knowledge score of women

**As shown in figure:** Mean post test knowledge score was found higher than pre test knowledge score in each domain of knowledge of women on family planning methods. It indicate that STP was found effective in improving knowledge of women on family planning methods.

## DISCUSSION

Present study assessed the knowledge score of women in the domain of family planning methods and their score was 55.0%. The findings related to another study conducted by Mustafa R et al., in which the knowledge was 64% during pre test.

In the present study (0%) women had adequate knowledge whereas (55%) had no knowledge and (45%) had moderate knowledge. Similar finding were reported in a study conducted by Vishnu Prasad R only 51.7% having knowledge regarding family planning methods.

**Nursing Implications:** The study findings have several implications in nursing. They can be categorized under nursing practice, nursing education, nursing research and nursing administration.

**Nursing Practice:** Health teaching is an integral component of nursing services. Understanding the need of women with poor knowledge may help the nurse to plan and provide appropriate knowledge on family planning methods. Student nurse can use this intervention to create awareness regarding family planning methods.

**Nursing Education:** There must be adequate guidance, supervision, instruction and evaluation of health professionals and nursing students to provide knowledge regarding family planning methods.

**Nursing Research:** Nursing research can be conducted on various aspects of family planning methods which provide more scientific data and more scientific body of knowledge, information to women and also update the nursing profession. There is a need for extensive and intensive research in this area, so that strategies for educating women on family planning methods.

**Nursing Administration:** The nurse administrator has to organize in service educational programme among anganwadi workers regarding family planning methods. The plan for teaching and development program will ensure complete client satisfaction in the events of advancement of technology; demand to provide quality and competent care and patient necessities.

**Recommendation:** Keeping in view the findings of the study the following recommendation are made for the future study.

- A similar study can be replicated with a large sample in order to generalize the data.
- A study can be conducted to compare the effectiveness of STP with other instructional strategies

- like video film, self instructional module or role play etc.
- Comparative study can be done conducted in different settings.
- A study can be done to compare the knowledge of urban and rural area on women family planning methods.

## CONCLUSION

The women had average knowledge regarding family planning methods. The socio demographic variables of women found to have non significant association with knowledge score in pre test. The mean post test knowledge score 21.37 on family planning methods higher than the mean pre test knowledge score of 8.40 among women. This indicates that STP had improved the knowledge of women on family planning methods.

**Ethical Clearance:** Taken from Ved nursing college, Baroli, Panipat (Haryana)

**Source of Funding:** Self

**Conflict of Interest:** Nil

## REFERENCE

1. Bobak essential of maternity nursing” mosby publication, pg, 721-725
2. Helen Varney’s textbook of midwifery” 4<sup>th</sup>ed, pg ,929-933
3. NFHS II state reports. [internet][cited 2010 Feb 10]. [http://www.rchiips.org/nfhs/tamilnadu\\_report.shtml](http://www.rchiips.org/nfhs/tamilnadu_report.shtml)
4. Mahajan method of biostatics” jaypee brothers medical publishers
5. Brunner and suddarth’s medical surgical nursing, 11<sup>th</sup>ed Lippincott publication, pg, 272-295

# A Study to Assess the Impact of Demonstration Program on Latch on Position in Promoting Mother Infant Bonding among Primi Para Mothers in Dhiraj General Hospital

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## ABSTRACT

**Introduction:** With the help of this study, we will improve the bonding between the mother and the child. To teach proper technique of breastfeeding which will help the child in receiving adequate milk from the mother. The child will get adequate milk and care if the mother – infant bonding will be improved. The nutritional status of the child is affected by the technique of breastfeeding, how the child is sucking the milk, positioning and bonding between mother and child.

### Aims and Objectives

1. To assess the existing bonding between mother and infant by pretest.
2. To Plan and administer demonstration program regarding latch on position.
3. To evaluate the effectiveness of demonstration program in promoting mother infant bonding by post-test.
4. To find out the association between the pretest knowledge score with selected demographic variables.

**Material and Method:** The selection of design depends upon the purpose of the study, research approach and variable to be studied. One group pre-test, post-test research design, which belongs to pre-experimental design, was selected to assess effectiveness of demonstration programme regarding latch on position among primipara mother admitted in obstetric ward. The evaluation of demonstration program was done through post-test on the 8<sup>th</sup> day of implementation of demonstration programme.

**Results:** The collected data was tabulated and analyzed by using descriptive and inferential statistics. In the pretest mean score was 6.9 and post test mean score 11.4. The post test level of knowledge mean score is significantly greater than the pre test knowledge mean score. The 't' value 17.84 is more than tabulated value at 0.05 level of significance.

**Conclusion:** According to the calculation of both pre test and post test score study reveals that there was improvement in practice of primi para mothers after administering the demonstration programme on practice regarding latch on position in promoting mother infant bonding. Hence it indicates that the demonstration programme was effective.

**Keywords:** Impact, Demonstration, Latch On, Mother, Infant, Bonding.

## INTRODUCTION

“There are no substitutes for mothers love;  
There are no substitutes for mother’s milk.”

—William Gouge

The establishment of bonding between mother and child is a physical and psychological need of babies,

which provides comfort and protection. Thus, the mother is considered the safe haven for the establishment of the first emotional attachments of the child, which will reflect on all future social relations. The Theory of Attachment developed by Bowlby suggests there is a human need to develop close emotional bonds, with the biological function of survival of the species, from the fetal period

until old age. In childhood, these emotional interactions are primarily developed with parents in order to impart comfort, protection, affection, and love. In adolescence and adulthood, they are enhanced and modified, and new bonds with significant others are developed and incorporated.

Mother infant bonding means the development of the core relationship between mother and child. The bonding process occurs in both infant and mother and has tremendous implications for the child's future development. Mother infant bonding is the development of the reciprocal relationship between mother and child. Other terms to describe this relationship are mother infant attachment, and mother infant dependency.

Children are our future and our most precious resources. Health of the future children's depends on the nurturing practice adopted by the family. The first few days of life is a period of transition occurring all of a sudden from parasitic fetal life (intra uterine environment) to a completely independent (extra Uterine life). The process of birth and adaptation to the new surroundings depend upon number of adjustments on the part of the newborn baby especially.

### **Background of the Study**

WHO recommends exclusive breast feeding for infants till they are six month old. About 1.4 million deaths of children of children aged below 2 years in settings worldwide especially in low income countries are due to suboptimal breast feeding practices. One fifth of neonatal death can be prevented by initiating exclusive breast feeding as early as possible.

In India rate of malnutrition or wasting are twice as high as the average in sub-Saharan African and 10 times higher than Latin American. Currently an estimated 25 million children are wasted in India. 53 million are underweight and 61 million chronically malnourished. Much of this happens in the prenatal and first two years of a child's life damaging growth, brain development, eventual school performance and adult productivity.

The investigator observed that many mothers find difficulty in proper technique of breast feeding and ignore about the importance of proper breast feeding techniques. Correct sucking technique is related to the long term success of breast feeding and the prevention of breast feeding

complications. To understand the degree of knowledge and their practices to help in future improvement the investigator felt the need to take up the study.

## **MATERIAL AND METHOD**

The selection of design depends upon the purpose of the study, research approach and variable to be studied. One group pre-test, post-test research design, which belongs to pre-experimental design, was selected to assess effectiveness of demonstration programme regarding latch on position among primipara mother admitted in obstetric ward. The evaluation of demonstration program was done through post-test on the 8<sup>th</sup> day of implementation of demonstration programme.

## **FINDINGS**

- **SECTION I:** Distribution of demographic variables.
- **SECTION II:** Assessment of pre-test practice scores regarding latch on position in promoting mother infant bonding.
- **SECTION III:** Effectiveness of demonstration program on practice scores regarding latch on position in promoting mother infant bonding.
- **SECTION IV:** Association between pre-test practice scores with selected demographic variables

### **SECTION I: Distribution of demographic variables.**

- According to age 11(36.67%) respondents belongs to age group of  $\leq 20$  years, 15(50%) belongs to age group of 21-25 years 4(13.33%) respondent belongs to 26-30 years & no one belongs to 31- 35 &  $\geq 36$  age group.
- According to knowledge 06(20%) mothers having previous knowledge regarding breastfeeding technique and 24(80%) mothers are not having previous knowledge regarding breastfeeding technique.
- According to weight of the child 2 (6.67%) belongs to 1.6-2 kg, 21(70%) belongs to 2.1-2.5kg & 4(23.33%) belongs to 2.6-3 kg weight of the child.
- According to number days after birth 02(6.67%) is 1 day old child, 9(30%) is 2 day old child, 14(46.67%) is 3 day old child and 5(16.67%) child is more than 3 day after birth.

- According to occupation 05(16.67%) are unemployed mother & 25(83.33%) are employed mother.
- According to education 24(80%) mother are having primary education & 6(20%) mother are having secondary education.
- According to type of family 01(3.33%) belongs to nuclear family & 29(96.67%) belongs to joint family.

**SECTION II: Table 1: assessment of pre-test practice scores regarding latch on position in promoting mother infant bonding**

Grade	Score	Frequency	Percentage
Poor	0-4	0	0 %
Average	5-8	30	100 %
Good	9-14	0	0%

Table 1: Indicates that the practice score of sample before administration demonstration programme, according to the pre-test practice score 30(100%) have average practice regarding latch on position in promoting mother infant bonding.

**Table 2: Categorization of Post-Test Score**

Grade	Score	Frequency	Percentage
Poor	0-4	0	0 %
Average	5-8	0	0 %
Good	9-14	30	100 %

Table 2: indicates that the practice score of sample before administration demonstration programme, according to the pre-test practice score 30(100%) have good practice regarding latch on position in promoting mother infant bonding.

**SECTION III: Table 3: Effectiveness of demonstration program on practice scores regarding latch on position in promoting mother infant bonding (N = 30)**

	Pretest		Post test		t value	Inference
	Percentage	SD	Percentage	SD		
Practice Score	46	0.76	76	1.10	17.84*	s

\*t (0.05, DF = 29)

As per the table 3 the obtained 't' value for practice is (17.84) at 0.05 level of significance. This is found to be more than the table value of t' at 0.05 level with a df of 29; Hence there is significance difference exists between pre-test & post-test practice scores of primi para mother.

**SECTION IV: Association between pre-test practice scores with selected demographic variables:** This section deals with the findings of association between various demographical variables with their pre-test practice score regarding latch on position in promoting mother infant bonding among primi para mother.

This consists of data related to demographic variables and practice score of primi para mothers by demonstration programme. The chi square value calculated between the practice levels of primi para mothers and demographic variables.

For practice obtained chi square value in the variables such as age of mother ( $X^2=1.4565$ ), previous knowledge regarding breastfeeding technique ( $X^2=2.0882$ ), weight of child ( $X^2=4.6753$ ), number of

days after birth ( $X^2=10.9434$ ), occupation of mother ( $X^2=0.5454$ ), education of mother ( $X^2=2.0882$ ) and type of the family ( $X^2=0.3761$ ).

## DISCUSSION

This chapter deals with the discussions in accordance with the objectives of the study and hypothesis. The statement of the problem was, "A study to assess the impact of demonstration program on latch on position in promoting mother infant bonding among primi para mothers in Dhiraj general hospital."

## CONCLUSION

The present study assessed the practice regarding latch on position among primi para mothers admitted in Dhiraj general hospital, Piparia, Vadodara and found that the majority have average practice regarding latch on position. After demonstration programme on latch on position there was significant improvement on practice of the primi para mothers regarding latch on position.

The study concluded that the demonstration programme was effective in improving their practice reading latch on position. According to pre-test 88.33% have average practice and 11.67% have good practice reading latch on position. According to post-test 100% have good practice and no one have average and poor practice regarding latch on position, which was higher than pre-test practice score range. There was significant difference in practice scores regarding latch on position in promoting mother infant bonding among primi para mothers admitted in Dhiraj general hospital, Piparia, Vadodara.

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## REFERENCES

1. Journal of Neonatology (2017) Vol. 23, No. 3, July–September 2009. REVIEW ARTICLE. National neonatology forum (NNF): Role in mainstreaming. Newborn health in India, Ip:182.69.8.25 on dated 13-Apr-2017.
2. DC Dutta's Textbook of Gynecology Jun 30, 2016 -This book provides a comprehensive guide to the diagnosis and management of gynaecological disorders. Department of Obstetrics and Gynaecology, Calcutta National Medical College and Hospital, Kolkata, page num :439,450,51,52
3. Beicher & MacKay's Obstetrics, Gynaecology and the Newborn, Aug 31, 2015 4th Edition is an update of the highly acclaimed Obstetrics and the Newborn, 3rd Edition and Illustrated Textbook of Gynaecology. It is the most up-to-date resource in Obstetrics and Gynaecology targeting those with fundamental, pp6 13-618
4. Kumari s, sailia, jain s, bhargwa u, Gandhi g , seth p maternal attitude and trends in initiation of newborns feeding in lady hardinge medical college, new delhi, india, Indian journal of paediatrics 1998, nov-dec: 55(6) 905-11
5. Cakmak H, comparison of the breastfeeding patterns of mothers who delivered their babies per vagina and via caesarean section an observational study using the LATCH breastfeeding charting system, International journal of nursing studies -2007,44:1128-37
6. Bowlby J (1997) The making AND breaking of affectional bonds. Psychopathology attachment theory. Br. J Psychiatry -130:201-210.

# Dietary Patterns and Association with Socio Economic, Lifestyle Characteristics and Nutritional Status among Adolescents with Obesity in Selected Schools, Kancheepuram, South India

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## ABSTRACT

**Background:** Dietary habits are one of the modifiable risk factors for nutrition related health problems during adolescence. Dietary factors related to body weight and chronic disease risk are of interest because of recent increases in the prevalence of overweight.

**Objective:** To identify dietary patterns among adolescents and to assess their association with socioeconomic and lifestyle characteristics and nutritional status.

**Method:** Purposive Sampling technique was adopted. 198 adolescents with overweight and obesity between 12 to 15 years old were recruited for the study. Dietary intake was assessed using 3 days 24-hr menu recall.

**Results:** 72(36.4%) obese adolescents were vegetarians and 126(63.6%) obese adolescents were Non vegetarians. 57(28.8%) obese adolescents consumed fruits daily. 63(31.8%) obese adolescents consumed vegetables daily. 103(52%) obese adolescents stated the consumption of junk foods. 139 (70.2%) obese adolescents agreed that they have the habit of eating snacks while watching TV.

**Conclusion:** Several factors were associated with dietary patterns of adolescents.

**Keywords:** Dietary patterns. Socioeconomic condition status. Adolescents. Socioeconomic background. Lifestyle. Nutritional status.

## INTRODUCTION

WHO identifies adolescence as the period in human growth and development that occurs after childhood and before adulthood, from ages 10 to 19 years<sup>1</sup>. Today there are 1.2 billion adolescents, worldwide. Nearly 90 per cent live in developing countries. Adolescents make up about 18 % of the world's population. More than half of all adolescents live in Asia. In absolute numbers, India is home to more adolescents—around 243 million—than any other country<sup>2</sup>.

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Healthy eating behavior during adolescence is a fundamental prerequisite for physical growth, psychosocial development and cognitive performance, as well as for the prevention of diet-related chronic diseases in adulthood. Many life style factors and poor eating habits acquired during adolescence can lead to serious diseases later in life<sup>3</sup>. Although the prevalence of obesity is increasing worldwide, the increase has been faster in developing countries because of declining level of physical activity as well as nutrition transition characterized by a trend towards consumption of a diet high in fat, sugar and refined foods and low in fiber<sup>4,5</sup>.

Adolescents are usually open to new ideas; they show curiosity and interest. Many habits acquired during adolescence will last a lifetime. One expression

of adolescents' search to establish themselves as autonomous members of society is through a change in eating habits. For these reasons, adolescents are an ideal target for nutrition education. In younger children, parents are in charge and need to be influenced. In adults, it may be more difficult to modify well-established patterns. Furthermore, adolescents may not only adopt healthy eating patterns and lifestyles for themselves, but also influence their peers, family and other community members.

Adolescence is a period of rapid growth. They are tomorrow's adult population and their health and well-being are crucial. Yet, interest in adolescents' health is relatively recent and a focus on nutrition is even more recent. Dietary habits are one of the modifiable risk factor for both over and under nutrition related health problems. Food intake patterns and overweight are associated with different immediate complications and major long-term consequences including cardiovascular diseases, diabetes, high blood pressure, stroke, cancer, dental caries, asthma, and some other psychological disorders like depression<sup>7, 8</sup>. Thus, quality of children's and adolescents' diet has become a major concern for researchers. Despite the availability of reports from developing countries showing the influence of eating patterns on the escalating prevalence of obesity<sup>6</sup> little is known about this relationship of eating habits and nutritional status among the adolescents in the school based settings of Chennai.

## MATERIALS AND METHOD

This was a cross-sectional study conducted between June and August 2017 in six high schools (2 govt. schools, 2 private schools, 2 public schools) in kancheepuram, district, South India. Consent was taken from Chief education officer and Principal of each School. A descriptive, quantitative pretest study design was followed for the study. Purposive Sampling technique was adopted. 200 adolescents with overweight and obesity from 12 to 15 years were recruited for the study. The study was approved by the Institutional Ethical clearance committee. The students were informed that their privacy and anonymity will be respected and maintained. Verbal explanation about this study was given to the students and written consent was obtained from students. Code numbers were given to maintain anonymity of the students.

Data were collected through standard 3days 24-hour menu recall and researcher-designed questionnaire. The questionnaire included the demographic data and the Serving size and details of consumed foods. Nutritional practice was evaluated by inquiry about food choices and daily consumption of food materials. Daily food consumption (g/d) was determined by dividing the reported amount (g) of food consumed by the frequency of intake (d). Volumes and portion sizes were reported in natural units, household measures or with the aid of a manual of sets of photographs. Validity of the questionnaire was checked and obtained by consulting a number of experts. Sample size calculation was calculated by using power analysis with significance level of 95% with 200 samples and probability at 0.05 levels. 2 Students did not cooperate and were not considered for the study. So, 198 participants were included in the study. Data was analyzed using SPSS-16. For descriptive statistics proportion, mean  $\pm$  SD were used, while for testing the association between nutritional status and eating habits and other factors chi-square ( $\chi^2$ ) test was used. Significance level was considered at P value  $<0.05$ .

## RESULTS

**Table 1: Frequency and Percentage distribution of socio demographic variables of adolescents with obesity (N = 198)**

Variable	Number	Percentage
<b>Age</b>		
12 yrs	45	22.7
13 yrs	52	26.3
14 yrs	62	31.3
15 yrs	39	19.7
Total	198	100
<b>Gender</b>		
Males	103	52.0
Females	95	48.0
<b>Residence</b>		
Urban	109	55.1
Rural	89	44.9
<b>Type of school</b>		
1.Govt	34	17.2
2. Private Non CBSC	65	32.8
3. Public School	99	50.0

Table 1 shows that a total of 198 obese adolescents in the age group of 12 to 15 years of age were studied. Considering the age, 52(26.3%) of them were 13 years and 62 (31.3%) of them were 14 years. Regarding the gender 103 children were males and 95 were females. As per the area of residence 109 obese adolescents were living in urban area and 89 (44.9%) were from rural area. Considering the type of school 99(50%) obese adolescents were from public school and 65(32.8%) were from private school .34(17.2%) obese adolescents were from Government school.

**Table 2: Profile of Family factors of Obese Adolescents**

Variable	Number	Percentage
<b>Income</b>		
≥Rs 32050	56	28.3
Rs 16020-32049	66	33.3
Rs 12020-16019	25	12.6
Rs 8010-12019	3	1.5
Rs 4810–8009	26	13.1
≤ 4809	22	11.1
<b>Family history of Obesity</b>		
Yes	113	57.1
No	85	42.9
<b>Birth Order</b>		
1	118	59.6
2	62	31.3
3	18	9.1

Table 2 reveals the frequency and percentage distribution of family factors of obese adolescents. Considering the monthly income of the family 66(33.9%) obese adolescents family income was RS. 16020 – 32049.56 (28.3%) obese adolescents family earned ≥ RS. 32050 per month . 26 (13.1%) obese adolescents monthly income was RS. 4810 – 8009. Considering the family history of obesity, 113(57.1%) obese adolescents had the family history of obesity whereas 85 (42.9%) obese adolescents did not have the family history of obesity. Regarding the birth order, 118 (59.6%) obese adolescents were first born 62 (31.3%) obese adolescents were second born and 18(9.1%) obese adolescents were third born in the family.

**Table 3: Dietary behavior of Obese Adolescents**

Variable	Number	Percentage
<b>Type of Diet</b>		
Vegetarian	72	36.4
Non vegetarian	126	63.6
<b>Fruit Intake</b>		
Daily	57	28.8
Weekly	91	46.0
Occasionally	50	25.3
<b>Vegetable intake</b>		
Daily	63	31.8
Weekly	81	40.9
Occasionally	54	27.3
<b>Junk Food</b>		
1	103	52.0
2	95	48.0
<b>Eat Out</b>		
Daily	54	27.3
Weekly	92	46.5
Occasionally	52	26.3
<b>Soft Drinks Intake</b>		
Daily	71	35.9
Weekly	86	43.4
Occasionally	41	20.7
<b>Habit of eating snacks while watching TV</b>		
Yes	139	70.2
No	59	29.8

Table 3 depicts the frequency and percentage distribution of dietary behavior of obese adolescents. Regarding the type of diet, 72(36.4%) obese adolescents were vegetarians and 126(63.6%) were Non vegetarians. With regard to intake of fruits 57(28.8%) obese adolescents consumed fruits daily and 91(46%) obese adolescents consumed fruits weekly. Concerning the vegetable intake majority of (81; 40.9%) obese adolescents had vegetables weekly. Regarding the intake of junk food 103(52%) obese adolescents stated the consumption of junk food. Considering the eating out habit of obese adolescents 54(27.3%) of them daily ate food out, whereas 92(46.5%) obese adolescents weekly eat out. Regarding the soft drinks intake 71(35.9%) obese adolescents drank soft drinks daily and 86(43.4%) of them had soft drinks weekly. 139 (70.2%) obese adolescents agreed that they have the habit of eating snacks while watching TV.

**Table 4: Descriptive statistics of Dietary intake of Obese Children**

Variable	Mean	Std. Deviation
Energy	1942.6	599.6
Fat	87.7	59.7
Protein	174.5	150.8
Carbohydrate	311.2	263.3

Table 4 shows the dietary intake of obese children .The mean energy intake was 1942.6 kcal with a standard deviation of 599.6. The mean fat intake was 87.7gm with a standard deviation of 59.7. The obese adolescents consumed 174.5gm of protein with a standard deviation of 150.8. The mean carbohydrate intake was 311.2 with a standard deviation of 263.4.

**Table 5: Association between socio demographic variables and Dietary intake of Obese Adolescents**

Variable	Energy	Fat	Protein	Carbohydrate
<b>Age</b>				
12 yrs	2020.0	91.8	186.0	336.3
13 yrs	2089.8	89.6	147.9	329.8
14 yrs	1806.7	84.4	184.5	306.5
15 yrs	1873.0	85.7	180.5	265.2
P value	0.054	0.923	0.531	0.602
<b>Gender</b>				
Males	1980.8	85.9	179.3	285.4
Females	1901.2	89.7	169.2	339.3
P value	0.352	0.657	0.641	0.151
<b>Income</b>				
Rs $\geq$ 16020	2078.8	92.6	205.8	334.1
Rs < 16020	1550.0	73.5	84.2	245.3
P value	0.000	0.20	0.000	0.20
<b>Type of school</b>				
1. Govt	1456.4	72.0	69.6	239.5
2. Private Non CBSC	1887.3	86.5	160.3	306.7
3. Private CBSC	2145.8	93.9	219.7	338.9
P value	0.000	0.182	0.000	0.163

Table 5 shows the association between socio demographic variables and dietary intake of obese adolescents. It is understood that there is a statistically significant association between age and the energy intake ( $P < 0.05$ ) of obese adolescents. Although statistically not significant the dietary intake of males were higher as compared to females. Considering the monthly income, there was a significant association between family income and dietary intake ( $P < 0.05$ ) of obese adolescents. The dietary intake was more among public school obese adolescents ( $P < 0.05$ ) than the Govt. and private school students.

**Table 6: Association between dietary behavior and Dietary intake of Obese Adolescents**

Variable	Energy	Fat	Protein	Carbohydrate
<b>Type of Diet</b>				
Vegetarian	1863.9	80.5	174.5	260.3
Non vegetarian	1987.5	91.8	174.4	340.3
P value	0.164	0.203	0.998	0.039
<b>Eat Out</b>				
Daily	1800.0	82.6	140.6	284.5
Weekly	1882.8	81.1	177.5	306.2
Occasionally	2196.4	104.5	204.1	347.9
P value	0.001	0.060	0.092	0.452

Conted...

Habit of eating snacks while watching TV				
Yes	1924.2	90.6	177.2	314.0
No	1985.9	80.7	167.9	304.7
P value	0.509	0.288	0.690	0.821

Table 6 shows the association between dietary behavior and dietary intake of obese adolescents. The dietary intake of carbohydrate, protein, fat and energy was high among non-vegetarians which was not statistically significant. There is a significant association ( $p < 0.001$ ) between the dietary intake and the frequency of eat out. Although not significant, obese adolescents who had the habit of eating snacks while watching TV consumed more carbohydrate, protein, fat and energy than those who did not have the habit of eating snacks while watching T.V.

## DISCUSSION

A cross- sectional study was conducted among adolescents with the purpose to assess their eating habits and nutritional status. In our study, the obese adolescents were between 12 to 15 years of age. Similarly Manisha Sarkar<sup>9</sup> found in her study that 87.3% of the respondents belonged to early adolescence (10-14 years), while 12.7% belonged to late adolescence (15-19 years) age group. Regarding the gender 103 children were males and 95 were females.

The current study shows a higher prevalence of obesity among urban 109 (57.1%) and public 99, (50 %) school students which were supported by Goyal RK<sup>10</sup>. The study findings revealed that the prevalence of obesity was higher among high socioeconomic status group as compared to middle and low socio economic status group. Prevalence of obesity was found statistically significant ( $p < 0.005$ ) among adolescence with the family history of obesity. This result was similar to the data published by Sirma Ercan<sup>11</sup>. The study results revealed that the prevalence of familial obesity was found to be as high as 56.5% among the obese adolescents, significantly higher than among the normal-weight and overweight subjects ( $p < 0.001$ ). There was less frequent consumption of fruits, vegetables, pulses, milk or milk products, egg, meat etc. among the adolescents of this study. Similarly, Seema Choudhary et al.<sup>12</sup> found in their study that daily consumption of body building (viz. pulses and milk)

and protective (viz. fruits, green vegetables and other vegetables) foods by an adolescent was practically non-existent in the study area.

Our study shows a significant association between birth order of the child and obesity which was not supported by the findings in similar study done in England. Having overweight parents has been shown to be a strong determinant of childhood obesity<sup>13</sup>. A study by Burke et al<sup>14</sup> demonstrated the associations between child BMI and parental BMI. In this study, obesity in fathers was associated with a four-fold increase in the risk of obesity at the age of 18 years in both sons and daughters with an independent eight-fold increase in the risk for daughters if mothers were obese.

The strengths of the present study was that, it included students from both urban and rural region and students from public, private and government institutions. Some of the limitations of this study include: 1) Self-administering questionnaires were used as the research tool. Some authors criticize this method because these are subjective measures and may not represent the reality of the study context. However, these instruments are recommended for population-based studies or those with epidemiological characteristics, since they are easy to use and inexpensive.

## CONCLUSION

The risk factors for overweight or obesity were skipping of meals, physical inactivity, regularly eating at fast food centers, and regular consumption of fatty or fried foods. It may be said that adolescents are a nutritionally vulnerable group for a number of specific reasons, including their high requirements for growth, their eating patterns and lifestyles, their risk-taking behaviors and their susceptibility to environmental influences. It can affect adolescents' current health and put them at high risk of chronic disease as well. It is thus recommended to increase nutritional counselling on healthy eating habits in school and to initiate intervention measures to improve the nutritional status of adolescents.

**Conflict of Interest:** None.

**Source of Funding:** Self.

**Ethical Clearance:** Ethical clearance was obtained from the Institutional Ethical Committee.

## REFERENCES

1. WHO. Adolescent health. Adolescent development [Internet]. [cited 2015 Nov 26]. Available from: [http://www.who.int/maternal\\_child\\_adolescent/topics/adolescence/dev/en/](http://www.who.int/maternal_child_adolescent/topics/adolescence/dev/en/).
2. UNICEF. Progress for children A report card on adolescents [Internet]. New York: 2012 Apr [cited 2015 Nov 26]. Available from: [http://www.unicef.org/media/files/PFC2012\\_A\\_report\\_card\\_on\\_adolescents.pdf](http://www.unicef.org/media/files/PFC2012_A_report_card_on_adolescents.pdf).
3. French SA, Lin BH, Guthrie JF. National trends in soft drink consumption among children and adolescents age 6 to 17 years: prevalence, amounts, and sources, 1977/1978 to 1994/1998. *Journal of the Academy of Nutrition and Dietetics*. 2003 Oct 1;103(10):1326-31.
4. Monteiro CA, Benicio MD, Conde WL, Popkin BM. Shifting obesity trends in Brazil. *European Journal of Clinical Nutrition*. 2000 Apr;54(4):342.
5. Popkin BM, Lu B, Zhai F. Understanding the nutrition transition: measuring rapid dietary changes in transitional countries. *Public health nutrition*. 2002 Dec;5(6a):947-53.
6. Prentice AM. The emerging epidemic of obesity in developing countries. *Int J Epidemiol*. 2006; 35:93-9.
7. Shepherd J, Harden A, Rees R, Brunton G, Garcia J, Oliver S, Oakley A. Young people and healthy eating: a systematic review of research on barriers and facilitators. *Health Education Research*. 2006 Jan 1;21(2):239-57.
8. McCabe MP, Ricciardelli LA. Body image and strategies to lose weight and increase muscle among boys and girls. *Health psychology*. 2003 Jan;22(1):39.
9. Sarkar M, Manna N, Sinha S, Sarkar S, Pradhan U. Eating habits and nutritional status among adolescent school girls: an experience from rural area of West Bengal. *IOSR J Dental Med Sci*. 2015;14(2):6-12.
10. Goyal RK, Shah VN, Saboo BD, Phatak SR, Shah NN, Gohel MC, Raval PB, Patel SS. Prevalence of overweight and obesity in Indian adolescent school going children: its relationship with socioeconomic status and associated lifestyle factors. *The Journal of the Association of Physicians of India*. 2010 Mar;58:151-8.
11. Ercan S, Dallar YB, Önen S, Engiz Ö. Prevalence of obesity and associated risk factors among adolescents in Ankara, Turkey. *Journal of clinical research in pediatric endocrinology*. 2012 Dec;4(4):204.
12. Sarkar M, Manna N, Sinha S, Sarkar S, Pradhan U. Eating habits and nutritional status among adolescent school girls: an experience from rural area of West Bengal. *IOSR J Dental Med Sci*. 2015;14(2):6-12.
13. Lake JK, Power C, Cole TJ. Child to adult body mass index in the 1958 British birth cohort: associations with parental obesity. *Archives of disease in childhood*. 1997 Nov 1;77(5):376-80.
14. Burke V, Beilin LJ, Dunbar D. Family lifestyle and parental body mass index as predictors of body mass index in Australian children: a longitudinal study. *International journal of obesity*. 2001 Feb;25(2):147.

# Morbidity Pattern and Health Seeking Behaviour of Gypsy Community

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## ABSTRACT

**Background:** Poor entry in the Census or health information system, nomadic tendency, low education and unhealthy lifestyle poses the Gypsy population to many illnesses and health problems.

**Objective:** This study was aimed to assess the morbidity pattern and health seeking behaviour of the Gypsy Community residing in Vellore district.

**Methodology:** A quantitative cross sectional research design was used to assess the morbidity pattern and health seeking behaviour. A total of 40 families with 135 subjects were selected by convenience sampling method. The morbidity pattern and health seeking behaviour was assessed Using a survey format and questionnaire, constructed by the investigator.

**Results:** Findings showed that majority of the population 101(74.8%) had at least one illness (chronic/ acute) of which 66(65.3%) had taken treatment. Private sector was mostly 37(51.2) used by the people. The perceived morbidities were expressed by them where 10(33.3%) had non-communicable diseases, 31(23%) cough and cold, 12(9%) diarrhea, 27(20%) aches and pains, 11(5.4%) skin problems and 12(9%) had worm infestation. Obese Class 1 was found among 16(18.8%) of the adults assessed and 41(51.8%) were high risk for developing diabetes according to the Indian Diabetes Risk Score. From the findings it was clear that there was a significant association between age ( $p<0.003$ ), education ( $p<0.08$ ), and type of house ( $p<0.008$ ) with the presence of chronic illness. Association was also significant with age ( $p<0.002$ ), religion ( $p<0.016$ ) and education ( $p<0.046$ ) with the choice of taking treatment for chronic illness.

**Conclusion:** The findings suggest that the majority of the people of Gypsy community had poor health seeking behavior and was ignorant about the services available in the government sector. There is a great need to strengthen health services emphasizing on the promotional activities and offer health care services to prevent morbidities.

**Keywords:** Gypsy population, Morbidity pattern, Health seeking behaviour.

## INTRODUCTION

Man was nomadic and a traveler in nature and he explored the world by moving from place to place. Gypsies are one of the kind of nomadic people scattered around the world. The travelling nature of the gypsies keeps them apart from other cultures and they are also rejected at international borders. As they have no formal education they have a poor economic status which leads them to poor health seeking behavior. This special group is also not been attended by any regular health sector. Assessing their habits, existing morbidity pattern and health seeking behavior will enable

health personnel to identify problems that are not known well in the health system.

The gypsy community has been the subject of discrimination and oppression, leading to isolation and powerlessness.<sup>8</sup> These characteristics also affect the health, wellbeing and coping abilities of the Gypsies. According to the available evidence they have unequal access to health services, high morbidity due to infectious diseases, culture related difficulties with health care providers, risky life styles, worse health status, mental and reproductive problems.

## METHOD

This is a cross sectional study with a aim to assess the morbidity pattern and health seeking behavior of the Gypsy community. The sample was selected from the Gypsy community. The community resides as a group in either hamlets or colonies convenient to them all over rural and urban areas. In Vellore they live in clusters varying from 10-35 families. The study was conducted in a hamlet at Sedhuvalai in Vellore district, Tamilnadu, India which had more number of Gypsy families. There were 173 individuals of 49 families.

**Subjects:** A total of 40 families with 135 members who fulfilled the inclusion criteria were selected from the Gypsy hamlet at Sedhuvalai. Sample size was determined based on the pilot study results, where the prevalence of chronic illness was 40%. As the pattern of morbidity and health seeking behavior has to be studied, clear descriptions can be derived only if the whole group was included. The inclusion criteria for the sample selection was all the families who reside in the selected area and who are present during the period of data collection.

**Methodology of sample selection:** The details of the total population of the Gypsy camp was obtained by doing a door to door survey and enumerating the number of families and individuals.

**Data collection:** Data collection was done for a period of 6 weeks. A written consent was obtained from the head of the family and individuals who were willing to participate in the study. A structured interview was done with the head of the family or the individual and data regarding demographic profile, morbidity pattern and health seeking behavior was collected using a survey format. A head to toe physical assessment and biophysical parameters assessment was performed systematically according to a pre-prepared format.

**Data management:** The collected data were analyzed and tabulated using the Statistical Package for Social Sciences for Windows (SPSS 17.0). Data were summarized using percentage with frequency for categorical variables and mean, average and standard deviation for continuous variables. The inferential statistics were analyzed using Chi square to find association between demographic variables and morbidity pattern and health seeking behavior.

**Ethics approval:** Ethical committee approval for doing invasive procedure and protection of safety rights of the patients was obtained from the Institutional Review Board, Christian Medical College, Vellore. Written informed consent was obtained from all the individuals who participated in the study.

## RESULTS

In the study, of the 40 families with 135 individuals, 33(82.5%) were joint families, 24(60%) of the families practiced Hindu religion and 36(90%) belonged to the lower socio economic class. A total of 70% of them lived in government built houses whereas 2.5% lived on the street. Majority, 94(69.6%) of them consumed food from hotels and roadside vendors. Gender distribution of the population was 50(37.1%) were males and 85(62.9%) were females.

Concerning the educational status, 49(44.5%) were illiterates whereas 86(55.5%) have gone to school. Their major occupation was making beads and selling them along with hunting. About 36(49.3%) of them had a monthly income of less than Rs.1600 INR. According to their diet pattern 100% of them were non vegetarians. (Table 1)

**Morbidity Pattern:** It was found that the Gypsy population had many a number of acute and chronic illnesses. Table 6 shows that 8(5.9%) of them had CSOM, 9(6.6%) had worm infestation, 3(2.2%) had diabetes mellitus, 2(1.5%) had hypertension and 8(5.9%) had joint pain. Out of the 135 members 80(59.2%) of them reported to have chronic illness. Considering the prevalence of their perceived acute illness (table 6), 31(23%) of them had cough and cold, 11(8.1%) had parotiditis, 10(7.4%) had diarrhea and 17(12.6%) had aches and pains. Of the 135 members 86(63.7%) of them had acute illnesses.

On measuring the body mass index (table 2) it was found that 16(18.8%) of them were classified under obese class I, 4 (4.8%) of them in obese class II and 22(25.8%) of them were pre obese. According to the Indian Diabetes Risk Score it was found that in the Gypsy population 51.8% of them had high risk for diabetes and 25.4% had moderate risk for diabetes. It was also found that 48.8% and 2.4% had anemia and severe anemia respectively (table 3).

**Health Seeking Behaviour:** It was found that only 65.3% of the people who had illness sought treatment and 34.7% did not seek treatment for their illness. 64.9% of them reported that treatment is not necessary for their illness, whereas 12.3% said they were unable to afford and 27.8% said that they had no time to go to the hospital.

Majority of them 37(out of 66) chose the private sector for treatment as cheap and good treatment is given there and it is easy to access (table 4 & 5)

## DISCUSSION

In this study the demographic variables revealed that females 85(63%) outnumbered the males and the age group distribution revealed that majority of them (45.2%) were between the age group of 15-45 years . This is similar to another study where the total males were 35% and females 65% and majority (51%) of the population were in the age group of 26-65years.<sup>2</sup>

In the selected Gypsy hamlet, out of 40 families 28(70%) lived in government built houses, 8(20%) in thatched houses, 1(2.4%) in tiled house, 2(5%) lived in tents and only 1(2.5%) lived on the street as they had no house. Parry also has said that 44% of them lived in sites like caravans and mobile houses.<sup>2</sup>

Lack of formal education and inability to read and write was always expressed with shame and embarrassment. It was found that 44.5% of them were illiterate and the rest had primary to middle school education (table 1) Studies done by Parry contradicts the present study as 67% of them had regular schooling.<sup>2</sup>

Thomason in his study found that of the Gypsies 23% were unemployed and 15% were self-employed but in the current study 55.1% of them were vendors and 13.3% were hunters and vendors.<sup>4</sup>

Food intake was considered to be more quantitative than considering the quality or the nutritional value of the same. Every one of them (100%) were non vegetarians and 69% bought food from outside and only 5.9% cooked at home. The investigator found that there were more than 3 vendors who came from nearby town in bicycles to sell food in the Gypsy hamlet.

**Morbidity Pattern:** Of the 40 families 12(30%) had given family history of Diabetes, 9(22.5%) Epilepsy, 5(12.5%) Tuberculosis and 2(5%) each for hypertension

and stroke. Ten (6.6%) said that they have major non communicable diseases like diabetes, hypertension, tuberculosis, bronchial asthma and stroke. Pre obesity of BMI >23 kg/m<sup>2</sup> was found in 25.8% and very high BMI of 32.5-37.4kg/m<sup>2</sup> was found in 4(4.8%) of women (table 2). This data is supported by Parry who revealed that the gypsy traveler group are more likely to have long term illness, health problems or disability which limits their daily activities or work ( $\chi^2=6.25$ ,  $p=0.009$ ) compared to their age, sex matched comparators<sup>2</sup>.

Anemia was found among 48.8% of them of which 57.3% were women. Improper diet, eating food from outside, worm infestation, open field defecation and walking bare foot were some of the factors that contributed this group to be anemic. This is contradicted by a study done by Singh (2013) where male counterparts (42.2%) had anemia than the females and the gender difference was significant ( $p<0.05$ )<sup>3</sup>.

The traveling tendency, improper dietary practices and poor hygiene pose the gypsy population for more communicable diseases. Overall 40% of them suffered communicable diseases like diarrhea, cough and cold, parotiditis, tuberculosis and chicken pox. Other minor ailments like fever (3.7%), joint pain (5.9%) and aches and pains 17(12.6%) were prevalent (table 6).

Parry states that difference in proportions was 11% (95% CI 3, 19%) between and other populations. And out of 260 gypsies 101 had long term illness, nerve related illness was present in 73, arthritis(57), asthma(168), bronchitis (107), eye or vision problems(28), angina (78), rheumatic(15), diabetes(11) and chronic cough(127)<sup>2</sup>. This proves that the pattern of morbidity is uniform across the globe. As for joint related problems, Jebaraj has studied that Alkaptonuria was present in Gypsy Community, which is also supported by Parry and the current study.<sup>1</sup>

**Health Seeking Behaviour:** Out of 135 individuals 101(74.8%) had either chronic or acute illness of which 66(65.3%) had treatment. 37(56%) had treatment in private sector, 8(12.1%) in public sector and 21(31.8%) took self-medication. They reported that it was cheap (5(13.5%)), easily accessible (9(24.3%)) and good treatment was given (31(61.2%)) as reasons for choosing private sector. Majority of 88.8% said that they took allopathic medicines for treatment as it was effective (table 4 & 5).

Ahmed in his study found that 20% of nomadic tribals used home remedies, 49.3% took self-medication, 4.5% took treatment from para professionals and 8.5% took traditional medicines which actually throws light and contradicts the findings of present study where majority chose private services whereas in another study done by Sachdev majority (91.11%) preferred to take treatment from private concerns.<sup>5,7</sup>

The study reveals that the adult age group more than 15 years was found to have an association with the prevalence of chronic illness with age ( $p<0.003$ ), educational status ( $p<0.008$ ) and type of housing ( $p<0.003$ ). Singh also found that there is an association between the life style, food habits, diet pattern, smoking and alcoholism and sedentary life style which contradicts the finding of the study.<sup>3</sup>

In the present study there was a significant association between age ( $p<0.002$ ), religion ( $p<0.016$ ), education ( $p<0.046$ ) with the choice of treatment taken for chronic illness and an association of poor housing ( $p<0.003$ ) and not taking treatment for acute illness. Parry also found

that people living in empty land compared to living in houses had increased long term illness ( $p<0.003$ ) and significant higher level of anxiety was found in people living in poor housing or no house ( $p<0.005$ ).<sup>2</sup>

Ahmed in his study also proved that there was an association between gender and health seeking behavior and the individuals from poor households were nearly 2 times (OR 1.8, 95% CI: 1.43 -2.36) more likely to practice self-care.<sup>5</sup> Pradhan in his study also found a significant association between age and health seeking behavior.<sup>6</sup>

## CONCLUSION

The present study shined light to the morbidity pattern and health seeking behavior of Gypsy Community. Community health nurses have a major role in delivery of health care for such population. The study also shows that there are many more areas that can be studied on the Gypsy for young researchers to do quantitative studies. The study revealed need for intense health care, proper housing, health awareness and education on prevention of chronic and acute illness.

**Table 1: Demographic Variables of the of people belonging to Gypsy community (N = 135)**

S. No.	Demographic Variables	Male (N = 50) No (%)	Female (N = 85) No (%)	Total No (%)
1.	<b>Education status (N = 110)</b>			
	Illiterate	13(31)	36(52.9)	49(44.5)
	Primary school	12(28.6)	16(23.5)	28(25.5)
	Middle school	16(38.1)	15(22.1)	31(28.2)
	High school	1(2.3)	1(1.5)	2(1.8)
4.	<b>Occupation (N = 98)</b>			
	Vendor	18(46.1)	36(61)	54(55.1)
	Hunter and Vendor	13(33.3)	-	13(13.3)
	Security Guard	2(5.1)	-	2(2)
	Student	4(10.4)	7(11.9)	11(11.2)
	House wife	-	9(15.2)	9(9.2)
	Not employed	2(5.1)	-	2(2)
	Elderly	-	7(11.9)	7(7.2)
5.	<b>Individual income/month (N = 73) (In Rupees)</b>			
	<1600	8(24.2)	28(70)	36(49.3)

**Table 2: Distribution of the people belonging to Gypsy community according to their BMI (N = 85)**

BMI	Adults(>18years)		Adolescents (12-17years)		Total No. (%)
	Male	Female	Male	Female	
<18.5(underweight)	3	3	2	2	10(11.8)
18.5–22.9(Normal)	10	9	5	9	33(38.8)
23.0–27.4(pre obese)	9	11	-	2	22(25.8)

Conted...

27.5–32.4(obese class I)	6	10	-	-	16(18.8)
32.5–37.4(obese class II)	-	4	-	-	4(4.8)
Total	28	37	7	13	85(100)

**Table 3: Distribution of the people belonging to Gypsy community according to their blood parameters  
n = 82**

S. No.	Parameter	Male No (%)	Female No (%)	Total No (%)
1.	<b>GRBS(N = 79)</b>			
	Normal (<200)	32(97)	44(95.6)	76(96.2)
	Abnormal (>200)	1(3)	2(4.4)	3(3.8)
2.	<b>Hemoglobin (N = 82)</b>			
	Normal(male 13.5-17.5gms; female 12-15.5gms)	21(63.6)	19(38.7)	40(48.8)
	Anemia(male 10.1-13.4gms; female 8.1-11.9gms)	12(36.4)	28(57.3)	40(48.8)
	Severe anemia(male<10 gms; female<8 gms)	-	2(4)	2(2.4)

\*All the above parameters were checked for >12years of age who gave consent for the procedure.

**Table 4: Distribution according to the Morbidity pattern and Health Seeking Behavior of the people belonging to Gypsy community (N = 135)**

Morbidity pattern and health seeking behavior	No	%
Presence of illness (N = 135)	101	74.8
Treatment (N = 101)	66	65.3
<b>Place of treatment (N = 66)</b>		
Public	8	12.1
Private	37	56.1
Self medication	21	31.8

**Table 5: Distribution of the people belonging to Gypsy community according to the reason for the choice of place of treatment for any illness (N = 66)**

Place of treatment (N)	Reason		
	Cheap treatment	Easy Access	Cheap and good treatment
Public (N = 8)	5(62.5)	1(12.5)	2(25)
Private (N = 37)	5(13.5)	9(24.3)	23(61.2)
Self-medication (N = 21)	3(14.3)	13(61.9)	5(23.8)

**Table 6: Distribution of the people of Gypsy Community according to the morbidity pattern**

S. No.	Disease	No	%
1.	Diabetes Mellitus	3	2.2
2.	Hypertension	2	1.5
3.	Respiratory Illness	5	3.7

Conted...

4.	Epilepsy	2	1.5
5.	Abdominal pain and ulcers	7	5.1
6.	CSOM	8	5.9
7.	Worm infestation	9	6.6
8.	Joint Pain	8	5.9

Conted...

9.	Skin Lesions	13	9.6
10.	Cough and Cold	31	23
11.	Parotiditis	11	8.1
12.	Diarrhea	10	7.4
13.	Fever	5	3.7
14.	Aches and pains	17	12.6

**Conflict of Interest:** Nil

**Source of Funding:** Institutional Review Board of CMC, Vellore, Tamil Nadu, India.

## REFERENCES

1. Jebaraj I., Jebaraj P., Kumar S. (2015) Clinical and Ultrasound of Entesopathy in Alkaptonuria in Romani (Gypsy) Community. In: Rovensky J., Urbanek T., Ol'ga B., Gallagher J. (eds) Alkaptonuria and Ochronosis. Springer, Cham
2. Parry, G., Van Cleemput, P., Peters, J., Walters, S., Thomas, K., & Cooper, C. (2007). Health status of Gypsies and Travellers in England. *Journal of Epidemiology and Community Health*, 61(3), 198–204. doi:10.1136/jech.2006.045997
3. Singh, P., Nayak, J. K., Rajpoot, A., Gairola, T., Pramanick, L. (2012-2013). Health profile of Gorkhas with special reference to lifestyle vis-à-vis hypertensive condition in village Karbai Grant of Deharadun, Uttarkhand: An overview. *Journal of Anthropological survey of India*, 61(2) & 62(1), 727–739.
4. Thomason, C. (2006). Here to Stay: An exploratory study into the needs and preferences of Gypsy/Traveller communities in Cheshire, Halton and Warrington, Chester: Cheshire, Halton & Warrington Race Equality Council.
5. Ahmed, S. M., (2001). Exploring Health Seeking Behaviour in ethnic minorities in Chittagong hill tracts, Bangladesh. *Asia Pacific Journal of Public Health*, 13(2), 101-108.
6. Pradhan, S. K., (2013). Health and health seeking behaviour among the tribals, unpublished Masters thesis submitted to the Department of Humanities and Social Sciences, National Institute of Technology Rourkela.
7. Sachdev, B. (2012). Perceptions of Nomad Tribal Population on Health related issues *Medical anthropology*, 8(1), Retrieved on Nov 8, 2014 from <http://www.antrocom.net/archives/2012-2/volume-8-number-1-2012/>
8. Crondahl, Kristine; Eklund, Leena. Perceptions of health, Well being and Quality of life of Balkan Roma Adolescents in West Sweden, *Romani Studies* 22(2) December 2012.

# Effectiveness of Ice Massage at LI- 4 Point in Reducing Active Labour Pain among Primigravida Womens

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## ABSTRACT

**Background:** WHO defines Normal labour as low risk throughout, spontaneous in onset with the fetus presenting by the vertex, culminating in the mother and infant in good condition following birth<sup>1</sup>. The active phase is considered as the most powerful phase the active phase begins when the women in labour is 3cm dilated and end when she is 10cm dilated during this phase the contractions occurs every 2-3min and last upto 10cm of the cervical dilatation.

An ideal labour pain relief method should meet the following criteria: having the least possible side effects for mother and fetus, having permanent effect, could be administered easily, having appropriate sedative effect without intervening the uterine contractions. Evidences suggested that acupressure/ ice massage at LI 4 point Shortens the duration of the second stage of labour by enhancing the cervical dilatation and effacement without interfering with the normal uterine contractions.

**Method:** A Quasi experimental non Randomized control group Research design utilized for this study, Sample consisted of 60 primigravida Mothers who Satisfied the inclusion and exclusion criteria of the study. Of sixty (60) primigravida Mothers ,(30) were selected for treatment with ice massage at LI 4 point (group A) and remaining (30) were kept in control group without any intervention (group B). Post test data collected after the intervention.

**Result:** Effectiveness of ice massage at LI 4 point was found effective in reducing the labour pain by 40% in experimental group and increment of 9% was observed in control group.

**Conclusion:** The above findings suggested that the ice massage at LI point is helpful in reducing the labour pain intensity during the active phase of labour ,also a significant relationship was observed with age of the marriage, Educational Status, Type of activity performed during antenatal period of 1 % level of significance.

**Keywords:** Ice massage , LI 4 point ,Active phase of labour, Primigravida

## INTRODUCTION

The active phase is considered as the most powerful phase the active phase begins when the women in labour is 3cm dilated and end when she is 10cm dilated during this phase the contractions occurs every 2-3min and last upto 10cm of the cervical dilatation.

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An ideal labour pain relief method should meet the following criteria: having the least possible side effects for mother and fetus, having permanent effect, could be administered easily, having appropriate sedative effect without intervening the uterine contractions.

Pharmacological interventions leads to maternal and fetal complications like, hypotension, prolongation of labor due to sedation which leads to great need of vacuum extraction or caesarian birth.

The large intestine energy meridian point is the acupressure point that is referred to as LI4 or Hoku ,the energy meridian pathway is bilateral and begins in the surface of the skin at the root of the index finger nail then

it bifurcates at the end of the shoulder blade to connect with the lower part of the lung and wrapping around the entire transverse colon, at the term pregnancy the colon encircles the upper portion of the uterus.

The location of the LI4 is a point where the energy flow of the meridian is closest to the skin and can be easily stimulated with pressure or extreme cold pressure.

Acupressure/ice massage at LI 4 point Shortens the duration of the second stage of labour by enhancing the cervical dilatation and effacement without interfering with the normal uterine contractions.

The mechanism of reducing the labour pain is based on the gate pain control theory, also it increases the secretion of the natural opiates from the brain thus decreasing the pain threshold.

Labor pain is one of the most severe pains which has ever evaluated and its fear is one of the reasons women wouldn't go for natural delivery.

Today, the indication of many cesareans is not saving the life and health of mother and baby, but it is performed to avoid labour pain.(WHO).

MC.Gill pain questionnaire considered labour pain as equivalent to pain of amputation and cancer pain. Severe pain makes stress response with harmful effects on both mother, and her fetus.

## OBJECTIVES

1. To assess the intensity of labour pain during active phase of labour.
2. To assess the effectiveness of Ice massage at LI 4 point in reducing perception of labour pain during active phase of labour among Experimental group.
3. To compare the effectiveness of Ice massage at LI 4 point with the control group in reducing the intensity of labour pain during active phase of labour.
4. To find association between labour pain level with selected demographic variables.

## MATERIALS AND METHOD

An evaluative research approach is found to be most suitable for the attainment of the objectives of the study. Research design selected for this study is A Quasi experimental non Randomized control group Research design.

<b>Experimental group (Ice massage)</b>	O1	X	O2
<b>Control group (no Intervention)</b>	O3		O4

## Keywords

O1 = pre test assessment of the labour pain in Experimental group.

O2 = post test assessment of the labour pain in Experimental group.

X = Intervention(Ice massage at LI 4 point)

O3 = pre test assessment of the labour pain in Control group.

O4 = post test assessment of the labour pain in Control group.

## SAMPLING CRITERIA

**Inclusion Criteria:** Primigravida Mothers having cervical dilatation between 3cm-6cm, having single live fetus with vertex presentation, Primigravida Mothers who are willing to participate in the study.

**Exclusion Criteria:** Primigravida Mothers associated with obstetric complications (eclampsia, CPD, Malpresentations, fetal asphyxia, cord presentation), Parturient mothers getting pharmacological or non-pharmacological for pain relief in 1<sup>st</sup> stage of labour.

**Sampling Technique:** Nonprobability-purposive sampling will be used to select the primigravida Mothers.

**Sample and Sample Size:** The Sample consisted of 60 primigravida Mothers who Satisfied the inclusion and exclusion criteria of the study. Of sixty (60) primigravida Mothers, (30) were selected for treatment with ice massage at LI 4 point (group A) and remaining (30) were kept in control group without any intervention (group B).

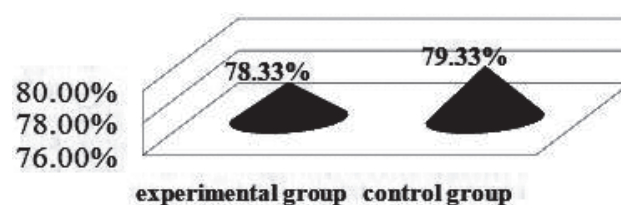
## Tools applied:

**Section A:** Socio Demographic Performa

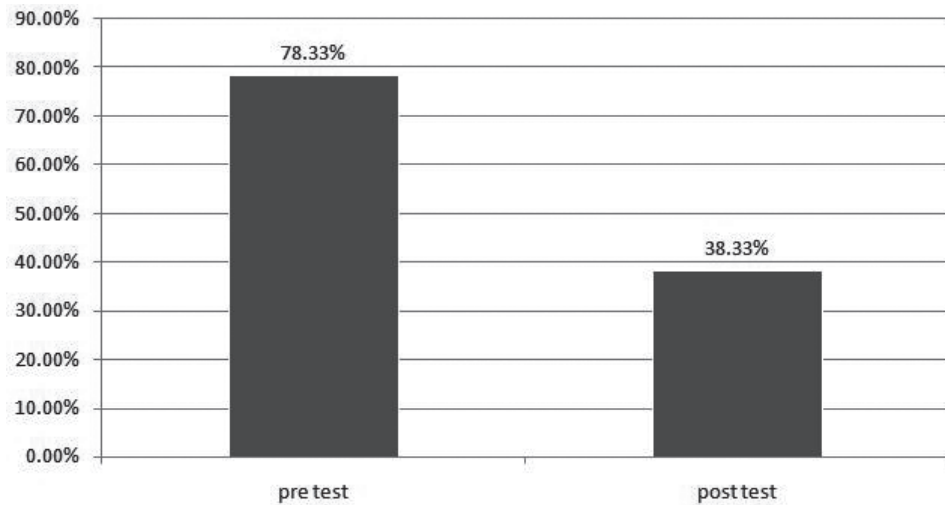
**Section B:** Numerical pain rating scale for assessing labour pain intensity.

Descriptive and inferential statistics is utilized for data analysis.

## RESULTS



**Graph 1:** Cone diagram showing the pretest mean percentage of labour pain intensity during active phase of labour among primigravida mothers in Experimental and the Control group.



**Graph 2: Representing the mean post-test percentage Score among Experimental group.**

**Table 1: Comparison For pain assessment score between pre- test and post-test in Experimental and control group (By Paired-“t” test)**

Sl. No.	Groups	mean $\pm$ S.D			Prob. Value's of paired 't' test	P value
		Pre test	Post-test	Percentage (increament/reduction)		
1.	Experimental	7.833 $\pm$ 0.94989	3.83334 $\pm$ 1.31525	- 40%	0.00000	P<0.01 (Significant)
2.	Control	7.9666 $\pm$ 0.9278	8.833 $\pm$ 0.6989	9%	0.0000	P<0.01 (Significant)

**Objective 4:To find association between labour pain level with selected demographic variables:** The application of Z test (Double Proportion)for different type of variables in general history between Experimental group and Control group revealed Significant difference for the age of the marriage,Educational Status,Type of activity performed during antenatal period ,Type of Family,Community and Spiritual belief of 1 % level of significance. Also highly significant difference was observed for complain Dysmenorrhea, Mental acceptance regarding labour pain, Accompanied during labour, Emotional Status , Planned pregnancy at 1%level of Significance i.e (p<0.01)further ,No significant difference was observed for History of operative procedure ,category of operation, and History of practicing Exercises /Yoga/Antenatal Sessions at 1%level of significance.

## DISCUSSION

According to the first objective of the study, to determine the intensity of labour pain during active Phase of labour Among the experimental and control group, the result shows that a severe degree of pain

was experienced by the primigravida Mothers during active phase of labour. The Above findings supported by the study report Khaskheli M, Baloch S<sup>2</sup>(2010). Who conducted descriptive study on 400 labouring women at Obstetrics and Gynaecology Department. Four hundred full term labouring women in first stage of labour were included in the study. This study shows an acceptable birth experience in 136 (34%) cases, while 264 (66%) patients found it an exhausting painful experience.

According to the Second objective of the Study ,to assess the effectiveness of Ice massage at L I 4 point among primigravida Mothers in reducing perception of labour pain during active phase of labour among Experimental group,the result shows that reduction of 40% in pain assessment score was observed in Experimental Group.The Above findings supported by the study report Kordi M (MSc).–

**Firoozi M,EsmailiH** Kvorning Ternov N<sup>3</sup>, February 25, 2013. The purpose of this study was to compare the effects of LI-4 acupressure on labor pain in women during first stage of labor. A single blind randomized clinical trial study was carried out on 83 primipara women. Results

Findings indicated that acupressure group had lower labor pain in the active phase of the first stage of labor immediately after intervention than the other groups ( $P = 0.026$ ). The results of this study suggested that LI4 acupressure reduced the intensity of labor pain in the first stage of labor without any side effects to mother and infant. The above findings is also supported with the study of Azam Hamidzadeh<sup>4</sup> (March/April 2012), *Journal of Midwifery & Women's Health on Effects of LI4 Acupressure on Labor Pain in the First Stage of Labor*, the result of this reveals that LI4 acupressure is effective at decreasing pain and duration of labor.

According to the third objective of the Study, to compare the effectiveness of Ice massage at LI 4 point with the control group in reducing the intensity of labour pain during active phase of labour.

A reduction of 40% in pain assessment score was observed in Experimental Group which was significant at 1% level of Significance ( $p < 0.01$ ). However in the control group there was Significant Increment of 9% in the pain assessment score at 1% level of Significance ( $p < 0.01$ ). The Above findings supported by the study report M Kaviani ; M Ashoori ; S Azima ; AR RajaeiFard ; MJ Hadian Fard<sup>5</sup>(2012): The Results of this Study Shows that There was a significant decrease in pain immediately after intervention in ice massage and acupressure groups in comparison to the control group ( $P \leq 0.001$ ). The authors concluded that Both acupressure and ice massage lead to reduce pain intensity, duration of labor and level anxiety in nulliparous women, the ice massage appeared to be more influential.

The fourth objective of the study, to find association between labour pain level with selected demographic variables. The application of Z test (Double Proportion) for different type of variables in general history between Experimental group and Control group revealed Significant difference for the age of the marriage, Educational Status, Type of activity performed during antenatal period, Type of Family, Community and Spiritual belief of 1 % level of significance. Also highly significant difference was observed for complain Dysmenorrhea, Mental acceptance regarding labour pain, Accompanied during labour, Emotional Status, Planned pregnancy at 1% level of Significance i.e ( $p < 0.01$ ) further. No significant difference was observed for History of operative procedure, category of operation, and History of practicing Exercises /Yoga/ Antenatal Sessions at 1% level of significance.

## SUMMARY AND CONCLUSION

Effectiveness of ice massage at LI 4 point was found effective in reducing the labour pain by 40% in experimental group and increase in the labour pain score was observed in control group by 9%. The above findings suggested that the ice massage at LI point is helpful in reducing the labour pain intensity during the active phase of labour, also a significant relationship was observed with age of the marriage, Educational Status, Type of activity performed during antenatal period, Type of Family, Community and Spiritual belief of 1 % level of significance.

Thus we can conclude that ice massage at LI 4 point during active phase of labour provided more persistent pain relief and it is effective, nonpharmacologic, accessible, cost-effective and non-invasive technique to help reduce the intensity of labour pain.

**Conflict of Interest:** There is no conflict of interest as the study conducted only by me as my PG(M.Sc) research work.

**Source of Funding:** self

**Ethical Clearance:** Ethical clearance has been taken from Ethical review committee

## REFERENCES

1. WHO (World Health Organization) Department of Reproductive health and normal labour, A Practical guide, WHO Geneva
2. Khaskheli M, Baloch S, Hvidman L (2010). Department of Obstetrics and Gynecology, Aarhus University Hospital, Skejby, Brendstrupgaardsvej, 8200 Aarhus N, Denmark. *Birth*. 2009 Mar;36(1):5-12.2.
3. Kvorning Ternov N "Acupuncture before the delivery reduces the use of conventional analgesia without side effects *Am. J. of Obstetrics*:2010;144-145.
4. Azam Hamidzadeh (March/April 2012), *Journal of Midwifery & Women's Health* Volume 57, Issue 2, pages 133–138.
5. Ramnero A, Hanson U, Kihlgren M, M Kaviani; M Ashoori; S Azima; AR RajaeiFard Acupuncture treatment during labour: A randomized control trial *BJOG* 2012;361-365.

# Efficacy of Interventional Package on Knowledge Regarding Tracheostomy Care among Staff Nurses in Tertiary Care Hospitals, Udaipur (Rajasthan)

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## ABSTRACT

**Background:** Care of a patient with tracheostomy is a big issue in all over the world. There is increasing the numbers of patients who need tracheostomy in developed and developing countries. Morbidity and mortality of patients would be increased due to inadequate knowledge of staff nurses regarding tracheostomy care. Therefore, the study's main aim was to assess and enhancing the nurse's knowledge regarding tracheostomy care so that morbidity and mortality of patients with tracheostomy can be reduced. The aim of the study was to assess efficacy of IP on knowledge regarding tracheostomy care among staff nurses.

**Material and Method:** A quasi-experimental pretest-posttest control group research design was used to assess the effectiveness of IP on knowledge regarding tracheostomy care among staff nurses. The study consisted of 120 staff nurses, 60 in each experimental and control group and was selected by non-probability convenience sampling technique. Structured knowledge questionnaire was used to assess the knowledge of staff nurses. Data analysis was done by the using of both descriptive and inferential statistics.

**Findings:** Majority 53 (89.17%) of staff nurses were male and 60.66% were between the age group 21-25 years. The mean pre-test knowledge in experimental group  $18.95 \pm 3.26$  and control group  $18.33 \pm 4.69$  respectively. The level of knowledge regarding tracheostomy of subjects who were exposed to interventional package was significantly better than that of the control group.

**Conclusion:** the study concluded that IP was effective in increasing the knowledge on tracheostomy care as computed 't' test was significant at 0.05 level of significance.

**Keywords:** *Interventional package, Tracheostomy care, Staff nurses*

## INTRODUCTION

Airway obstruction may be complete or partial, complete airway obstruction is a medical emergency. Interventions to treat airway obstruction include various types of procedures like obstructed airway maneuver, cricothyroidotomy, endotracheal intubation and tracheostomy. With a great demand of intensive care beds and high dependency unit where tracheostomy is one of the most frequent performed surgical procedure on critically patients who need prolong mechanical ventilation, there is more need of nurses to take care competently for the patients with tracheostomy<sup>1</sup>. Care of patients with tracheostomy is an important aspect of effective air way management. Tracheostomy management is associated with risks and complications, so it is essential that nurses must aware regarding these

risks and complications and are able to predict, prevent and manage effectively. The procedure can be performed surgically at the bed side in the intensive care unit or Operation Theater. There are many specialist who involve in the management of patient include surgeon, intensivist, physiotherapist, speech and language therapist and nurses.

Tracheostomy is one of the oldest operation in medicine. Studies have shown that as dramatic changes have been occurred in the airway management, tracheostomy indications, procedure, instruments, tube design, patient outcomes, and complications<sup>3,4</sup>. Indications for tracheostomy are mainly four folds: airway obstruction, aspiration of secretion, airway protection from aspiration and provision of mechanical ventilation. The prevalence of tracheostomy was 10% in

long term ventilated patients. An overall complication rate was reported 13% among them bleeding and infection being at the top of the scale. Complications related to displacement of tube at early post surgery may from 0.8 -1.5% and mortality may be 100%<sup>1,2</sup>.

It is considered that nurses are accountable for the care given to the patients with tracheostomy. Tracheostomy care and management is very essential in both the intensive care units and general wards. As, nurses play a central role in providing quality care, they must be aware of modified and advanced technique, to meet the unique need of each patient safely and completely<sup>4,5</sup>. Realization of this fact stimulated the researcher to study this problem as this will improve nurses' knowledge and skill and develop deep interest regarding tracheostomy care.

## METHODOLOGY

A quasi-experimental research was conducted to determine the efficacy of interventional package on knowledge regarding tracheostomy care among staff nurses working in tertiary care teaching hospital. A total of 120 staff nurses, 60 in each experimental and control group were selected with convenient sampling technique. To collect data, a demographic proforma, and a structured knowledge questionnaire (SKQ) was developed. Demographic proforma to collect information about staff nurses' age, gender, education, professional experience.

Structured knowledge questionnaire included 40 multiple choice questions regarding steps of

tracheostomy care, aseptic techniques, complications etc. An interventional package was developed regarding tracheostomy care for staff nurses.

Content validity was obtained by giving it to seven experts from the field of medical and nursing. Reliability of the structured knowledge questionnaire was established by test-retest method and by using coefficient correlation, which was found 0.87. Hence, the tool was found reliable.

Data were collected April, 2017 after obtaining formal permission from administrative officer and nursing superintendent. A written consent was obtained from the study participants after explanation about the purpose and usefulness of the study and assurance about the confidentiality of their responses. On day one, knowledge was pretested by administering the structured knowledge questionnaire among control and experimental group and on day two interventional package on tracheostomy care was delivered for experimental group. On day 14<sup>th</sup>, post-test was done for both experimental and control group. The data were analyzed by descriptive and inferential statistics using Microsoft excel sheet and EP-Info.

## RESULTS

Results of the study shows that, majority 89.17% of participants were male and 60.66% staff nurses fall to the age group 21-25 years. Regarding professional qualification, almost equal numbers of staff nurses, that is 35 in experimental group and 25 in control group. With regards to years of experience most of nurses 65% having 1-5 years of experience (Table-1).

**Table 1: Demographic profile of staff nurses (N = 120)**

Sample Characteristic	Experimental group n = 60		Control group n = 60		Total	
	f	%	f	%	F	%
<b>Gender</b>						
Male	53	88.33	54	90	107	89.17
Female	7	11.67	6	10	13	10.83
<b>Age</b>						
21-25	42	70	38	63.33	80	60.66
26-30	12	20	14	20.33	26	20.16
31-35	6	10	8	10.33	14	10.16

Conted...

Professional qualification						
Diploma - G.N.M.	35	58.33	31	51.67	66	55
Graduation B.Sc. (N)/PBBS (N)	25	41.67	29	48.33	54	45
Year of experience						
1-5 years	38	63.33	40	66.66	78	65
6-10 years	12	20	10	16.66	22	18.33
11-15 years	10	10.66	10	16.66	20	16.66

**Table 2: Comparison of pretest and posttest knowledge scores of staff nurses in experimental and control group (N = 120)**

Group	Pre Test Mean	Post Test Mean	Paired 't' value	Independent 't' value
Experimental	18.95 ± 3.26	28.68 ± 4.51	15.395	12.3
Control	18.33 ± 4.69	19.33 ± 3.85	1.87	

As shown in Table 2, the level of knowledge regarding tracheostomy care of subjects who participated in interventional package was significantly better than that of the control group. ( $p < 0.01$ ).

## DISCUSSION

The findings of present study shows that maximum number (80.84%) of nurses were belong to age group 21-30 years. It was found that majority (65%) of staff nurses years had 1-5 years of experience. Similar findings were observed in studies<sup>6</sup>. Findings in the present study shows that maximum number (89.17%) of staff nurses were male, whereas in other study findings ratio of female nurses were more<sup>7</sup>.

Maximum number (91.67%) staff nurses had not attended any related in service education previously. No literature could be retrieved to compare these findings. Findings related to efficacy of IP revealed that the mean posttest knowledge scores of staff nurses who have attended IP was significantly higher than their mean pretest knowledge score  $t(59) = 15.39$  at 0.01 level of significance. There was no significant difference between mean pretest and posttest knowledge scores of control group  $t(59) = 1.87$  at 0.05 level of significance. The mean gain in posttest knowledge scores of staff nurses in experimental group was significantly higher than the control group as evident from 't' value of 12.30 at df (118) at 0.01 level of significance. Hence,

the IP was found to be an effective strategy to improve the knowledge of staff nurses regarding tracheostomy care. There are very few literature<sup>8,9</sup> regarding efficacy of IP was available, also there are other empirical studies have shown that the different teaching and learning programmes such as structured informational modules (SIM,) IM, workshop, and structured teaching programme are effective in improvement of knowledge regarding nursing care and nurses's own health<sup>8,9,10,11</sup>. Hence, present study recommend that there should be a periodic teaching learning programmes has to be conducted to improve and update in knowledge of staff nurses regarding tracheostomy care.

## CONCLUSION

The analysis of findings concluded that IP is an effective method to increase the knowledge of staff nurses on tracheostomy care as the computed 't' test was significant at 0.01 level of significance. The pretest knowledge scores of staff nurses were found to be an independent of their selected personal variables.

**Conflict of Interest:** Nil

**Source of Funding:** self

**Ethical Clearance:** Approval was taken from ethical and research committee of the hospital and data were collected after the formal permission from the medical superintendent and nursing superintendent.

## REFERENCES

1. Needham DM, Bronskill SE, Sibbald WJ & Pronovant PJ. Mechanical ventilation in Ontario: incidence, survival and hospital bed utilization of non cardiac surgery adult patients. *Critcaremed* 2004; 32(7):1504-1509.
2. Carson SS, Cox CE, Holmes GM, Howard A. The changing epidemiology of mechanical ventilator: a population based study. *J intensive care med* 2006; 21(3): 173-182.
3. Williamson SN. Emergency nursing: the need for clinical specialization. *TheNURS J INDIA*. 2002 APRIL; 93 (4): 78-79.
4. American Thoracic Society. Tracheostomy tube. 1-4.
5. Russell C. Providing the nurse with a guide to tracheostomy care and management. *Br journal nurses* 1999 April; 14(8): 428-431.
6. Jacob B, Ramesh A. Efficacy of Planned Teaching on Knowledge Regarding Tracheostomy Suctioning Among Staff Nurses. *International Journal of Science and Research (IJSR)*. July 2015; 4(7); 169-175.
7. Patil H. To assess the knowledge regarding Tracheostomy Care among the Staff Nurses working at KLES Dr. PrabhakarKore Hospital and MRC, Belgaum, Karnataka with a view to develop Information booklet on Tracheostomy Care. *International Journal of Nursing Education and Research*. 2016;4(3):299-306.
8. Deshmukh M. &Shinde M. Impact of structured education on knowledge and practice regarding venous access device care among nurses. *International journal of science and research* 2014; 3(5): 895-901.
9. Appolone C, Romies J, Gibson P, McLean W, Howard G. An epilepsy workshop for professionals. *Epilepsia*. 1979 April; 20:127-132.
10. Sharma R. Effectiveness of Educational and Selected Exercise Programme to Reduce Back Pain in Staff Nurses. *International Journal of Nursing Education*. 2016 Apr;8(2):62-7.
11. Jelly P, Sharma R. OSCE vs. TEM: Different approaches to assess clinical skills of nursing students. *Iranian journal of nursing and midwifery research*. 2017 Jan;22(1):78.

# Assessment of Rotahaler Inhalation Technique among Patients with COPD or Asthma at Manipal Teaching Hospital, Pokhara

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## ABSTRACT

**Introduction:** The prevalence of bronchial asthma and chronic obstructive pulmonary disease (COPD) is increasing worldwide. Asthma and COPD patients are mainly treated with inhaled medication.

**Objectives:** To assess the correct technique of rotahaler inhalation among patients with COPD or Asthma.

**Method and Materials:** The descriptive study was carried out among 101 patients with COPD or Asthma. All adult patients diagnosed COPD or Asthma who had been prescribed rotahaler since last 2 month and admitted in medical ward between April to June 2017 were included in this study. The non probability purposive sampling technique was used.

A structured rotahaler specific checklist was used to assess rotahaler inhalation technique. The collected data was analyzed by using descriptive and inferential statistic.

**Result:** Out of 101 participants, 88(87.1%) COPD patients, 54(53.5%) were female. The mean age of participants was 68.53 yrs. Majority of them were hindu 88(87.1%), bramin 32( 31.7%), illiterate 69(68.3%), household worker 54(53.5%). Almost 87(86.1%) of them were past smoker. Regarding cooking fuel, 54(53.5%) of them used fire wood. Out of 101 participants, only 30(29.7%) patients could perform all steps correctly and 71(70.3 %) patients did one or more errors during inhalation. The most common error were seen in removing rotahaler from mouth and hold breath for 5-10 seconds in 53.5% patients and exhalation to residual volume before inhalation in 49.5% patients. There was no significant association between inhalation technique with educational status, experience of rotahaler used and health personnel who gave instruction. However, significant association was seen in inhalation technique with age.

**Conclusion:** Though use of rotahaler is common and easier than other inhaler devices, still incorrect use of rotahaler is highly prevalent. It suggest that patients on a long-term inhaled therapy also need to be checked regularly about the use of their inhaler and trained accordingly.

**Keywords:** Asthma, COPD, Inhalation technique, Inpatients, Rotahaler

## INTRODUCTION

Asthma and chronic obstructive pulmonary disease (COPD) are common respiratory problem in elderly populations. COPD cause a significant public health problem globally, being the second leading cause of

mortality. Global Burden of Disease (GBD) study estimated that about 3 million people worldwide died of COPD<sup>1</sup>

In England, in 2008, 15.4 million people had a long-term condition, including COPD which was the third most common. By 2020, COPD is estimated to be the third biggest cause of death in the UK<sup>2</sup>. In 2010, COPD was estimated to account for 2.7% of the disease burden and 3.2% of deaths in Europe, and for 3.1% of the global disease burden and 5.5% of deaths worldwide.<sup>3</sup>

Nepal has an estimate 1.5 to 2 million asthmatics out of a total population of 25 million. COPD accounts

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for 43% of the non-communicable disease burden, and 2.56% of hospitalizations. Though tobacco smoking is established as the primary cause of COPD, indoor air pollution from biomass and/or traditional fuels is estimated to be associated with 0.4 million deaths from acute symptoms of COPD. In Nepal, more than 85% of households (98% in rural areas) still rely on biomass fuel, Nepalese women are at higher risk of developing COPD through exposure to indoor air pollution; additionally, about 15% of women also smoke tobacco<sup>4</sup>

In 2016, an estimated 16,302 people died from COPD in Nepal. Between 1990 and 2016, the mortality rate due to COPD was decreasing for both genders, but the decline was much higher among males when compared with females. Thus, by 2016, the age-standardized death rate due to COPD for the females was 119.7 per 100,000 people while for the males it was 102.6 per 100,000 people<sup>5</sup>.

Inhalation medication is the cornerstone of therapy for patients with asthma and chronic obstructive pulmonary disease (COPD). Two types of inhaler are commonly used: metered dose inhalers (MDIs) and dry powder inhalers (DPIs). But, a large proportion of patients prescribed inhaled medications do not use their inhalers correctly. Overall, up to 90% of patients showed incorrect technique in either standard pressurized metered dose inhaler (pMDIs) or dry powder inhalers (DPIs)<sup>6</sup>.

Incorrect use of inhalation devices means that little or no medicine reaches the lungs, is very common among patients with COPD, leading to suboptimal drug delivery. Therefore, users may receive lower benefits from their treatment. Inadequate inhaler instruction and poor inhalation technique decrease the effectiveness of the medication and are a major cause of poor disease control<sup>7</sup>.

Among various types of dry powder inhaler, a rotacap inhaler is the most commonly prescribed for many patients who suffer from Asthma or COPD. The Rotahaler is one of the many devices that are available. It uses special capsules, called Rotacaps, that contain the medication in a very fine powder form that is effectively delivered into the lungs when patient inhale through the Rotahaler. It is also quickest and easiest way to take asthma or COPD medicine. Through inhalation, it takes only 5-15 minutes for short-acting bronchodilators to have an effect<sup>8</sup>.

Nowadays, Rotacap inhalation is easy to use and more popular compared to MDI. Incorrect inhalation technique directly decrease the effectiveness of this medicine. So, the objective of this study is to assess incorrect technique of rotahaler inhalation among patients with asthma or COPD who are under this inhalation.

## METHOD AND MATERIALS

The descriptive study was conducted to assess the correct technique of rotahaler inhalation among 101 COPD or Asthma patients. The non probability purposive sampling technique was used. All adult patients diagnosed COPD or Asthma who had been prescribed rotahaler inhalation since last 2 month and admitted in medical ward between April to June 2017 were included in this study. COPD and Asthma patients with critically ill, aged above 80 yrs, who admitted in ICU were excluded from the study

A structured 11-items Rotahaler-specific checklist provided by Cipla India and validated in literature<sup>6,9</sup> was used for data collection. On the day of discharge the subjects were interviewed and asked to demonstrate their inhalation technique using the placebo rotahaler (capsule without active ingredient). Any error was recorded and, if necessary, patients were instructed and correct technique was demonstrated. Each correct step was scored "1" and incorrect or missed step was scored "0". The patients who scored "11" were considered using a correct Rotahaler technique. Those who failed to demonstrate the correct technique (made at least one error) were considered as incorrect use of rotahaler.

The study was carried out for the period of 3 month (April to June 2017).

Ethical approval was taken from Manipal College of Medical Science Ethical Review Committee. Prior to data collection verbal permission was obtained from the participants.

## RESULT

Out of 101 participants, 88(87.1%) COPD and 13(12.9%) asthma patients, 54(53.5%) were female and 47(46.5%) were male. The mean age of participants was 68.53 yrs. Majority of participants were hindu 88(87.1%), bramin 32( 31.7%), illiterate 69(68.3%),

household worker 54(53.5%). Regarding smoking, fuel, 54(53.5%) of them used fire wood. 65(64.4%) almost 87(86.1%) of them were chronic past smoker, of them told they received instruction about rotahaler they smoked more than 20years. Regarding cooking inhalation from nurses.

**Table 1: Responses on Rotahaler-Specific Checklist n = 101**

S. No.	Items	Responses	
		Yes	No
1.	Keep the rotahaler upright.	101(100%)	
2.	Insert the rotacap in the rotacap chamber with transparent end down	93(92.1%)	8(7.9%)
3.	Keep rotahaler horizontal	83(82.2%)	18(17.8%)
4.	Rotate both ends to open capsule	91(90.1%)	10(9.9%)
5.	Breath out through the mouth	51(50.5%)	50(49.5%)
6.	Keep rotahaler level and put mouth piece between teeth and lips	85(84.2%)	16(15.8%)
7.	Inhale powder forcefully and deeply	94(93.1%)	7(6.9%)
8.	Remove rotahaler from mouth and hold breath for 5-10seconds	47(46.5%)	54(53.5%)
9.	Breath out away from the mouth piece	65(64.4%)	36(35.6%)
10.	Repeat the steps from 4 to 9 in case powder is remaining	80(79.2%)	21(20.8%)
11.	Open rotahaler and discard the empty capsules	71(70.3%)	30(29.7%)

Out of 101 patients receiving rotahaler, only 30(29.7%) patients could perform all steps correctly and 71(70.3%) patients did one or more errors during inhaler technique. The most common error were seen in step “8” Remove rotahaler from mouth and hold breath for 5-10 seconds in 54 (53.5%) patients and step “5” exhalation to residual volume before inhalation in 50(49.5%) patients. Furthermore, 36(35.6%) and 30(29.7%) of them did mistake in step “9” breath out away from the mouth piece and step “11” open rotahaler and discard the empty capsules respectively.

However, in terms of correct response, 100% of patients demonstrated correct technique in step “1” Keep the rotahaler upright. Majority 94(93.1%) of them demonstrated correct technique in inhale powder forcefully and deeply, followed by insert the rotacap in the rotacap chamber with transparent end down in 93(92.1%) Similarly, 91(90.1%) did correctly in step “4” rotate both ends to open capsule.

**Table 2: Association between rotahaler inhalation technique and selected variables n = 101**

Age	Inhalation Technique		$\chi^2$	p value	Remarks
	Correct	Incorrect			
41-60yrs	11	10	6.15	.013	S
61-80yrs	19	59			
<b>Educational status</b>			0.81	.054	NS
Illiterate	20	49			
Literate	10	22			
<b>Experience of rotahaler used</b>			.736	.692	NS
Less than 1 year	7	17			
1-5years	16	32			
More than 5years	7	22			
<b>Instruction given by</b>			3.21	.200	NS
Physician	7	8			
Pharmacist	4	17			
Nurse	19	46			

\* p < 0.05 statistically significant values, NS-non Significant, S- Significant

There was no significant association between inhalation technique with educational status, experience of rotahaler used and person who gave instruction. However, significant association was seen in inhalation technique with age.

## DISCUSSION

Present study revealed that out 101 patient, only 29.7% patients could perform all steps correctly in use of rotahaler devices. Finding also shows that the most common mistake was done in step “8” Remove rotahaler from mouth and hold breath for 5-10seconds in 53.5% patients and step “5” exhalation to residual volume before inhalation in 49.5% patients which is almost similar with different findings observed in previous studies<sup>6,7,9,10</sup>. It might be because of health care professionals do not routinely demonstrate inhaler technique to patients, which may contribute to the high rate of errors with the rotahaler. Such errors ultimately decrease the effectiveness of the drug therapy and adequate disease control.

In this study, it is notable that the majority of COPD patients were in age group 61-80yrs this might be due to prevalence of COPD gradually increasing with age which supported by previous studies done in India and Netherland<sup>7,9</sup>. In addition, 86.1% of them were past smoker which is in accordance with previous studies<sup>6,11</sup>. It also suggests that tobacco smoking might be primary cause of COPD and Asthma. Further, current study found that majority of COPD patients were illiterate 68.3% which is contrast to previous study found that only 48% were illiterate<sup>11</sup>. In addition, other studies also showed majority of COPD patients were illiterate.

Regarding incorrect use of rotahaler, in present study 70.3 % patients did one or more errors in inhaler technique which supported by finding of many studies<sup>6,9</sup> in which 84% and 86% were unable to use inhalers properly respectively.

In present findings, there is no significant association between the rotahaler technique with educational status, experience of rotahaler used. However, there is significant association with age of respondents, this result is contrast with other finding<sup>6</sup>.

## CONCLUSION

Though use of rotahaler is common and easier than other inhaler devices, still incorrect use of rotahaler is

highly prevalent among COPD patients. It suggest that patients on a long-term inhaled therapy also need to be checked regularly about the use of their inhaler and trained accordingly. As there are still a lot of illiterate people in Nepal, the need for proper counselling and proper instruction are crucial and even more important for effective treatment with use of these inhaler devices.

**Ethical Clearance:** Ethical permission was obtained from Ethical Research Committee of Manipal College of Medical Science. A verbal informed consent was obtained from all the subjects prior to data collection by explaining the purpose of the study.

## Recommendation

1. Educational interventional study can be done to minimize error.
2. Better explanation and demonstration of the technique is required for each patients.
3. There is also a need to routinely assess the Rotahaler technique of asthma and COPD patients during their visits to hospital.

## FUNDING

There was no any economical support from other organizations. All expenditure was bearded by researchers themselves.

**Conflict of Interest:** Nil

## REFERENCES

1. Lopez-Campos JL, Tan W, Soriano JB. Global burden of COPD. *Respiratory*. 2016;21(1):14-23
2. Farah K, Alhomoud..The use of inhalation therapy in the management of chronic obstructive pulmonary disease in the community: A review of the studies.Br J Pharma.2016 Nov 15; 1:30-45.
3. Kaplan W. Priority medicines for Europe and the World “A public health approach to innovation.” 2004.
4. Ministry of Health and Population. Government of Nepal. Kathmandu, Nepal: Ministry of Health and Population; 2010. Brief profile on tobacco control in Nepal.

5. Adhikari TB, Neupane D, Kallestrup P. Burden of COPD in Nepal. *Int J Chron Obstruct Pulmon Dis*. 2018; Feb 9; 13: 583–589.
6. Pun S, Gharti KP, Bharati L. Assessment of inhalation techniques in COPD patients using metered-dose inhaler and rotahaler at tertiary care hospital in Nepal. *Int Res J Pharma*. 2015 May 25;6(5):288-293.
7. Geert N, Rootmensen, Anton RJ, Keimpema V, Henk M. Jansen, and Rob J. Haan. Predictors of incorrect inhalation technique in patients with asthma or COPD: A Study using a validated videotaped scoring method. *J Aero Medi and Pul Drug Del*. 2010;23(5):1-6.
8. Giraud V, Roche N. Misuse of corticosteroid metereddose inhaler is associated with decreased asthma stability. *Eur Respir J*. 2002;19:246–251.
9. Sodhi MK. Incorrect inhaler techniques in Western India: still a common problem. *Int J Res Med Sci*. 2017 Aug;5(8):3461-3465.
10. Saugat R, Bera R, Gujrani1 M, Soni G, Thakral P, Kapoor A. Evaluation of techniques of inhalation devices among patient of COPD and bronchial asthma. *Euro J Pharma and Med Res*. 2015;2(1): 376-391.
11. Manandhar A, Malla P Upadhyay N. Assessment of the inhalation technique and the impact of intervention in patients with asthma or chronic obstructive pulmonary disease in Nepal. *Worl J Pharm and Pharma Sci*. 2016;5(2):619-641.

# Study the Effectiveness of Structured-Teaching Programme on Knowledge Regarding Polycystic Ovarian Syndrome and Its Prevention among Higher Secondary Female Students in Selected School of Dehradun

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## ABSTRACT

**Introduction:** Polycystic Ovary Syndrome is a common health problem which increases in adolescent's girls and young women during their reproductive years. It is one of the most endocrine disorders of women in reproductive age, with prevalence of 5–10% in different ethnic populations and as much as 22% of women in general population have polycystic ovaries on ultrasound.

**Methodology:** An evaluatory approach with pre-experimental one group pretest post-test design was used for the study. The subjects were 50 higher secondary female students selected by non- probability convenience sampling technique. Structured Teaching Programme (STP) was administered after the assessment of pre-test knowledge on PCOS. Post intervention knowledge was assessed on the 7 day of the administration of STP through the same structured knowledge questionnaire.

**Results:** The study showed that out of 50 samples most of the students (72%) was having average knowledge and 26% students were having poor knowledge whereas only 2% students scored in good category. Pre-test mean score was 11.78. After intervention 84% students scored good, 16% scored in average and 0% students were found in poor knowledge category. The post-test mean (21.78) was found significantly higher than the pre-test (11.78) score with a mean difference 9.82 as evidenced from 't' value of 21.33 for df, at <0.05 level of significance. The chi- square test revealed that there was no significant association between the demographic characteristic and their knowledge regarding polycystic ovarian syndrome and its prevention.

**Conclusion:** The study concludes that the structured teaching program was effective in enhancing the knowledge score regarding polycystic ovarian syndrome and its prevention among study participants. Findings stress the need for such teaching programs, which in turn may enhance the overall health standard of the students.

**Keywords:** Effectiveness; Higher secondary female students; Knowledge; Structured Teaching Programme (STP).

## INTRODUCTION

Adolescence is one of the most fascinating and complex transitions in the life span: a time of accelerated growth and change, second only to infancy; a time of expanding horizons, self-discovery, and emerging independence; a time of metamorphosis from childhood to adulthood.<sup>1</sup>

The impact of modernization and technological ascertainment reflects in daily life. Our lifestyle has changed a lot. Food consumption is concentrated

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increasingly on sugar, fast food, and soft drinks. This unhealthy eating habits and lack of exercise leads to many diseases in adolescents as Polycystic Ovarian Syndrome (PCOS)<sup>2</sup>

Polycystic ovarian syndrome (PCOS) occurs when the ovaries don't make enough hormones for the eggs to mature. Instead of releasing a mature egg during ovulation, some of the follicles in the ovaries turn into fluid-filled sacs called cysts. It affects about 5-10% of the child bearing age (20-40years) and produces symptoms and is thought to be one of the leading causes of infertility.<sup>3</sup>

In girls with polycystic ovary syndrome, the ovaries produce higher amounts of androgens than normal, which interfere with ovum development and release. Symptoms of Polycystic ovary syndrome include: menstrual irregularities, infertility, increased hair growth in a male distribution pattern (e.g., on face and chest) and acne <sup>4</sup>. Also it is associated with marked degrees of abdominal obesity, insulin resistance, and other risk factors for chronic disease including dyslipidemia, hypertension, and increased levels of pro-inflammatory markers.<sup>5</sup>

Polycystic ovarian syndrome (PCOS) requires a prompt diagnosis, which requires the presence of two of the following three conditions. i) Oligo and/ or anovulation for more than 6 months ii) polycystic ovaries in ultrasound iii) clinical/ biochemical evidence of hyperandrogenism.<sup>6</sup>

Prevention is better than cure. Polycystic ovarian syndrome (PCOS) can be prevented in adolescents by early diagnosis and treatment helps in preventing complication. Lifestyle modification, including weight reduction, nutritional plans, exercise, and smoking cessation, is beneficial in managing PCOS patients and is often considered the first line of therapy for the treatment and management of PCOS.<sup>7</sup>

Now- a-days adolescent girls are unaware about polycystic ovarian syndrome (PCOS) which is more prevalent and it could be prevented through the application of existing knowledge and by implementing programs for control and early detection and treatment is important to prevent long term sequel and to develop a positive attitude and follow healthy life style, as well as public health campaigns promoting physical activity and a healthier dietary intake.

## METHOD

**Design, sample and setting:** A quantitative evaluative approach with pre-experimental design (One group pre- test post-test design) was used for the study to assess the knowledge of the higher secondary female students regarding polycystic ovarian syndrome and its prevention. The study was conducted in GRD Academy School, Patelnagar, Dehradun and the higher secondary girls who were studying in 11<sup>th</sup> and 12<sup>th</sup> standard in the school, who were willing to give consent and participate in the study were included the study. The students were selected by non -probability convenient sampling techniques and 50 higher secondary school female students were selected for the study. The tools used for conducting the study were a set of demographic variables and structured questionnaire. Structured teaching programme on polycystic ovarian syndrome and its prevention was conducted. The subjects were administered structured questionnaire on polycystic ovarian syndrome and its prevention with pre-test and post-test assessment of structured questionnaire on polycystic ovarian syndrome and its prevention. Data was analysed with the help of descriptive and inferential statistics.

**Description of the tool:** The structured questionnaire tool consists of two parts:-

**Section I: Socio-demographic variables:** It consists of socio- demographic variables such as age, religion, family income, food habits, area of residence, junk food consumption, age of menarche, any menstrual problem, family history of polycystic ovarian syndrome and previous knowledge about polycystic ovarian syndrome and its prevention.

**Section II: Structured knowledge questionnaire:** This section consists of structured questions regarding polycystic ovarian syndrome and its prevention which was divided into following category:

- Questions regarding anatomy-physiology & introduction of PCOS.
- Questions regarding causes and sign & symptoms.
- Questions regarding diagnosis & complications of PCOS
- Questions regarding treatment & prevention of PCOS

The structured questionnaire was of multiple choices consisting of four options for each question. Only one option is correct. For each correct answer, the score of 1 was given, and for incorrect answer, the score 0 was given. The highest score was 28. Based on marks scored by the higher secondary female students, the knowledge of respondents was grouped into following categories:

#### Scoring for the knowledge

Level of Knowledge	Score
Poor Knowledge	0-9
Average Knowledge	10-18
Good Knowledge	19-28

**Reliability:** Reliability coefficient of the tool was 0.89

**Data collection procedure:** A questionnaire method was adopted to collect the data from the subjects. The structured questionnaire was administered to the subjects for the pre-test. After the collection of the data, the structured teaching programme was administered regarding polycystic ovarian syndrome and its prevention and post-test was conducted on the 7<sup>th</sup> day using the same questionnaire.

## RESULTS AND DISCUSSION

### SECTION I: Description of demographic variable of the sample

**Table 1: Frequency and percentage distribution of socio demographic characteristics of higher secondary female students**

S. No.	Demographic Variable	Frequency (F)	Percentage (%)
1.	<b>Age (In Years)</b>		
	14-15 years	14	28%
	16-17 years	36	72%
2.	<b>Religion</b>		
	Hindu	37	74%
	Muslim	8	16%
	Sikh	4	8%
	Christian	1	2%
3.	<b>Family Income</b>		
	<10,000 Rs.	11	22%
	10,000-20,000 Rs.	9	18%

*Conted...*

	20,000-30,000 Rs.	21	42%
	>30,000 Rs.	9	18%
4.	<b>Food Habits</b>		
	Purely vegetarian	13	26%
	Non-vegetarian	13	26%
	Eggitarian	7	14%
	Both 'vegetarian' & 'non- vegetarian'	17	34%
5.	<b>Residence Area</b>		
	Rural	7	26%
	Urban	17	74%
6.	<b>Junk Food Consumption</b>		
	Daily	4	8%
	Weekly	20	40%
	Monthly	26	52%
	Never	0	0
7.	<b>Menarche</b>		
	9-11 year	2	4%
	12-14 year	45	90%
	15-17 year	2	4%
	≥18 year	0	0%
8.	<b>Any Menstrual Problem</b>		
	Yes (dysmenorrhoea, irregular periods,)	7	14%
	No	43	86%
9.	<b>Family History of Pcos</b>		
	Present	0	0%
	Absent	6	12%
	Don't know	44	88%
10.	<b>Previous Knowledge About Pcos</b>		
	No	46	92%
	Yes	4	8%
	Media	1	2%
	Family	1	2%
	Friends	1	2%
	Health care professional	1	2%

A total of 50 higher secondary female students were participated in the study .It was revealed that majority of girls 36(72%) were in the age group of 16-17 years. It was because the study was conducted on higher secondary female students so the most of the girls were in the age group of 16-17 years. Maximum number of girls 37(74%)

were of Hindu religion. According to the family income 21 (42%) have 20,000-30,000 Rs. family income.

According to food habits 13 (26%) belongs to purely vegetarian group, 13 (26%) belongs to non-vegetarian group, 7 (14%) belongs to eggitarians and 17 (34%) belongs to vegetarian and non- vegetarian category both.

According to according to residence area 13 (26%) were residing in rural area and 37 (74%) residing in urban area.

According to junk food consumption 4 (8%) were taking junk food daily, 20 (40%) were taking junk food weekly, 26 (52%) were taking junk food monthly and 0% who never take junk food.

According to age of menarche 2 (4%) girls attained their menarche at 9-11 years, 45 (90%) girls attained menarche at 12-14 years, 2 (4%) girls attained menarche

at 15-17 years, and there was no any girl who attained menarche at the age of 18 years or above and there was one girl who didn't had menarche and her age was 15 years. There was 43 (86%) who did not have any menstrual problem and 7 (14%) girls have menstrual problems like dysmenorrhoea and irregular periods.

According to family history of polycystic ovarian syndrome 6 (12%) girls had no any family history of polycystic ovarian syndrome and 44 (88%) girls don't know about their family history of polycystic ovarian syndrome.

According to previous knowledge about PCOS, there were 46 (92%) girls who had no previous knowledge about PCOS and only 4 (8%) girls had previous knowledge about PCOS and out of which 1 (2%) each girl had previous knowledge about PCOS from media, family, friends and health care professional each.

## SECTION II: Finding related to knowledge of higher secondary female students regarding polycystic ovarian syndrome and its prevention.

**Table 2: Frequency and percentage distribution of pre-test and post- test knowledge score N = 50**

Knowledge Score	Poor Knowledge (0-9)		Average Knowledge (10-18)		Good Knowledge (19-28)	
	Frequency	%	Frequency	%	Frequency	%
<b>Pre test</b>	13	26%	36	72%	1	2%
<b>Post test</b>	0	0%	8	16%	42	<b>84%</b>

The above table shows the frequency and percentage (%) distribution of pre-test and post-test knowledge score of higher secondary female students regarding polycystic ovarian syndrome and its prevention. The table depicts that in pre-test 13 (26%) of the students had poor knowledge, 36 (72%) of the students had average knowledge and only 1(2%) of the students possesses good knowledge.

In post-test none of the student had poor knowledge, 8 (16%) students had average knowledge and majority of the students i.e. 42 (84%) possesses good knowledge regarding polycystic ovarian syndrome and its prevention.

**Table 3: Pre-test knowledge score and post-test knowledge score of higher secondary female students regarding polycystic ovarian syndrome and its prevention N = 50**

S. No.	Knowledge of women	Mean $\pm$ SD	Mean difference	Mean (%) percentage	t value	P value
1.	Pre-test score	11.78 $\pm$ 3.63	9.82	42.07	21.33	0.000*
2.	Post test score	21.6 $\pm$ 2.73		77.5		

df49 = 2.00 at  $p < 0.05$

\* Significant

Table No. 3 shows that the effectiveness of structured teaching programme among pre-test and post-test knowledge score of higher secondary female

students regarding polycystic ovarian syndrome and its prevention. The finding reveals that the mean of post-test knowledge score (21.6  $\pm$  2.73) were apparently higher

than that of mean pre-test knowledge score ( $11.78 \pm 3.63$ ) and the significant difference between the mean of pre-test and post-test knowledge (9.82). Whereas  $t = 21.33$  which was greater than the table value.

Hence, it could be inferred that the structured teaching programme was effective in enhancing the level of knowledge regarding polycystic ovarian syndrome and its prevention.

### SECTION III: Aspect wise comparison between pre-test and post -test knowledge scores.

**Table 4: Aspect wise comparison of mean, SD & mean percentage & enhancement of knowledge scores on PCOS and its prevention N = 50**

Knowledge Aspect	Pre Test			Post Test			Percentage of Enhancement
	Mean	Mean %	SD	Mean	Mean %	SD	
<b>Anatomy-physiology &amp; introduction of PCOS</b>	5	50	28.88	8.08	80.8	36.87	<b>30.8</b>
<b>Causes &amp; Sign &amp; Symptoms</b>	1.82	36	11.58	3.34	66.8	21.23	<b>30.8</b>
<b>Diagnosis &amp; complications of PCOS</b>	1.96	32.7	12.23	4.26	71	26.48	<b>38.3</b>
<b>Treatment &amp; prevention of PCOS</b>	3	43	18.32	5.92	84.57	29.65	<b>41.57</b>

The above table shows the assessment of knowledge among higher secondary female students regarding polycystic ovarian syndrome and its prevention. In questionnaire regarding Anatomy-physiology & introduction of PCOS the mean score was 5 with 28.88 SD in pre- test and mean score was 8.08 with 36.87 SD in post-test, questions related to Causes & Sign & Symptoms the mean score was 1.82 with

11.58 SD in pre-test and mean score was 3.34 with 21.23 SD in post- test, questions related to diagnosis and complication of PCOS the mean score was 1.96 with 12.23 SD in pre- test and mean score was 4.26 with 26.48 SD in post- test, and in questions related to Treatment & prevention of PCOS the mean score was 3 with 18.32 SD in pre- test and the mean score was 5.92 with 29.65 SD in post- test.

### SECTION IV:-Effectiveness of the structured teaching programme in terms of increasing the knowledge level

**Table 5: Effectiveness of the structured teaching programme in terms of increasing the knowledge level N = 50**

Knowledge Score	Mean	Sd	Mean Difference	Df	'T' Value
Pre test	11.78	3.63	9.82	49	21.33
Post test	21.6	2.73			

\*Significant association as  $p < 0.05$

The table shows the comparison of the pre- test and post -tests knowledge score. The paired' test was used to find out the comparison between pre- test and post -test knowledge score. The mean difference was 9.82, the 't' value was 21.33 at  $df = 49$ .

The calculated "t" value was 21.33 at  $df = 49$ , the tabulated value at 0.05 level was 2.00, hence the calculated value was much greater than tabulated value, so the research hypothesis was accepted. This shows that there was statistically significant difference between pre- test knowledge and post -test knowledge score.

### SECTION V: Association of pre test knowledge score and socio-demographic variables

**Table 6: Association of pre-test knowledge score with Age of higher secondary female students**

Variable	df	Calculated Chi ( $\chi^2$ ) square value	Tabulated 't' value	P-value	Association
Age	2	3.91	5.99	0.922	NS
Religion	6	1.853	12.59	0.933	NS
Family Income	6	8.394	12.59	0.211	NS

Conted...

Food habits	6	5.294	12.59	0.507	NS
Residence area	2	2.842	5.99	0.242	NS
Junk food consumption	6	2.20	9.49	0.699	NS
Menarche	6	6.442	9.49	0.168	NS
Menstrual problem	2	3.165	5.99	0.205	NS
Family H/O PCOS	4	2.652	5.99	0.266	NS
Prev. knowledge of PCOS	2	0.094	5.99	0.954	NS

Table 6.depicts that there was no significant association between the pre- test level of knowledge with their selected demographic variables of the higher secondary female students.

## CONCLUSION

The study results indicate that 13(26%) girls had poor knowledge, 36 (72%) had average knowledge and only 1(2%) girl had good knowledge. The structured teaching programme was administered and the knowledge of girls has improved from poor to good (84%).This indicated that the structured teaching programme had improved the knowledge of the subjects regarding Polycystic ovarian syndrome and its prevention among higher secondary female students and is highly significant ( $t=21.33$   $p<0.05$ ).

**Ethical Clearance:** Ethical committee permission was obtained from the ethical committee of State College of Nursing, Dehradun.

**Source of Funding:** Self

**Conflict of Interest:** Nil

## REFERENCES

1. Michele D kipke. Adolescent development and the biology of puberty. Journal of research on adolescence.1999 sep;4(4):1-26.
2. Shahedur, R., Anowar, P., Abdus, S., &Shahjahan A., (2012): Study of the Effect of Food Habit, Lifestyle and Daily Trip on Physical and Mental Status of Subjects at Islamic University in Kushtia, Bangladesh. Open Journal of Statistics, 2, 219-223.
3. A Gaund . Polycystic ovarian syndrome Right Diagnosis.2012 may. retrieved from -www.rightdiagnosis.com/p/pcos/basics.htm.
4. Unfer V, Proietti S, Gullo G, Porcaro G, Carlomagno G, Bizzarri M. (2014): Polycystic Ovary Syndrome: Features, Diagnostic Criteria and Treatments. EndocrinolMetabSyndr 3:( 3)1-12.
5. Rotterdam ESHRE/ASRM-Sponsored PCOS consensus workshop group (2003): consensus on diagnostic criteria and long-term health risks related to polycystic ovary syndrome (PCOS). Human Reproduction. [Internet] 2004[Cited 2012 Dec 8]; 19:41. Retrieve from -URL:http://www.ncbi.nlm.nih.gov/pubmed.com
6. Stankiewicz M,Norman R. Diagnosis and management of Polycystic ovarian syndrome: a practical guide.2006;66(7):903-12
7. Padubidri GV, Daftary NS. Hawkins & Bourne Shaw's textbook of gynaecology. 13<sup>th</sup>ed. New Delhi: Elsevier. 2004;108:253-4.

# A Comparative analysis between Objective Structured Clinical Examination (OSCE) and Conventional Examination (CE) as Formative Evaluation Tool

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## ABSTRACT

**Background:** OSCE (Objective structured clinical examination) is a multi-system examination using real or simulated patients to evaluate clinical skills (Psychomotor Skill), attitudes and cognitive abilities. It demonstrated reliability and validity for assessing clinical performance. Students go around the complete circuit of stations, and keep on doing the tasks of each of the placard. All students move from one station to another in the same sequence. The stations are categorized as „procedure station“ or „question station“. Procedure stations are observed by the examiner while question stations are unobserved (only a written answer is desired). Aim: To evaluate the effectiveness of objective structured clinical examination as compare to conventional examination as formative assessment tool in Nursing.

**Objectives:** To assess effectiveness of OSCE and CE as a method of formative assessment tool, and to assess students perception about OSCE and CE style of examination.

**Methods:** A cross sectional comparative study was carried out over two different days, first OSCE was held and after one month CE was held among all (1<sup>st</sup> year and Second Year) M.Sc Nursing students.

**Result:** mean value of Conventional Examination is higher (Mean 69.87; SD 9.43) than mean value of Objective Structured Clinical Examination (Mean 55.12; SD 6.22), obtained t value ( $t=13.51$ ,  $P<.000$ ) at  $P<0.05$  is showed that there is a significant difference between CE and OSCE. Mean score of Conventional Examination is significantly different from Objective Structured Clinical Examination at  $P<0.05$ , mean score of CE (Mean-69.87, median-72) suggests that Conventional Examination style is more effective that Objective Structured Clinical Examination (Mean-55.12, Median-57), thus null hypotheses is rejected, mean score of perception of M.Sc Nursing students towards CE is higher than mean score of perception of M.Sc Nursing students towards OSCE.

**Conclusion:** conventional examination style is more convenient and traditionally followed in nursing but if OSCE is introduced right from the beginning of academic and well oriented to the students during the teaching and demonstration, this method would be more effective.

**Keywords:** CE-Conventional Examination; OSCE-Objective Structured Clinical Examination; SD- Standard Deviation; M.Sc Nursing Students; Perception.

## INTRODUCTION

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OSCE (Objective structured clinical examination) is a multi-system examination using real or simulated patients to evaluate clinical skills (Psychomotor Skill), attitudes and cognitive abilities. It demonstrated reliability and validity for assessing clinical performance.

Since its development in the 1970s by Dr. Ronald Harden, the OSCE has got momentum for clinical assessment to evaluate the nursing student's clinical competencies. Objective Structured Clinical Examination (OSCE) is now established as one of the most valid, reliable and effective tests to measure cognitive, interpersonal communication, and psychomotor skill. (Austin, O'Byrne, Pugsley & Munoz, 2003; Rentschler, et al., 2007), and is considered as a fair and comprehensive means of evaluation (Al Omari & Shawagfa, 2010). To perform these skills, there is a great need for the presence of a simulated clinical or patient care environment as appear in Nulty, Mitchell, Jeffrey, Henderson and Groves (2011) study.

Many study outcomes concluded that the OSCE was recommended as a beneficial and effective tool for evaluating nursing students' clinical performance.

Students go around the complete circuit of stations, and keep on doing the tasks of each of the placard. All students move from one station to another in the same sequence. The stations are categorized as „procedure station“ or „question station“. Procedure stations are observed by the examiner while question stations are unobserved (only a written answer is desired).

**Aim of the Study:** To evaluate the effectiveness of objective structured clinical examination as compare to conventional examination as formative assessment tool in Nursing.

### OBJECTIVES

- To assess effectiveness of OSCE and CE as a method of formative assessment tool.
- To assess students perception about OSCE and CE style of examination.

**Hypotheses:  $H_0$ :** There is no significance difference between score of Conventional Examination and

Objective Structured Clinical Examination among M.Sc Nursing Students.

### METHODS

A cross sectional comparative study was carried out over two different days, first OSCE was held and after one month CE was held among all (1<sup>st</sup> year and Second Year) M.Sc Nursing students.

They were asked to appear in OSCE as well as conventional style practical and viva examination (CE), with the same syllabus, on two different days. The maximum possible score in both evaluations was 100. The OSCE comprised of 10 stations designed to evaluate interpersonal, history taking, clinical examination and diagnostic skills of the students. Valid tasks and checklists for the OSCE were prepared in consultation with other senior faculty of the department. Standard marking plans with model answers were also prepared. The conventional examination comprised of traditional long case and short case evaluation followed by a general viva voce. All departmental faculties participated as examiners in both types of examination.

### RESULT

Thirty two students were appeared in both the examination, Conventional Examination was held after 30 days of OSCE examination.

The scores obtained by the students in the two examinations have been summarized in table 1.

Statistical analysis of scores in two types of examination was tested for Normality in table 2.

Statistical analyses of scores in the two types of examination are compared in table 3.

The score obtained through student perception questionnaire have been summarized in table 4.

**Table 1: Descriptive summary of scores in two types of examination**

	N	Mean	Std. Deviation	Median	Minimum	Maximum	Percentiles		
							25th	50th (Median)	75th
OSCE	32	55.1250	6.22041	57.00	42.00	66.00	51.0000	57.0000	58.7500
CE	32	69.8750	9.43484	72.00	54.00	88.00	61.0000	72.0000	74.0000

Table 1: depicts that mean value of Conventional Examination is higher (Mean 69.87; SD 9.43) than mean value of Objective Structured Clinical Examination (Mean 55.12; SD 6.22).

**Table 2: Tests of Normality n = 32**

				Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
OSCE	.181	32	.009	.939	32	.070
CE	.152	32	.059	.952	32	.160

Table 2: depicts that score of both style of examination were normally distributed according to Shapiro-Wilk test of Normality ( $p > 0.05$ ), thus assumption of parametric tests were fulfilled.

**Table 3: Comparison of Mean Score of two types of examination n = 32**

		Paired Differences					t	Df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	CE - OSCE	14.75000	6.17487	1.09157	12.52372	16.97628	13.513	31	.000

Table 3: depicts that obtained t value ( $t=13.51$ ,  $P<.000$ ) at  $P<0.05$  is showed that there is a significant difference between CE and OSCE. Mean score of Conventional Examination is significantly different from Objective Structured Clinical Examination at  $P<0.05$ , mean score of CE (Mean-69.87, median-72) suggests that Conventional Examination style is more effective than Objective Structured Clinical Examination (Mean-55.12, Median-57), thus null hypotheses is rejected.

**Table 4: Overall impressions about two examination style obtained through perception evaluation n = 32**

Style of Examination	Mean	95% confidence interval for mean	
		Lower	Upper
Perception of M.Sc Nursing students towards Conventional oral and Practical examination	36.87	35.52	38.22
Perception of M.Sc Nursing students towards Objective Structured Clinical Examination	32.81	31.10	34.52

Table 4: depicts that mean score of perception of M.Sc Nursing students towards CE is higher than mean score of perception of M.Sc Nursing students towards OSCE.

## DISCUSSION

OSCE and Conventional examination both has its own advantages and disadvantages, in Indian context, OSCE is quite difficult as it increases the burden of teacher and require more resources and Competency, while discussing with students after the exam, Feedback

through perception questionnaire from M.Sc nursing students suggests that OSCE is an objective tool for evaluating clinical skills. Students perceived OSCE scores as a true measure for the essential clinical skills being evaluated, standardized, and not affected by the student's personality or social relations but it is difficult as students are not oriented to OSCE during teaching and demonstration. Most students provided positive feedback about the quality of OSCE performance in terms of the clarity of the instructions on the exam, the sequence of OSCE stations, the reflection of the tasks taught and the time at each station. These results are

supported by Pierre et al (2004) findings<sup>5</sup>. However, the OSCE was perceived as a stressful experience and intimidating by a considerable percentage of students. This perception could be due to the fact that this was the first time that students exposed to this type of assessment and students believe that Conventional examination is most convenient, traditional methods and they are well oriented with CE and subjective bias of examiner and kind of cases may influence the result.

## CONCLUSION

To conclude, conventional examination style is more convenient and traditionally followed in nursing but if OSCE is introduced right from the beginning of academic and well oriented to the students during the teaching and demonstration, this method would be more effective.

**Ethical Clearance:** Taken from Institutional Review Board

**Source Funding:** Self

**Conflict of Interest:** Nil

## REFERENCES

1. Mondal R, Sarkar S, et al. Clinical Examination (OSCE) and Conventional Examination (CE) As a Formative Evaluation Tool in Pediatrics in Semester Examination for Final MBBS Students. Available on <http://m.kumj.com.np/issue/37/62-65.pdf>
2. Bayoumy M. H. and Yousri H. Objective Structured Clinical Examination (OSCE)–Based Assessment in Nursing: Students’ and Clinical Instructors’ Perception. *Journal of American Science*, 2012; 8(9).
3. EL-nemer A, Kandeel N. Using OSCE as an Assessment Tool for Clinical Skills: Nursing Students’ Feedback. 2009. *Med. J. Cairo Univ.*, Vol. 77, No. 4, June: 457-464
4. Gupta P, Dewan P, Singh T. Objective Structured Clinical Examination (OSCE) Revisited. *Indian Pediatr.* 2010 Nov;47(11):911-20 Available on: <https://www.ncbi.nlm.nih.gov/pubmed/21149898>
5. PIERRE R., WIERENGA A., BARTON M., BRANDAY J., et al.: Student evaluation of an OSCE in pediatric at the University of the West Indies, Jamaica. *BMC Medical Education*. 2004; 4 (22): 1-7. Available on <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC526209/>
6. Afaf A, Khalid M.: The Objective Structured Clinical Exam (OSCE): A Qualitative Study evaluating Nursing Student’s Experience, *International Journal of Science and Research (IJSR)* ISSN (Online): 2319-7064, volume 5, issue 3, March 2016, P. No. 399-402.
7. Inshrah Roshdy Mohamed, Jehan Abdel Reham: OSCE: Evaluate the first impression of the nursing’s students about learning outcomes assessment method, e-ISSN: 2320–1959.p- ISSN: 2320–1940 Volume 6, Issue 6 Ver. IX. (Nov.- Dec .2017), PP 70-79.

# Effectiveness of Cling Wrap in Terms of Maintenance of Body Temperature and Weight of Neonates

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## ABSTRACT

A quasi experimental study was conducted on the month of December 2012 to January 2013 to assess and compare the effectiveness of cling wrap in terms of maintenance of body temperature and weight of neonates in cling wrap and non cling wrap group. All neonates were under radiant warmer, having body weight  $\leq$  2500 gm at the time of data collection in both groups. Result shows that there was significant difference found in body temperature of neonates in cling wrap and non cling wrap group where as in body weight of neonates, no significant difference was found.

So, use of cling wrap might be a simple method of avoiding fluctuation in body temperature among low birth weight neonates in developing countries.

**Keywords:** Effectiveness, cling wrap, neonate, body temperature and weight, low birth weight.

## INTRODUCTION

Newborn ability to stay warm may easily be overwhelmed by extremes of environmental temperatures. Thermoregulation is considered a top priority in neonatology.<sup>1</sup> At birth, heat is lost rapidly secondary to the cold external environment and significant evaporative heat losses.<sup>2</sup>

At birth total weight of term neonate is 73% fluid as compared to 90% in preterm neonate and their body surface area is also larger than the term neonate. So, preterm neonatal have consistently higher insensible heat losses compared with term babies as a result of high water loss from the skin.<sup>3</sup>

The World Health Organization has listed hypothermia as one of the “top killers” during the neonatal period. Many interventions can be adopted for the prevention of hypothermia at birth such as plastic wrap, plastic bag and skin to skin contact.<sup>4</sup> Studies have shown that using a plastic wrap made of polyethylene in neonate immediately before or after drying can further minimize evaporative and convective heat losses.<sup>5</sup> prevention and management of hypothermia in low resource settings must focus on simple and effective interventions.<sup>6</sup>

A study was conducted to examine the effect of polyethylene wrap to reduce hypothermia among 110 preterm infants. Polyethylene wrap was applied immediately after birth to reduce evaporative heat loss. Neonates were randomly assigned to “wrap” or “control” groups. Neonates in the wrap group were wrapped with polyethylene plastic sheets within the first min after birth and in the control group neonates were dried immediately after birth with warmed towels 23 under a warmer and neonates’ axillary temperatures were measured on admission to the NICU, and also after stabilization in incubators in the NICU. Findings revealed that the mean admission temperature was significantly higher in the wrap group (35.8 vs 34.8°C,  $P < 0.01$ ) and admission hypothermia (axillary temperature  $< 36.5^\circ\text{C}$ ) was present in 78% and 98% neonates in the wrap and control groups, respectively.<sup>7</sup> A randomized controlled trial was conducted on cling wrap, for temperature maintenance and reduction of insensible water loss in very low-birth weight babies nursed under radiant warmers with the aim to find the value of ‘cling wrap’ to improve thermal control and reduce postnatal weight loss in preterm, very low-birth weight babies were investigated. Consecutively born babies with birth weights between 750 and 1500 g were stratified by birth weight ( $< 1250$  g, 1251-1500 g) and randomized either to the cling

wrap or no cling wrap group. The baby bassinette of the radiant warmer was covered with cling wrap up to the level of the neck in the cling wrap group for the 1st 7 days. The primary outcome variables were the incidence of hypothermia (axillary temperature  $\leq 36$  degrees C) after initial stabilization during the first 7 days and cumulative weight loss (percentage of birth weight) at 48 hours of age. Of 51 babies, 26 were randomized to the cling wrap and 25 to the non cling wrap group. Study revealed that none of the babies in the cling wrap group developed hypothermia in the 1st 7 days but 36% in the non cling wrap group ( $p = 0.001$ ) did. Use of cling wrap might be a simple method of maintaining temperature in very low-birth weight babies in developing countries.<sup>8</sup> From the literature reviewed regarding the effect of cling wrap on maintenance of temperature and minimizing the weight loss among the neonates it was concluded that cling wrap is effective for the prevention of heat loss and hypothermia, maintain temperature of neonates and also minimize the weight loss among neonates.

Cling-wrap, an innovative technique may be used to increase the local humidity in radiant warmer and limit air movement. These transparent plastic films may be fixed to the supporting walls of the radiant warmer in order to create a micro-environment around the baby. These plastic barriers are effective in reducing insensible water loss without interfering with the thermal regulation of the warmer. They have been found to reduce the insensible water loss by 50-70% for infants under the radiant warmer. We have found the use of these barriers to be quite effective in avoiding excessive insensible water loss and hypothermia in preterm neonates being nursed under the radiant warmers.<sup>9</sup>

## MATERIAL AND METHOD

**Quasi-experimental design:** "time series design with withdrawn and reinstituted treatment design". This design would involve collecting data over an extended period from both cling wrap group and non cling wrap groups. In the present study, the hospital was selected by purposive sampling technique. The sample of the study comprised of 60 neonates: 30 neonates in cling wrap group and 30 in non cling wrap group. Neonates were selected and divided in cling wrap and non cling wrap group by random allocation. The present study aimed at evaluating the effectiveness of cling wrap in terms of maintenance of body temperature and weight of neonates.

The following data collection tools were constructed in order to obtain data.

1. Physiological parameters record sheet.
2. Clinical thermometer to monitor axillary temperature of neonates.
3. Panel of radiant warmer for the observation of skin temperature of neonates.
4. Electronic weighing machine for measurement of weight of neonates.

**Statistical Analysis:** All the data was transferred to Microsoft excel spreadsheet. Independent verification of data was done by second investigator and data was analyzed by using SPSS 16.0 software.

## RESULTS

Out of 60 neonates, 30 were randomly allocated in cling wrap and 30 to the non cling wrap group. The computed chi square value was found to be non significant at 0.05 level of significance, reflected no marked difference between the characteristics of non cling wrap group and cling wrap group with regard to age in days, gestational age in weeks, birth weight in grams, present weight in grams, mode of delivery and mode of feeding. All neonates in non cling wrap and cling wrap group were in normothermic temperature range. None of them develop hypothermia during the study period.

Mean axillary temperature of neonates in cling wrap group were higher than the mean axillary temperature of neonates in non cling wrap group for all five days. The computed 't' value of axillary temperature of neonates for all five days were found to be statistically significant at 0.05 level of significance. It indicates that the significant difference between the axillary temperature of non cling wrap group and cling wrap group. The computed 't' value of skin temperature of neonates for all observations were found to be statistically significant at 0.05 level of significance. It indicates that the difference between the skin temperature of non cling wrap group and cling wrap group was the true difference not by chance.

All neonates in non cling wrap and cling wrap group were low birth weight neonates. Computed 't' value shows no significant difference in the base line weight of non cling wrap and cling wrap group at 0.05 level of significance. Although no significant difference was

found in observation of cling wrap and non cling wrap group but the decrease in weight was less in cling wrap group as compared to non cling wrap group.

Computed chi square value of weight of neonates regarding gestational age in weeks and birth weight in grams found to be significant at 0.05 level of significance. This shows that weight of neonates was dependent on gestational age and birth weight of neonates.

## DISCUSSION

The present study findings indicate that cling wrap had effect on maintenance of body temperature of neonates. These findings were consistent with the findings of the study conducted by Kaushal M et al (2005) an randomized control trial to evaluate the effect of cling wrap for maintenance of temperature in very low birth weight babies nursed under radiant warmer. The findings revealed that use of cling wrap might be a simple method of maintaining temperature in very low-birth weight babies in developing countries.

Findings of the present study indicate that body temperature of neonates in cling wrap group were higher than the non cling wrap group. These findings were consistent with the findings of the study conducted by Cramer Kristie et al (2005) a systematic review to identify the effectiveness of occlusive skin wrap for reducing heat loss in premature infants born at less than 36 weeks gestations. Meta-analysis showed that wrapped infants had significantly higher admission temperatures than unwrapped infants. The findings of the study suggested that occlusive skin wrap prevents heat loss in premature infants.

## CONCLUSION

Use of cling wrap might be a simple method of maintaining body temperature of low birth weight neonates in developing countries.

**Conflicts of Interest:** None

**Source of Funding:** Self

**Ethical Clearance:** Ethical approval was obtained from the institutional ethical committee for conducting the study. Informed consent was taken from the parents/

guardians of study subjects regarding their willingness to make the participation of their neonates in the research project. The purpose and nature of the study was explained to the parents/guardians of neonates and assurance for confidentiality was given.

## REFERENCES

1. Elabbassi EB, Belghazi K, Delanaud S, Libert JP. Dry heat loss in incubator: comparison of two premature newborn sized manikins. *European journal of applied physiology* 2004;92(6):679-82.
2. Ghai OP, Paul K Vinod, Bagga Arvind. *Essential text book of paediatrics*. 7th ed. Jaypee Brothers;p. 115-16.
3. Rutter N, Hull D. Water loss from the skin of term and preterm infants. *Archives of Disease in Childhood*, 1981;54:858-68.
4. Asakura H. Fetal and neonatal thermoregulation. *Journal of Nippon Medical School* 2004;71(6): 360-70.
5. Deepak chawla, ramesh agarwal, ashok deorari, vinod k paul. Fluid and electrolyte management in term and preterm neonates. *Aiims- nicu protocols* 2008. ([www.newbornwhocc.org](http://www.newbornwhocc.org)).
6. Gary L. A study to gain insight epidemiology practice and perception regarding traditional oil massage. *Journal of Health*. 2002;20(2):184-88.
7. Rohana J, Khairina W, Boo NY, Shareena I. Reducing hypothermia in preterm infants with polyethylene wrap. *Pediatr Int*. 2011 Aug;53(4):468-74.
8. Kaushal M, Agarwal R, Aggarwal R, Singal A, Upadhyay M, Srinivas V, Paul VK, Deorari AK.. Cling wrap, an innovative intervention for temperature maintenance and reduction of insensible water loss in very low-birthweight babies nursed under radiant warmers: a randomized, controlled trial. *Annals tropical paediatric*. 2005 June;25(2):111-8.
9. Deepak chawla, ramesh agarwal, ashok deorari, vinod k paul. Fluid and electrolyte management in term and preterm neonates. *Aiims- nicu protocols* 2008. ([www.newbornwhocc.org](http://www.newbornwhocc.org)).

# Assess Learning Needs of Nursing Students and Effectiveness of Workshop on Knowledge Regarding Extended and Expanded Role of Nurses in Selected Nursing Institutions of Udaipur, (Rajasthan)

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## ABSTRACT

**Aim:** The main aim of the present study was assessing the learning needs of nursing student and to develop and assess the effectiveness of a workshop on extended and expanded role of nurses in selected nursing institutions of Udaipur because nursing students are the future nurse, educator and administrators

**Material and Method:** A survey for the first phase to assess the learning needs of nursing students and a quasi experimental pretest posttest research design was used to assess the effectiveness of workshop on knowledge regarding extended and expanded role of nurses. The study consisted of 120 nursing students, 60 in each experimental and control group and the data were collected adopting a non probability convenience sampling technique. The structured learning need assessment questionnaire to assess the expressed learning needs and structured knowledge questionnaire to assess the knowledge of nursing students regarding extended and expanded role of nurses. Data were analyzed by using of both descriptive and inferential statistics.

**Results:** Maximum number of nursing students were male (89.16%) and belonged to Hindu religion (69.16%). Majority of nursing students had not attended the related workshop previously (95.33%) and a little less than half (45%) students had family member already in the nursing profession. The level of knowledge of nursing students who were exposed to workshop regarding extending and expanding role of nurses was significantly high than that of who were not exposed to workshop.

**Conclusion:** The study results concluded that workshop was an effective method to create and enhancing the knowledge on extended and expanded role of nurses as computed 't' test was significant at 0.01 level of significance.

**Keywords:** *Learning Needs, Extended Role, Expanded Role, Workshop*

## INTRODUCTION

Nurses of 21<sup>st</sup> century are expected to have qualities like critical reflective thinking, self discipline, self direction, communication skills, ability to work as a competent and efficient health team member and advanced knowledge through continual learning. Apart from these, it is necessary for nurses to gain specialized and super-specialized knowledge, to meet the special and complex health care needs of the country. This necessitates the introduction of specialized and super-specialized nurses education programme essential for the preparation of specialized and super-specialized nurses.<sup>1</sup>

In the health care delivery system, revolutionary changes are going on due to development of multidisciplinary team approach to meet the changing health care needs of the society. Nurses, as the largest group among other health care group is require to prepare themselves to work in various setting as an autonomous, independent, and cost-effective practitioner and increase the coverage of underserved population by extending and expanding their role. Hence, the provision of appropriate education to the nurses is very much necessary.<sup>2</sup>

It has been found by the National Advisory Council on Nurse Education and Practice (NACEP) that a sound

foundation for addressing the complex health care needs of today in a variety of nursing positions can be achieved through the baccalaureate nursing education serves as a base for nurses to move into graduate education to fulfill the expanding needs for nurses in advanced practice, higher education, management and research.<sup>3</sup>

Nurses are increasingly being asked to extend and expand their traditional roles for their own professional development. A recent review also suggested that nurses need to have the competency to extend and expand their roles. Hence, it is very important that these concepts of extended and expanded role of nursing are inculcated from the very beginning when a person steps into this profession as a student nurse.<sup>4</sup>

## METHODOLOGY

For the first phase of the study survey method was utilized to identify the learning needs of nursing students regarding extended and expanded roles of a nurse and in second phase of the study, non-equivalent control group pre-test post-test design was adopted to assess the effectiveness of workshop. A total of 120 nursing students, 60 in each experimental and control group were selected by convenient sampling technique. Data were collected by using learning needs assessment tool to assess the expressed learning needs and structured knowledge questionnaire to assess the knowledge of nursing students regarding extended and expanded roles of a nurse. Learning needs assessment tool consisted of 20 items on learning needs and the structured

knowledge questionnaire consisted of two parts. Part-I included information on gender, religion, any family member already in nursing profession, any workshop on extended and expanded roles of a nurse attended previously and in part-II, there were 40 questions under six main categories related to extended and expanded roles of a nurse. A workshop was developed regarding extended and expanded role of nurses.

Content validity was obtained by giving it to 9 experts from the field of nursing. Reliability of questionnaire was established by split half method and by using coefficient correlation, which was found 0.83. Hence, the tool was found reliable.

Data were collected after obtaining formal permission from principal of nursing institutions. A written consent was taken from the participants of the study after explanation about the purpose and usefulness of the study. Assurance regarding study participant's confidentiality was also given. On Day 1, learning needs of nursing students regarding extended and expanded role of nurses and knowledge was pre -tested by administering the structured knowledge questionnaire for both experimental and control group. Next day, work shop on extended and expanded role of nurses was conducted for experimental group. On day 10, post test was administered by using the same structured knowledge questionnaire for both experimental and control group. The data were analyzed by descriptive and inferential statistics using Microsoft excel and EP-Info.

## RESULTS

**Table 1: Frequency and percentage for expressed learning needs by nursing students regarding extended and expanded role of nurses**

Content		Not required/Known		Necessary and Desirable	
		f	%	f	%
(a)	Meaning of extended role of nurse	5	4.16	115	95.83
(b)	Meaning of expanded role of nurse	5	4.16	115	95.83
(c)	Meaning of major direction for expansion of nursing role.	9	7.5	111	92.5
(d)	Need for extended and expanded role of nurse	5	4.16	115	95.83
(a)	Meaning of nurse clinician	11	9.17	109	90.83
(d)	Educational requirement of nurse clinician	10	8.33	110	91.67
(e)	Functions of nurse clinician	11	9.17	109	90.83

Conted...

(f)	Role of nurse clinician	11	9.17	109	90.83
(a)	Meaning of advanced practice nurse	2	1.67	118	98.33
(b)	Definition of advance practice nurse	3	2.5	117	97.5
(c)	Categories of advanced practice nurse	5	4.16	115	95.83
4.	Current barriers for extended and expanded roles of a nurse	6	5	114	95
5.	Advantages and disadvantages of extended and expanded roles of a nurse	6	5	114	95
6.	Competencies required for extended and expanded roles of a nurse	8	6.67	112	93.33

The data presented in Table 1 shows the learning need areas as expressed by the nursing students, 90% and above respondents expressed their need to learn about almost all the areas of extended and expanded role of nurses. This reveals that the nursing students did not have much exposure to these areas and were keen on learning about the extended and expanded role of nurses.

**Table 2: Frequency and percentage distribution according to gender, religion, any family member already in nursing profession, any workshop regarding extended and expanded role of nurses attended by nursing students of experimental and control group n = 120**

Sample characteristics	Experimental group n = 60		Control group n = 60		Total	
	F	%	F	%	F	%
<b>Gender</b>						
Female	7	11.67	6	10	13	10.83
Male	53	88.33	54	90	107	89.17
<b>Religion</b>						
Christian	18	30	19	31.67	37	30.83
Hindu	42	70	41	68.33	83	69.17
<b>Any family member already in nursing profession</b>						
Yes	25	41.67	29	48.33	54	45
No	35	58.33	31	51.67	66	55
<b>Any workshop attended previously</b>						
Yes	-	00	10	16.67	10	8.33
No	60	100	50	83.33	110	91.67

The data presented in Table 2 shows that majority (89.17%) of the samples were males and they were almost all equally distributed in experimental (88.33%) and control group (90%). Majority (83%) of the nursing students were Hindu, and 37% Christian almost equal number of nursing students 35 (58.33%) in experimental group and 31 (51.67%) in control group had a family member who is there in nursing profession, none (100%) of the nursing student in experimental group and majority (83.33%) in control group have not attended any related workshop previously.

**Table 3: Mean, standard deviation, median and range of pre-test and post-test knowledge scores of nursing students in experimental and control group n = 120**

Group	Pre-test				Post-test			
	Mean	SD	Median	Range	Mean	SD	Median	Range
Experimental	17.65	4.26	18	11 - 25	27.68	4.67	29	16 - 37
Control	17.33	3.69	18	6 - 27	18.33	3.65	19	10 - 28

The data presented in Table 3 shows that the pre-test knowledge score varied from 11-25 in experimental group and 6-27 in control group. The mean pre-test knowledge score is 17.65 with S.D  $\pm 4.26$  in experimental group and 17.33 with S.D.  $\pm 3.69$  in control group. Both the groups had median score of 18. The post-test knowledge score

varied from 16 -37 in the experimental group and from 10 - 28 in control group. The mean post-test knowledge score is 27.68 with standard deviation  $\pm 4.67$  and median of 29 in experimental group and 18.33 with standard deviation  $\pm 3.65$  and median of 19 in control group.

**Table 4: Modified mean gain, mean difference, standard deviation of the difference and standard error of the mean difference and 't' value of post-test knowledge scores of nursing students among experimental and control group regarding extended and expanded role of nurses**

Group	Modified mean gain	Mean <sub>D</sub>	SD <sub>D</sub>	SE <sub>MD</sub>	't'
Experimental group	0.46	41*	4.19	0.7547	14.70
Control group	0.05				

The data presented in Table 4 shows that modified mean gain in knowledge score of experimental group is 0.46 and which is apparently much higher than that of control group (0.05). The difference between the modified mean gain in knowledge score of the two groups is 41 (after multiplication with 100), with standard deviation of difference  $\pm 4.19$ .

The statistical significance of the difference was computed and the 't' (118) = 14.70, is found highly significant at 0.05 level.

## DISCUSSION

The findings of the study have been discussed with reference of the objectives and hypotheses stated and with findings of other studies. It was found that 90% and above nursing students expressed their need to learn about all the areas of extended and expanded role of nurses. Even though no relevant studies are available for comparison but other studies to assess the training needs of nursing staff regarding nurse practitioner role by Hicks C. and Hennessy D<sup>5,6</sup> revealed that nurses needed additional training, these findings partially supported the findings of the present study.

Findings in the presents study showed that maximum number of nursing students were male (89.17%) and belonged to Hindu religion (69.17%). Maximum number (91.67%) of nursing students had not attended any related workshop previously. Little less than half (45%) of nursing students had a family member who is there in nursing profession. No literature could be retrieved to compare these findings.

With regards to the findings related to effectiveness of workshop revealed that the mean post test knowledge

scores of nursing students who have attended workshop was significantly higher than their mean pretest knowledge scores 't' (59) = 16.39 at 0.01 level of significance whereas, there was no significant difference between mean pretest and posttest knowledge scores of control group 't' (59) = 1.77 at 0.05 level of significance. The mean gain in posttest knowledge scores of nursing students was significantly higher than the control group as evident from 't' value of 14.70 at df (118) at 0.01 level of significance. Hence, workshop was found to be an effective strategy to improve the knowledge of nursing students regarding extended and expanded role of nurses. Even though no related studies are available for comparison but the results of other studies conducted by Slarayan S. et.al.<sup>7</sup>, Hostick T., Newell R. and Ward T.<sup>8</sup>, Dodani and Sunita<sup>9</sup> and Foy G.J., Feldman M., Lin E., Mahony M., and Sjoblon C<sup>10</sup> to assess the effectiveness of workshop on different topics supported the findings of the present study as in these studies also workshop method of teaching was found to be an effective method of teaching.

There was no significant association found between the pre-test knowledge scores of nursing students regarding extended and expanded role of nurses and their gender, religion, any related workshop attended previously and any family member already in nursing profession. Thus, it could be inferred that, the knowledge is independent of these variable. To correlate this finding, no related studies are available for comparison.

## CONCLUSION

The study revealed that even though the nursing students had less knowledge regarding extended and expanded role of nurses but they had keen interest to

learn about all aspects of these roles. The analysis of the findings indicated that workshop is an effective method to increase the knowledge of nursing students on extended and expanded role of nurses, as the computed 't' test was significant at 0.05 level of significance. The pre-test knowledge scores of nursing students were found to be independent of their selected personal variables.

**Conflict of Interest:** Nil

**Source of Funding:** Self

**Ethical Clearance:** Approval was taken from ethical and research committee of the institution and data were collected after the formal permission from the principals of nursing institutions (Saraswati College of Nursing, Udaipur and Sunrise College of Nursing, Udaipur).

## REFERENCES

1. Williamson SN. Emergency nursing: the need for clinical specialization. *THE NURS J INDIA*. 2002 APRIL; 93 (4): 78-79.
2. Khakha DC. Independent nurse practitioner in mental health nursing. *THE NURS J INDIA*. 2001 April; 92 (4): 81-82.
3. Hupcey J. Intent and perceptions of graduating BSN students toward the nurse practitioner role. *J AM ACD NURS PRACT*. 1991 JANUARY; 3 (1): 30-34.
4. Wade GH. Professional nurse autonomy: concept analysis and application to nursing education. *J ADV NURS*. 1999; 30 (2): 310-318.
5. Ratnapalan S, Hilliard RI. Needs assessment in post graduate medical education: a review. *EDUC ONLINE*. 2002; 7(8). Available at: [http:// WWW. Med- ed- online. Org](http://WWW.Med-ed-online.Org)
6. Abruzese. *Nursing Staff Development*. 2<sup>nd</sup> ed. USA: Mosby, 1992, p.189–207.
7. Narayan S, Mathai SS, Adhikari K, Bhandari A, Bawa KS. Effectiveness of teaching neonatal resuscitation programme at a workshop for a mixed population of medical personnel. *MED J A F IND*. 2004; 60 (3): 244-246. Available at: [http:// medind.nic.in](http://medind.nic.in)
8. Hostick T, Newell R, Ward T. Evaluation of stress prevention and management workshops in the community. *J CLIN NURS*. 1997; 6: 139-145.
9. Dodani, Sunita. Effectiveness of an epidemiology training workshop taught by traditional classroom and video conferencing methods. Available at: <Mhtml:file:///h:/title%20page%20for%20ETD%20etd-04122006-013138%20>
10. Foy JG, Feldman M, Lin E, Mahoney M, Sjoblom C. Neuroscience workshops for fifth grade school children by undergraduate students: a university – school partnership. Available at: [http:// WWW. Lifescied.org/cgi/content/full](http://WWW.Lifescied.org/cgi/content/full)

# Assessing the Knowledge and Attitude Regarding Advance Technology in Nursing (ATN) among Nursing Students who Attended Advance Nursing Technology Seminar in Kakinada Region

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## ABSTRACT

**Introduction:** As a manifestation of curriculum education environment influences learning and behaviour learners, provision and assessment quality advance technology is one of the responsibilities of educational institutions as a part of continuous advance technology provision initiatives. The advance technology in nursing focus ensuring provision of culturally sensitive evidence based practice to clients, Quality assurance and enhancement of competencies of nursing care profession

**Objective:** Assess the knowledge and attitude regarding Advance Technology in Nursing(ATN) among Nursing Students who attended ATN seminar, Associate knowledge and attitude scores with selected demographic variables, Correlate the knowledge and attitude of Nursing students who attended ATN seminar.

**Method and Materials:** Descriptive survey approach with descriptive design was used for the study. The study was conducted on 60 Nursing students at Advance Technology in Nursing Seminar in selected colleges and schools of Nursing. Non probability convenience method of sampling was used on Nursing students who attended Advance technology in Nursing seminar in selected colleges and schools of nursing in Kakinada region.

**Results:** Majority i.e. 36(60%) samples were having good knowledge, 18(30%) of samples had average level of knowledge and 6(10%) of sample had poor level of knowledge. None of them had excellent or very good knowledge, 47 (78.33%) of samples were had 'agree' attitude score, 13(21.67%) had undecided attitude score. There was positive correlation between knowledge and attitude score as the correlation coefficient( $r=0.396$ ) was significant ( $p=0.002$ ) at 5% level of significance

**Conclusion:** The nursing students had good average knowledge and Attitude regarding Advance Technology in Nursing was 'agree'. There was a positive correlation between the knowledge and attitude regarding Advance technology in Nursing:  $r$  value was 0.396 and  $P=0.002$ ,  $p<0.05$  at the level of 5% significance.

**Keywords:** *Nursing Students, knowledge, attitude, Advance Technology in Nursing*

## INTRODUCTION

Advance technology is most wanted in every aspects of nursing service, nursing education and Nursing research. Worldwide technology dominating for new innovations and advance trends in nursing, today nursing profession undergoing massive transformation due to advancement in technology innovations in patient care practices and increased research to provide evidence based best practices for quality patient care<sup>1</sup>. Changes in health care industry have led to

unprecedented challenges for nursing profession. The advance technology in nursing focus ensuring provision of culturally sensitive evidence based practice to clients, Quality assurance and enhancement of competencies of nursing care profession<sup>3</sup>.

**Need and significance:** Many new technologies are becoming available within nursing care, such as advance technology home dialysis equipment or new infusion pumps that change the nursing staff's daily routines. In addition, all kinds of technologies that support distant

care, such as telecare technology, have consequences for nursing practice. Another development is the introduction of electronic information systems such as electronic patient records. Technologies are aimed at increasing the quality of care, reducing healthcare costs or solving workforce problems. It is widely recognised that one of the main problems with the introduction of innovations in general, such as technologies or clinical guidelines, is that professionals do not automatically use them as intended by the developers. This advance technology focuses on the determinants of a successful introduction of new technology in nursing care<sup>2</sup>.

Several models and frameworks exist on how to introduce innovations in health care effectively. By innovation, we mean, for example, guidelines, interventions or programs that are perceived as new by an individual or organisation. Most models originate from the diffusion of Innovations theory of Rogers. Despite some differences, all models follow a similar planning sequence: (1) the innovations should be introduced systematically to maximise success and (2) a planned innovation strategy should be tailored to the determinants that facilitate or impede the intended innovation process<sup>6</sup>. The current study we used a framework which was originally developed for analysing determinants of innovation processes in health care. Review on determinants of innovation processes was performed in which only empirical studies ( $n = 60$ ) were included. Subsequently, a Delphi study among 44 implementation experts (researchers, programme managers, and consultants/advisors) was conducted to achieve consensus on the determinants identified from the literature review. The results of the literature review matched those found in the Delphi study. This resulted in a list of 50 potentially relevant determinants. Since 2002, the framework and the list of 50 determinants have been used for research on the introduction of several innovations in health care<sup>4,5</sup>.

Advance technology shows the four main stages in innovation processes. Dissemination means that every professional is actually supplied with the innovation. At the adoption stage, the professional will develop a positive or negative intention to use the innovation. During the implementation stage, the professional tries to use the innovation in daily practice and experiences what working with the innovation means. Finally, there is the continuation stage, in which working with the innovation becomes routine practice<sup>8,9</sup>.

## OBJECTIVES

Assess the knowledge and attitude regarding Advance Technology in Nursing (ATN) among Nursing Students who attended ATN seminar

Associate knowledge and attitude scores with selected demographic variables.

Correlate the knowledge and attitude of Nursing students who attended ATN seminar.

## Hypothesis

**H<sub>1</sub>:** There will be significant association knowledge regarding ATN with demographic variable.

**H<sub>2</sub>:** There will be significant association of attitude regarding ATN with demographic variable.

**Conceptual Framework:** The study is focused on assessing the knowledge and attitude regarding Advance Technology in Nursing among nursing students who attended Advance Technology in Nursing seminar. The present study is intended to assess the knowledge and attitude of nursing students regarding advance technology in nursing. The conceptual framework for the present study was based on Bertalanffy's model. The phases of the model are assessment, input, process and output. The theory is concerned with changes due to interaction between the factors in a particular situation. There is a continuous interaction between students and teacher.

**Review of literature:** Health care professionals already encounter patients who arrive for diagnosis or treatment with their genotyping or genetic sequencing in hand. Having genetic data can ultimately lead to better care and patient empowerment. But of concern are the ethical dilemmas associated with safeguarding such personal information and potential emotional consequences of uncovering unknown medical data without the guaranteed support of a primary care provider. Dilemmas such as these, and others we may not yet imagine, will pose significant challenges for all healthcare professionals, including nurses having more knowledge on advance technology<sup>7</sup>.

Magnets are also increasingly likely to be used as a treatment for major depression based Advance Technology in nursing. Small electromagnets are now placed on the scalp behind the left forehead as a therapeutic intervention for depression. These magnets

deliver a tiny electric current to the part of the brain linked to depression. It seems to work, although the mechanism for action is not fully understood. In fact, a large study found these magnets were three times more effective than a placebo and most importantly, they had no serious side effects Advance Technology<sup>9</sup>.

Scanning technology is predicted to improve to the point that images of soft and hard tissues in the body will be so clear that exploratory surgery and invasive procedures will virtually be eliminated within a few decades. The Nuclear Energy Institute (n.d.) notes several current examples of state of the art nuclear medicine. Myocardial perfusion imaging maps blood flow to the heart, allowing doctors to diagnose heart disease and determine the most effective course of treatment in advance technology in Nursing<sup>9</sup>.

Researchers are also making strides to develop vaccines for some types of cancer. For example, Howard (2011) notes that researchers are using the same technology used to create childhood vaccines to develop a prostate cancer vaccine known as Provenge. So while Provenge doesn't cure prostate cancer, it does reduce a patient's overall risk of death by 24% in a three year period. The drug was approved in 2010 for use with patients with metastatic prostate cancer which had stopped responding to hormone treatments. In February 2013, Scientists at Cornell University used 3D printing to create an ear remarkably similar to a natural one. Using 3D images of a human ear, they printed a mold to be injected with gel containing collagen from rat tails and then added cartilage from cow ears. It took half a day to design the mold, about a day to print it, 30 minutes to inject the gel, and the ear was removed 15 minutes later<sup>12</sup>.

Judy Murphy, deputy national coordinator for Programs and Policy at the Office of the National Coordinator (ONC) for Health Information Technology, Department of Health and Human Services, in Washington, DC stated that "I used to think we [nurses] provide healthcare first, and that the need for health information was secondary". But, Murphy now argues that nurses cannot provide good care without having the right information to make the right decisions when caring for individual patients. She concludes then that nursing is an information-based profession that provides health care, and that it is technology that helps us bring all that information to the point of care<sup>10</sup>.

While myriad forces are changing the face of contemporary healthcare, one could argue that nothing will change the way nursing is practiced more than

current advances in technology. Indeed, technology is changing the world at warp speed and nowhere is this more evident than in healthcare settings. three skill sets nurses will need to develop to acquire, use and integrate these emerging technologies; and four challenges nurse leaders will face in integrating this new technology. There are many emerging technologies that will change the practice of nursing in the coming decade. genetics and genomics; less invasive and more accurate tools for diagnosis and treatment; 3-D printing; robotics; biometrics; electronic health records and computerized physician/provider order entry and clinical decision support<sup>10</sup>.

## METHOD AND PROCEDURES

Descriptive survey approach with descriptive design was used for the study. The study was conducted on 60 Nursing students at Advance Technology in Nursing Seminar in selected colleges and schools of Nursing, Kakinada who has interested to improve the advance technology Knowledge in nursing.

Non probability convenience method of sampling was used on Nursing students who attended Advance technology in Nursing seminar in selected colleges and schools of nursing in Kakinada region.

### Criteria for sample selection

**Inclusive criteria:** Nursing students who were available at time of data collection and who attended the seminar. Who has understood better English and willing to participate in the study.

**Exclusion criteria:** Nursing students who attended previous seminar

**Description of the tool:** The structured questionnaire consisted of 3 sections.

**Demographic data:** It included age of the students, medium of instructions, education of parents, education type, duration of the course and previous source of information.

**Questionnaire:** There were multiple choice questions regarding Advance technology in nursing

**Likert attitude scale:** The likert type attitude scale consisted of 15 items of Advance Technology in Nursing

## DATA ANALYSIS

The data analysis included descriptive and inferential statistics. The following plan of analysis was developed with opinion of experts. The analysis would be done based on objectives and hypothesis to be tested. The demographic data would be analysed in terms of descriptive statistics. The analysis was made on the basis of objectives and assumptions.

**Findings and interpretation:** Majority i.e. 36(60%) samples were having good knowledge, 18(30%) of samples had average level of knowledge and 6(10%) of sample had poor level of knowledge. None of them had excellent or very good knowledge. 47 (78.33%) of samples were had 'agree' attitude score, 13(21.67%) had undecided attitude score (Table 1).

**Table 1: Assessment of knowledge and attitude scores of Nursing Students regarding Advance technology in Nursing**

Level of knowledge score	Knowledge score		Level of attitude score	Attitude score	
	f	%		f	%
Poor	0	0	Strongly disagree	0	0
Average	6	10	Disagree	0	0
Good	18	30	Uncertain	13	21.67
Very good	36	60	Agree	47	78.33
Excellent	0	0	Strongly agree	0	0

There was positive correlation between knowledge and attitude score as the correlation coefficient( $r=0.396$ ) was significant ( $p=0.002$ ) at 5% level of significance(Table 2).

**Table 2: Correlation between knowledge and attitude score of Nursing Students in relation to Advance Technology in Nursing**

Area	Knowledge score	Attitude score	Correlation 'r'	P-value
Overall	13.33±	46.50±4.13	0.396	0.002 $p<0.05$

## DISCUSSION

In the framework we used the perception of the user of a technology plays a crucial role. When e.g. dysfunctional technology is mentioned as a barrier for use, this could either mean the technology has real shortcomings or in the eyes of the user. In our view the perception should always be the starting point for change. Because even if we could argue that the technology technically functions well, this would not alter the uptake of the technology in most cases. This also implies that when introducing new technologies more detailed information is needed. The present study only offers insight in how a large representative group of nurses perceives new advance technology in nursing field.

The determinants were derived from experiences with a broad variety of technologies in a wide range of health care settings. The results of the explorative analyses and also the framework/model we used suggest

that in more specific settings and with a particular technology some determinants might play a more prominent role than others. In each new situation, therefore one should analyse the determinants that could play a role in the innovation process in order to design an adequate innovation strategy for that specific context and technology and the intended users.

The study explores the perceptions of nurse-users this implies a strong emphasis on impeding and facilitating determinants on a user level. Managers, for example, may more frequently refer to determinants on a more distant, organizational and political level if they are asked the same question. However, the strength of this study is that it examines determinants as perceived by the (intended) users of new technologies. Because all respondents had experienced the introduction of a new technology, the determinants cited can be considered to be valid. We did not differentiate between the stages of dissemination,

adoption, implementation and continuation. Fleuren et al. indicated in their study at which stages which determinants might be particularly relevant. Besides, in daily practice the stages of adoption and implementation as well as the stages of implementation and continuation sometimes overlap advance technology in nursing.

**Implications:** Nursing students often provide information regarding ATN and support to improve scientifically all aspects in nursing care. It will help the nursing students to global view of modern nursing and extraordinary technology for future direction in nursing. The educators need to remember that emphasis is to be given on the new vision for technology based nurses. So the study will help the teachers to educate the Nursing students and nursing staffs for ATN is a major need in the society. In nursing curriculum now much emphasis on Advance Technology in Nursing, it help the administrator to plan and organise continuing education and in-service education on Advance Technology in nursing to emphasis more innovative technological studies in nursing care industry.

**Recommendations:** A similar study may be conducted on a larger population for generalisation of findings.

Studies may be conducted to evaluate the effectiveness of advance technology applications time bound approach in Nursing education among all categories of nurses.

A study may be conducted to assess the existing knowledge and attitude of Nursing staffs on modern technology in nursing homes.

A structured modern technology may be used in the hospitals and nursing institutions, so that all the nurses can participate in improving the knowledge regarding ATN.

## CONCLUSION

The nursing students had good average knowledge regarding Advance Technology in Nursing. Attitude regarding Advance Technology in Nursing was 'agree'. Demographic variables did not show a major role in the knowledge and attitude regarding Advance Technology in Nursing. There was a positive correlation between the knowledge and attitude regarding Advance technology in Nursing:  $r$  value was 0.396 and  $p = 0.002$ ,  $P < 0.05$  at the level of 5% significance.

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**Ethical Clearance:** We have no actual or potential conflict of interest. This article is original and has not been submitted elsewhere for publication. I do not have a financial interest/affiliation with one or more organisation that could be perceived as a real or potential conflict of interest or ethical conflict relative to this article.

**Conflict of Interest:** Nil

## REFERENCES

1. Huston, C., (May 31, 2013) "The Impact of Emerging Technology on Nursing Care: Warp Speed Ahead" OJIN: The Online Journal of Issues in Nursing Vol. 18, No. 2, Manuscript 1.
2. Rath, L. (2012, November/December). The future of joint repair. *Arthritis Today*, 26 (6), 76-79.
3. Seiffert, D. (2012, July 23). IRobot to unveil healthcare robot Friday. *Boston Business Journal*. Retrieved from [www.bizjournals.com/boston/blog/mass-high-tech/2012/07/irobot-to-unveil-healthcare-robot-friday.html](http://www.bizjournals.com/boston/blog/mass-high-tech/2012/07/irobot-to-unveil-healthcare-robot-friday.html)
4. Take 5 with a Nurse Leader (2012). *The American Nurse*. Retrieved from [www.theamericannurse.org/index.php/2012/10/05/take-5-with-a-nurse-leader/](http://www.theamericannurse.org/index.php/2012/10/05/take-5-with-a-nurse-leader/)
5. Tattoos that improve health. (Nov. 19, 2010). *News at Northeastern*. Retrieved from [www.northeastern.edu/news/stories/2010/11/heather\\_clark.html](http://www.northeastern.edu/news/stories/2010/11/heather_clark.html)
6. Thompson, C. (2012, October 10). How 3D printers are shaping medicine. *CNBC*. Retrieved from [www.cnn.com/id/49348354/How\\_3D\\_Printers\\_Are\\_Reshaping\\_Medicine](http://www.cnn.com/id/49348354/How_3D_Printers_Are_Reshaping_Medicine)
7. Japanese researchers grow kidney tissue from stem cells. (2013, January 24). *Daily News*. Retrieved from [www.nydailynews.com/life-style/health/japanese-researchers-grow-kidney-tissue-stem-cells-article-1.1246630](http://www.nydailynews.com/life-style/health/japanese-researchers-grow-kidney-tissue-stem-cells-article-1.1246630)
8. Kelland, K. (2012, March 1). Super-human brain technology sparks ethics debate. *Reuters*. Retrieved from [www.reuters.com/](http://www.reuters.com/)

- article/2012/03/01/us-brain-neurotechnology-ethics-idUSTRE82000F20120301
9. Krawczyk, S. & Jain, A.K. (n.d.). Securing electronic medical records using biometric authentication. from [http://biometrics.cse.msu.edu/Publications/Signature/KrawczykJain\\_OnlineSignVoice\\_AVBPA05.pdf](http://biometrics.cse.msu.edu/Publications/Signature/KrawczykJain_OnlineSignVoice_AVBPA05.pdf)
  10. Kyung-hoon, K. (2011, August 8). Robot Paro comforts the elderly in Fukushima. Retrieved from <http://blogs.reuters.com/photographers-blog/2011/08/08/robot-paro-comforts-the-elderly-in-fukushima/>
  11. leuren MAH, Wiefferink CH, Paulussen TGWM: Determinants of innovation within health care organizations: Literature review and Delphi-study. *Int J Qual Health Care*. 2004, 16: 107-123.
  12. Bartholomew LK, Parcel GS, Kok G, Gottlieb NH: Planning health promotion programs: an intervention mapping approach. 2006, San Francisco: Jossey-BassGoogle Scholar
  13. Grol R, Wensing M, Eccles M: Improving patient care: The Implementation of Change in Clinical Practice. 2005, Edinburgh: Elsevier.

# **A Study to Evaluate Effectiveness of Planned Teaching Programme (PTP) on Knowledge and Practice Regarding Body Mechanics among Staff Nurses Selected Hospital in Hubli, Karnataka**

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## **ABSTRACT**

With a view to assess the effectiveness of planned teaching program regarding body mechanics among staff nurses, the pre experimental study with quantitative approach was undertaken among 50 staff nurses. Purposive sampling techniques were used in selecting the staff nurses. The result revealed that educating the staff nurses about body mechanics helped in improving the knowledge, practice and skills regarding body mechanics and also helped in patient health care by preventing injuries.

**Keywords:** *Planned teaching programme, body mechanics, staff nurses*

## **INTRODUCTION**

Nurses work round the clock providing patient care in various health care settings, they are among the most essential health care workers in providing health care towards the community. Even in today's advanced technology nurses as a group are frequently injured on the job due to various combined factors. Lifting and moving patient is a large part of the job performed by nurses, it's especially important to practice good body mechanics. Using good body mechanics means moving in an efficient, balanced way that protects your back from unnecessary stress, even when maneuvering heavy or awkward loads. Working in this way may take a little extra time and concentration, but it will pay off in the long run by reducing your risk of back pain and injury<sup>1</sup>.

Many occupations place workers at high risk for back injury. Information from the World Health Organization's International Labor Office reveals that this problem is global. The organization lists "musculoskeletal diseases"

as common and part of 268 million non-fatal workplace accidents in which employees miss at least 3 workdays. To compile the list of risky occupations, two occupations lead the list of jobs placing workers at highest risk for neck and back injury; construction and nursing home workers, including nurses, and other profession at risk for back injuries are dentists and surgeons, landscapers, gardeners, airline crew, assembly line workers, bakers, bus and cab drivers etc<sup>2</sup>.

Strategies to prevent or minimize injuries associated with patient handling are often based more on tradition and personal experience rather than scientific evidence. The most common patient handling approaches include manual patient lifting, classes in body mechanics, training in safe lifting techniques and back belts. Surprisingly there is strong evidence that each of these approaches is not effective in reducing caregiver injuries. To date, the interventions with the strongest level of evidence are being implemented in a growing number of facilities. Thus it's important to learn and practice good body mechanics. So the nurses should have thorough scientific knowledge on body mechanics and its proper use in their daily practice<sup>3</sup>.

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## **OBJECTIVES OF THE STUDY**

1. To assess the knowledge regarding body mechanics among staff nurses.

2. To assess the practices regarding body mechanics among staff nurses
3. To evaluate the effectiveness of planned teaching program on knowledge and practices regarding body mechanics among staff nurses in terms of gain in knowledge and practices score.
4. To determine the correlation between the pre test knowledge and practices score regarding body mechanics among staff nurses.
5. To find out an association between the pre test knowledge score regarding body mechanics among staff nurses with their socio-demographical variables.
6. To find out an association between the pre test practices score regarding body mechanics among staff nurses with their socio demographical variables.

### HYPOTHESES

**H<sub>1</sub>:** The mean post-test knowledge scores of staff nurses regarding body mechanics who have exposed to planned teaching programme (PTP) will be significantly higher than the mean pre test knowledge scores at 0.05 level of significance.

**H<sub>2</sub>:** The mean post-test practice scores of staff nurses regarding body mechanics who Have exposed to planned teaching programme (PTP) will be significantly higher than the mean pre test practice scores at 0.05 level of significance.

**H<sub>3</sub>:** There will be a correlation between pre-test knowledge and practice scores of staff nurses regarding body mechanics at 0.05 level of significance.

**H<sub>4</sub>:** There will be an association between pre test knowledge scores of staff nurse regarding body mechanics with their selected socio demographic variables at 0.05 level of significance.

**H<sub>5</sub>:** There will be an association between pre test practices scores of staff nurses regarding body mechanics with their selected socio demographic variables at 0.05 level of significance.

### METHODOLOGY

A pre-experimental with one group pre test and post test design and quantitative approach was selected to

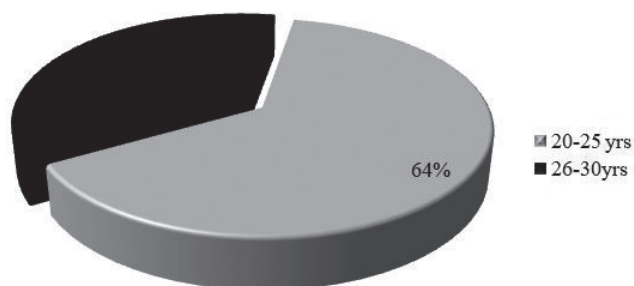
carry out the study. The study population comprised of all staff nurses working selected hospital at Hubli. The sample size for study was 50 staff nurses.

Non probability, purposive sampling technique was used for selecting sample of the study. The tools used for study were: (i) structure questionnaire to assess the knowledge and practice regarding Body mechanics. Section I was socio demographic variables, section II was structure knowledge questionnaire regarding body mechanics and section III was structure knowledge based practice questionnaire regarding body mechanics. (ii) Planned teaching programme regarding body mechanics.

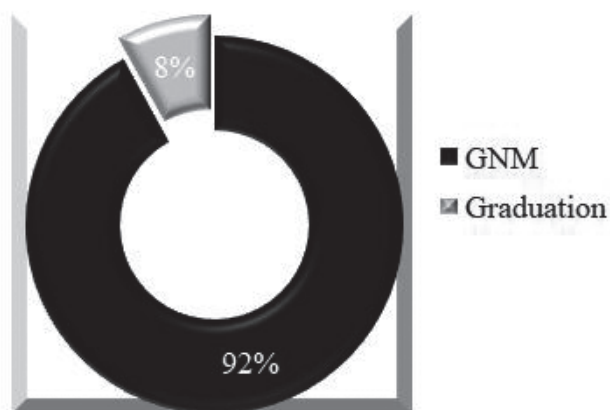
### RESULT

**Table 1: Frequency and percentage distribution of staff nurses according to socio-demographic variables n = 50**

Sl. No.	Demographic variables	Frequency (f)	Percentage (%)
01.	<b>Age(in yrs)</b>		
	20-25	32	64
	26-30	18	36
02.	<b>Gender</b>		
	Male	09	18
	Female	41	82
03.	<b>Professional Qualification</b>		
	GNM	46	92
	Graduation	04	08
04.	<b>Professional Experience</b>		
	0-2yrs	29	58
	2-4yrs	18	36
	5yrs and above	03	06
05.	<b>Area of working</b>		
	Intensive care unit	21	42
	Causality	09	18
	OPD	05	10
	Medical and surgical ward	15	30
06.	<b>In-service education regarding body mechanics</b>		
	Yes	00	00
	No	50	100



**Fig. 1: Pie graph showing percentage distribution of staff nurses according to their age.**

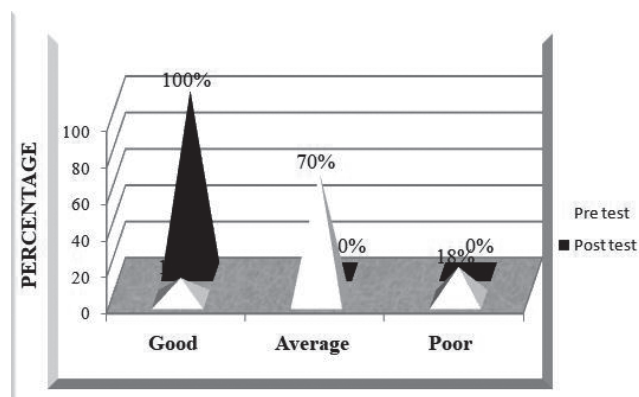


**Fig. 2: Doughnut graph showing percentage distribution of staff nurses according to their professional education status.**

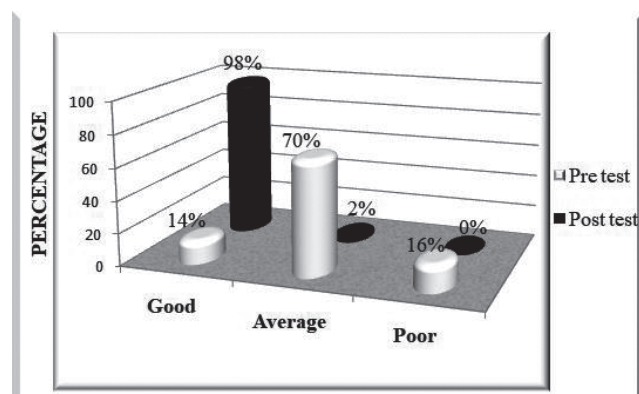
The overall pre-test knowledge scores of the nurses revealed that a majority of nurses 35(70%) had average knowledge, 06(12%) had good knowledge and 9(18%) had poor knowledge. Whereas in the post test, all of them 50 (100%) had good knowledge. The overall pretest practice scores of the nurses revealed that a majority of nurses 35(70%) had an average practice, 7(14%) had good practice and 8(16%) had poor practice. Whereas in the post test majority of the staff nurses 50(100%) of them had good practice.

There was positive correlation between knowledge and practice  $r=0.91$  respectively based on Pearson's correlation computed value between knowledge and practice. This indicates the existence of positive correlation.

The calculated chi-square value for knowledge and practice scores with selected socio-demographic variables revealed that there was age, professional qualification, professional experience simultaneously.



**Fig. 3: Pyramidal graph showing the distribution of the staff nurses according to their level of knowledge scores**



**Fig. 4: Clindrical graph showing the distribution of the staff nurses according to their practice scores**

## DISCUSSION

The discussion is based on the data procured from the study" assess the effectiveness of planned teaching programme regarding body mechanics among staff nurses.

Maximum nurses i.e. 32(64%) belonged to an age group of 20-25yrs, maximum nurses i.e. 41(82%) were females, maximum nurses 46(92%) have completed GNM programme, maximum nurses 29(58%) have professional experience between 0 -2 yrs, majority of the nurses 21(42%) were working in the ICU, and none of the nurses i.e. 50(100%) undergone in-service education. The calculated value of paired 't' value ( $t_{cal}=47.86$ ) was greater than the tabulated value ( $t_{tab}=2.0096$ ). This indicates that the gain in knowledge score was statistically significant at  $p < 0.05$  levels. Therefore, the planned teaching programme on body mechanics among the staff nurses in terms of gain in knowledge scores. The calculated value of paired 't' value ( $t_{cal}=41.90$ ) was greater than the tabulated value ( $t_{tab}=2.0096$ ). This indicates that the gain in practice score is statistically significant at  $p <$

0.05 levels. Therefore, the planned teaching programme on body mechanics was effective among the staff nurses in terms of gain in practice scores. The Karl Pearson's correlation value computed between knowledge and practice scores of staff nurses  $r$  was 0.91. This indicates the existence of positive correlation between knowledge and practice scores. The computed chi square test for pre test knowledge revealed that there was statistical association for only two variables i.e. age and professional experience. The computed chi square test for pre test practice revealed that there was statistical association for only one variables i.e. Professional experience.

### CONCLUSION

The study findings concluded that the planned teaching programme on body mechanics was effective in improving and acquainting to the current knowledge of staff nurses as evidenced by gain in post test knowledge and practice scores of staff nurses regarding body mechanics.

**Recommendations:** Keeping in view regarding findings of the present study, the following recommendations were made:

1. A similar study can be conducted on a larger and wider sample for a longer period of time would be more pertinent in making broad generalizations.
2. A comparative study can be done between educational institute and health care institute nurses regarding body mechanics.
3. A descriptive study can be conducted to assess knowledge, attitude and practices regarding body mechanics among staff nurses.
4. An experimental study regarding bundle care strategies in the prevention back injuries and musculoskeletal related problems due to using of improper body mechanics can be undertaken among staff nurses.
5. A comparative study can be conducted regarding effectiveness of a planned teaching programme and self instructional module on body mechanics

**Conflicts of Interests:** Nil

**Source of Funding:** No agencies given fund. It is self funded

**Ethical Clearance:** Prior permission was obtain from research committee of institute and RGUHS Bangalore as well as prior permission was obtain from hospitals and samples.

### REFERENCES

1. Goncalves MB, Fisher FM, Lombardi JM, Ferreira RM. Work activities of practical nurse and risk factors for development of musculoskeletal disorders. *Journal of Human Ergology* 2001 Dec; 30(1-2):369-74.
2. Gillmore A. Nurses' lifting injuries: research shows good body mechanics are not enough. Available at: <http://find article.com/p/articles/mi-qa4102/is-ai-n9272813>
3. Jensen RC. Disabling back injuries among nursing Personal: research needs and justification. *Research Nurses Health* 1999 Feb; 10(1): 29-38.
4. Tayler C, Lillis C, LeMone P. Fundamentals of Nursing. The art and science of nursing care. 5<sup>th</sup> edition, New Delhi: Lippincott, Williams & Wilkins; 2006.
5. Potter PA, Perry AG. Fundamentals of Nursing. 7<sup>th</sup> edition. New Delhi, India. Published by Elsevier; 2010.p 200-210
6. Danserean V. Importance of proper body mechanics, [online][cited on 2013 Oct 21] Available at: [http://www.answerbag.com/q\\_view/1904305#ixzz2BRJ](http://www.answerbag.com/q_view/1904305#ixzz2BRJ)
7. Spinasant S. High-risk Jobs: Is Your Job Putting Your Spine at Risk? *Workplace Ergonomics*; [online] 2012 Nov [cited 2013 Oct 28]; Available at: <http://www.spineuniverse.com/wellness/ergonomics/high-risk-jobs>.
8. Jaafar N, Mohd Ghanzali AN. Knowledge and practice of body mechanics techniques among nurses. [online] 2007 [cited on 25 sep 2013]; Available at URL:[http://www.google.co.in/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CC8QFjAB&url=http%3A%2F%2Fwww.researchgate.net%2Fpublication%2F236982573\\_Knowledge\\_and\\_Practice\\_of\\_Body\\_Mechanics\\_Technique](http://www.google.co.in/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CC8QFjAB&url=http%3A%2F%2Fwww.researchgate.net%2Fpublication%2F236982573_Knowledge_and_Practice_of_Body_Mechanics_Technique)

9. Mike H. Fundamentals of nursing, [online] USA, Medical education division, Brooke associated, Ltd, 2007. Available at: URL: [http://www.brooksidepress.org/Products/Nursing\\_Fundamentals\\_1/lesson\\_6\\_Section\\_1.htm](http://www.brooksidepress.org/Products/Nursing_Fundamentals_1/lesson_6_Section_1.htm).
10. Alison M T, Janne G, Clarire.C, Jane.L, Meg.J, Audrey .N, et al. Patient Safety and Quality: An Evidence-Based Handbook for Nurses. [Online]; 2008 [cited 25<sup>th</sup> Sep 2013]. Available at URL. <http://www.ncbi.nlm.nih.gov/books/NBK2661/>
11. Nelson A, Baptiste A. "Evidence-Based Practices for Safe Patient Handling and Movement". *Online Journal of Issues in Nursing*. [Online] 2004 Sept [cited 25<sup>th</sup> Sep 2013];9 (3): Available: URL: [www.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN/TableofContents/Volume92004/No3Sept04/EvidenceBasedPractices.aspx](http://www.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN/TableofContents/Volume92004/No3Sept04/EvidenceBasedPractices.aspx).
12. Kalnitsky A. Body mechanics 101. [Online] 2008 [cited 12<sup>th</sup> Oct 2013]; Available at: URL:[http://www.spineuniverse.com/display\\_article.php/article\\_836.html](http://www.spineuniverse.com/display_article.php/article_836.html).
13. Kannan, Srinivasan, Sarma, Sankara P. *Study on workload of public health nurses and other women health workers in India*. Unpublished.
14. Karahan A, Bayraktar N. Determination of the usage of body mechanics in clinical settings and the occurrence of low back pain in nurses. [Online]. 2004 Jan. [cited 2013dec 20]; 41(1):67-75. Available at: URL: <http://www.ncbi.nlm.nih.gov/pubmed/14670396>
15. George JB. Nursing Theories. 6<sup>th</sup> ed. Noida (India): Dorling Kindersley; 2009. p.293-303.
16. Polit FD, Beck TC. Nursing research: generating and assessing evidence for nursing practice. 8<sup>th</sup> ed. India. Wolters Kluwer. 2010. p. 15, 28,29,88,15,162.
17. Karahan A, Sultan K, Abbasoglu A, Nevin D. Low back pain: prevalence and associated risk factors among hospital staff. [Online] 2002 Jan. [cited 2013dec 20]; 40(1):70-75.Available at: URL: <http://course.sdu.edu.cn/G2S/eWebEditor/uploadfile/20121124194740648.pdf>
18. Mahmoodi R, Nakhaei M, Ali Abadi N. Nurses' knowledge of body mechanic in educational hospital of Birjand, Iran. [Online] 2005 Jan [cited 2013dec 20]; 35(1):60-65. Available at <http://www.ncbi.nlm.nih.gov/pubmed/20205573>
19. Neal C. The assessment of knowledge and application of proper body mechanics in the workplace. [Online]. 1997 Jan-Feb.[cited 2013dec 20]; 16(1):66-7, 69. Available at: [http://www.brooksidepress.org/Products/Nursing\\_Fundamentals\\_1/About.htm](http://www.brooksidepress.org/Products/Nursing_Fundamentals_1/About.htm)
20. Engels A, Gulden W, Senden F. Work related risk factors for musculoskeletal complaints in the nursing profession: results of a questionnaire survey. *Occup Environ Med* [Online] 1996 Mar [cited 2013dec 20]; 53:636-641 .Available at URL: <http://oem.bmj.com/content/53/9/636.short>

# Exploration of Challenges Faced By Caregivers of Children with Autism Spectrum Disorder

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## ABSTRACT

Caregivers of children with Autism spectrum disorder (ASD) go through immense stress and challenges in their day to day lives. ASD is a complex neurodevelopmental disorder that causes difficulties in communication, social interaction and repetitive behavior also known as the triad of impairment. The objective of this study is to explore the challenges faced by caregivers of children with Autism Spectrum Disorder in selected setting, Chennai, India. Participants were selected using Non Probability Purposive Sampling technique from the selected special schools. 10 parents took part in Focus Group Discussion (FGD) lasting for 1-1.5 hours. FGD was Audio taped and transcribed into verbatim. The themes identified were; diagnosed with Autism spectrum disorder, accepting the fact, expressing thoughts and feelings, support from significant others, impact of autism on family, needs of sibling's, physical strain, personal time, expenses, others reaction. Caregivers of children with ASD face challenges in various dimensions in their day to day life. But these challenges can be effectively managed with adequate support and guidance. Therefore it's important for health professionals to know the challenges faced by caregivers and provide them with the needed assistance.

**Keywords:** Autism spectrum disorder, Challenges, Caregivers

## INTRODUCTION

“There is no greater name for a leader than mother or father there is no leadership more important than parenthood”. But deviation in the normal growth and development of a child and his /her health can lead to a major impact on the lives of the parents or caregivers, contributing to varying challenges in their day to day life. And Autism being a lifelong condition imposes a greater challenge and stress in the lives of parents from various perspectives.

### Need and significance of the study

Miraj. U. D, Gauri. D, Fredrich J.W, Vikram [2012]<sup>5</sup> conducted a study to investigate the lived experience of 12 parents of children with an Autism Spectrum Disorder in everyday cultural contexts in Goa, India. In depth interviews were collected from the parents Results explained four main temporal phases; first a period of relative normalcy and social cohesion,

second the child's behaviors disrupted the everyday social order. Thirdly parents observations in public situations. Fourthly parents grappled with developing their child's capacities and to reshape the social world to accommodate the abilities and limits of children like their own.

Gona JK et.al [2016]<sup>4</sup> conducted a study to investigate challenges faced by caregivers of children with ASD and how they cope. Study utilized a qualitative design and a phenomenological methodology. 103 Participants were selected from two countries of the Kenyan coastal region. Interviews and FGDs were conducted. Results showed that parents experience common challenges including stigma, lack of appropriate treatment, financial and caring burdens regardless of their religious and cultural backgrounds. Coping strategies comprised of problem-focused aspects that involve diet management and respite care, and emotion-focused aspects that consist of beliefs in supernatural powers, prayers and spiritual healing.

**METHOD**

Qualitative research approach and exploratory research design was used. The study was conducted at selected special school. The participants of the study consisted of 10 caregivers of children with ASD at selected special school using the Non Probability purposive sampling technique, who fulfilled the inclusion criteria. The tool utilized questionnaire to assess demographic data and semi structured open-ended questions that were related to the challenges of caregivers of children with ASD.

Informed consent was then obtained from each participant. Focus Group Discussion (FGD) was conducted lasting for 1-1.5 hours. Participants were then thanked at the end of the interview. The audio data was collected and then transcribed into verbatim. Data analysis was based on COLLAIZA's Analysis frame work.

**RESULTS**

**Table 1: Frequency and percentage distribution of demographic variables among caregivers of children with Autism spectrum disorder**

S. No.	Demographic variables		n	%
1.	Age	< 25 years	0	0
		years	6	60
		>35 years	4	40
2.	Gender	Male	2	20
		Female	8	80
3.	Religion	Christian	0	0
		Hindu	8	80
		Muslim	2	20
		Others	0	0
4.	Relationship with the child	Mother	7	70
		Father	2	20
		Significant others	1	10
5.	No. of children	1	6	60
		2	4	40
		3	0	0
6.	Type of family	Joined family	3	30
		Nuclear family	7	70
		Extended family	0	0

Conted...

7.	Educational status	illiterate	0	0
		Primary school education	0	0
		Middle school education	5	50
		High school education	2	20
		Diploma	0	0
		Graduate or post graduate	3	30
8.	occupation	Unemployed	7	70
		Unskilled worker	0	0
		Semiskilled worker	0	0
		Skilled worker	0	0
		Clerical, shop owner, Farmer	0	0
		Semi profession	1	10
		Profession	2	20
		others	0	0
9.	Monthly income	≥32,050	0	0
		16,020-32,049	2	20
		12,020-16,019	1	10
		8,010-12,019	0	0
		4,810-8009	0	0
		1,601-4,809	0	0
		≤1,600	0	0
10.	Complications during pregnancy	yes	2	20
		no	8	80
11.	Age of the child	1-3 years		0
		4-6 years	4	40
		7-12 years	6	60
12.	Gender of the child	male	7	70
		Female	3	30
13.	Birth order	1st	7	70
		2nd	3	30
		3 <sup>rd</sup> and beyond	0	0
14.	Duration of child's care	1-3 years	4	40
		4-6 years	3	30
		7 years and above	3	30

**Table 2: Frequency and percentage distribution of challenges faced by caregivers of children with Autism spectrum disorder.**

S. No.	Themes	Sub Themes	Respondents (n)	Percentage (%)
1.	Diagnosed with Autism spectrum disorder	Utter shock couldn't believe initially	4	40
		Had no idea what autism is about	2	20
		Still cannot believe my child has Autism	3	30
		No one in family has autism	1	10
2.	Accepting the fact	Initially it was hard now I have accepted	5	50
		Went to many doctors and other centers to confirm	3	30
		As time passed we started adapting	2	20
3.	Expressing thoughts and feelings	Very frustrated at times want to give up	3	30
		Call my sister and tell her everything	1	10
		Engage in a lot of work	1	10
		Share feelings with caregivers in the center	5	50
4.	Support from significant others	Help from in laws	1	10
		Family members are already engaged with work	4	40
		Cannot expect help from anyone	3	30
		At times grandmother takes care	2	20
5.	Impact of diagnosis on family life	Have to sacrifice a lot	2	20
		Don't mostly go to family gatherings	1	10
		Always occupied with child	6	60
		Have changed myself	1	10
6.	Needs of siblings	Older sibling is very cooperative	1	10
		Not able to pay more attention to other child	2	20
		Able to spend enough time with both	1	10
7.	Physical strain	Feel very exhausted	4	40
		Developed pain overtime	2	20
		Not felt much of a difference	1	10
		Take rest whenever I have time	3	30
8.	Personal time	Started going to yoga classes	1	10
		Rarely have time for myself	2	20
		Always engaged with house work and child	6	60
		No such time for myself	1	10
9.	Expenses	Quit my job	2	20
		No financial support from others managed expenses by us,	1	10
		Expenses met with husbands pay	5	50
		Difficulty in managing expenses	2	20
10.	Others reaction	Others react different	4	40
		Mostly avoid public transport	2	20
		Never told relatives about child's diagnosis	1	10
		Usually take the public transport to develop social skills	3	30

## DISCUSSION

The objective of the study was to extrapolate the challenges faced by caregivers of children with Autism spectrum disorder. The following themes were identified such as Diagnosis with ASD, Accepting the fact, Expressing thoughts and feelings, Support from significant others, Impact of autism on family, needs of Siblings, physical strain, personal time, expenses, others reaction. Under each theme, sub themes were formulated based on their experiences. The derived themes and sub themes are discussed.

**Diagnosed with ASD:** The subthemes derived were utter shock couldn't believe initially, had no idea what autism is about, still cannot believe my child has Autism, and no one in family has autism. One of the caregiver said;

"I was completely in shock when I heard my child has autism spectrum disorder, we never imagined something like this, we didn't know what to do."

Crenguta. O, Andreea. S [2012]<sup>3</sup> conducted a study to identify how the diagnosis of autism affects the life of the mother and the whole family. 22 mothers of children with ASD were selected for the study. Questionnaire based survey with open-ended questions were used. Themes derived from subject's responses refer to the difficulty in accepting the diagnosis, the negative impact on the relations between parents, and the negative attitude of the society; positive aspects identified in the mother's responses refer to: hope in the recovery of the child, determination to fight to help the child. Support of relatives, friends and experts to alleviate suffering.

**Accepting the fact:** The subthemes derived were, initially it was hard now I have accepted, went to many doctors and other centers to confirm, and as time passed we started adapting. One of the caregivers said:

"Initially it was very hard to manage as our child threw a lot of tantrums and never listened. We were not able to understand what his needs were. Finally we started bringing him to the center and now he has started showing improvements."

**Expressing your thoughts and feelings:** The subthemes derived were, very frustrated at times want to give up, call my sister and tell her everything, engage in a lot of work, and share feelings with caregivers in the center. One of the caregiver said;

"I share all my feelings and views to the other caregivers here at the center, they understand exactly what I am going through. This way I feel much better." Others normally feel that my child is very naughty. Sometimes the way they look at us is very painful."

**Support from significant others:** The subthemes derived were, received help from in laws, family members are already engaged with work, cannot expect help from anyone, and at times child's grandmother takes care. One of the caregivers said:

"It is impossible to expect help from relatives, friends or others at this situation. As they are all having their own work and family, so as a mother I trained myself to care for all the needs of my child."

Nicholas. DB et.al [2016]<sup>6</sup> conducted an ethnographic study to examine the care giving experiences of mothers of young persons. Semi structured interviews were conducted with 85 mothers, for 1.5 -2 hours. Interviews were audio-recorded and transcribed verbatim. 10 mothers were taken as part of follow up sub sample observations were scheduled at various times of the night and day. Analysis yielded themes that depicted the following: redefining child and family aspirations, forging a shifted identity, and the need to "live it" to understand mothering a young person with ASD.

**Impact of diagnosis on family life:** The sub themes derived were have to sacrifice a lot, don't mostly go to family gatherings, always occupied with child, and have changed myself for my child. One of the caregiver said;

"We normally don't attend many family functions or social gathering unless very needed. Apart from that I am always occupied with work at home."

Amanda. L, Charlotte. S, Poul. R [2011]<sup>2</sup> conducted a qualitative interview study. Participants were recruited through convenience and snowball sampling. 20 parents took part in individual interviews that were approximately 45 to 60 minutes long. Results showed children's challenging behaviors as being particularly stressful. Changes to routine as being a particular challenge. Judgments from others were the most grueling part. Other challenges included sensory and social difficulties, lack of time. And the emotional impact of having a child with ASD. Some parents spoke about the challenges that got easier overtime.

**Needs of siblings:** The subthemes derived were, older sibling is very cooperative, not able to pay more attention to other child, and able to balance time for both the children. One of the caregiver said;

“The older sibling is very understanding and doesn’t demand anything from me. And both my children play with each other and have a good relationship. The older sibling adjusts quite well with the younger one.”

**Physical strain:** The subthemes derived were feel very exhausted, developed pain overtime, not felt much of a difference, and take rest whenever I have time.

One of the caregiver said

“By the end of the day I feel very exhausted. Managing household responsibly and looking after both the children specially my younger child, needs more time and patience. Very rarely I get time to rest during the days.

**Personal time:** The subthemes derived were, started attending yoga classes, rarely have time for me, always engaged with house work and child, and no such time for me.

One of the caregivers said;

“To keep myself a little relaxed I started attending yoga classes. I felt relieved however some days are quite busy so I don’t attend classes and I have to skip.”

Yu-Chien Hsu et al [2015]<sup>8</sup> conducted a study to understand the life experiences of Taiwanese mothers with ASD children. Participants were recruited using purposive sampling seven mothers of children with autism participated. Every participant was interviewed 1–3 times (2–4.5hrs) following an open-ended interview guide. Analyses of the experiences shared by the mothers regarding their children with autism were generated into four themes: taking the blame, my world was turned upside down, to live a child-centered life and two lives as one.

**Expenses:** The subthemes derived were, quit my job, don’t receive any financial support from others, expenses met with husbands pay, and difficulty in managing expenses. One of the caregivers said;

“After my child was diagnosed with ASD I had to quit my job to look after my child. I needed more time and couldn’t manage work at office and home.”

Paula C. Fletcher [2012]<sup>7</sup> conducted an exploratory research to examine the lived experiences of female primary caregivers of children with ASDs. Semi-structured one on one interviews were used to examine the costs. Interviews were completed with 8 mothers of children who were formally diagnosed with an ASD selected by purposive sampling method. The results showed that all family members within the family unit were affected by a child’s diagnosis with ASD as evidenced by the costs revealed by mothers. The subthemes derived included the following: financial and work costs, costs to the health of family, social costs, and costs to overall family life.

**Others reaction:** The subthemes derived were, others react different, mostly avoid public transport, never told relatives about child’s diagnosis, and usually take the public transport to develop social skills. One of the caregiver said;

*“When I travel by bus, my child gets disturbed and starts beating me, and pulling my hair. I try my best to calm him down but I am not able to control him. Others look at us in a very different way they don’t understand that my child has a problem so I mostly try to ignore them”.*

Aadil. B, Unjum. B, Afifa. L, Zahoor. A [2014]<sup>1</sup> conducted a study to highlight the major challenges and difficulties face by caregivers of children with autism. Parents face extreme difficulties in dealing with challenging behaviors, teaching their child to communicate, teaching basic life skills, guarding their child from danger, and preparing their child for adult life. Families also experience high levels of stress, high recurrence risks, misconceptions and assumptions, feelings of guilt and blame regarding child’s diagnosis. The social stigma attached to the disorder causes lot of discrimination not only of the autistic child but also of the family as a whole because the family is seen to be a part of the illness.

## CONCLUSION

The findings of the study and the supporting literature do state that caregivers of children with Autism spectrum disorder do face challenges in various dimensions in their day to day life. But on the brighter these challenges can be effectively managed with adequate support and guidance. Therefore it’s important

for health professionals to assess the challenges faced by caregivers and provide them with the needed assistance.

**Relevance for clinical practice:** Caregivers of children with Autism spectrum disorder face enormous challenges in their day to day life. As caregivers are directly involved in the care of their children it is imperative as Nurses to assess these challenges and empower caregivers with support.

**Source of Funding:** Self- funded

**Conflict of Interest:** Nil

**Ethical Clearance:** Institutional ethical approval was obtained. The details of the study were explained to the caregivers and the informed consent was obtained.

## REFERENCES

1. <https://www.scribd.com/.../Challenges-Faced-by-Families-of-Autistic-Children-153> Aadil B, Unjum B, Afifa L, Zahoor A. Challenges faced by families of autistic children. *International journal of Interdisciplinary research and innovations*.2014; 2(1): 64-68
2. <https://pdfs.semanticscholar.org> Amanda L, Charlotte S, Poul R. Challenges faced by parents of children diagnosed with autism spectrum disorder. *Psychology*. 2011; 5(4): 483-492
3. <https://www.researchgate.net/> Crenguta O, Andreea S. Mothers of autistic children. How do they feel?. *Procedia social and behavioral sciences* .2012; 46: 4191 – 4194
4. <https://www.ncbi.nlm.nih.gov/pubmed/27098766> Gona JK, et al. Challenges and coping strategies of parents of children with autism on the Kenyan coast. *The international electronic journal of rural and remote health research, education practice and policy*. 2016; 16(2):3517
5. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3472559/> Miraj U. D, Gauri D, Fredrich J.W, Vikram P. The discovery of autism: Indian parents experiences of caring for their child with an autism spectrum disorder. *Sage Journal*. 2012; 49 (3-4):613–637
6. *Journals.* [sagepub.com/doi/abs/10.1177/1049732315616622](https://sagepub.com/doi/abs/10.1177/1049732315616622) Nicholas DB, et al. “Live It to Understand It”: The Experiences of Mothers of Children with Autism Spectrum Disorder. *Qualitative health research* .2015; 26(7):921-34
7. <https://www.ncbi.nlm.nih.gov/pubmed/22250966> Paula C.F. The costs of caring for a child with Autism spectrum disorder. *Issues in comprehensive pediatric nursing*.2012; 35: 45-69
8. <https://www.ncbi.nlm.nih.gov/pubmed/26525610> Yu-Chien Hsu, et al. On my own: A qualitative phenomenological study of mothers of young children with Autism spectrum disorder in Taiwan. *Journal of Applied Research in Intellectual Disabilities*. 2015; 30(1): 147-156

# A Descriptive Study to Assess Patients' Satisfaction towards Care Received at AIIMS, New Delhi

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## ABSTRACT

Patient satisfaction is one of the established yardsticks to measure success of the services being provided in the health facilities. A cross sectional descriptive study was conducted to assess the patient satisfaction towards care received at Maternity ward of AIIMS, New Delhi. A total of 50 subjects from two maternity wards were recruited into the study by convenient sampling. A structured questionnaire was prepared which consists of two sections: demographic profile and five point rating scale for patient satisfaction. The overall patient satisfaction was categorized into very, slightly and dissatisfied. The data collection technique was interview method. The results of the study showed mean age of subjects was 29.24 years, 44% of the subjects were graduate, 84% were housewives. Further, majority belongs to urban region and the reasons for admission for majority were high risk cases. With regards to satisfaction level of subjects towards care; 44% very satisfied, 52% slightly satisfied and only 4% were dissatisfied. In terms of admission procedure majority (74%) were very satisfied. In relation to physical environment and treatment nearly two fifth of subjects were very satisfied. Noticeably, only 2% were dissatisfied with admission, physical environment and treatment. Almost half of the subjects were very satisfied with discharge, and meals. In relation to cleanliness, 84% were very satisfied. 90% of the respondents were very satisfied with condition of Lavatories. Majority of the participants were very satisfied with behavior of doctors and nurses. The highest percentage of dissatisfaction (12%) falls in the visitors and family. There was no statistically significant relationship found between demographic variables and satisfaction level of subjects. Overall, majority of the subjects were satisfied with the maternity care received from AIIMS, New Delhi, however, its is indispensable to look into the factors leading to the dissatisfaction concerns with family and visitors.

**Keywords:** *Descriptive Study, Patient Satisfaction, Care.*

## INTRODUCTION

The primary goal of any hospital as a highest level of health care provision is to provide best possible health care to the patients. The modern era where it is the right of every patient to demand best possible care in hospitals, it is the duty of every staff member of the hospital to deliver his/her optimum efforts to the entire satisfaction of the patient. Patient satisfaction is one of the established yardsticks to measure success of the services being provided in the health facilities. Patient

satisfaction is valid indicator for measurement of service quality. Patient satisfaction is an important measure of service quality in health care organization. So, health care facilities are interested in maintaining high levels of satisfaction in order to stay competitive in the health care market

It is imperative that satisfaction of patients towards the care is one of the important goals in any health care system. Satisfaction does not depend only on the care they receive, but it depends on the other clinical factors also. <sup>1</sup>Factors such as: Quality of clinical services provided, availability of medicine, behavior of doctors and other health staff, cost of services, hospital infrastructure, physical comfort, emotional support, and respect for patient preferences.<sup>2</sup>Therefore, assessing patient perspectives gives them a voice, which can act as building blocks while planning hospital services based on patients need.<sup>3</sup>

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In the recent years there is a drastic change in the Indian Hospitals pertaining to infrastructure, technology, quality of care and innovations in treatments. The patient expectation also gets doubled with these improvements. Consumer expectation in any medical experience influences whether how soon and how often they seek care from which medical facility.<sup>4</sup>

A.I.I.M.S has good work culture and sufficient number of health manpower to take care of patients ,with this idea at the back of the mind the researcher felt to assess the level of satisfaction of patients with care and to determine the association of level of satisfaction with selected demographic variables.

## MATERIAL AND METHOD

**Study Design:** Cross sectional Descriptive study

**Sampling:** Subjects were selected by non probability convenience sampling method

**Tool:** Section 1- Demographic profiles & Section 2-Patient Satisfaction Survey

**Study Population:** Patients admitted to maternity ward, they may be pregnant or delivered their babies were included in the study if they fulfill inclusion criterion. Total sample size was 50 patients. The data collection was done from February 2017 to April 2017.

**Inclusion Criteria:** Patient who is

- willing to participate in research
- alert, oriented and conscious
- able to comprehend Hindi or English
- admitted in maternity ward for at least 3 days to 15 days.

**Exclusion Criteria:**

- Patient admitted to other wards
- Patient who stay for less than 3 days and more than 15 days

## FINDINGS

The mean age of subjects was 29.24 yrs, the mean no. of days of the hospitalization was 7.06 days, majority of the subjects were graduate i.e. 44% and only 8% were below 10<sup>th</sup> pass. Majority of the subjects were

housewives (84%). Highlighting about area of residence majority belonged to urban areas (70%). In relation to previous hospitalization majority 50% had, other 50% did not have, mean number of days of hospitalization were 6.52 days. Majority 74 % gave the reason for hospitalization as high risk.

**Table 1: Distribution of Total Satisfaction Score of total Subjects N = 50**

Satisfaction Score	Frequency / %	Mean $\pm$ S.D	Min.–Max. Score
Very Satisfied	(22) 44	135.82 $\pm$ 19.34	74-156
Slightly Satisfied	(26) 52		
Dissatisfied	(2) 4		

**Table 2: Frequency and Percentage Distribution of Satisfaction of subjects in relationship to various domains**

DOMAINS/Satisfaction	Frequency	Percentage
<b>Admission Procedure</b>		
Very satisfied	37	74.00
Slightly satisfied	12	24.00
Dissatisfied	01	2.00
<b>Physical Environment</b>		
Very satisfied	40	80.00
Slightly satisfied	09	18.00
Dissatisfied	01	2.00
<b>Treatment and investigations</b>		
Very satisfied	42	84.00
Slightly satisfied	07	14.00
Dissatisfied	01	2.00
<b>Visitors and Family</b>		
Very satisfied	32	64.00
Slightly satisfied	12	24.00
Dissatisfied	06	12.00
<b>Discharge</b>		
Very satisfied	43	86.00
Slightly satisfied	05	10.00
Dissatisfied	02	4.00
<b>Meals</b>		
Very satisfied	47	94.00
Slightly satisfied	03	6.00

Conted...

Overall Experience		
Very satisfied	49	98.00
Slightly satisfied	01	2.00

Table 2 highlights that majority of the subjects were very satisfied 74%,80%,84%,64%,86%,94%,and 98% respectively in relation to admission procedure, physical environment, treatment, visitors, discharge, meals and overall experience. Nobody was dissatisfied in domain of meals and overall experience, in comparison to other domains in which also very low percentage was dissatisfied.

**Table 3: Frequency and Percentage distribution of Satisfaction of Subject in relation to components of domain N = 50**

Domains/Variable	Very Satisfied Fr/%	Slightly Satisfied Fr/%	Dissatisfied Fr/%	Neutral Fr/%
<b>Physical Environment</b>				
Room and Ward was cleaned everyday	(42) 84	(4) 08	(1) 02	(3) 06
Lavatories were clean and Non slippery	(18) 90	(4) 8	(1) 02	-
Privacy was respected Whenever Needed	(36) 72	(8) 16	(1) 02	(5) 10
<b>Treatment and Investigations</b>				
Doctor who treated me showed interest	(43) 86	(6) 12	-	(1) 2
Doctor, Nurse and Other Medical Staff were friendly and courteous	(40) 80	(9) 18	(1) 2	-
Doctor/Nurse Explained about all tests had to be undergone	(39) 78	(7) 14	(3) 6	(1) 2
<b>Meals</b>				
Diet Provided by Hospital was hygienic	(42) 84	(7) 14	-	(1) 2
Meals were adequate in amount	(39) 78	(09) 18	-	(2) 4
All the meals were provided on Time	(44) 88	(6) 12	-	-
<b>Overall Experience About Services</b>				
Doctors And Nurses spent adequate time with me	(41) 82	(8) 16	-	(1) 2
All Healthcare professional were trained and competent	(44) 88	(6) 12	-	-
The behavior of Doctors And Nurses was appropriate	(41) 82	(9) 18	-	-

As seen in Table-3 majority 84% were very satisfied with cleaning of room and ward, only 6% were did not comment anything. Similarly majority 90%,72% were very satisfied respectively with cleaning of lavatories and privacy. Majority 86%,80%,78% were very satisfied respectively in relation to doctor had interest, doctor and nurses were friendly and courteous, doctor/nurse explained about the tests. Most of the subjects 84%,78%,88% respectively were very satisfied in relation to meals were hygienic, adequate amount and on time, there was nobody dissatisfied. Talking about overall experience, majority 82%,88%,82% respectively were very satisfied in relation to doctor spent adequate time, all health professional were trained and competent, behaviour of doctor and nurses was appropriate. Further,

There was no statistical significant relationship found between demographic variables and level of satisfaction about any domain.

## DISCUSSION

In the present study 84%were satisfied with cleaning of room and ward, in contrast to study by D.Subedi 2014, 81.5% were fairly satisfied. Doctor/nurse spent adequate time present study it was 82% very satisfied where as in same study 62.6% felt often they do. for overall quality of service 73.4 %said it was good while present study 98% were very satisfied. About meals 94% were very satisfied in this study, in other56.86% were fairly satisfied.<sup>9</sup>

In the present study 90% felt very satisfied with cleaning of toilets whereas in study by Sumeetsingh et al 2013 revealed 62% and 40% were dissatisfied with cleaning of toilets/ward respectively. 18% of respondents said behavior of nurses was harsh/rude, in the present study behavior was found by 82% very satisfied. 94% felt the time devoted by doctor was adequate in contrast to present study in which it was found by 82% as very satisfied.<sup>10</sup>

In study by Shivani (2017), 73% reported nurse was respectful and courteous where as in this study 80% felt very satisfied in this regard. Overall satisfaction with hospital services was good expressed by 90% in contrast to present study in which 82% were very satisfied.<sup>7</sup>

### LIMITATIONS

1. The sample size was small
2. The study was limited to one ward only
3. The study was done in one hospital only

### CONCLUSION

In conclusion, patient satisfaction is one of the important goals of any health care system. The study findings show that majority of the subjects were satisfied with the maternity care received from AIIMS, New Delhi, however, it is indispensable to look into the factors leading to the dissatisfaction concerns with family and visitors.

**Conflict of Interest:** No conflict of interest

**Source of Funding:** Self

**Ethical Clearance:** Ethical clearance was taken from Institute ethical committee by submitting the required documents

### REFERENCES

1. Agrawal D. Health sector reforms: Relevance in India. *Indian J Community Med.* 2006;31:220
2. Jenkinson C, Coulter A, Bruster S, Richards N, Chandola T. Patients' experiences and satisfaction with health care: Results of a questionnaire study of specific aspects of care. *Qual Saf Health Care.* 2002;11:335–9

3. McKinley RK, Roberts C. Patient satisfaction with primary medical care. *Qual Health Care.* 2001;10:23–
4. Mishra P H, and Mishra T. Study of Patient Satisfaction at a Super Specialty Tertiary Care Hospital *Indian Journal of Clinical Practice*, Vol. 25, No. 7, December 2014.
5. Dr. M. V. Rao, Dr. Dayaker Thota and Dr. P. Srinivas. A Study of Patient Satisfaction in a Tertiary care Teaching Hospital. *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)* e-ISSN: 2279-0853, p-ISSN: 2279-0861. Volume 13, Issue 5 Ver. II. (May. 2014), PP 04-13.
6. Molina Karine Lorenzen, Moura Gisela Maria Schibella Souto de. Patient satisfaction according to the form of hospital stay at a teaching hospital. *Acta paul. enferm.* [Internet]. 2016 Feb [cited 2017 Mar 18]; 29(1): 17-25. Available from: [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0103-21002016000100017&lng=en](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0103-21002016000100017&lng=en). <http://dx.doi.org/10.1590/1982-0194201600004>.
7. Shivani et al. Inpatient satisfaction level survey at a tertiary care hospital. *International Journal of Research in Medical Sciences*, [S.l.], v. 5, n. 1, p. 240-244, dec. 2016. ISSN 2320-6012. Available at: <http://www.msjonline.org/index.php/ijrms/article/view/381>. Date accessed: 17 mar. 2017. doi:<http://dx.doi.org/10.18203/2320-6012.ijrms20164557>.
8. Chander shekhar et al. Measuring patient satisfaction: a need of the day for tertiary care services. *International journal of medical science and public health*, 2015.vol4.issue5
9. D. subedi and k. uprety, Patient satisfaction with hospital services in Kathmandu, *Journal of Chitwan Medical College* 2014; 4(9): 25-31 Available online at: [www.jcmc.cmc.edu.np](http://www.jcmc.cmc.edu.np)
10. Sumeet singh et al, patient satisfaction level in a tertiary care medical college hospital in Punjab, *international journal of research development of health* nov 2013; vol 1(4) 172-82

# Biophysical Markers in Prediction of PIH

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## ABSTRACT

Gestational hypertension (GHTN), formerly known as pregnancy induced hypertension, is defined as a new rise in blood pressure (BP)  $\geq 140/90$  mm Hg, presenting at or after 20 weeks gestation without significant proteinuria ( $\geq 300$  mg/24 hour urine collection of urine, or 2 specimens of urine collected  $\geq 4$  hours apart with  $\geq 2+$  on the protein reagent strip. It is the most frequent cause of hypertension during pregnancy, constituting approximately 70%, and complicating about 6-17% pregnancies in healthy nulliparous women and 2-4% in multiparous women<sup>1</sup>. According to World Health Organization, Pregnancy Induced Hypertension (PIH) is one of the main causes of maternal, fetal and neonatal mortality and morbidity. The condition is estimated to account for 10% to 15% of maternal deaths worldwide. Disorders of high blood pressure are the second leading cause of stillbirths and early neonatal deaths in developing countries. Predicting Pregnancy Induced Hypertension (PIH) and treating the condition early will reduce the maternal as well as perinatal mortality and morbidity. Mean Arterial Pressure (MAP), Uterine Artery Pulsatility Index (UtA PI), Resistive Index (RI) and Systolic/Diastolic (S/D) ratio are an effective screening tools to identify the risk of PIH through USG done in I and II trimester of pregnancy.

**Keywords:** Biophysical markers, PIH.

## INTRODUCTION

Hypertensive disorders during pregnancy affect about 10% of all pregnant women around the world. This is an important cause of maternal and perinatal mortality and morbidity. In Asia and Africa, nearly one tenth of all maternal deaths are associated with hypertensive disorders of pregnancy<sup>2</sup>

Pre-eclampsia has been a recognized pathological entity since the time of Hippocrates and ancient Greeks. After the invention of sphygmomanometer in 1896, arterial hypertension during pregnancy was recognized as part of eclampsia or pregnancy toxemia<sup>3</sup>.

Preeclampsia (PE) is a medical condition characterized by high blood pressure and proteinuria after 20 weeks' of gestational period. It occurs about in 2–8% of all pregnancies<sup>4</sup>.

Preeclampsia (PE) play a major role in maternal and neonatal morbidity and mortality. Evidence suggests that PE can be divided into early onset PE, requiring delivery before 34 weeks of pregnancy and late onset PE, with delivery at or after 34 weeks of pregnancy<sup>5</sup>.

It is defined as systolic blood pressure (SBP)  $>140$  mmHg and diastolic blood pressure (DBP)  $>90$  mmHg. It is classified as mild (SBP 140-149 mm of Hg and DBP 90-99 mmHg), moderate (SBP 150-159 mm of Hg and DBP 100-109 mmHg) and severe (SBP  $\geq 160$  and DBP  $\geq 110$  mmHg)<sup>6</sup>.

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A retrospective medical record study was conducted in between July 2011 and December 2012. The study shows that Eclampsia and pre-eclampsia are well-recognized causes of maternal and neonatal mortality in low income countries<sup>7</sup>.

In this regard the extended reviews were collected to identify the risk of PIH at early stage through the biophysical markers.

**Types of Hypertension during Pregnancy:** In some cases, high blood pressure may develop before pregnancy, whereas at other times, it may develop during pregnancy. There are basically four types of hypertension during pregnancy. These are as follows:

**1. Chronic hypertension:** In this type of hypertension, the high blood pressure was either present before the pregnancy or it occurred before 20 weeks of pregnancy. This type of hypertension usually goes undetected because it may not show any symptoms.

**2. Gestational hypertension:** In this type of hypertension, the pregnant woman develops high blood pressure after 20 weeks of being pregnant; it generally occurs in the second trimester of pregnancy. It usually subsides to normal blood pressure levels after the delivery

**3. Chronic hypertension along with superimposed Pre-eclampsia:** This is a type of hypertension experienced by women who have the condition of chronic hypertension before pregnancy. Their high blood pressure gets worse along with the presence of protein in their urine. They might also develop other complications which are related to high blood pressure

**4. Pre-eclampsia:** This is a condition which is developed by pregnant women after 20 weeks of being pregnant. Other organs such as the kidney, the liver, blood or the brain may also undergo various signs of damage. The symptoms of this condition are as follows:

1. Elevated blood pressure
2. Proteinuria (the presence of protein in urine)
3. Headache
4. Nausea
5. Vomiting
6. Abdominal pain
7. Sudden weight gain
8. Changes in the vision
9. Difficulty in breathing
10. Anxiety.

**Common Causes of PIH:** Hypertension is usually developed by pregnant women in following situations:

- First-time pregnancy
- Genetically pre-disposed women prone to develop hypertension during pregnancy
- Multiple babies (twins or more) in single delivery
- Pre-existing Obesity
- Aged under 20 years or over 40 years
- Pre-existing hypertension or kidney disorders

**Complications of PIH:** Women who have preeclampsia during pregnancy are at risk of complications during antenatal, intranatal and postnatal period. The foetus is also at increased risk of complications.

#### Maternal Complications

- Eclampsia
- HELLP syndrome
- Placental abruption
- Stroke
- Pulmonary edema
- Kidney failure
- Liver failure
- Disseminated intravascular coagulation
- Maternal death

#### Fetal Complications

- Intrauterine Growth Restriction
- Intrauterine death
- Preterm birth
- Still birth
- Low birth weight<sup>8</sup>.

### PREVENTION OF PIH

Predicting Pregnancy Induced Hypertension (PIH) and treating the condition early will reduce the maternal as well as perinatal mortality and morbidity. Some of the tests used for prediction of PIH are Mean Arterial Pressure (MAP), Uterine artery Pulsatility Index (UtA PI), Resistive Index (RI) and Systolic/Diastolic (S/D) ratio as an effective screening tool for the prediction of PIH through USG done in I and II trimester of pregnancy.

### MEAN ARTERIAL PRESSURE (MAP)

MAP should be measured manually using the formula of systolic blood pressure (SBP)+diastolic blood pressure (DBP)+diastolic blood pressure (DBP)/3. **MAP = SBP + 2 (DBP)/3** the normal value of the MAP is 60 – 100 mm of Hg in prediction of PIH. A study was conducted to screen the preeclampsia (PE) by mean arterial pressure (MAP) at 11–13 and at 20–24 weeks' gestation. Approximately 17,383 singleton pregnant women participated in the study. Seventy with early PE, requiring delivery <34 weeks' gestation, 143 with preterm PE, delivering <37 weeks and 537 with total PE. The study concluded that the performance of screening for PE by MAP is best when measurements are taken at both 11–13 and 20–24 weeks' gestation than at only one of these gestational ranges<sup>9</sup>.

### UTERINE ARTERY DOPPLER STUDIES

The advent of ultrasound has revolutionized the practice of obstetrics in the last many years, by making a window in to the womb through which the structures of the foetus can be evaluated. The more advanced techniques of Doppler flow studies of the maternal and foetal vessels have provided further useful information. It allows the assessment of the physiology of the foetus as well as mother. Doppler studies are non-invasive procedures, acceptable to patients, and can be carried out during the time of detailed anomaly scan. This has been studied extensively for their role in screening for adverse foetal and maternal outcomes through the USG to identify the pulsatility index.

A study was conducted in prediction of uterine artery (UA) Doppler screening in identifying the risk of development of pre-eclampsia. Convenience sampling allowed for the recruitment of 144 patients (11–14 weeks gestation) who attended the antenatal clinic at Rahima Moosa Mother and Child Hospital between November 2008 and July 2010. A complete record of 121 participants was available for the final analysis.

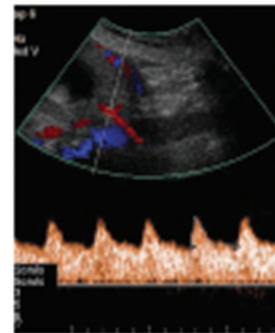
The study showed that 7 (5.8%) participants developed pre-eclampsia. Race was identified as the most significant independent variable with an odds ratio of 1.5; 26 and 9 to 1 for developing PIH in the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> trimesters respectively.

The Doppler study is promising as ultrasound screening programme in high risk pregnant women

would offer clinicians the opportunity to pre-empt the disease before it manifests clinically<sup>10</sup>.

### DOPPLER STUDIES IN NORMAL PREGNANCY

In the non-pregnant state there is a fluctuation in uterine artery flow velocity during systole, and a “notch” in the early diastole. The remodeling of the spiral arteries in early pregnancy is an important step in regulating and maintaining placental perfusion. The reduction in resistance of the spiral arteries as a result of remodeling in pregnancy can be reflected in uterine artery Doppler studies, by a high diastolic velocity with continuous flow throughout diastole, and the loss of the diastolic “notch” at 20 to 24 weeks' gestation (Figure.1). These changes can be quantified by demonstrating changes in the resistance index (RI, maximum – minimum velocity / maximum velocity) and the pulsatility index (PI, maximum – minimum velocity / mean velocity) of the uterine vessels which begin to decrease in normal pregnancy from between 8 and 18 weeks' gestation<sup>11</sup>.

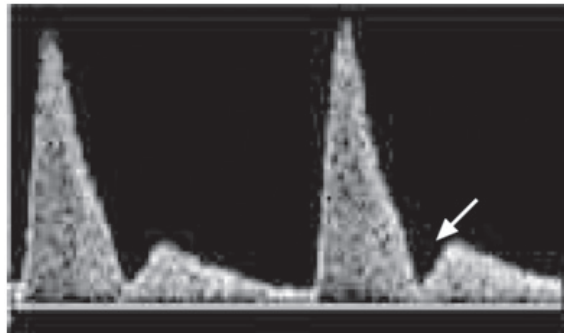


**Figure. 1: Doppler study in normal pregnancy**  
**Doppler studies in pre-eclampsia**

The uteroplacental circulation can be assessed by Doppler ultrasonography. This procedure has been showed in numerous studies to be a promising technique for predicting the level of risk for pre-eclampsia and intrauterine growth restriction.

The Doppler study may be performed via the transvaginal or transabdominal route in the first or second trimester. Uterine artery waveforms are reported to be readily obtainable in more than 95% of patients. The uterine artery is detected with the use of colour Doppler ultrasonography. Pulsed wave Doppler ultrasonography is used to obtain waveforms. Various indices can be calculated and assessed.

In pre-eclampsia the remodelling of the spiral arteries is impaired; the spiral arteries maintain their muscular elastic coating, and impedance to blood flow persists. This pathological resistance to placental flow can be detected by Doppler studies of the maternal uterine vessels, offering the potential to detect women at risk not only of pre-eclampsia, but also of intra-uterine growth restriction. The majority of research has focussed either on an elevation in RI or PI using percentile cut-off values, or by persistence of the diastolic 'notch.' (Figure.2)



**Figure 2: Doppler study in preeclampsia**

Abnormal Doppler studies in both the first and second trimesters have been reported to be associated with pre-eclampsia. Abnormalities are detectable as early as 12 weeks' gestation; for women with abnormal first trimester testing the likelihood ratio (LR) for development of pre-eclampsia is approximately 5, while normal Doppler studies carry an LR of 0.5. The relationship persists into the second trimester, the suitable timing for performing these studies remains uncertain. The use of uterine artery Doppler was perhaps best summarised in a recent comprehensive meta-analysis. Cnossen et al. has reviewed 74 uterine artery Doppler studies including 80,000 antenatal mothers, of whom 2,500 developed pre-eclampsia. The majority of Doppler indices had poor predictive characteristics, but this varied with patient group studied and severity of disease. All the women has overall risk of pre-eclampsia is predicted by an elevated second trimester Pulsatility Index accompanied by bilateral uterine artery notching. For women deemed on the basis of risk factors to be at low risk, positive likelihood ratio (+LR) was 7.5, and negative likelihood ratio (-LR) was 0.59. For women at high risk of developing pre-eclampsia, +LR was 21, and -LR was 0.82. As a result of these findings the authors concluded that Doppler studies were more accurate for prediction of future pre-eclampsia when performed in the second trimester rather than the first trimester<sup>12</sup>.

## CONCLUSION

PIH is a common health problem with adverse effects for both mother and fetus/neonate. It is believed to be a multifactorial health condition the pathogenetic mechanism of which is not as yet fully understood. There are several biophysical markers for PE and the reliability of these markers helps clinicians with confidence in prediction of PE at the first trimester. In future more intensive research is recommended to elucidate genetic markers for the prediction of PE in early pregnancy.

**Ethical Clearance:** Obtained from Central committee of Ethics, Nitte University.

**Source of Funding:** Self funded

**Conflict of Interest:** Nil

## REFERENCES

1. Incidence of gestational hypertension among pregnant women (2006-2015) in Enugu State, Southeast Nigeria: a retrospective study Emmanuel I. Umegbolu<sup>1\*</sup>, John O. Ogamba<sup>2</sup>
2. Ragasudha C, Madhavi AP, Sharon PS, Priya SS, Shehnaz S. A study of maternal deaths from preeclampsia and eclampsia in a tertiary care centre. *IAIM*, 2018; 5(1): 6-10.
3. Shah MR, Parikh MN. A text book of Hypertensive Disorders in Pregnancy: Jaypee Publication: First edition, 2007; p.no.1-5.
4. O'Gorman N, Nicolaides KH, Poon LC. The use of ultrasound and other markers for early detection of preeclampsia. *Women's Health*. 2016 Mar;12(2):199-207.
5. Poon LC, Nicolaides KH. Early prediction of preeclampsia. *Obstetrics and gynecology international*. 2014;2014.
6. Kintiraki E, Papakatsika S, Kotronis G, Goulis DG, Kotsis V. Pregnancy-induced hypertension. *Hormones (Athens)*. 2015 Apr 1;14(2):211-23.
7. Mooij R, Lugumila J, Mwashambwa MY, Mwampagatwa IH, Dillen J, Stekelenburg J. Characteristics and outcomes of patients with eclampsia and severe pre-eclampsia in a rural hospital in Western Tanzania: a retrospective medical record study. *BMC pregnancy and childbirth*. 2015 Dec;15(1):213.

8. Dutta DC. Textbook of Obstetrics: including perinatology and contraception: New Central Book Agency (P) Ltd: Seventh edition, 2010; 219-226.
9. Gallo D, Poon LC, Fernandez M, Wright D, Nicolaides KH. Prediction of preeclampsia by mean arterial pressure at 11-13 and 20-24 weeks' gestation. *Fetal diagnosis and therapy*. 2014;36(1):28-37.
10. Casmod Y, Van Dyk B, Nicolaou E. Uterine artery Doppler screening as a predictor of pre-eclampsia. *health sa gesondheid*. 2016 Dec 1;21:391-6.
11. Giordano R, Cacciatore A, Romano M, La Rosa B, Fonti I, Vigna R. Uterine artery Doppler flow studies in obstetric practice. *Journal of prenatal medicine*. 2010 Oct;4(4):59.
12. McLeod L. How useful is uterine artery Doppler ultrasonography in predicting pre-eclampsia and intrauterine growth restriction?. *Canadian Medical Association Journal*. 2008 Mar 11;178(6):727-9.

# Implementation of the Humpty Dumpty Scale-Pediatric Fall Risk Assessment Tool to Promote Quality Care and Prevent Falls

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## ABSTRACT

**Purpose:** To identify and implement an evidence-based pediatric fall risk assessment tool for use in pediatric department of Asian Institute of Medical Sciences.

**Materials and Methods:** The Iowa Model of Evidence– Based Practice to Promote Quality Care was used to guide the process. The Humpty Dumpty Scale (HDS) was chosen along with standard protocols that could be selected for two fall risk levels (Low and High). A Training Programme was developed for staff nurses who are working in pediatric units (PICU and wards) about falls and HDS with planned time for discussion about any concerns in the implementation of HDS.

**Results:** The Humpty Dumpty Scale was selected for implementation by Nursing Quality Team because it is evidence based and appeared to be conducive to implementation in the pediatric units. The training programme was presented to nurses working in pediatric units. Nurses expressed appreciation that they were consulted and trained and their feedback was incorporated into tool before it was implemented. Resources needed to implement recommended fall prevention protocols were identified and those were provided to the pediatric units before implementation of HDS.

**Conclusion:** The Iowa Model was a useful framework to select an evidence based tool and then engage nurses in the process of implementing evidence based practices. There was a significant improvement of knowledge among staff nurses regarding pediatric fall risk assessment after training programme. Ongoing training, monitoring, and follow up will determine this process results in appropriate risk assessment and prevention of falls in pediatric units.

**Keywords:** Falls, Risk assessment, Humpty Dumpty Scale, Pediatric units.

## INTRODUCTION

Safety in hospitals is a continuous focus and concern for health care providers, especially for those of pediatric patients, because pediatric patients are exposed to many tests, medications and a new and unfamiliar environment. New exposures coupled with a patient's diagnosis, current mental status and the dependencies of

childhood produce concerns for patient safety, especially concern about falls.<sup>1</sup>

Falls has been identified as the leading cause of unintentional injury for children and falls are major preventable risk factor for pediatric patients.<sup>2</sup> Goal 6 of the International Patient Safety Goals (IPSG) clarify that fall risk tools and methods need to be appropriate for the patients being served.<sup>3</sup> Therefore, the Pediatric patients require a fall risk tool developed specifically for pediatrics as it takes into account risk factors that are not present in a tool designed for adult patients.

The purpose of this project was to select and implement an evidence-based fall risk assessment tool for use in pediatrics department of Asian Institute of Medical Sciences through engaging nurses who would be using the tool.

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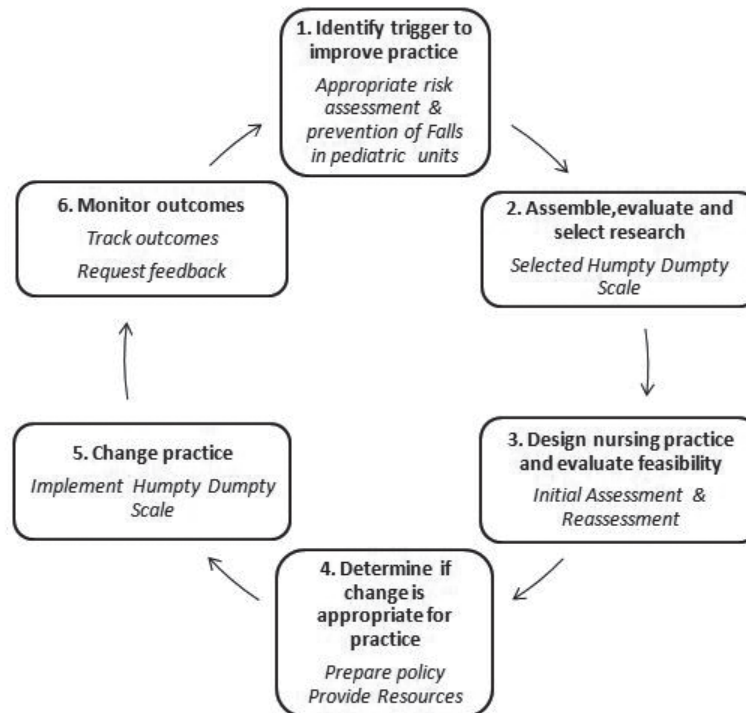
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## METHOD AND MATERIALS

The Iowa Model of Evidence-Based Practice to Promote Quality Care was used as the framework for this evidence-based change.<sup>4</sup> The Iowa Model was selected instead of other models because the Iowa Model places the review of evidence in the context of priority and process.

Adoption of the Iowa Model for the current project is depicted in the figure-1. The first step in the Iowa Model is to identify triggers, such as process improvement data for change. In the current project, inconsistent use of the existing fall risk assessment tool which is meant for adult patients was trigger to consider intervention with a new tool with supporting evidence of its efficacy for use in pediatric departments. Assembling the relevant literature revealed only two tools that had been validated for use in pediatric departments and The Humpty Dumpty Scale was selected.



**Figure 1: Use of Iowa Model to implement evidence-based fall risk assessment tool in pediatric units**

The Humpty Dumpty Scale and Patient Falls Safety Protocol were developed at one metropolitan Children's hospital as a component of its Humpty Dumpty Falls Prevention Programme (See Table – 1 and 2).<sup>5</sup> The HDS differentiates the pediatric hospital population into categories of either low or high risk for falls based on specific factors. These risk factors are the patients age, gender, diagnosis, cognitive impairments, environmental factors, response to surgeries/sedation/anesthesia and medication usage. Scores are assigned within each risk factor and then summed: low risk scores are 7 – 11 and high risk scores are 12 – 23.

**Table 1: The Humpty Dumpty Scale**

Parameter	Criteria	Score
Age	Less than 3 years old	4
	3 to less than 7 years old	3
	7 to less than 13 years old	2
	13 years and above	1
Gender	Male	2
	Female	1

Conted...

Diagnosis	Neurological Diagnosis	4
	Alterations in Oxygenation (Respiratory Diagnosis, Dehydration, Anemia, Anorexia, Syncope/Dizziness, etc.)	3
	Psych/Behavioral Disorders	2
	Other Diagnosis	1
Cognitive Impairments	Not Aware of Limitations	3
	Forget Limitations	2
	Oriented to own Ability	1
Environmental Factors	History of Falls or Infant-Toddler Placed in Bed	4
	Patient uses assistive devices or Infant/Toddler in Crib or Furniture/Lighting (Tripled Room)	3
	Patient Placed in Bed	2
	Outpatient Area	1
Response to Surgery/ Sedation/Anesthesia	Within 24 hours	3
	Within 48 hours	2
	More than 48 hours/None	1
Medication Usage	Multiple Usage of: Sedatives (excluding ICU patients sedated and paralyzed), Hypnotics, Barbiturates, Phenothiazines, Antidepressants, Laxatives/Diuretics, Narcotics.	3
	One of the Meds listed above	2
	Other Medications/None	1
TOTAL SCORE		
Score Interpretation: Minimum Score: 07; Maximum Score: 23. 07 – 11 = Low Risk; 12 or above = High Risk, Implement patient falls safety protocol		

**Table 2: Patient Falls Safety Protocol**

Patient Falls Safety Protocol	
Low Risk Standard Protocol	High Risk Standard Protocol
<ul style="list-style-type: none"> <li>● Orientation to room; Bed in low position, Breaks on.</li> <li>● Side rails up, Assess large gaps, such that a patient could get extremity or other body part entrapped, use additional safety procedures.</li> <li>● Use of non skid foot wear for ambulating patients, use of appropriate size clothing to prevent risk of tripping.</li> <li>● Assess eliminations need, assist as needed.</li> <li>● Call bell is within reach; educate patient/family on its functionality.</li> <li>● Assess for adequate lighting, Leave nightlight on.</li> <li>● Patient and family education available to parents and patient.</li> <li>● Document in nursing process chart.</li> </ul>	<ul style="list-style-type: none"> <li>● Identify patient with a “Humpty Dumpty Sticker” on the bed.</li> <li>● Educate patient/parents of fall prevention protocol.</li> <li>● Accompany patient with ambulation</li> <li>● Developmentally place patient in appropriate bed</li> <li>● Check patient minimum every 1 Hour. Consider moving patient closer to nurses station; assess need for 1:1 supervision.</li> <li>● Evaluate medication administration times.</li> <li>● Protective barriers to close off spaces, gaps in the bed.</li> <li>● Keep door open at all times unless specified isolation precautions are in use.</li> <li>● Document in nursing process chart.</li> </ul>

Another step in the Iowa Model is to monitor and analyze structure, process and the outcome data. The HDS was incorporated into the nursing initial assessment and reassessment forms, including scoring and provision for selecting interventions recommended for the 2 risk levels.

A 1-hour training session about falls and HDS was created for nurses in pediatric departments. The presentation included information about the falls, consequences of falls, pediatric fall risk factors and Humpty Dumpty Scale. The training programme was presented to nurses who are working in pediatric units (PICU & Ward) followed by discussion about any concerns in the implementation of HDS. The level of knowledge was assessed by structured questionnaire before and after training programme.

## RESULTS

The Humpty Dumpty Scale was selected for implementation by Nursing Quality Team and approved by Heads of Pediatric and Quality departments. It was chosen because the tool was validated and simple to use, has only 7 items and results in 2 risk stratification levels, with suggested fall risk prevention interventions for each risk stratification level.

The training programme was presented to nurses working in pediatric units. The findings revealed that training was being effective in enhancing the knowledge of nurses regarding falls and HDS as evidenced by the scores obtained in the pre and post-tests.

Nurses expressed appreciation that they were consulted and trained and their feedback was incorporated into tool before it was implemented. Resources needed to implement recommended fall prevention protocols were identified (such as revised forms, Humpty Dumpty stickers/signage's for easy identification of patients at high risk for falls and education material) and those were provided to the pediatric units before implementation of HDS.

## CONCLUSION

The Iowa Model provided a framework for implementing an evidence-based pediatric fall risk assessment tool to improve patient care in the pediatric units, and nurses valued the opportunity to be part of the process. It is hoped that this will result in appropriate risk assessment and prevention of falls in pediatric units.

The Pediatric nurses have an important role to play in preventing falls in pediatric units. The approach used in this project could be used not only for prevention of falls but also for the selection and implementation of other evidence-based nursing interventions to improve patient outcomes.

**Conflict of Interest:** No

**Source of Funding:** The project was supported by Hospital.

**Ethical Consideration:** Formally obtained from Institution.

## REFERENCES

1. American Nurses Credentialing Center. Magnet Recognition Program Application Manual (2005).
2. Pediatric Quality Care. Report of Incident Information Management System, IIMS. June 2013–September 2017.
3. The Joint Commission. Preventing falls and fall related injuries in health care facilities. 2015
4. Titler MG, Kleiber C, Steelman VJ, et al. The Iowa Model of Evidence – Based Practice to promote Quality Care. Crit Care Nurs Clin North Am. 2001;13:497- 509.
5. Pauley, J.B, Houston. L.S, Cheng. D, Johnson. D.M. Clinical relevance of the humpty dumpty Falls Scale in a pediatric speciality hospital. Pediatric Nursing. May, 2014.

# A Survey Study to Assess the Patients' Knowledge about Anticoagulation Therapy

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## ABSTRACT

Warfarin is the most commonly used oral anticoagulants for the patients with DVT, atrial fibrillation, atrial flutter, valvular heart diseases and artificial heart valve. The aim of the study was to assess the knowledge among elderly patients about warfarin therapy. A survey based study was done on 200 elderly patients. Post operative cardiac surgery patients with prosthetic valve replacement, patients with atrial fibrillation and age more than 60 years (elderly) were enrolled for this study. Demographic related data was collected and Standardized Anticoagulant knowledge assessment (AKA) questionnaire was used for the survey. Data analysis was done using STATA 11.1, with the level of significance at  $p < 0.05$ . A total of 200 elderly patients, 65% men and 35% women participated in this survey-based study. The mean age of the patients was 69 years. About 58% of elderly patients reported forgetfulness, 14% reported non availability of medicine, and 18% reported financial problems as a reason for non compliance. In this study, only 42% of the patients were aware of any adverse effects of medicine and 66% of elderly patients were not knew of any drug interactions. 75% of patients reported that they are monitoring their PT / INR regularly. It was found that patients' knowledge of warfarin therapy was low. It is of high importance that medical and nursing professionals must educate elderly patients about warfarin therapy to avoid life threatening drug complications.

**Keywords:** *Anticoagulants, warfarin, knowledge, elderly*

## INTRODUCTION

The commonly prescribed oral anticoagulation drug is warfarin which is used worldwide currently. It prevents carboxylation and reduces the extrinsic coagulation factors through vitamin K epoxide reductase inhibition.<sup>1,4</sup> It is used for the patients with DVT, blood clots within veins and arteries, atrial fibrillation, valvular heart diseases, to prevent stroke, pulmonary embolism, and artificial heart valve.<sup>2</sup> The main purpose is to minimize the risk of hemorrhagic complications and to sustain a certain level of effect of anticoagulation. A patient's risk of either thrombosis or hemorrhage is determined by International Normalised Ratio (INR) and if it lies outside the suggested therapeutic range.<sup>3,4</sup> Previous literature reported that complication related to warfarin is poor patient understanding and knowledge related to anticoagulant medicine.<sup>5</sup> Hu et al. reported that 61% of the patients had inadequate knowledge and understanding of their anticoagulant medication.<sup>6</sup> Warfarin has several potential drug interactions and adverse effects. Using a survey-based approach, the present study was done to assess patients' knowledge

about prescribed anticoagulant medicine (warfarin) and to evaluate factors causing variations in patients' knowledge. Furthermore, it was also assessed that patient education regarding the clinical indication and the complexities of warfarin is necessary.

## MATERIALS AND METHOD

**Design and setting:** A survey based study was done on 200 patients who visited outpatient department of CTVS department of Dr. R.M.L. Hospital New Delhi. Post operative cardiac surgery patients with prosthetic valve replacement and age more than 60 years (elderly) were enrolled for this study. All enrolled patients were on anticoagulant medicine (Warfarin). Patient with arrhythmias like atrial fibrillation and atrial flutter were also selected for this study. Ethical clearance for the study was obtained from institute Ethics Committee. Data was collected from July 2017 to October 2017.

**Procedure for Data Collection:** A letter explaining the purpose of the study was given to the subjects. Signed informed consent was taken from the

subjects. Demographic related data was collected and Standardized Anticoagulant knowledge assessment (AKA) questionnaire was used for the survey. Patients' medical records reviewed retrospectively to ensure a prescription for warfarin. Variables measured included INR monitoring, associated warfarin adverse effects, concomitant medications, comorbidities and medication knowledge by age. All other variables in the study i.e. complications, compliance to warfarin therapy and hospitalization were reported by patients. All analyses were performed using R. Categorical variables were expressed as frequency  $n$  (%) and continuous variables were expressed as mean (SD) with the level of significance at  $p < 0.05$ .

#### Measures:

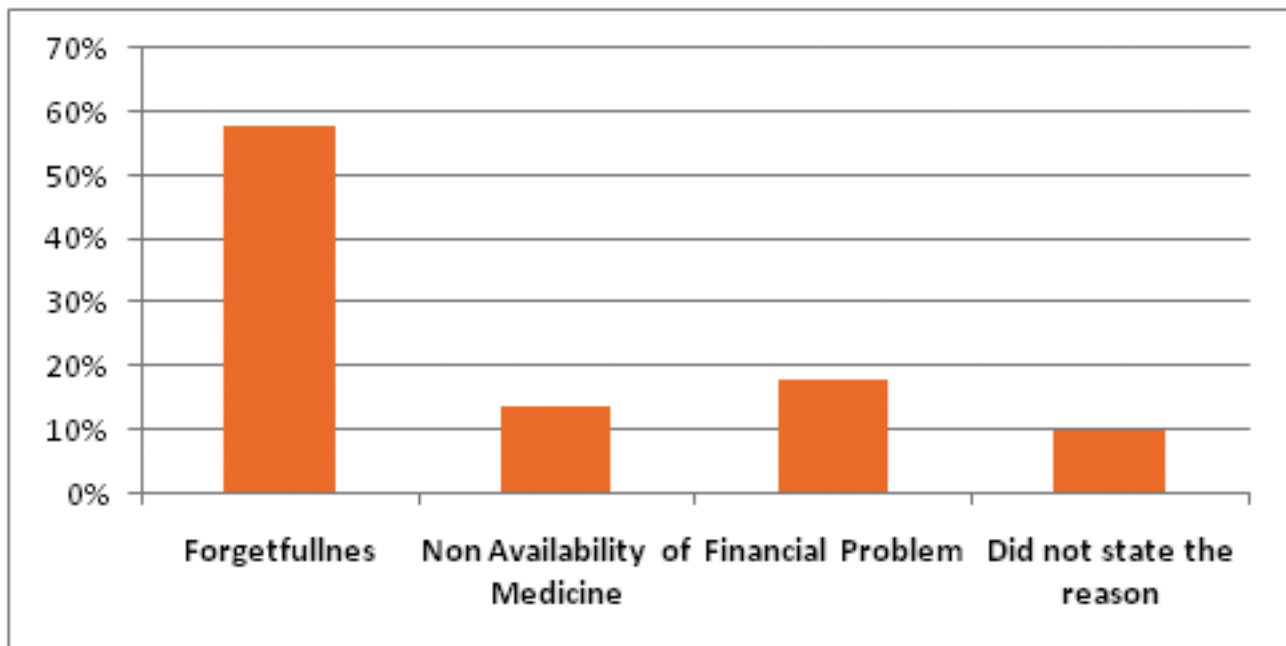
- (1) A structured tool including the demographic, clinical data and selected variables were prepared to collect data from subjects using interview technique.
- (2) Standardized Anticoagulant Knowledge Assessment (AKA) tool was used to assess the knowledge, compliance, adverse effects, INR

level and complications among elderly patients prescribed with warfarin (anticoagulants).

## RESULTS

A total of 200 elderly patients, 65% men and 35% women participated in this survey-based study. The mean age of the patients was  $69 \pm 11$  years. 89% (177/200) of patient medical records clearly mentioned the reason of warfarin prescription. Warfarin duration in 65% of the patients was two years. Prosthetic valve replacement (55%), arrhythmias (35%) and thrombosis (10%) were the most frequent causes for a warfarin prescription.

Figure 1 shows, about 58% of elderly patients reported forgetfulness, 14% reported non availability of medicine, 18% reported financial problems as a reason for non compliance and the remaining 10 % did not state a reason for non-compliance. In this study, only 42% (83/200) of the patients were aware of any adverse effects of medicine and 66% of elderly patients were not knew of any drug interactions. 75% of patients reported that they are monitoring their PT/INR regularly. Decreased knowledge of drug interactions was significantly correlated with increasing age ( $p = 0.007$ ).



**Fig. 1: Reasons of non compliance of Warfarin (Anticoagulant)**

In this study, patients reported knowledge of bleeding (60%), bruising (35%), and headaches (5%) as adverse effects of warfarin (Table 1). As a result of the treatment with anticoagulant, 27% of the patients

experienced complications, and more than half of the patients i.e. 14% were hospitalized. In case of bleeding, patients' knowledge about the appropriate action to be taken was significantly ( $p = 0.031$ ) greater in younger

patients compared with older patients (> 70 years). Decreased awareness of INR was also associated with increasing age with p value of <0.005. Anti-hypertensive medications (32%) followed by insulin (16%) were the most common concomitant medications used by patients. Co morbid conditions i.e. diabetes and cardiovascular disease were the highest among patients on warfarin therapy.

**Table 1: Patient perceived complications of warfarin**

Adverse Effects	Frequency (n)	Percentage (%)
Bleeding	120	60
Bruising	70	35
Headache	10	5

## DISCUSSION

In our study, 58% of elderly patients were noncompliant with their medicine due to forgetfulness and this non compliance was increasing with age. Patient awareness was poor about warfarin and its many facets. Patients' lack of understanding about major complications like bleeding can be fatal for elderly patients. Only 42% of the patients were aware of any possible adverse effects of warfarin and their lack of understanding of warfarin's adverse effects like bleeding, severe headache, bruising etc are also concerning. 60% of the patients reported hemorrhage and 35% reported bruising as a potential complication of warfarin. Hemorrhage and stroke were the most important adverse effects of this medicine in and therefore doctors and nurses should make elderly patients aware about its adverse effects, complications, diet, drug regimen, concomitant medicines and co morbidities. Elderly patients must be educated about anticoagulant medicines to improve their level of knowledge and to avoid life threatening complications.<sup>7</sup>

Studies show, 7.9% of all adverse drug events and 6.2% of admission in emergency department for adverse drug reactions are due to warfarin (21). As a result of the treatment with anticoagulant, 27% of the patients experienced complications, and more than half of the patients i.e. 12% were hospitalized. This findings were similar to the previous literature, which has shown hospitalization rates of 3.5 per 100 patients per year.<sup>8</sup>

In this study, 70 % did not understand the term INR. Previous literature indicates that INR monitoring is the

important prediction of anticoagulant activity. Health care professional in different hospitals use the term INR when they interact with their patients but as this study shows 70% of the patients were unaware of this term.

**Limitations:** This study conducted on modest number of patients in single setting. This was a survey study so most of the variables in our study were self-reported and unintended biases from wording of questions may exist.

**Future Recommendations:** A multicentre study with a larger sample size can be undertaken. More objective methods like complications, hospitalization and reviewing patient records to determine compliance can be done for future studies.

## CONCLUSION

Continuous patient's educational intervention about anticoagulants, its complications and related effects should be done to improve anticoagulants compliance among elderly patients. Medical professionals must educate their patients and make them aware of any impending signs of emergent medical complications and awareness about life threatening complications like bleeding can be life saving for the patients.

**Source of Funding:** This study was self funded.

**Conflict of Interest:** Nil

## REFERENCES

1. Voora D, Ginsburg GS. Clinical application of cardiovascular pharmacogenetics. *J Am Coll Cardiol.* 2012;60(1):9–20. doi: 10.1016/j.jacc.2012.01.067.
2. Anisimova AV, Gendlin GE, Borisov SN. [Prevention of stroke in patients with atrial fibrillation: a role of modern anticoagulants]. *Zh Nevrol Psikhiatr Im S S Korsakova.* 2013;113(9 vypusk 2 Insul't):62–69.
3. Kramps M, Flanagan A, Smaldone A. The use of vitamin K supplementation to achieve INR stability: A systematic review and meta-analysis. *J Am Assoc Nurse Pract.* 2013;25(10):535–544. doi: 10.1111/1745-7599.12022.
4. Plichart M, Berrut G, Maubourguet N, Jeandel C, Emeriau JP, Ankri J, et al. Use of Vitamin K

- Antagonist Therapy in Geriatrics: A French National Survey from the French Society of Geriatrics and Gerontology (SFGG). *Drugs Aging*. 2013;30(12):1019–1028. doi: 10.1007/s40266-013-0127-3.
5. Tang EO, Lai CS, Lee KK, Wong RS, Cheng G, Chan TY. Relationship between patients' warfarin knowledge and anticoagulation control. *Ann Pharmacother*. 2003;37(1):34–39.
  6. Hu A, Chow CM, Dao D, Errett L, Keith M. Factors influencing patient knowledge of warfarin therapy after mechanical heart valve replacement. *J Cardiovasc Nurs*. 2006;21(3):169-175; quiz 76-7.
  7. Büller HR, Décousus H, Grosso MA, Mercuri M, Middeldorp S, Prins MH, et al. Edoxaban versus warfarin for the treatment of symptomatic venous thromboembolism. *N Engl J Med*. 2013;369(15):1406–1415. doi: 10.1056/NEJMoa13 06638.
  8. Njaastad AM, Abildgaard U, Lassen JF. Gains and losses of warfarin therapy as performed in an anticoagulation clinic. *J Intern Med*. 2006;259(3):296–304. doi: 10.1111/j.1365-2796.20 05.01605.x.

# Robotic Nursing in Health Care Delivery

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## ABSTRACT

Nursing robots are getting into the people life gradually because of the huge assistance they can provide both to patients and nurses. Human nurses can have peace of mind. Their jobs are secure but a little help has come to the rescue to do most of the boring nursing tasks for them. Robot nurse helps nurses in hospitals. Larger robotic machines can be used to carry-out laborious physical tasks like moving patients, and smaller interactive robots are being used to combat loneliness and inactivity in the elderly population. An increasing elderly population paired with an insufficient amount of healthcare workers able to care for it makes revolutionary inventions like nurse robots incredibly helpful.

**Keywords:** Robot, Robotic Nurse Assistant, Giraffplus, Cody, Artificial Intelligence (AI).

## INTRODUCTION

The word robot derived from the word Robota which means compulsory Labor. Robot is a machine in the form of a human being that performs the mechanical functions of a human being but lacks sensitivity<sup>1</sup>.

The Nursing robot system is designed to serve bedridden patients by performing simple services

Such as operating electrical appliances or bringing patient's bedside according to the patients spoken request. She has face recognition (camera), voice recognition (microphone) arms and hands. She talks (speaker) with the patient, doctor and nurses in different human languages<sup>1</sup>.

Human-like robots are already being utilized as supplemental healthcare workers in elderly homes across the world. Larger robotic machines can be used to carry-out laborious physical tasks like moving patients,

and smaller interactive robots are being used to combat loneliness and inactivity in the elderly population<sup>2</sup>.

As an ageing society is becoming a challenge for more and more countries, the development of non-human nurses will be essential to cope with the lack of human caregivers. In the future, robots will assist older people at home, in hospitals and foster homes. One of the robots' main benefits is that they are comparably cheap labor. Moreover, there are more retired people than people who work. As a result this will lead to an increase of pension and consequently cheap nursing staff will be essential to handle supply and demand and to make sure that nursing will remain affordable<sup>2</sup>.

Additionally, nursing robots will take on physical demanding work like carrying or moving people. Especially, when nursing immobile or handicapped people, the assistance of robots will be a great relief for nurses and caregivers. An increasing elderly population paired with an insufficient amount of healthcare workers able to care for it makes revolutionary inventions like nurse robots incredibly helpful<sup>3</sup>.

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## ROBOT

A-reprogrammable, multifunctional, manipulator designed to make material, parts, tools or specialized devices through various programmed motion for the performance of a variety of tasks.



### Characteristics of Robot

**Mobility:** It possesses some form of mobility

**Programmability:** It can be programmed to accomplish a large variety of tasks. After being programmed, it operates automatically.

**Sensors:** able to sense the environment and give the useful feedback to the device.

**Mechanical Capability:** Enabling it to act on its environment rather than merely functions as a data processing or computational device (a robot is a machine).

**Flexibility:** It can operate using a range of programs and transports material in a variety of ways.

**Law of Robot:** There are three Laws of the Robot which were recommended by Issac Assimov's

**First Law:** A robot may not injure a human being or through inaction, allow a human being to come to harm.

**Second Law:** A robot must obey order given it by human beings, except when such orders would conflict with the first law.

**Third Law:** a robot must protect its own existence as long as such protection does not conflict with the first or second law.

### Types of Robots:

**RIBA:** (Robot for Interactive body assistance) RIBA is the first robot that can lift up or set down a real human from or to bed or wheelchair.

**Robotic Health Assistant:** A robotic care giver can handle the laundry and household chores, while the patient is sleeping and the patients awakes would be greeted by kind humanlike voice.

If the patient ambulatory, the robot can assist with getting the patient moving. Many elderly patients take multiple medicines allowing for mistakes in taking the right dose at night time.

A caregiver robot could make sure that medicine requirement is met. For those failing eyesight, the robot could read to them<sup>4</sup>.

**Giraffplus:** Giraffplus consists of a network of sensors which can measure blood pressure or detect if someone falls. The data then interpreted in term of activities, health and well being, such as if the person is relaxed or need to go to bed. Even can trigger alerts or reminder to a health care provider<sup>4</sup>.

**Care-O-Bot 4:** These Robots provides the social assistance by offering stimulating and engaging in empathic interaction, they increasing social connectivity which prevents social isolation and loneliness.

**Cody:** Cody is robotic nurse designed to give bath to an elderly. These robots are programmed to apply gentle pressure while washing patient as a solution both to the embarrassment of receiving bathing help from another human as well as to the anticipated increase in demand of nursing services for the elderly<sup>4</sup>.

**Hybrid Assistive Limb: (HAL)** Hybrid assistive limb (HAL) which is robotic exoskeleton that could greatly improve the mobility of elderly or disabled people who wear it<sup>4</sup>.

**Robotic Nursing Assistant: (RONA SYSTEM):** RONA system has developed for a human-safe, heavy-lifting that is useful in any clinical environment. It is an autonomous robotic nursing assistant capable of helping health care providers maneuver and lift patients weighing up to 500 pounds<sup>5</sup>.

**Definitions of Robotic Nursing:** Robotic nursing is the use of autonomous mobile robots mainly designed and programmed for performing tasks related to nursery aiming to assist (but not replace) nurses in hospitals, care facilities or even homes for a better prevention, and rapid treatment and medical care of people especially elderly and physically disabled ones. In the actual meantime,

robot nurses are generally used for performing several routine tasks such as collecting blood sugar and pressure levels<sup>1</sup>.

### Functions Of Nursing Robot:

- Making up for cognitive decline (for example, reminding patients to drink, take a medicine or attend an appointment). Elderly people often need to take multiple medications and noncompliance often frequently leads to problems<sup>6</sup>.
- Enabling patients and caregivers to interact more effectively, thereby reducing the frequency of personal visits required<sup>6</sup>.
- Collecting data and monitoring patients, some emergencies (such as heart failure and high-blood sugar levels) could be avoided<sup>6</sup>.
- Assisting people with domestic tasks – many give up independent living because arthritis leaves them unable to cook, clean or use the washing machine or the microwave<sup>6</sup>.
- Robot that can lift up or set down a real human from or to bed or wheelchair. This bear can lift a patient from standing position or from the floor, transfer a patient to a wheelchair, carry a patient from point A to B, and turn patients in bed<sup>6</sup>.
- Robots serve as a communication tool if an older adult can't (because of low vision or dementia, for example) or doesn't want to learn to use the latest machine, they can simply ask the robot to serve that function. Imagine: "Robot, call my daughter," and the robot makes the connection with Skype or Face Time-type technology<sup>6</sup>.
- Robots reminds to take medications, go to appointments, eat, exercise, and anything else  
Relevant to each individual person because people make lists but too often they forget to check them<sup>6</sup>.
- Robot offers endless patience Eg:- When a person has dementia, they often ask the same question over and over. Most humans lose patience answering 5, 15 or 40times. A robot doesn't<sup>6</sup>.
- Robotic nursing will be used as a platform for patient education as well. In hospitals, outpatient settings, and at home, patients will be able to access hundreds of videos outlining medication uses, side effects, disease management, support group, emotional support hotlines, and all at the blink of an eye in any language<sup>6</sup>.
- Robots will be able to help with discharge planning and procedures. They will be integrated into all hospital technologies and monitors so that we can earlier and more accurately detect signs of patient de compensation. Thus, patients will see improved health outcomes<sup>7</sup>.
- Robotic nurses will have the ability to triage patients in clinics, emergency departments, and via Tele-health services in order to streamline care and provide standardized approaches to symptom management with far fewer resources<sup>7</sup>.
- Robot nurses will help us to schedule tasks during our nursing shift and prioritize our care with the click of a button. Charting will become less of a burden and less time-consuming for nurses because most will be automatically delegated to AI<sup>7</sup>.



## **CONCLUSION**

The development of medical welfare robot is not necessarily harmful rather than it can be promoted since it used in providing health care services are beneficial to people with disabilities and incurable diseases. It is an important issue in nursing practice to recognize and live with advanced sciences.

**Ethical Clearance:** No ethical clearance has been taken as it is not research study.

**Source of Funding:** Self

**Conflict of Interest:** Nil

## **REFERENCES**

1. Kinetic Consulting. Carbots. British Journal of Healthcare Computing & Information Management. October 8 2005; 22:25-26.
2. Hu J, Edsinger A, Yi-Je Lim, Donaldson N, Solano M, Solocheke A, Marchessault R. An advanced medical robotic system augmenting healthcare capabilities robotic nursing assistant Robotics and Automation (ICRA). IEEE International Conference; 2011; 6264-9.
3. Stephen C, Schimpff, MD. Robotics can revolutionize the delivery of medical care; January 16, 2012.
4. Kanna Rajan, Alessandro Saffiotti. Special issue on artificial intelligence and robotics. June 2017; 1-440.
5. Evan Morgolius. The robot of progue. Autumn 2017; 3-6.
6. Sagar Manse. Seminar on Robotic Nursing. November 1; 2016.
7. Dr. Shruti yadav. Robotics in Nursing. August 2; 2016.

# Assess the Effect of Single Parenting on Emotional Well Being of Adolescents in Government Higher Secondary School at Kancheepuram District

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## ABSTRACT

In recent years in single parent families have become focus of research in India, report feelings of loneliness, withdrawal, fear and anger. They are likely to face both social and emotional problems, suffer from distress and anxiety, and show high conflict and less cohesion with family members. The Objectives of the study was to assess the level of emotional well being among single parent adolescents. To find out the association between level of emotional well being of adolescents with their demographic variables. Quantitative approach and non-experimental descriptive research design was used. The data collection included two parts. Part A: Demographic variables, Part B: structured questionnaire to assess the level of emotional well being among adolescents. A total of 100 adolescents who fulfilled the inclusion criteria were chosen as samples by using non-probability convenient sampling technique. The study was conducted at Government Higher Secondary School at kancheepuram district. The data was analyzed and interpreted based on the objectives using descriptive and inferential statistics. The findings showed that none of the adolescents have poor emotional well being; 88(88%) adolescents had moderate emotional well being and 12(12%) adolescents had good emotional well being.

**Keywords:** *Single Parenting, Emotional Well Being, Adolescents*

## INTRODUCTION

In recent years in single parent families have become focus of research in India (Bharat, McLanahan and Booth)<sup>1</sup>, report feelings of loneliness, withdrawal, fear and anger. They are likely to face both social and emotional problems, suffer from distress and anxiety, and show high conflict and less cohesion with family members (Farber, Felner and Primavera)<sup>2</sup>.

The absence of one parent may change the adolescents' perception about the other parent (Weiss)<sup>3</sup>. The loss of father has less impact on the relationship that adolescents' have with their mother (Aquiline)<sup>4</sup>. So also, those with divorced parents have limited effects on adolescents' perception of support from their mothers (Amato)<sup>5</sup>. Studies indicate positive impact of single parent families on mother adolescent relationship. Adolescent have a close and satisfying relationship with their parent (Demo)<sup>6</sup>. Girls are found to have a more positive relationship with their mother and are more responsible than boys (Hetherington)<sup>7</sup>.

The family structure has an impact on mother adolescents' relationship in single parent families. In nuclear families, adolescent have more autonomy and most of the decisions, whereas, in joint families there are elderly persons or grand parents who take most of the decisions (Dornbusch et al). In addition those in contact with their grand parents show less behavior problems<sup>8</sup>.

Parental discord is negatively related with adolescents self esteem behavior problems, and poor emotional well being. Families which show less cohesion and more conflict, report a high level of anxiety and hostility. Adolescents are subjected to abnormal family situation due to parental discord (Pothen), divorced families show less family cohesion<sup>9</sup>.

Perception of parents is also an important factor. Some parents, who perceive their children as a cause of distress, argue a lot and demand a lot of attention, especially in the case of boys (Sood and Misra)<sup>10</sup>. Widowed mothers perceive the effect of loss of father in terms of loss of interest in study, work, deterioration in health and feelings of insecurity in their children (Gill and Singh)<sup>11</sup>.

Maternal role is that of child care and home making while the parental role is that of economic responsibilities and discipline of children. Generally it is the responsibility of the family, to train and bring up the child in the norms and values of the society. They are to be responsible for the psychological and emotional welfare of the child. The parents are mainly responsible for the educational and career development of their children. However, divorce and separation of various kinds or death of one spouse may leave the roles in the hands of a single parent. The family structure, ideally, provides a sense of security and stability that is necessary for children. When there is a breakdown in the family structure, it may have a tremendous impact on a child and their ability to function ordinarily or achieve academically. In most situations, the child no longer has two parents to depend on.

The parents are mainly responsible for the educational and career development of their children. However, divorce and separation of various kinds or death of one spouse may leave the role in the hands of a single parent. Single parenting can be defined as a situation in which one of the two individuals involved in the conception of the child is being responsible for the upbringing of the child Henslin<sup>12</sup>. Single parent may arise when either the male or female decides to produce and rear a child or children outside wedlock Ortese<sup>13</sup>.

A single parent faces doubled responsibilities requiring time, attention and money of the parent. Hence, less attention paid to the psychological well being and education of the child. Children from single parent family homes are commonly described as more hostile, aggressive, anxious, fearful, hyperactive and distractible than children from intact families Nwachukwu. One is therefore motivated to ask the question: 'what is the relationship between psychological well being of adolescents raised by single parents in Nigeria.<sup>14</sup>

## MATERIALS AND METHOD

Quantitative approach and non-experimental descriptive research design was used. The data collection included two parts. Part A: Demographic variables, Part B: structured questionnaire to assess the level of emotional well being among adolescents. A total of 100 adolescents who fulfilled the inclusion criteria were chosen as samples by using non-probability convenient

sampling technique. The study was conducted at Government Higher Secondary School at kancheepuram district. The Independent variable was single parenting Dependent variable was Emotional wellbeing,. Demographic variables were age, sex, educational status, religion, occupational status of the parents, family income, type of family.

The investigator adopted following selection criteria to select the Samples. The Inclusion Criteria were, adolescent children aged 15 to 18 years, who are with single parent and willing to participate in the study. Exclusion criteria were Children with any Mental illness or Disorders and who are not present during Data collection

Formal approval was obtained from the Institutional Review Board and Institutional Ethical Committee of SRM University, Kattankulathur, Chennai, Tamil Nadu, India and from the Head master of the Government higher secondary school at kanchipuram, In addition, the participants were informed of their right to withdraw anytime during the study.

**Description of the tool:** The Tool consists of two sections. Section A The structure questionnaire to assess the demographic variables and Section B consists of 52 questions to assess the emotional well being of single parent adolescents. The scoring Interpretation includes as follows

1 to 33% = Poor Emotional well being

34 to 68% = Moderate Emotional well being

69 to 100% = Good Emotional well being

**Procedure for data collection:** The data collection was done in government higher secondary school, kanchipuram among the adolescent students. 100 samples were selected according to the criteria proposed. The purposes of the study were explained to them and were assumed that their response will be kept confidential. The structured questionnaire each containing 52 questions were given to the adolescent children. Approximately each of them took about 15-20 minutes for filling up the questionnaire.

**Statistical analysis:** Descriptive and Inferential statistics were helped in condensing the mass

data into a few significant figures which has been extremely helpful in comparing and testing the hypothesis established.

## RESULTS

**Table 1: Frequency And Percentage Distribution Of Demographic Data Among Adolescent Students N = 100**

Demographic variables		Frequency	%
Age	13 - 14 Years	40	40.0%
	15 - 16 Years	54	54.0%
	17 - 18 Years	6	6.0%
Gender	Male	50	50.0%
	Female	50	50.0%
Education qualification of child	Primary	40	40.0%
	Secondary	60	60.0%
Marital status of parent	Divorced	21	21.0%
	Separated	48	48.0%
	Died	31	31.0%
Type of family	Nuclear family	60	60.0%
	Joint family	40	40.0%
Education qualification of parent	Primary	26	26.0%
	Secondary	51	51.0%
	Graduate	23	23.0%
Occupation of parent	Government	17	17.0%
	Private	43	43.0%
	Coolie	40	40.0%
Family income	Below Rs.5,000	21	21.0%
	Rs.5,000	31	31.0%
	Rs.10,000	41	41.0%
	Above 10,000	7	7.0%

**Table 2: Assessment of Level of Emotional Well Being among Adolescents**

Level of Emotional wellbeing	Frequency	%
Poor	0	0.0%
Moderate	88	88.0%
Good	12	12.0%

Table 2 shows the level of level of emotional wellbeing among single parent adolescents. None of them are having poor emotional wellbeing, 88% of them are having moderate emotional wellbeing and 12% of them are having good emotional wellbeing score.

**Table 3: Association on Level Of Emotional Wellbeing of Adolescents with their Demographic Variables N = 100**

Demographic Variables	Level of Emotional wellbeing					Total	Chi square test
	Moderate		Good				
	n	%	n				
Age	13 - 14 Years	38	95.0%	2	5.0%	40	$\chi^2=10.8$ p=0.01 DF=2 Significant
	15 - 16 Years	48	88.9%	6	11.1%	54	
	17 - 18 Years	3	50.0%	3	50.0%	6	
Gender	Male	45	90.0%	5	10.0%	50	$\chi^2=0.10$ p=0.75 DF=1 not significant
	Female	44	88.0%	6	12.0%	50	
Education qualification of child	Primary	34	85.0%	6	15.0%	40	$\chi^2=1.09$ p=0.30 DF=1 not significant
	Secondary	55	91.7%	5	8.3%	60	
Marital status of parent	Divorced	20	95.2%	1	4.8%	21	$\chi^2=1.68$ p=0.43 DF=2 not significant
	Separated	43	89.6%	5	10.4%	48	
	Died	26	83.9%	5	16.1%	31	
Type of family	Nuclear family	54	90.0%	6	10.0%	60	$\chi^2=0.15$ p=0.69 DF=1 not significant
	Joint family	35	87.5%	5	12.5%	40	
Education qualification of parent	Primary	24	92.3%	2	7.7%	26	$\chi^2=0.41$ p=0.81 DF=2 not significant
	Secondary	45	88.2%	6	11.8%	51	
	Graduate	20	87.0%	3	13.0%	23	
Occupation of parent	Government	12	70.5%	5	29.5%	17	$\chi^2=8.85$ p=0.01 DF=2 significant
	Private	38	88.3%	5	11.7%	43	
	Coolie	39	97.5%	1	2.5%	40	
Family Income	Below Rs.5,000	20	95.2%	1	4.8%	21	$\chi^2=8.80$ p=0.03 DF=2 Significant
	Rs.5,000	29	93.5%	2	6.5%	31	
	Rs.10,000	36	87.8%	5	12.2%	41	
	Above 10,000	4	57.1%	3	42.9%	7	

Table 3 Shows the association between level of emotional wellbeing score of adolescents with their demographic variables. Age, Occupation of the parent and family income were associated with level of Emotional well being and it is Statistically significant which was calculated using chi square test.

## DISCUSSION

The family lays the foundation of education before they go to school and the personality that the child's takes to school is determined by the home. The father is to provide the necessary tools for the educational advancement while the mother is supposed to supplement the father's efforts in this regard. When the father is absent and the mother is not privileged enough to cater for all the basic needs as well as supervise the academic performance of the child he/she will be backward or withdrawn. The same thing occurs when the mother is absent and the father is not privileged enough<sup>15</sup>.

K. Rajeshwari and Romit Saxena (2010) conducted a study to determine the prevalence of single parenthood and compare the social and demographic characteristics with that of non-single parent. From February 2009 through March 2010, data was collected from 148 children registered in Delhi, on their demographic profile, cause of parental death, current caregiver, school enrolment, and clinical parameters at presentation. The prevalence of single parenthood was 49.3%. They lagged behind the non single parents in immunization, nutritional status, school enrolment and attendance, and socio economic status. The study concluded with the need of larger community based studies to determine the true magnitude of single parenthood and to evolve methods to socially and financially support the families taking care of these children<sup>16</sup>.

Natriello, McDill and pallas(2010) Conducted a study children from single parent homes are more hostile hyperactive and aggressive in nature. Many of the

problems that single parents have are similar as those for two parents but these problems seem more difficult to bear or managed when the more home is being tutored by only one person. For example all children feel hostile towards their parents as they grow up and try to be independent. But in a situation where the anger and rebellion are all directed towards one person it may seem worse if there is only one to bear it, not for the two to share. There are some problems that are exceptional which are only faced by the single parents which make it somewhat difficult to raise children. This problem include: bitterness towards the absent spouse, loneliness, poverty and insecurity about raising children alone without help. For these and some other reasons single parents sometimes cling to their children or over indulge them. It is widely believed that children from broken homes have higher incidents of academics, emotional and behavioral problems than other children from intact homes.<sup>17</sup>

Jean Addington & Donald Addington (2010) examined the relationships between self esteem and emotional well being functioning in a sample of 80 single parent children. Positive and negative symptoms were assessed the self esteem scale. A range of behaviours were assessed using emotional functioning scale. Emotional Functioning as assessed by the EFS was associated with cognitive functioning. Poor cognitive flexibility was associated with low scores on the EFS. Results support earlier research that suggests an association between certain aspects of cognitive functioning and emotional functioning<sup>18</sup>

Udansky (2008) Conducted a study identifies single parenting as a major social problem on the rise. In a study reported by the adoption media LLC (n.d.) of children born since 1984 more than 60% will an average of 5 years of their childhood in a single parent family. Moreover 30% of all children in the United States spend their entire lives with single parents. Single parenthood may arise when either the male or female decides to produce and rear a child or children outside wedlock. It makes clear that in some cases children who experience separation or divorce do not always perform well or achieve academically.<sup>19</sup>

## CONCLUSION

Children in single parent families are three times more likely to drop out of high school than children from two – parent families. Because they are the primary

and frequently sole source of financial support for the family, single parent have less time to help children with homework, are less likely to use consistent discipline, and have less parental control, and all of these conditions may lead to lower academic achievement. Many studies support these views and stress that under achievement, criminal activity, poverty; racial differences are all consequences of children raised in single parent homes. However, family structure is consider the major case of dysfunction and low academic achievement amongst children

**Conflict of Interest:** Mrs. sangeetha Jagdeesh, Dr. Abirami P., and Ms. Sasikala declares that no conflict of interest. In addition, this study was not funded

**Statement of Human and Animal Rights:** All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2008 (5).

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

**Source of Funding:** There is no funding agencies were involved. It is fully self financed

## REFERENCES

1. Bharat, S. McLanahan and Booth (1988). Single parenting families: consequences for single parent. The Indian journal of social work. XLVII (3): 229-237
2. Farber, S.S., Felner, R.D., & Primavera. (1985). Parental separation/divorce and adolescents: An examination of factors mediating adaptation, American journal of Community psychology, 13(2) : 171-185
3. Weiss, R.S. (1975). Marital separation. Inc. Publishers: New York.
4. Aquiline, W.S. (1994). Later life parental divorce and widowhood: Impact of young adults assessment of parent child relations. Journal of marriage and family, 56(4): 908-922
5. Amato, P.R. (1987). Family process in intact, one parent and step families. The child's point of view, journal of marriage and family, 49: 327-337

6. Demo, D.H. (1992). Parent-child relations: Assessing recent changes. *Journal of marriage and family*, 54(1): 104-117
7. Hetherington, E.M. (1989): coping with family transions: Winners, losers and survivors, *Child development*, 60(1-4): 1-14
8. Dornbusch, S.M. (1985). Single parents extended household and the control of adolescents child development, 56:326-341
9. Pothan,S, (1986). Divorce: Its causes and consequences in Hindus society. Shakti Books, Delhi
10. Gill, S., & Singh G.M.P. (1991). Widowhood and coping strategies, *Indian Journal of behavior*, 15(1): 14-19
11. Sood, N., & Misra, G. (1995). Home environment and problem behaviour in children. *Journal of personality and clinical studies*, 11(1):23-32.
12. Henslin J.M. (1985). *Down to Earth Sociology: an introductory Readings*. New York :Macmillan.
13. Ortese. P.T. (1998). Single parenting in Nigeria counselling concerns and implications. *The counsellor*. 16:61-66.
14. Nwachukwu, F.J (1998). Single-Parent famiy: Emerging family pattern in Nigeria. *The counsellor*.16:137-146.
15. Harland, Wilkin and Wakefield(2013) family and community factors and school factors amongst the causes of truancy.
16. K. Rajeshwari and Romit Saxena (2010) Jean Adding ton & Donald Adding ton (2010) Long term effects of parental Divorce on parent child relationships, adjustments, and achievement in young adulthood. *Journal of Family Psychology*. 7: 91-100
17. Ekstrom et al (2012) Poor psychological adjustments and behavioral and social problems
18. Natriello, McDill and pallas (2010) Family environmental scale. Psy-Com services, New Delhi
19. Udansky (2008) Widowed and deserted women in Indian society, Harman publications, New Delhi

# A Study to Assess the Effectiveness of Planned Teaching Programme Regarding Breast Self Examination & Breast Cancer among Aryakanya College Student in Karnal, Haryana

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## ABSTRACT

**Background:** There is an increase in the incidence of breast cancer. Breast cancer is the most common cancer found in female aged between 30–50 years. It is believed that 75% all cancer could be prevented if primary prevention was initiated against non causative factor. Prevention and early detection of cancer must be a high priority to further decrease in cancer morbidity and mortality Breast Cancer is the second leading cause of mortality and morbidity in both developed and developing countries. In India, cancer prevalence is estimated around 2.5 million, with over 0.8 million new cases and 0.5 million deaths occurring each year.

Breast self-examination (BSE) is an important screening measure for detecting breast cancer. There is evidence that women who correctly practice BSE monthly are more likely to detect a lump in the early stage of its development, and early diagnosis has been reported to influence early treatment, to yield a better survival rate. breast self-examination (BSE) seems to be an important viable optional substitute for early detection of cancer.

**Aim:** The of the study was to assess the effectiveness of planned teaching programme regarding breast self examination & breast cancer among aryakanya college student in karnal, haryana.

**Methodology:** The research approach for the study was quantitative approach. The research design selected for the present study was pre-experimental (one group pretest post test) design. The setting for the study was selected Arya Kanya College Karnal. The sample size for the present study was 100 student selected by non purposive convenient sampling technique.

**Finding:** The pre test knowledge of the students on sub domains of breast self examination and breast cancer viz., concept of breast self examination ,breast self examination procedure, breast self examination output, breast cancer concept and risk factors, breast cancer prevention, treatment , complication was found (1.74,2.90,2.18,3.52,1.85 ) and the total mean score was 12.19. The mean post test knowledge score was 24.90 with increased knowledge score in all the domains of breast self examination and breast cancer indicating remarkable improvement in knowledge score after PTP.

**Conclusion:** Most of the students had lack of knowledge on breast self examination and breast cancer. The study highlights that if proper teaching programme made available to students, their knowledge may be improved.

**Keywords:** *Planned teaching programme, breast self examination, breast cancer.*

## INTRODUCTION

The earlier a cancer is diagnosed the greater the chance it can be treated successfully, and that is why it is so important that women know how to spot the Signs of breast cancer early on.

DUMFRICS & GALLUWAYSTANDARD

Breast Cancer is the second leading cause of mortality and morbidity in both developed and developing countries. In India, cancer prevalence is estimated around 2.5 million, with over 0.8 million new cases and 0.5 million deaths occurring each year.

Breast cancer is one of the commonest causes of death in many developed countries. Breast cancer causes 5,19,000 death a year worldwide, about 900,000 woman are diagnosed every year with this disease. More than half of these cases are in industrialized countries about 2,20,000 in Europe and about 1,80,000 in North America. Mortality rates from breast cancer have increased during the past 60 year in every country. (Park 2011)

The incidence of breast cancer is higher among white women. The American cancer society estimates that 178,480 (1,700 male) new cases of breast cancer will be diagnosed approximately 40910 deaths.<sup>2</sup>

Prevention and early detection of cancer must be a high priority to further decrease in cancer morbidity and mortality.

Breast self-examination (BSE) is an important screening measure for detecting breast cancer. There is evidence that women who correctly practice BSE monthly are more likely to detect a lump in the early stage of its development, and early diagnosis has been reported to influence early treatment, to yield a better survival rate.

With an increasing number of younger women becoming susceptible to the disease, India faces a growing breast cancer epidemic. A new Global study estimated that by 2030, the number of new cases of breast cancer in India will increase from current 115000 to around 200000 per year. The study conducted by global education health care called for immediate action against the alarming number of breast cancer cases in India. In the light of present knowledge, early detection and prompt treatment of early cancer and pre-cancerous conditions provided the best possible protection against cancer for the individual and for the community.

5 years survival rates have been improving because of earlier diagnosis and better treatment. Most reliable breast cancer detection method is regular breast self examination, followed by immediate professional evaluation of any abnormality noticed.

Mammography is another important detection method and is probably responsible for the increase

in the number of reported cases. The national cancer institute (NCI) recommends screening (mammogram and clinical breast examination) every 1 to 2 year for women in their 40 years.

Breast self examination is an examination of the breast done by each woman by herself in order to familiarize with the anatomy of her breast and detect any unusual findings like lump or masses in the breast. Breast self examination consists of examination of the breasts with naked eyes and feels the breasts with fingers by the women herself.

**Statement of the problem:** "A study to assess the effectiveness of Planned teaching programme regarding breast self examination & breast cancer among Arya Kanya College students in Karnal."

## OBJECTIVES

1. To develop and validate planned teaching programme regarding breast self examination and breast cancer.
2. To assess the pretest level of knowledge regarding breast self examination and breast cancer among college students.
3. To assess posttest level of knowledge regarding breast self examination & breast cancer among college student.
4. To assess effectiveness of planned teaching programme regarding breast self examination & breast cancer among college student.
5. To establish the associate between the posttest level of knowledge with their selected socio demographic variables.

## Operational Definitions:

1. **Assess:** In this study, it refers the statistical measures of identifying the outcome of planned teaching programme through questionnaire.
2. **Effectiveness:** It refers to gain in knowledge as determined by significant differences in pretest and post test scores.
3. **Planned Teaching Programme:** It refers to the organized teaching instructed by the investigator about risk factors, signs and symptoms, early detection and prevention of breast cancer and techniques of Breast-Self examination.

**4. Knowledge:** It refers to the response of female college students to the questionnaire regarding risk factors, signs and symptoms, early diagnosis and prevention of breast care.

**5. Breast-Self Examination:** It refers to self examination of the breast in order to find out any abnormalities or growth in the breast by means of observation and palpation by the female college students themselves.

**6. Students:** It refers to pupil or person studying at Arya kanya college.

**7. Breast Cancer:** It refers to breast cancer is a cancerous growth that inhabits the tissues in the breast, in this type of cancer ,the cells in the breast region grow abnormally

## MATERIAL AND METHOD

In this study ,pre experimental one group pre test post test design was used to carry out the study.

“O<sub>1</sub>”, X, “O<sub>2</sub>”

“O<sub>1</sub>” = Pretest knowledge on first day of contact.

“X” = Represent the intervention, planned teaching programme

“O<sub>2</sub>” = Posttest knowledge after 7days

The sample size consider for the present study was 100 student studying in aryakanya college ,karnal by using non probability convenient sampling technique.

**Tool and Technique of Data Collection:** Two section were used for data collection. Section A. Socio demographic

variables. Section B. structured knowledge questionnaire on breast self examination and breast cancer.

## RESULT

**Section A: Description of socio demographic variables:** The socio demographic variables were described in the terms of age, students education status, mother education status, father education status, religion, type of family, area of residency, family history of breast cancer, previous knowledge regarding breast self examination and breast cancer, family member in health profession.

**Section B . structured knowledge questionnaire:** Structured knowledge questionnaire on breast self examination and breast cancer.the questionnaire was divided into five section viz, concept of breast self examination, procedure, output, concept and risk factor of breast cancer , prevention, treatment and complication of breast cancer. Total score of structured knowledge questionnaire was 30 and divided into 3 section, low score (>10), average score (11-20) ,high score (21-30). For each correct answer respondent were given “1” mark and for each incorrect answer respondent were given “0” mark.

## SCORING:

Level of knowledge	Scoring	Percentage
Poor knowledge	1-10	<33.3%
Average knowledge	11-20	36.6%-66.6%
Good knowledge	21-30	>70%

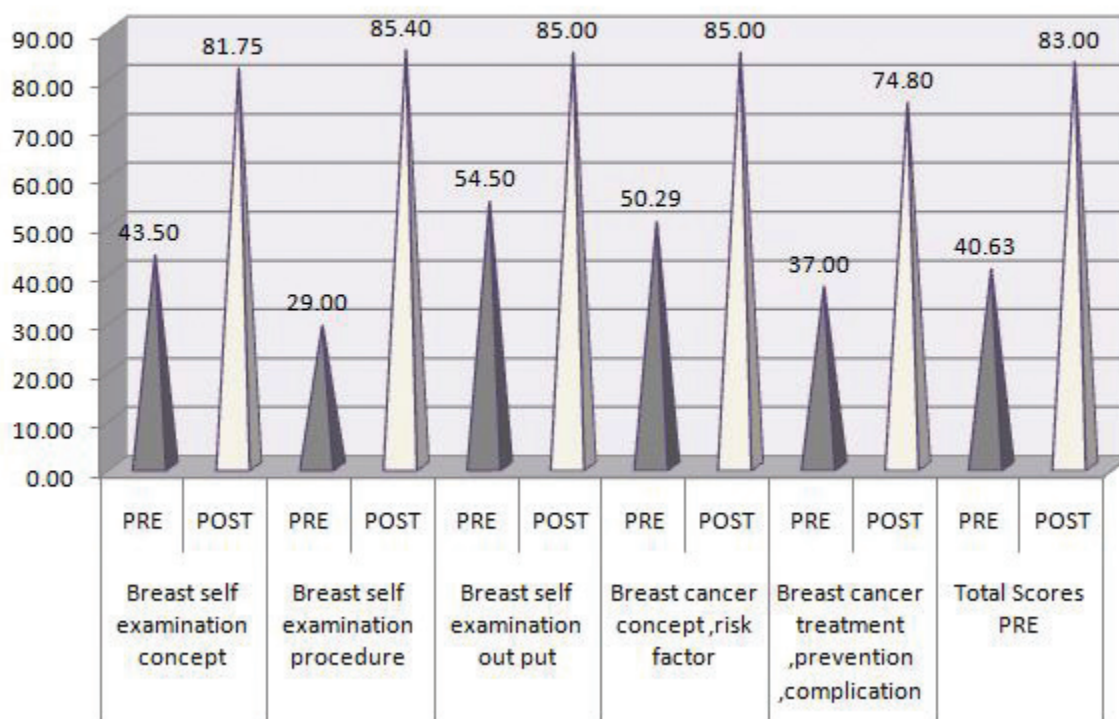
**Objective No. 3:** To assess effectiveness of planned teaching programme regarding breast self examination & breast cancer among college student.

**Table: showing the comparison of pre test and post test level of knowledge regarding breast self examination and breast cancer among college students**

Domains of breast self examination and breast cancer	Pre test score	Post test score	T value	P value
	Mean $\pm$ S.D.	Mean $\pm$ S.D.		
Breast self examination concept (sub score = 4)	1.74 $\pm$ 0.747	3.27 $\pm$ 0.737	14.863	<0.001*
Breast self examination procedure(sub score = 10)	2.90 $\pm$ 1.202	8.54 $\pm$ 1.086	35.996	<0.001*
Breast self examination output(sub score = 4)	2.18 $\pm$ 0.936	3.40 $\pm$ 0.711	11.951	<0.001*
Breast cancer concept and risk factor(sub score = 7)	3.59 $\pm$ 1.322	5.95 $\pm$ 0.892	15.995	<0.001*
Breast cancer prevention, treatment , complication (sub score = 5)	1.85 $\pm$ 0.968	3.74 $\pm$ 1.001	14.262	<0.001*
Total sub score = 30	12.19 $\pm$ 2.773	24.90 $\pm$ 2.013	42.234	

Paired t test- $p \leq 0.001$

## Area wise knowledge Score



**As shown in table:** The post test knowledge score  $24.90 \pm 2.013$  was higher than pre test knowledge score  $12.19 \pm 2.773$  with a mean difference of 12.710. Thus it can be inferred that differences obtained between pre test and post test was a true difference and not by chance. There was marked gain in knowledge in post test than pre test. Research hypotheses  $H_1$  was accepted indicating that PTP on breast self examination and breast cancer was an effective method for improving knowledge of college student.

Area wise score, mean percentage score and mean percentage gain of pre test and post test knowledge score of college students

**As shown in figure:** Mean post test knowledge score was found higher than pre test knowledge score in each domain of knowledge of college students on breast self examination and breast cancer. It indicates that PTP was found effective in improving knowledge of college students on breast self examination and breast cancer.

## DISCUSSION

Present study assessed the knowledge score of college student in the sub domain of breast self

examination and breast cancer i.e. concept of breast self examination, breast self examination procedure, breast self examination output, breast cancer concept & risk factor, breast cancer treatment, prevention, complication and their score was 43.50%. The findings related to another study conducted by Al-dubai SA et al., in which the knowledge was 45% during pre test.

In the present study (93%) college students had no knowledge regarding breast self examination and breast cancer whereas only 7% having knowledge regarding breast self examination and breast cancer. Similar findings were reported in a study conducted by Dahlui M only 19% having knowledge regarding breast self examination and breast cancer.

## NURSING IMPLICATIONS

The study findings have several implications in nursing. They can be categorized under nursing practice, nursing education, nursing research and nursing administration.

**Nursing Practice:** Health teaching is an integral component of nursing services. As breast cancer

associated with women morbidity and mortality. So nursing practitioner should plan teaching programme for students in order to enhance their knowledge and practices on breast self examination and breast cancer.

**Nursing education:** There must be adequate guidance , supervision and evaluation of nursing student to ensure adequate knowledge and practice in dealing with all abnormal finding of breast self examination.

**Nursing Research:** Nursing research can be conducted in developing self learning modules on knowledge of breast self examination and breast cancer and tested for its effectiveness. There is a need to carry out a survey on incidence of breast cancer and probable causes and risk factor and should attempt in preparing literature in different language as on prevention and management of breast cancer.

**Nursing administration:** The nurses to update their knowledge, acquire skills, and provides high quality care. so more and more in service education programme should be provided to them as in the changing climate of the health care delivery system. The emphasis has been shifted from “ cure oriented to care oriented”.

## RECOMMENDATIONS

Keeping in view the findings of the study the following recommendation are made for the future study.

- A similar study can be replicated with a large sample in order to generalize the data.
- A study can be conducted to compare the effectiveness of PTP with other instructional strategies like video film, self instructional module or role play etc.
- Comparative study can be done conducted in different settings.
- Study can be conducted with experimental research approach and pre test and post test control group design.
- A study can be done to compare the knowledge of urban and rural college student on breast self examination and breast cancer.
- A study can be done to compare the knowledge of urban and rural area on breast self examination and breast cancer

## CONCLUSION

The college student had average knowledge regarding breast self examination and breast cancer. The socio demographic variables of college students found to have non significant association with knowledge scores of college student. The mean post test knowledge score 24.90 on breast self examination and breast cancer was significant higher than the mean pre test knowledge score of 12.19 among college student. This indicating that PTP had improve the knowledge of college students on breast self examination and breast cancer.

**Ethical Clearance:** Taken from Ved nursing college, Baroli ,Panipat(Haryana)

**Source of Funding:** Self

**Conflict of Interest:** Nil

## REFERENCES

1. Somdatta P, Baridalyne N. Awareness of breast cancer in women of an urban resettlement colony. *Indian J Cancer*. 2008;45:149–53. [PubMed]
2. (WHO Screening for breast cancer. (online) 2008. [Last cited on 2008 Apr 15]. Available from: <http://www.who.int/cancer/detection/breastcancer/en/>)
3. Ertem G, Kocer A. Breast self examination among nurses and midwives in odemis health district in Turkey. *Indian J Cancer*. 2009;46:208–13. [PubMed]
4. Mastring medical –surgical nursing disorder and treatment” 1<sup>st</sup> ed.spring house publication ,pg ,504 -507)
5. lynne m.dunphy,jill E. winland brown (2001),”primary care the art and science of advance practice nursing” ,1<sup>st</sup> ed. Publisher F.A davis company Philadelphia pg.788-796.
6. lippincot manual ,medical surgical nursing ,9<sup>th</sup> edition page no 900 .
7. National Center for Biotechnology Information, U.S. National Library of Medicine8600 Rockville Pike, BethesdaMD, 20894USA.
8. [www.cancer.gov](http://www.cancer.gov).
9. [www.breastcancerinindia.com /intel.html](http://www.breastcancerinindia.com/intel.html)).
10. Times of India new Delhi 16 oct 2013 page no 6

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