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# Effectiveness of Cold Application, Heparinoid Application & Megnesium-sulphate Application on Superficial Thrombophlebitis- Literature Review

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## ABSTRACT

The current study aims to assess the effectiveness of Cold Application, Heparinoid Application & Megnesium-sulphate Application on Superficial Thrombophlebitis employing literature review as the methodology. Multiple databases were searched focusing of three treatment modalities for reducing pain & distress of Superficial Thrombophlebitis.

It was concluded that to provide quality care it is important that the evidence based practice guideline should be followed.

**Keyword:** *Cold Application, Heparinoid Application, Megnesium-sulphate Application, Superficial Thrombophlebitis, Evidence Based Practice, Pain & Distress.*

## INTRODUCTION

Intravenous infusions are an important aspect of therapy in both medical & surgical conditions. Over one fourth of hospitalized patients receive intravenous therapy for fluid replacement & administration of drugs<sup>1</sup>. It is also recognized that intravenous therapy exposes the patient to considerable variety of hazards. The registered nurse is the only member of the health team who can, on a continuous basis assumes the responsibility for regular monitoring of intravenous therapy and prevention of complications<sup>2,3</sup>.

Superficial Thrombophlebitis is defined as an inflammation of a vein and thrombus formation related to a chemical or mechanical irritation or both<sup>4</sup>. It is characterized by a reddened, warm area around the insertion site or along the path of a vein, pain & tenderness. In this condition, various methods can be used such as Cold application Heparinoid Application & Megnesium-sulphate Application<sup>5</sup>.

The literature reviewed was obtained through different database which includes CINHALL (Cumulative Index to Nursing & Allied Health Literature), MEDLINE (Medical Literature Analysis & Retrieval System Online), Pubmed, Science Direct, SpringerLink, ProQuest & Google scholar.

## MATERIAL, METHODS & FINDINGS

The study is headed in three main areas on based on interventions and these are cold application, heparinoid application & megnesium-sulphate application.

Moist ice pack application on the site of superficial thrombophlebitis for 5 minutes, twice daily for three days suggested that pain, bruise & Hematoma relieved in much better way. A randomized control study explicated that, Moist ice pack used for experimental group were statistically significant in favor of the use of moist ice pack while comparing the pain, bruise at subcutaneous injection site<sup>6</sup>.

To relieve pain at perineal area in mothers with episiotomy, hot and cold pack used but still cold application is significantly more effective in relieving perineal pain and alienating the discomfort. A quasi-experimental study in which 100 sample of postnatal mothers with episiotomy selected and randomly divided for two interventions such as Hot and Cold application. The finding of the effectiveness of hot and cold application in relieving perineal pain showed that there is a highly significant difference between effect of hot & cold application on time series. Cold application is significantly more effective in relieving perineal pain and alienating the discomfort<sup>7</sup>.



Heparinoid application is significantly used to treat sign & symptoms of superficial thrombophlebitis. Similarly a quasi experimental study was conducted to investigate the curative effect of notoginsy cream versus heparinoid cream in the treatment of post infusion thrombophlebitis, where it was statistically proved that heparinoid cream has good result comparatively<sup>8</sup>.

The Essaven gel in thrombophlebitis improves sign, symptoms & decrease skin temperature faster. A randomized, placebo controlled study for 4 week study evaluated the average skin temperature & analogue symptomatic score and proves it<sup>9</sup>.

A topical use of diclofenac also can be used as alternative to treat superficial thrombophlebitis. A prospective study was explicated that topical treatment of diclofenac can be recommended as an alternative, simple, effective & safe therapy for patients who develop Superficial Thrombophlebitis. In this study 120 sample size with male and female taken & divided in three groups of 40 each with three category, without treatment, topical diclofenac & oral diclofenac. The favorable answer after result is first, second & third group is 20, 70,60% respectively<sup>10</sup>.

A comparative study has shown that 44% of patient treated with 1000 IU/g heparin gel three times a day were symptom free at 1 week compared with 26% on placebo<sup>11</sup>.

The external use of magnesium sulphate solution to skin it provides heating effect to relieve symptoms. A descriptive study has shown that magnesium sulphate application helps to reduce pain and distress much faster comparatively other methods<sup>12</sup>.

### CONCLUSION

The treatment modalities for receiving symptoms of superficial thrombophlebitis are widely used as cold application, heparinoid application and magnesium sulphate application. As evidence based practices always promote safety & prevent complications. Moreover, the knowledge & competence of health care professional play an important role in enhancing safety of the patient.

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# Process Oriented Guided Inquiry Learning in Nursing Education

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## ABSTRACT

Employers want graduates who have the confidence and ability to make appropriate patient care decisions. This study was done to determine whether Process Oriented Guided Inquiry Learning (POGIL), would have an effect on the diploma in nursing students' academic achievement and confidence in learning. A convenience sample of students (n=73) were randomly assigned to two groups. A quasi-experimental study was conducted using pre-test/post-test together with a beginning/end of semester confidence in learning surveys. To determine the perception of the students towards the new instructional method, a semi-structured interview was done amongst nine students from the experimental group. Significant difference was found between the two groups towards confidence in learning, but not in the post-test scores. Three main categories and nine themes emerged from the interviews which supported the quantitative findings that POGIL as an instructional method has the potential to make a significant contribution to nursing education.

**Keywords:** POGIL, achievement level, confidence in learning.

## INTRODUCTION

Demand for nurses with diploma is high, but employers in Malaysia are very selective and want graduates who are committed and able to blend immediately into the working environment. They want nurses who have the confidence to communicate well in writing and orally, source for evidence-based information and think critically to solve and manage any nursing problems that may arise.

Majority of the millennials who join the programme are passive learners. When they are in the final semester, they are expected to have at least gained some ability to use the knowledge they had

learned in past semesters and during their clinical practicum to the coursework they are currently learning. In the clinical areas, if there is any deviation from norm, the students are also found to have difficulty applying the concepts learned in classroom. They have to be constantly supervised.

Current instructional methods are teacher-centred with emphasis on imparting discipline content. To replace these methods, innovative methods are being introduced to engage students not only in their own learning, but develop key skills that would enhance their employability and enable them to adapt to any new situations. One such active instructional method that is gaining much popularity in the field of science and meeting the needs of new workplace challenges is Process Oriented Guided Inquiry Learning (POGIL).

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## LITERATURE REVIEW

Grounded in educational research, POGIL was originally developed in the 1990s by educators who wanted to replace didactic teaching methods<sup>1</sup>. Based on constructivism, the focus of POGIL is on the student

and the process of learning. The students learn the required discipline content and the important skills which are relevant for their professional role and lifelong learning<sup>1</sup>. The allocated teaching time is used for discussions and guided inquiry activities with minimal or no lecture<sup>2</sup>. The lecturer acts as a facilitator rather than imparting information as content expert. Students are grouped into cooperative learning teams made up of four members, with each member having a specific role such as manager, presenter, recorder and strategy analyst. These roles are rotated for each class to enable the students to learn the associated key skills. The learning activities are designed around a three-phase learning cycle derived from Piaget's mental functioning model and Vygotsky's theory of learning<sup>3</sup>. Each class starts with a briefing of the learning outcomes to be achieved. Worksheets are then distributed with models specific to the course such as case scenarios and critical thinking questions<sup>2</sup>. In the exploration phase, students learn to examine and explore the given model. The given questions stimulate their curiosity and create the needed cognitive dissonance for critical thinking<sup>4</sup>. In the concept invention phase, the students learn to discover new concepts and relate to what they already know<sup>1</sup>. Finally, in the concept application phase, they learn to apply their conceptual understanding to new learning situations and in the process learn how to apply the concept learned to similar experiences they may encounter in the actual work setting. At the end of each class, learning teams are randomly selected to present their answers to the questions through their presenter. The whole class had to come to a consensus and agree on the right answer to each of the questions. Every team is given the opportunity to answer a question. The lecturer only intervenes to give a diagnostic assessment of the responses agreed upon and to use the information to provide a mini summary before ending the class<sup>2</sup>.

Successful implementation and effectiveness of POGIL in achievement levels and overall satisfaction of the students towards the method have been reported in many courses such as chemistry<sup>5, 6, 7</sup>, engineering<sup>8</sup>, aviation<sup>9</sup>, foreign language<sup>10</sup>, medicinal pharmacy<sup>11</sup>, anatomy and physiology<sup>12</sup>, biochemistry<sup>2</sup> and business marketing<sup>13</sup>. While academic achievement is important, students need to have a personal feeling of having succeeded in mastering a

learning task through their own abilities and efforts<sup>14</sup>. Confidence in learning is important and reported to have increased with POGIL<sup>2,7,15</sup>. Despite the benefits, students used to traditional teaching methods and the authoritative figure of the lecturer in the classroom were found not appreciative of POGIL<sup>8</sup>. Contributing factors were cited as unclear explanation given of the classroom format, expectations from the lecturers, inadequate feedback to the students and not listening actively to students' complaints<sup>8</sup>. This study was done to determine whether POGIL, a constructivist-based instructional strategy, introduced into a traditional teacher-centred environment would have an effect on the diploma in nursing students' achievement and confidence in learning. In addition, the study investigated the perception of students towards this instructional method.

## MATERIALS & METHODS

Mixed-methods sequential design was used to explore the following research questions:

1. Is there a difference between the post-test scores of nursing students in the POGIL group when compared to nursing students in the lecture group?
2. Is there a difference in the post-test scores between two genders of nursing students in the POGIL group when compared to nursing students in the lecture group?
3. Is there a difference in the post-test scores between the different nationalities of nursing students in the POGIL group when compared to nursing students in the lecture group?
4. Is there a difference in the end of semester confidence in learning scores of nursing students in the POGIL group when compared to nursing students in the lecture group?
5. What is the perception of nursing students towards POGIL as an instructional method?

In the quantitative phase convenience sampling was used. Final year students (n=73) registered for the course Communicable Diseases in January 2012 semester were selected. The class was divided into control (lecture method) (37 students) and experimental (POGIL) (36 students) groups. The course content, syllabus, homework and

examinations were similar. In the qualitative phase, purposive sampling of nine students, three with the highest scores, three with average scores and three with lowest scores from the experimental group were selected based on the final school examination results for the course Communicable Diseases and interviewed using a semi-structured format.

Two instruments were administered before and after the intervention: 1) Pre and post-test made up of 30 multiple choice items on Communicable Diseases and 2) A three-part confidence in learning survey questionnaire adopted and revised to suit the current course with permission from the authors<sup>16</sup>. The contents of the before and after intervention instruments were similar in all aspects except for tense changes in the end of semester confidence in learning survey format. The selected questions for pre and post-test were from the test bank and had undergone item analysis. Two senior lecturers checked the questions for content and face validity. Similarly, the confidence in learning survey was validated and piloted twice for test-retest reliability (Cronbach's alpha .912 and .891). The semi-structured interview format with five open-ended questions was also piloted among a similar group of students in July 2011 semester to determine the clarity of the questions, authenticity of the methods used and accuracy of findings<sup>17</sup>.

Ethical approval was granted by the university where the study was done. At all times confidentiality and anonymity of the students was maintained. Using SPSSv20, descriptive and inferential statistics were used to analyse quantitative data. Qualitative data was analysed using selective coding methods for themes and categories<sup>18</sup>.

## FINDINGS

Majority of the students were female (89%). Students were mainly from Malaysia (65.8%). Rest were from Botswana (28.8%) and Nigeria (5.5%). The mean age of the students was 22.3 years. The grade point average (GPA) of the students at the end of the previous semester ranged from 2.48 to 3.65 years with a mean of 2.87.

The main effect on post-test scores after controlling pre-test scores was not significant statistically between

the two groups, ( $F [1, 70] = .11, p = .740, \text{partial } \eta^2 = .002$ ). Only 0.2% of the student gains were related to POGIL as an instructional method when compared to the findings of other POGIL specific studies<sup>6,9</sup>. Similar to Barthlow<sup>6</sup>, the effect of group and gender in post-test scores was also not significant ( $F [1, 68] = .007, p = .934$ ). In addition, the effect of group and nationality was not significant ( $F [2, 61] = .057, p = .945$ ).

Confidence in learning of both groups at the beginning of semester was not significant ( $p > .05$ ). However, the computed t-value of independent t-statistic (equal variance assumed) showed a significant difference between the groups in the end of semester confidence in learning ( $p < .05$ ). The experimental group had a higher mean score compared to the control group<sup>2, 7, 15, 19</sup>. De Gale and Boisselle<sup>19</sup> had similar findings in a study done on students of an upper six class of a secondary school. However, their students in the POGIL class were academically good students compared to the nursing students who were academically average. Qualitative findings further strengthened these findings and showed the nursing students had benefited in terms of confidence gained.

Three main categories emerged from the interview. In the category, learning and teaching environment, four themes emerged: non-threatening environment, peer support, learning by doing and limited time. The students perceived their experience learning in a group and the use of worksheets did not hinder their learning. Despite the initial doubts, the psychologically safe environment and the support of peers were appreciated. The students perceived learning by doing and the intellectual discourse with their peers had benefitted them in many ways. However, the students stated of being stressful due to limited time in class to complete worksheets and prepare for each class. Some of the quotes are:

- *"It was fun, learning this way. I just express what I think is right. Not all the time we can be right. We never really had a problem as a group....so I like that."* (PG8);

- *"At first I thought, no way...I am going to get used to this kind of learning. What no lecturer. Later it sort of made sense. By working on it (worksheets) and you hear other people's opinion why they think that way about something you never thought of...made me check it out."* (PG8).

- *“So frus...stress...if manager or recorder and had to submit what is done next day in time (PG9).”*

The second category was personal factors with two themes: motivation to learn and self-confidence. From the responses, the students were found to be conscious of their own limitations and aware that doing the worksheets alone was insufficient. They knew it was important to read on their own. The students determination and effort put into learning was extrinsic and goal oriented, namely to do well in the course and ultimately get a good cumulative grade point. The constant feedback which is an in-built mechanism of POGIL classes was perceived by the students to have enabled them to self-assess and take the necessary steps to improve further. Such extremely motivated behaviours appear to have increased their self-confidence not only in examinations, but in the clinical area when giving care to patients<sup>20</sup>. Some examples of the student quotes were:

- *“I like to procrastinate, I never read before class. With POGIL you have to do it (PG6)”;*
- *“I think the POGIL classes helped me to be more sensible about the way to look at things in the ward. I was much more confident when reading patient case notes with hepatitis B. I sort of knew what to look for (PG4).”*

The third category was key transferable skills with three themes: teamwork, communication, critical thinking and clinical reasoning. The students perceived the skills they had learned in the POGIL class were important and difficult to learn in a lecture class where there is no active involvement and participation. Examples of some of the student quotes were:

- *“I know when I am absent from class, it can affect the group. We all have a responsibility and it is not fair if one of us do not show up” (PG6);*
- *“As a presenter, I learned to express my group’s ideas in front of the class” (PG3)*
- *“Without the right information we cannot think and reason out. Like we get to know not all the answers may be suitable for the particular case” (PG1).*

## CONCLUSION

It has been a challenge to introduce POGIL in a

teacher-centred environment. There were limitations which could not be avoided. True randomisation was not possible, but attempts were made to segregate gender and nationality before assigning the students to groups. All possible effort was taken to ensure both groups were kept as similar as possible to avoid extraneous variables. The small sample may have also contributed to statistical significance.

Nevertheless, the findings were encouraging and indicate that POGIL has the potential to contribute to nursing education in producing “work ready” graduates. One of the positive findings was the increase in the confidence in learning and how students perceived they had benefitted in many ways especially in learning important process skills when compared to lecture classes. Their only concern was the limited time for preparation and in completing the activities. Through self-assessment, they did realise the importance of prior reading and coming prepared for discussions. If POGIL had been introduced at beginning of the programme, it would probably have made a significant difference. A track and trend of achievement scores through the three years and further research will help to establish the effectiveness of POGIL especially in relation to retention of knowledge and level of growth in process skills.

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# Effectiveness of Teaching Intervention on Knowledge and Practices Regarding Endotracheal Tube Suctioning among Staff Nurses

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## ABSTRACT

The aim of the study is to assess the effectiveness of teaching intervention on knowledge and practice regarding endotracheal tube suctioning among staff nurses working at GGS Medical Hospital, Faridkot. A pre experimental one group pretest post test research design was chosen for the study. Convenient sampling technique was used to select 35 staff nurses to assess the effectiveness of teaching intervention. The tool used was a structured questionnaire for assessing the knowledge and observational checklist was used to assess the practice regarding endotracheal tube suctioning. The findings of this study revealed that the teaching intervention was effective in increasing the knowledge and practice regarding endotracheal tube suctioning. The mean pretest knowledge score of nurses who was  $19.23 \pm 4.180$  and after teaching intervention the mean post test knowledge score was  $27.26 \pm 4.046$ . The mean pretest practice score of staff nurses was  $6.91 \pm 1.772$  and after teaching intervention the mean post test practice score was  $10.54 \pm 1.686$ . The study concluded that the teaching intervention brought about a significant change in the level of knowledge and practice of staff nurses regarding endotracheal tube suctioning.

**Keywords:** Knowledge and practice of ICU staff nurses, Endotracheal tube suctioning, Effectiveness of teaching intervention.

## BACKGROUND

Respiration is act of breathing. There are three major alternations in respiration i.e. hypoxia, altered breathing pattern and obstructed or partially obstructed airways. Assessing for and maintaining an open/patent airway is nurses responsibility, one that often require immediate action.<sup>1</sup>

Millions of people around the world suffering from respiratory diseases and certain respiratory symptoms are among major causes of consultation at various health care institutions, for instance respiratory problems like Asthma and respiratory allergies, COPD, Occupational lung diseases, Sleep apnea syndrome, Pulmonary hypertension etc associated with increased mortality.<sup>2</sup>

Artificial airways are inserted to maintain a patent air passage for the client whose airway has become or may become obstructed. A patent airway is necessary so that air can flow to and from the lungs. Four of

more common types of airways are oropharyngeal, nasopharyngeal, endotracheal and tracheotomy.<sup>1</sup>

Endotracheal tubes are most commonly inserted for clients who have had general anesthetics or for those in emergency situations where mechanical ventilation is required. An endotracheal tube is inserted by the primary care provider, nurse, or respiratory therapist with specialized education. It is inserted through the mouth or the nose and into trachea with the guide of laryngoscope.<sup>1</sup> One area of nursing practice that has caused concern is the endotracheal tube suctioning of intubated patients.<sup>3,4</sup>

In the ICU setting the accurate assessment and application of invasive procedures can directly impact on the delivery of appropriate care for the patient within this area. The safe delivery of quality patient care should underpin all components of nursing care in the acute care setting. The inadvertent delivery of suboptimal care can lead to the occurrence of adverse events for the patient.<sup>5,6</sup>

Airway management forms a crucial component in providing life support within the intensive care setting. Advanced airway management can include invasive support measures such as the placement of ETT into a patient's airway to enable mechanical ventilation. When an ETT is in situ, a component of nursing care is to perform suction to clear secretions and maintain patency of the artificial airway.<sup>7</sup>

## MATERIALS & METHODS

A pre experimental one group pretest post test research design was performed. Researcher took 35 staff nurses by convenient sampling technique at GGS Medical Hospital, Faridkot. A structured questionnaire for assessing the knowledge and observational checklist to assess the practice regarding endotracheal tube suctioning were used. A structured questionnaire comprising of 38 questions related to endotracheal tube suctioning was prepared to assess the knowledge of staff nursing working in ICUs.

An observational checklist consisting of 15 items was prepared to assess the practice of staff nurses regarding the endotracheal tube suctioning. 35 staff nurses who fulfilled the inclusion and exclusion criteria were selected from the ICUs of GGS Medical Hospital, Faridkot conveniently. Every subject had given their socio demographic profile i.e. age, educational qualification, years of experience working in ICUs, hospital worked in, past clinical experience,

any in-service education program etc.

## FINDINGS

**A) Sample Characteristics** (Frequency and Percentage distribution of socio-demographic characteristics of study subjects)

Majority of 42.9% (15) of subjects were in the age group of 24-26 years, 40.1% (14) subjects were in the age group of 27-29 years and 17.1% (6) of subjects were in the age group of 30-32 years. 65.7% (23) of the subjects were GNM, 8.6% (3) were Post Basic B.Sc. Nursing, 25.7% (9) were B.Sc. Nursing educated. About 11.4% (4) of the subjects had an experience of 1 year, 51.5% (18) had 2-3 years of experience and 37.1% (13) of subjects had an experience of 4years or more. 34.3% (12) of the subjects had worked in private hospital whereas 65.7% (23) had worked in government hospital. About 31.4% (11) of the subjects had a past clinical experience of Neuro ICU, 45.7% (16) in Medical ICU, 8.6% (3) in Neonatal ICU and 14.3% (5) in ICCU and 37.1% (13) of the subjects had got in-service education related to endotracheal tube suctioning and 62.9% (22) of the subjects had not got in-service education related to endotracheal tube suctioning.

**B) To assess the pre intervention knowledge and practice regarding endotracheal tube suctioning among staff nurses.**

**Table 1: Frequency, Percentage distribution, Mean score and Standard Deviation of the pretest knowledge and practice scores of staff nurses regarding endotracheal tube suctioning. N=35**

Level of knowledge	Criteria	Frequency	Percentage	Mean Score	S.D.
Adequate knowledge	Above mean	12	34.28%	19.23	±4.180
Inadequate knowledge	Below mean	23	65.71%		
Level of practice	Criteria	Frequency	Percentage	Mean Score	S.D.
Adequate practice	Above mean	14	40.0%	6.91	±1.772
Inadequate practice	Below mean	21	60.0%		

**C) The teaching intervention was effective on increasing knowledge and practice scores regarding endotracheal tube suctioning among staff nurses which is statistically significant. N= 35**



**Table 2: Mean, standard deviation and paired 't' test of knowledge and practice of effectiveness of the teaching intervention regarding endotracheal tube suctioning**

Knowledge Score	Mean score $\pm$ SD	Paired 't' test Value	Df	p value
Pre test	19.23 $\pm$ 4.180	22.393	34	0.000*
Post test	27.26 $\pm$ 4.046			
Practice Score	Mean score $\pm$ SD	Paired 't' test Value	df	p value
Pre test	6.91 $\pm$ 1.772	17.330	34	0.000*
Post test	10.54 $\pm$ 1.686			

\* =  $p < 0.05$  level

D) The practice scores was found to be associated with educational qualification i.e.  $p$  value = 0.026. N= 35

**Table 3: Association between pretest knowledge and practice scores of staff nurses regarding endotracheal tube suctioning with selected socio demographic variables**

S.No.	Socio-demographic Variables	Knowledge scores			Practice scores		
		$\chi^2$	df	p value	$\chi^2$	Df	p value
1.	Age	4.269	2	0.118	0.579	2	0.275
2.	Educational qualification	5.797	2	0.055	7.262	2	<b>0.026*</b>
3.	Years of experience in ICU	0.394	2	0.821	1.617	4	0.806
4.	Type of hospital worked in	0.442	1	0.506	0.021	1	0.884
5.	Past clinical experience	4.195	3	0.241	3.998	3	0.262
6.	Attended in-service education program related to endotracheal suctioning	0.114	1	0.736	0.326	1	0.568

\* =  $p < 0.05$  level

## DISCUSSION

Findings of the study revealed that the knowledge pretest mean score was 19.23, knowledge posttest mean score was 27.26. The mean practice pretest score was 6.91, mean practice posttest score was 10.54. Phillips R (2010) demonstrated that the planned teaching programme was effective in increasing knowledge from 18.35 to 22.45 and practice score from 19.85 to 34.80 regarding ET suctioning among staff nurses.<sup>8</sup>

The present study showed that the study subjects had inadequate level of knowledge (23) and practice (21) while performing endotracheal suctioning. Kelleher, Andrews T (2008) found that the practices followed by critical care nurses did not adhere to

best practice suctioning recommendations and consequently provided lower-quality ETS treatment than expected.<sup>9</sup>

So it was concluded that present status of knowledge and practice of staff nurses regarding endotracheal tube suctioning, Majority of staff nurses had inadequate knowledge and practices. The teaching intervention was effective in term of knowledge and practice gain. The difference between pretest and posttest knowledge and practice was found statistically significant.

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**Conflict of Interest:** None

**Source of Funding:** Nil

**Ethical Clearance:** The ethical approval was taken from ethical committee of University College of nursing, Faridkot. Permission was taken from Medical superintendents of the hospital prior to final data collection. Apart from this, informed consent was taken from each respondent to participate in the study.

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# Parents Influence on Quality of Life of Children with Epilepsy: An Evaluative Survey

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## ABSTRACT

An evaluative survey was conducted to investigate the influence of parents in the HRQOL of children with epilepsy. Sixty children with epilepsy from pediatric neurology clinic (OPD) and 60 normal children and their parents were enrolled for the study. The HRQOL of epilepsy children as assessed by the children themselves and their parents was compared with normal children and their parents using a standardized Peds QL 4.0 tool. Both, children with epilepsy and their parents, despite having chronic illness like epilepsy, rated better quality of life than the comparison group. Parents had made significant influence in the quality of life of children with epilepsy.

**Keywords:** Health related Quality of life, Epilepsy, Parents, Normal Children

## INTRODUCTION

Parents lay the foundation stone in the development of their children in their formative years. Their presence place a positive impact on the physical, emotional, cognitive and social development of children, thus improving their academic performance as well. Having parents to take care of the physical, emotional health, displace a tremendous amount of stress out of children's mind in growing years. It may also empower them to outgrow the limitations with parents' constant support and guidance. While being affected by a chronic health problem like epilepsy children may show varied responses in various phases of development. But parents play an important role in alleviating the negative impact of such a problem which could alter the perceived health related quality of life by these children.

Epilepsy is a neurological condition characterized by recurrent seizures due to transient disturbances of cerebral function secondary to abnormal paroxysmal

in the brain. According to the World Health Organization (WHO) definition, "a diagnosis of epilepsy is made in the presence of recurring seizures, at least two unprovoked ones." Approximately 45,000 children under the age of 15 develop epilepsy each year. Population based studies report prevalence rate of 3.6 to 4.2 per 1000 for children in developed countries; and approximately double these rates in developing countries.<sup>1-5</sup> The prevalence rates of epilepsy in India are similar to those of developed nations.<sup>6</sup>

While seizure's experience itself is frightening, these children often face other problems too like learning, cognitive and school difficulties, medication side effects, social stigma, psychiatric co-morbidity, and behavioral problems<sup>7-9</sup> Epilepsy can negatively impact physical, social and psychological function in the developing years. **Traditionally, seizure control has been the main focus of medical management of epilepsy, whereas the importance of assessing quality of life (QOL) has been ignored<sup>10</sup> and** certainly, not the role of parents in it.

Considering the above factors it is important to measure health-related quality of life (HRQOL) in children with epilepsy. Proxy ratings are often used to assess HRQOL in young children. Children,

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however, may have different perspectives from that of their adult proxies. Identification of such potential differences is important for developing comprehensive treatment programs for children and families with epilepsy.<sup>11</sup>

Epilepsy is a complex neurological condition with many possible co-morbid features. The few previous studies which have focused on the quality of life of children with epilepsy have mainly relied upon parent-proxy reports.<sup>11</sup> In the current shifting paradigm of giving more autonomy to children in health care decisions, this study intends to explore the perspectives of children regarding their quality of life; and how things are perceived from their point of view which might be different from that of their parents. Also studies explaining how quality of life of children with epilepsy is affected by the presence of their parents are difficult to find in literature. So this study intends to further expand the picture by exploring this area.

The objective of this survey was to find out the influence of parents in the HRQOL of children with epilepsy and to compare the QOL of epilepsy children with normal ones, who were not staying with their parents regularly. This might also help to get a comprehensive picture of the children who are being treated in epileptic clinics, looking beyond seizure control, and may assist in planning their stay with parents during school education; giving special attention to convey parenting tips on taking care of these children for better physical, emotional, social health, cognitive development and academic functioning.

## METHODOLOGY

Sixty children with epilepsy and equal number of normal children along with their parents were enrolled for the study. Data were collected from pediatric neurology clinic (OPD) between January-December 2013. The HRQoL of epilepsy children as assessed by the children themselves and their parents was compared with normal children (from a residential school) using a standardized Peds QL 4.0 tool. Children with epilepsy were enrolled using consecutive sampling technique while normal children studying in a residential government school (having their parents staying within the vicinity of

10-15 Km) were purposively selected between 12-15 years of age, who could go home during weekend, holiday vacation and during acute illness.

Considering the mean score of QOL in epilepsy children as  $75.5 \pm 20.8$ <sup>12</sup> with 95% confidence and 5% absolute precision, the calculated sample size was 60 for epilepsy group. In order to study the role of parents in care of epilepsy children, quality of life of these children were compared with healthy children as a group of 60 constituting total of 120 children.

The inclusion criteria for enrolling sample were: children with epilepsy between 5-18 yrs and on treatment for 6 months or more, not having any other chronic illness and for the normal children age between 5-18 years, not having any chronic illness or not on any kind of medical treatment or having no physical or mental disability, attending school regularly, children and their parents who could understand/read/write Hindi and willing to participate in the study.

Ethical clearance was taken from ethics committee of the institute. Informed written consent was taken from the parents and assent from children. Confidentiality of information and anonymity of the subjects was maintained. Subject data sheet was used to collect the demographic profile of respondents. The 23-item PedsQL 4.0, Hindi version, a standardized tool (alpha =0.88 child and 0.90 parent report) was used to assess quality of life of children in epilepsy and normal children. Tool included scales: i) physical functioning (8 items), ii) emotional functioning (5 items), iii) social functioning (5 items), iv) school functioning (5 items). The scales were composed of both the child-self report and parent-proxy report formats for children aged 5 to 18 years Items were reverse-scored and linearly transformed to a 0-100 scale (0=100, 1=75, 2=50, 3=25, 4=0). Higher scores indicated better health-related QoL. Data was analyzed using descriptive and inferential statistics using SPSS 17.0. The Chi-square test, coefficient of correlation, independent t test were used, p value < 0.05 was considered statistically significant.

## RESULTS

Mean age of children with epilepsy and normal children (yr) was  $9.06 \pm 2.68$  and  $12.7 \pm 1.33$  respectively. Mean age (yr) at the time of onset of seizures

and diagnosis in epilepsy group was  $5.9\pm 3.5$  and  $6.17\pm 3.5$  respectively. Majority children in epilepsy group were male 42 (70%) while in normal group were female 36(60%). Majority children in epilepsy group 49(81.67%) and all normal group were attending school. Most of the children (31, 51.7%) had generalized seizures followed by partial seizures (22, 36.7%) with the frequency less than 1 /month 47 (78.3%), on one antiepileptic drug (24, 40%), followed by 2 epileptic drugs (18, 30%) and remaining were on more than 2 drugs.

Majority PCG at home in epilepsy group were mothers (53, 89.83%) while PCG in normal children group were both parents (38, 63.33%). Mean age of parents (father and mother) in epilepsy and normal children was  $39.39\pm 5.8$ ,  $33.64\pm 7.6$  and  $40.17\pm 4.8$ ,  $35.63\pm 4.08$  respectively. Both the groups were comparable in terms of place of residence, occupation, education of mother and father, family income and health of siblings ( $p>0.05$ )

**Table 1: HRQOL in Normal Vs Epilepsy Children: Child and Parental Perception n=120**

Domain	Child (n=120)		p value	Parent proxy (n=120)		p value
				With epilepsy Mean $\pm$ SD	Normal Mean $\pm$ SD	
Physical health	671.67 $\pm$ 164.579	633.58 $\pm$ 97.714	0.00*	696.25 $\pm$ 143.195	585.42 $\pm$ 130.131	0.00*
Emotional health	402.08 $\pm$ 141.08	326.67 $\pm$ 64.58	0.00*	397.08 $\pm$ 80.134	353.33 $\pm$ 91.881	0.01*
Social health	411.67 $\pm$ 141.08	401.25 $\pm$ 67.72	0.00*	432.08 $\pm$ 132.934	397.50 $\pm$ 86.566	0.09
School health	296.25 $\pm$ 167.41	359.58 $\pm$ 63.46	0.00*	299.17 $\pm$ 173.019	366.67 $\pm$ 89.332	0.00*
Overall health	1781.67 $\pm$ 437.56	1695.83 $\pm$ 231.89	0.00*	1824.58 $\pm$ 403.231	1702.92 $\pm$ 321.513	0.07

Independent t test ( $p<0.05$ )

Children with epilepsy perceived HRQOL better than normal children overall and in the domains of physical health, emotional health and social health ( $p=0.00$ ), while in school health domain normal children perceived their HRQOL better than epilepsy children. Children with epilepsy did not have any problem in walking, running, doing exercise, weight lifting, self care, household activities and did not complain of pain and fatigue doing such activities. They also did not have any fear, sadness, anger, sleeping problem or future worries due to the disease. No problem was felt by the children with epilepsy in maintaining friendship with others and did not have the fear of being bullied by others. The only domain

in which normal children did fairly well was school health. Normal children did not have any problem related to attentiveness, memory, doing home work and absenteeism from school due to sickness or hospital visit, while children with epilepsy had faced all these problems.

Similarly parents of children with epilepsy assessed HRQOL of their children better than parents' of normal children in the domain physical health and emotional health ( $p=0.00$ ) while in the domain of school health parents of normal children found better HRQOL.

**Table 2: Comparison of HRQOL in normal Vs epilepsy children reported by child and parent**

Domain	Group	Child (Mean±SD) n= 60	Parent proxy, (Mean±SD) n= 60	p value
Physical health	Normal	608.33±97.71	585.42±130.13	0.28
	Epilepsy	671.67±164.58	696.25±143.19	0.38
Emotional health	Normal	326.67±64.58	353.33±91.88	0.01*
	Epilepsy	402.08±94.92	397.08±80.13	0.76
Social health	Normal	401.25±67.72	397.50±86.57	0.03*
	Epilepsy	411.67±141.08	432.08±132.93	0.42
School health	Normal	359.58±63.46	366.67±89.33	0.01*
	Epilepsy	296.25±167.41	299.17±173.02	0.93
Overall health	Normal	1695.83±231.89	1702.92±321.51	0.01*
	Epilepsy	1781.67±437.56	1824.58±403.23	0.58

Paired t test ( $p < 0.05$ )

Parents and children in epilepsy group assessed HRQOL similarly while in normal children parents had overestimated HRQOL of their children in the domain of emotional ( $p=0.01$ ), school ( $p=0.01$ ) and overall health ( $p=0.01$ ), while normal children assessed themselves better in social health domain ( $p=0.03$ )

## DISCUSSION

In the present study, HRQOL was rated higher in epilepsy children in physical, emotional and social health ( $p=0.00$ ). The reasons for this could be well controlled seizures in majority children and being on one or two AED, these findings are in contrast to the findings given by Malhi P, Singhi P<sup>13</sup> in which Children with epilepsy have a relatively compromised quality of life, when put on multiple anti-epileptic drugs. Similarly parents of these children assessed HRQOL of their children higher in physical health and emotional health ( $p= 0.00, 0.01$ ).

It is important to note that the children with epilepsy were all living with their parents having them to guide and compensate for their difficulties and ensuring compliance with anti-epileptic drug therapy giving higher ratings in perceived quality of life in physical, emotional and social health ( $p=0.00$ ).

Besides, living with epilepsy or any chronic health problem brings an expected range of compromises in daily life which might subconsciously become accepted as normal over time.

Childhood epilepsy is a chronic neurological disorder also associated with profound psychosocial limitations. Children with epilepsy generally have normal intelligence, which is no different from that of non-epileptics. But epilepsy can affect child's education, thereby leading to trouble learning and lower grades in the school. In the present study school health was the only domain in which low scores were found in comparison to normal children both by children and their parents ( $p=0.00$ ).

In the present study child vs. parent proxy in epilepsy group had similar HRQOL scores, which are in contrast to the findings given by Yong Li<sup>14</sup> in which children rated their HRQOL better than their parents. In normal children, parents overrated HRQOL in the domain of emotional, school and overall health while children had higher HRQOL scores in social health. Normal children not staying daily with parents, spending most of the time with peer group could be the probable reason for the difference in scores.

The role of parents in the initial formative years during childhood is very critical. The present study also surfaces the need for giving special attention to

parents of these children as they have an important role to play in the quality of life these children. So let the need of the hour be a comprehensive package of care and counseling to the duo.

Small sample size, single centre cross-sectional study with purposive and consecutive sampling of the children limits the generalizability of the findings. The present study has several implications and recommendations. Health care professionals should look beyond the seizures in children, its type, medication and should pay attention to the key areas of HRQOL in children with epilepsy and explore factors affecting HRQOL in these children such as parental age & education, place of residence, type of family, socio-economic status etc. so as to provide holistic care to these children along with education and counseling to their parents. The study can be replicated in larger group with qualitative component in it. Longitudinal studies in this regard would reveal more valuable, meaningful and important issues related to HRQOL in children with epilepsy. The study can be done with any other chronic illness like asthma, ESRD, cystic fibrosis and leukemia etc.

### CONCLUSION

Parents have an important and influential role in enhancing the quality of life of normal children and children with epilepsy.

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**Conflict of Interest -** None

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**Competing Interest:** None

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# A Quasi Experimental Study to Assess the Effect of Relaxation Technique on Stress Related to Adjustmental Problems among Staff Nurses working in Selected Hospitals of District Jalandhar, Punjab, 2015

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## ABSTRACT

**Background of the study:-** The stress and adjustmental problems are interrelated terms. So 'Lazarus' advocated a psychological view in which stress is "a particular relationship between the person and the environment that is appraised by the person as the exceeding his or her resources and endangering his or her well-being" that results in adjustmental problems.

**Objectives:** 1. To assess the stress related to adjustmental problems among staff nurses of control group and experimental group before intervention.

2. To assess the stress related to adjustmental problems among staff nurses of control group and experimental group after intervention.

3. To compare the stress related to adjustmental problems before and after the intervention among staff nurses of control group and experimental group.

4. To find out the association of stress related to adjustmental problems among staff nurses with their selected socio demographic variables.

**Research Methodology:** Quasi Experimental(Non Equivalent Pre Test Post Test Control Group) design was used on 60 staff nurses of selected hospitals of District Jalandhar, Punjab by using convenience sampling technique.

**Result and Conclusion:** The Pre test stress score in control group reveals that out of 30 samples, 16(53.3%) staff nurses had severe stress and 13(43.3) had moderate stress, where as in experimental group, 18(60%) staff nurses had severe stress and 12(40%) had moderate stress score. After implementation of relaxation technique on experimental group, the stress score was significantly reduced that was 18(60%) staff nurses had mild stress and 12(40%) had moderate stress. The significant mean difference was 19.502\* in experimental group, at  $p < 0.05$  level of significance. Hence, it was concluded that relaxation technique was useful in reducing stress related to adjustmental problems among staff nurses. Education and income has impact on stress related to adjustmental problems among staff nurses

**Keywords:** "Relaxation Technique" "Stress related to Adjustmental Problems" "staff nurses" "selected hospitals".

## INTRODUCTION

Adjustment may be defined as a process of altering behavior to reach a harmonious relationship with the environment. When people say they are in an "adjustment period" they typically mean they are

going through a process of change and are searching for some level of balance or acceptance with the environment, others, or themselves.<sup>1</sup>

Stress is defined as "a state of psychological and/or physiological imbalance resulting from



the disparity between situational demand and the individual's ability and/or motivation to meet those demands." (Dr. Hans Selye).<sup>2</sup>

According to WHO statement, the most stressful type of work is that which values excessive demands and pressures that are not matched to workers' knowledge and abilities, where there is little opportunity to exercise any choice or control, and where there is problems in adjusting to the work environment and where there is little support from others.<sup>3</sup>

Work contents that leads to stress and adjustment problems among nurses includes - job content (monotony, under-stimulation, meaningless of tasks etc) - work load and work pace (too much or too little to do, work under time pressure, etc.) - working hours (strict or inflexible, long and badly designed shift systems) - Participation and control (lack of participation in decision-making, lack of control over work processes, pace, hours, methods, and the work environment).<sup>4</sup>

Progressive muscle relaxation is a systematic technique for achieving a deep state of relaxation. It was developed by Chicago physician Edmond Jacobson who discovered that a muscle could be relaxed by first tensing muscles for a few seconds and then releasing it. Tensing and relaxing of various muscle groups throughout the body produces a deep state of relaxation which Doctor Jacobson found capable of relieving a variety of conditions. Excellent results have been observed with this method in the treatment of muscle tension, anxiety, insomnia, depression, neck and back pain, high blood pressure, mild phobia and stuttering.<sup>5</sup>

## MATERIALS AND METHOD

This study was conducted on staff nurses in different hospitals of district Jalandhar .i. e S.G.L. Charitable hospital, Sacred Heart hospital, Capitol hospital, Johal hospital, Jalandhar, Punjab, India. Quasi - Experimental Design (non equivalent pre-test, post-test control group design) was adopted and a total of 60 staff nurses were selected for the study, who met the inclusion criteria. Self-structured rating scale was used to assess the level of stress related to adjustmental problems.

## RESULTS

The first objective revealed that in control group, majority (60%) staff nurses had severe stress, followed by moderate stress score (40%). Among experimental group, majority (53.3%) staff nurses had severe stress, followed by moderate stress score (43.3%).

The second objective revealed that post test stress score after administration of relaxation technique in experimental group was (60%) of staff nurses had mild stress score,(40%) had moderate stress score and no one had mild stress score. Among control group, majority (50%) of the staff nurses had severe stress score followed by moderate stress score (46.7%) and (3.3%) had mild stress score.

According to third objective in present study comparison, the post test mean stress score 21.07 in experimental group was less than post test mean stress score 37.43 in control group and it was statistically significant at  $p < 0.05$  level as calculated 't' value ( $t=19.502^*$ ) was more than the table value at  $p < 0.05$  level of significance.

The fourth objective revealed that in control group significant association were found with monthly income variable whereas in experimental group, significant association were found with education and monthly income.

## CONCLUSION

A total number of 60 samples were selected for this study. The Pre test mean stress score of experimental group was 38.30 and Post test mean stress score was 21.07. The Pre test mean stress score of control group was 38.47 and Post test mean stress score was 37.43. The significant difference was  $19.502^*$  in experimental group, research hypothesis was accepted at  $p < 0.05$  level of significance and null hypothesis was rejected. Education and monthly income had impact on stress related to adjustmental problems among staff nurses knowledge. Hence, it was concluded that relaxation technique was useful in stress related to adjustmental problems.

## DISCUSSION

The first objective was to assess the effect of relaxation technique on stress related to adjustmental problems among staff nurses of control group and

experimental group before intervention. The findings of the present study revealed that in control group, majority (53.3%) of staff nurses had severe stress score followed by moderate stress score (43.3%). Among experimental group, majority (60%) of the staff nurses had severe stress score, followed by moderate stress score (40%).

The findings of the objective were supported by Ms. Palak Patel(2014), conducted to assess the effectiveness of Progressive Muscles Relaxation Therapy on stress among Staff Nurses Working in Selected Hospitals at Vadodara City. The findings of pre test in this study shows that in pre-test 13.33% had severe stress, and 40% had moderate stress and 46.67% had mild stress respectively.

According to second objective was to assess the effect of relaxation technique on stress related to adjustmental problems among staff nurses of control group and experimental group after intervention. In the present study, training for Relaxation technique was taken from the expert and was implemented on the staff nurses through demonstration method. After that post test findings of the present study revealed that in control group 50% had severe stress and 46.7% had moderate stress, whereas in experimental group 60 had mild stress and 40 had moderate stress.

Among control group, the mean score of stress in post test was 37.30 and in experimental group was 21.07 that shows that relaxation therapy had impact on stress related to adjustmental problems among staff nurses. The findings of the study were supported by study conducted by **Palak Patel (2014)** ), conducted to assess the effectiveness of Progressive Muscles Relaxation Therapy on Stress among Staff Nurses Working in Selected Hospitals at Vadodara City, which revealed that in experimental group, the post test mean score 36.67 was less than pretest mean score 64.17, that shows a significant difference in stress score of nurses.

The third objective was to compare pre test and post test stress score related to adjustmental problems among staff nurses of control and experimental groups. In present study comparison, the post test mean stress score 21.07 in experimental group was less than post test mean stress score 37.30 in control group and it was statically significant at  $p < 0.05$  level as calculated

't' value ( $t=8.183^*$ ) was more than the table value at  $p < 0.05$  level of significance. It showed that the post test of control and experimental were significantly related. Pre test and post test of experimental group were also significantly related as calculated' value ( $t=19.502^*$ ) was more than the table value at  $p < 0.05$  level of significance. This objective is discussed with a study conducted by **Palak Patel (2014)** to assess the effectiveness of Progressive Muscles Relaxation Therapy on Stress among Staff Nurses Working in Selected Hospitals at Vadodara City, which revealed that the mean post-test stress score 36.67 was less than the mean pre-test stress score 64.17, ( $t=20.580$ ).

The fourth objective was to find out the association between stress score related to adjustmental problems among staff nurses with their selected socio demographic variables i.e age, gender, education, area of work, experience, religion, marital status, type of family, residence and income. Present study revealed that in control group significant association were found in income variable whereas in experimental group, education and income had significant association with the selected demographic variables.

This objective of study was discussed with study conducted by **Palak Patel (2014)**, which shows a significant association with the monthly family income. These findings are similar to present study findings.

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#### **Ethical Considerations:**

1. Written permission was taken from principal of S. G. L. Nursing College Semi Jalandhar.
2. Written permission was taken from ethical clearance committee of the S.G.L Nursing College Semi Jalandhar.
3. Written permission was taken from Medical Superintendents of S.G.L Charitable hospital, Saret

Heart hospital, Capitol hospital and Johal hospital of District Jalandhar, Punjab.

4. Informed consent was taken from each study sample.

5. Confidentiality and anonymity of study samples maintained throughout study.

**Source of Funding:** Self

**Conflict of Interest:** Nil

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# Analysis of Health Care Delivery System in Pakistan and Singapore

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## ABSTRACT

Health plays a significant role in individuals' life and in restoring this; health care system of a nation contributes its major part. According to World Health Organization health system is defined as "all the activities whose primary purpose is to promote, restore and/or maintain health". This paper primarily describes the health care delivery system of Pakistan and Singapore, analysis of both the health care systems and discusses some of the recommendations in order to improve health care sector of Pakistan.

**Keywords:** Health care, delivery, system, Pakistan, Singapore.

## INTRODUCTION OF PAKISTANI HEALTH CARE DELIVERY SYSTEM

Pakistan is the six most populated country of the world with a population of 180.44 million people approximately.<sup>22</sup> Pakistan came under the category of low income countries with low human development index rank of 146. According to Pakistani constitution, health is chiefly governs by the provisional authorities. Federal government is responsible for various health laws/policy making at national level, collecting foreign funds to generate provisional health facilities, organizing public health and educational awareness programs. The Pakistani health system is divided into public and private sectors respectively. The mode of health care delivery in Pakistan starts from basic health unit and rural health centers; are the primary health care services. Secondary care is provided through Tehsil headquarter and district headquarter hospital, where as tertiary care facilities are comprises of teaching hospitals mostly located in big cities. In addition, Pakistan military, railways and airlines etc, also have their own health services available for their employees and families. Private health sectors

are well organized bodies offering services on charge bases. The health expenditure per capita in Pakistan is reported to be 750-800 (US \$ 12-13). It is estimated that 25% of this is contributed by public sector and rest of the 75% is invested by private service fee system.<sup>11</sup>

## SINGAPORE HEALTHCARE DELIVERY SYSTEM

Singapore, is an island country with a population of 5.2 million, it was founded as a British trading colony in 1819. It joined the Malaysian Federation in 1963 but separated two years later and became independent. Singapore successively became one of the world's most flourishing countries with strong international trading links and with per capita GDP equal to that of the leading nations of Western Europe. It is well-known for its efficient and widely covered healthcare system. The philosophy of Singapore's healthcare system consists of three pillars. Firstly, the country is expected to build a healthy population with focus on prevention and to encourage healthy lifestyles. Secondly, Singapore also emphasizes its citizen to take responsibility towards healthy living through the "3M" (Medisave, Medishield and Medifund) health system. Lastly, the government has to keep the healthcare costs down by controlling the supply side of the healthcare services and providing heavy aids at public healthcare institutions. The three main healthcare regulators in Singapore are Ministry of Health (MOH), Central Provident Fund (CPF) and

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Monetary Authority of Singapore (MAS).<sup>25</sup>

## HEALTH CARE INDICATORS

Key health indicators of Pakistan includes demographic like total population, life expectancy at birth, crude birth and death rates, fertility rates, maternal mortality rate, education and literacy rates and many more. Disease burden and outcome indicators comprised of maternal and child health, communicable and non-communicable diseases etc. input indicators involves the finance expenditure on health and facilities. Moreover, emergency and disaster management is one of the most indicators as Pakistan faced lots of natural and manmade crises in last many years.<sup>12</sup> Pakistan was and is still striving to meet all these needs but due to the political influences, corruptions and non-availability of financial and human resources these targets are not achieved on allocated time. In addition, non-functional health information system (HIMs) is one of the significant drawback to maintain, record and analysis of the health care indicators for further decision making process.

In contrast, Singapore also has some health indicators. The main categories for those are child malnutrition (e.g. low birth weight in children), malnutrition in women (e.g. anemia in pregnant women), health services (e.g. skill health attendants, immunization and sanitation etc), and food security (e.g. consumption of iodine salt). The government also records the data for caring practices (e.g. breast feeding), commitment /capacity and education.<sup>25</sup> Singapore has well defined active HIMs which make their health care delivery system towards improvement and betterment.

## ANALYSIS OF BOTH THE HEALTHCARE SYSTEM

This section is mainly focus on the comparative analysis of both the healthcare system based on WHO health system framework developed in 2000.

### HEALTH SERVICES

Pakistan is struggling to achieve the quality health care standards like other developing countries by setting several goals and expectation. Unfortunately, Pakistan has failed to capture the target of "Health for All" 2000 due to the lack of resources, strong

applicable policies and mismanagement among authorities etc. In addition, the health authorities are now striving to fulfill the millennium development goals (2015), but due to the political and economical uncertainties it seems unlikely to accomplish the task.

On contrast, Singapore support achievement of millennium developmental goal and recognizes challenges face by many low income countries. Singapore and China are building eco city in Tianjin to promote environment sustainability.

## FINANCING

Healthcare financing refers to the ways in which money is raised to fund health activities as well as how it is used (that is, the allocation of funds).<sup>3</sup> Pakistan face a major challenge of improper financing. Pakistan belongs to a low socio-economic group of countries. The government has been spending only 0.6-1.19% of GDP on health. Only 3.4% of the total budget was allocated to the health sector and 80% of which spend on curative purpose in secondary and tertiary care services and rest to the primary health care services.<sup>17</sup> Scarcity of resources, corruption and accessibility issues are the common hindrances in the delivery of effective health services.

In Singapore healthcare financing is based on two philosophies. Firstly, its individual citizen is responsible to contribute some amount for their health through savings or life insurance. Second, the government is responsible to provide equal and affordable healthcare to all. Singapore has a mixed financing system with multiple layers of shelter to confirm that no Singaporean is deprived of access to basic healthcare because of affordability issues. In 2008, 32% of healthcare was funded by the government. It accounts for approximately 3.5% of Singapore's GDP.<sup>25</sup>

## HEALTH WORKFORCE

Health workforce includes all those responsible to provide health care to public. It includes doctors, nurses, lady health visitors, paramedic staff, educator and managers. In term of quality, less attention has been paid by government on Pakistani population. Today, the doctor to patient ratio in Pakistan is 1:1300, having increased from a baseline of 1:60,000 in 1947.<sup>10,6</sup>

On the other side, the nurse to population ratio is 1: 3568 for registered nurses and 1: 54, 276 for LHVs.<sup>14</sup> Moreover, there is also chronic shortage of senior managers and health administrators.<sup>10</sup> However few efforts are in progress to fill these gaps.

Working on its philosophy Singapore is also strived its best to provide tremendous healthcare. According to,<sup>16</sup> Singapore occupies 6 out of 191 nations to provide good health facility whereas Pakistan is at 121.

### **MEDICAL PRODUCTS AND TECHNOLOGIES**

To improve the health of poor people require many varieties of health innovations, such as new drugs, vaccines, devices, and diagnostic tools, as well as new techniques in process engineering and manufacturing, management approaches, software, and policies in health systems and services.<sup>10</sup> However Pakistan is very behind in term of advance technology that caters the needs of advance and complex surgeries. On the other hand, health information management system is not very well developed due to which health data are not recorded accurately or delayed. To overcome these issues telemedicine and the concept of e-health have been implemented as pilot projects in rural areas like Baltistan and Education Foundation, with the technical assistance of Comsats.<sup>10</sup>

Singapore health care delivery system is highly technology focused. Demand for state of the art medical technologies is high as Singapore strives to provide first class healthcare delivery systems and facilities to its residents as well as serve the international patient market. The Government of Singapore is targeting 1 million foreign patients each year, contributing S\$2.6 billion (US\$1.55) of value-added or 1% of GDP.<sup>25</sup>The national healthcare plan covers almost 100% of the population. This promises well for the healthcare industry as Singaporeans all have access to medical care.

### **INFORMATION**

The health management information system (HMIS) of a country is developed to collect, report and analyze the health related data which helps to identify gaps and used for further planning

and decision making process. Ministry of health of Pakistan has formulated HMIS in 1991-92 but unfortunately the system doesn't work well.<sup>16</sup> With the collaboration of WHO Pakistan is working on the betterment of HIMS. Currently, 80 people trained from overall 134 districts and 77 districts are regularly reporting health related activities.<sup>23</sup>

Singapore has an integrated health information system (IHiS) that was built in 2000 with the mission to lead and deliver technology for excellence in healthcare. IHiS is a healthcare IT leader that transforms patient care through quality in technology. Singapore has IT experts with over 700 IT professionals and more than 30,000 healthcare users' at all public hospitals, specialty centers and polyclinics. According to Professor Benjamin Ong,<sup>20</sup> "By implementing IT appropriately to optimize workflows and processes, our people have ensured that unnecessary administrative tasks have been reduced. This has translated into more time for patient care and enhanced patient safety".

### **SERVICE DELIVERY**

In Pakistan the government health care facilities consist of 1096 hospitals, 5527 basic health units, 650 rural health centers and 5310 dispensaries approximately,<sup>15</sup> altogether making efforts to accomplish health of common people. According to the 18<sup>th</sup> amendment all responsibilities of health care delivery system is a provisional mandate and no more remains the federal part. Accept few national programs all health programs in all four provinces are managed and financed by the provisional government. At provincial level, director general health services is the head regulatory person under which comes the divisional director health and following that executive district officer- health and medical superintendent.<sup>1</sup>

Singapore's healthcare delivery system provides population the primary healthcare, hospital care, long-term care and other integrated care. Singapore has a network of outpatient polyclinics and private medical practitioner's clinics to provide primary medical treatments, preventive healthcare as well as health education. 80% of primary healthcare services are offered by 2000 private medical clinics; whereas the remaining is delivered by 18 government polyclinics. Hospital care consists of inpatient,

outpatient and emergency services. By contrast to primary healthcare, public hospitals provide 80% of hospital care. In 2010 there were 11,509 hospital beds, out of which 8881 beds are from public sector and 2628 beds are from private sector. The number of registered doctors (excluding specialist) and nurses serving in the public institutions are 8819 and 12994 respectively. Whereas, the corresponding numbers for private sectors are 3292 and 5140.<sup>25</sup>

### **CHALLENGES OF PAKISTANI HEALTH CARE SYSTEM**

Corruption and lack of accountability among top health care authorities are the main issues persist in Pakistani health care system for years. It generates numerous other problem which results in a weak health care system. In Pakistan, health care receives a very low amount from the total budget which mostly utilized for curative purpose rather investing in prevention which eventually increases the country disease burden.<sup>18</sup> Moreover, insufficient resources and mismanagement of available resources is another big concern in public sector which diverts the people towards the utilization of private facilities instead of it's out of pocket expenditure. Lack of quality health care service, deficient health infrastructure, untrained and non-skilled health professionals and their empowerment issue are the primary barriers in progression of health care.<sup>8</sup> Furthermore, the law and order situation in Pakistan and non-responsive attitude of national leaders towards the health care adds fuel to the fire. Taxes are the main source for revenue generation for financing the health care. People are not accountable for paying proper taxes, only 750,000 pay out of 180 million populations (Tribune, 2013) and the tax received is not properly utilized for designated work.

### **CHALLENGES OF SINGAPORE HEALTH CARE SYSTEM**

With overall analysis of Singapore healthcare system few challenges has been identified. Firstly, with increasing population and with increase age there is an urgent need of more healthcare facility in Singapore especially with the facility of specialized geriatric treatment. Secondly, with increase life expectancy there is also a need of chronic disease management for elderly population. Further, the rise in healthcare cost is another challenge that

requires government attention to provide quality care at minimum cost. Lastly few health experts have identified that the strength of primary healthcare facility is low in country therefore people prefer to go to private healthcare where cost is high.

### **RECOMMENDATIONS**

- The government of Pakistan should capitalize in producing professionally trained human resource like doctor, registered nurses and lady health workers in the health sector.<sup>1</sup>

- All the stakeholders should be involved in the planning process, decision making process and implementation of the programs at all levels for the efficiency and sustainability of the programs.<sup>10</sup>

- In Pakistan, private hospitals are leading in delivering effective healthcare services however; there should be a proper monitoring and evaluation system to sustain their effectiveness.<sup>1</sup>

- There is an intense need to improve training of healthcare workforce especially in the remote areas of the country.

- Granting autonomy at management level and introducing cost-sharing at the level of financing.

- Establishment of medical / health insurance funds from public and government taxes.

- Government should introduce an environment and policies that foster research and development in medical sciences to uphold knowledge and growth of healthcare provider.

### **CONCLUSION**

This paper emphasized health care delivery system of Pakistan in comparison to Singapore followed by organizational structure, analysis of both the healthcare systems, and recommendations to improve healthcare reform and its utilization. Health care system includes various building blocks which include leadership, service delivery, health care finance, technology, health workforce and information and research. Every country adopts its own healthcare delivery systems. Therefore, to achieve access and continuity of care; quality care; monitoring and evaluation plays an important role in improving health outcomes, and it will improve

efficiency in health care system of Pakistan.

**Conflict of Interest:** The study was conducted as part of our Advance Theoretical Concept in Public / Community Health Nursing course and not any monetary or personal gain.

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# Outcome of Interventional Programme on Quality of Life of Infertile Women with Polycystic Ovarian Syndrome

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## ABSTRACT

The aim of the present study was to assess the quality of life (QOL) of infertile women with polycystic ovarian syndrome (PCOS) and to evaluate the outcome of interventional programme on QOL of infertile women with PCOS. The results of the study showed that majority of subjects in the experimental group (87%) and control group (93.9%) were having poor QOL during pre test. After assessing QOL interventional programme was introduced to each subject in the experimental group which includes lifestyle modification that is dietary calorie modification and exercise.

In the post test there was significant reduction in the percentage of women having poor quality of life and there is significant increase in the percentage of women having average and good QOL in the experimental group compared with control group (P=0.001) A significant decrease in weight of subjects was observed in the experimental group and was statistically significant (F= 174.5 p= 0.000).

**Keywords:** Polycystic Ovarian Syndrome, Quality of life, Interventional Programme

## INTRODUCTION

Pregnancy and child birth are precious moments in every woman's life. It is the privilege of every woman which brings hope in the world and glory to her. Infertility is a struggle to have a family or to fulfill a dream. It is a devastating state that affects many aspects of human life. Many couples are disturbed, depressed, anxious, lonely, experience mental stress and withdraw socially and it may indirectly affect their quality of life,

PCOS is a complex metabolic endocrine and reproductive behavior affecting 5-10% of the female population. Clinical study by Roy George (2011) in Central Travancore revealed that PCOS is the major cause of female infertility (33.6%)<sup>1</sup> Shameena (2012) in her study in Trivandrum showed that 76% of infertile women with PCOS attending infertility clinic were overweight and 38% were obese and 72.45% of subjects were having the habit of taking rice containing food for more than 2 meals and there is significant association between carbohydrate diet and impaired glucose tolerance among subjects with PCOS (P= 0.040)<sup>2</sup>.

Obesity was significantly associated with an increased risk of hirsutism, menstrual cycle disturbances and elevated serum testosterone concentration and with an increased rate of infertility (Balen 2002).<sup>3</sup> Study by Sundararaman 2008 in Chennai showed women presenting with PCOS had increased psychosocial distress (42%).<sup>4</sup> Changes in the physical appearance particularly obesity, excessive body hair as well as infertility have been identified as important contributions to psychosocial problems in PCOS which may result in altered self perception, dysfunctional family dynamic and problems at work (Trent 2005).<sup>5</sup>

Study by VL Kumarapeli in Srilanka found that the mean score of physical psychological and social relationship domains of WHO quality of life BREF were significantly lower in women with PCOS than in control indicating poor QOL.<sup>6</sup> John C Mavropoulos in his study with 24 weeks of life style management among women with PCOS found that there is 12.1% of reduction in body weight.<sup>7</sup> Thomson RL in his study found that dietary restriction and exercise program helped in improving

QOL in overweight and obese women with PCOS.<sup>8</sup>

Judy Griffin Mc Cook (2005) conducted a cross sectional study to evaluate the influence of obesity, fertility status and hirsutism on quality of life of women with polycystic ovary syndrome. The most common quality of life concern reported by women with PCOS was weight, followed by menstrual problem, infertility, emotions and body hair. They concluded that nursing has a pivotal role in recognizing their concerns and implementing life style therapy to improve quality of life of women with PCOS<sup>9</sup>. Thomsom RL (2010) in his study found that dietary restriction and exercise program helped in improving quality of life score in overweight and obese women with PCOS.

As PCOS is an arising problem now a days among adolescence and is one of the most important cause of infertility which effects quality of life of women the investigator felt the need to conduct the study in our settings.

### Statement of the Problem

Study to assess the outcome of Interventional programme on quality of life of infertile women with polycystic ovarian syndrome at infertility clinic of Tertiary care Hospitals in Thiruvananthapuram District.

### Objectives

1. To assess the quality of life of infertile women with polycystic ovarian syndrome.
2. Evaluate the outcome of interventional programme on quality of life of infertile women with polycystic ovarian syndrome
3. To find out the association between quality of life of infertile women with polycystic ovarian syndrome and selected sociodemographic variables.

### HYPOTHESES

1. There will be significant improvement in the quality of life of infertile women with Poly cystic ovarian syndrome in the experimental group after the implementation of Interventional programme.
2. There will be significant reduction in the weight of infertile women with Polycystic Ovarian

Syndrome in the experimental group after the implementation of interventional programme.

3. There will be significant reduction in the body mass index of infertile women with Polycystic Ovarian Syndrome in the experimental group after the implementation of interventional programme.

4. There will be significant association between socio demographic variables and quality of life of infertile women with Polycystic ovarian syndrome.

### MATERIAL & METHODS

**Research Approach :** Quantitative approach.

**Research Design :** Quasi experimental design.

The design was diagrammatically represented by

Experimental group	O1 X O2
Control group	O3 - O4

O1- Pretest to assess quality of life of infertile women with polycystic ovarian syndrome in the experimental group.

X- Interventional programme implemented to infertile women with polycystic ovarian syndrome in the experimental group.

O2 - Post test to assess quality of life of infertile women with polycystic ovarian syndrome in the experimental group.

O3- Pretest to assess quality of life of infertile women with polycystic ovarian syndrome in the control group

O4- Post test to assess quality of life of infertile women with polycystic ovarian syndrome in the control group.

**Setting:** Infertility clinics of Tertiary level Government Hospitals in Thiruvannathapuram district- Sree Avittom Thirunal Hospital, Medical College, Thiruvananthapuram and Women and Children Hospita, Thycaud, Thiruvananthapuram.

**Population:** Infertile women with PCOS attending infertility clinics.

**Sample size:** 230 (115 each in experimental group and control group)

**Sampling technique:** Multi stage random sampling. Infertile women attending infertility clinic satisfying inclusion criteria were recruited consecutively.

### **Inclusion criteria**

1. Infertile women with PCOS between the age group 25-45 years of age who are living with their husband for a minimum period of two years.

2. Subjects should be on regular treatment for infertility a minimum period of one year.

### **Exclusion Criteria**

1. Infertile women with lean PCOS (BMI<20kg/m<sup>2</sup>)

2. Husbands of infertile women having problems related to fertility

### **Tool and Technique**

1. Interview Schedule

Section A : Socio demographic data

Section B: Clinical data

Section C: Ferriman Gallway score to assess hirsutism

2. Quality of life assessment questionnaire developed by G Cromin (1998)<sup>10</sup> and validated by GL Jones (2002)<sup>11</sup>

Technique : Interview

Clinical Assessment (weight , height, waist circumference, hipcircumference and hirsutism)

**Reliability** : Reliability of the tool was estimated by Cronbach's  $\alpha$  = 0.940

Data collection process

Baseline demographic information and clinical data were collected by personal interview followed by clinical assessment that is weight measured by weighing machine height measured by stadiometre, waist circumference and hip circumference by non stretchable tape and presence of hirsutism assessed by using Ferriman- Gallway score. Quality of life was assessed by QOL assessment questionnaire developed by Cronin G (1998) and validated by GL Jones (2002). After initial assessment interventional

programme was introduced to each subject in the experimental group. It is a planned teaching cum demonstration programme about the disease PCOS , measures to reduce weight ie teaching dietary calorie modification and demonstration of exercise (brisk walking 45 minutes twice a day and arm and leg exercise 10 times twice a day). The investigator assessed the daily average calorie intake of subjects by 24 hour recall for 5 days per week and then calculated the average calorie intake per day according to weight and BMI of subjects. An instructional module and a food diary card was given to each subject. The outcome was assessed by difference in QOL assessment questionnaire score between experimental and control group at 6<sup>th</sup> month after intervention, differences in weight and BMI assessed at 3<sup>rd</sup> month and 6<sup>th</sup> month and rate of pregnancy at 8<sup>th</sup> month after implementation of interventional programme.

## **RESULTS**

### **Section I**

The age of infertile women in both the group was between 25-39 years. Majority of women from both the groups belonged to Hindu religion. Majority of women in the experimental group (97.4%) and all women from control group are non vegetarian in their dietary habit and both the groups were homogenous (P=0.25). Majority of women in the experimental group (61.7%) and control group ( 56%) were having history of infertility for more than 4 years. Majority of women in the experimental group ( 80.9%) and control group (88.7%) were having clinical evidence of acanthosis nigricans and both groups were homogenous ( P=0.098) Moderate to severe degree of hirsutism was observed in 65.2% of women in the study group and 60.9% of women in the experimental group and 74.8% women in the control group and 73% of women in the experimental group had waist hip ratio between 0.90 to 0.94.

**Section II : Quality of Life****Table 1: Quality of life of infertile women with polycystic ovarian syndrome before implementation of Interventional Programme**

Quality of life Domains		Experimental group (115)		Control group (115)			p
		N	%	N	%		
Body hair	Poor	58	50.4	61	53.0	5.476	0.065
	Average	29	25.2	39	33.0		
	Good	28	24.3	15	13.0		
Emotions	Poor	115	100.0	115	100.0	-	-
	Average	-	-	-	-		
	Good	-	-	-	-		
Weight	Poor	99	86.1	97	84.3	0.138	0.710
	Average	16	13.9	18	15.7		
	Good	-	-	-	-		
Infertility	Poor	98	85.2	95	82.6	0.319	0.852
	Average	15	13.0	18	15.7		
	Good	2	1.7	2	1.7		
Menstrual problem	Poor	38	33.0	45	39.1	3.635	0.162
	Average	60	52.2	46	40.0		
	Good	17	14.8	24	20.9		
Overall score	Poor	100	87.0	108	93.9	3.217	0.073
	Average	15	13.0	7	6.1		
	Good	-	-	-	-		

Data presented in Table 1 shows that the quality of life of infertile women in the domain emotion was found to be poor among all subjects in both control group and experimental group 82.6% of women in the control group and 85.2% of women in the experimental group had poor quality of life in the domain infertility related problems and both the groups were homogeneous.

**Section III : Effect of interventional programme on Quality of life infertile women with PCOS.****Table 2: Mean, Standard deviation and p value showing average change in quality of life assessment score between experimental group and control group after implementation of interventional programme**

Quality of life domains	Pre-test Post- test difference				t	p
	Experimental group		Control group			
	Mean	Sd	Mean	Sd		
Body hair	11.36	14.95	1.16	8.86	7.728	0.001
Emotions	22.98	28.42	.38	5.38	8.379	0.001
Weight	35.39	18.97	.87	5.69	19.634	0.001
Infertility	22.03	25.09	.87	6.82	8.726	0.001
Menstrual problems	20.68	19.15	3.00	16.62	7.477	0.001
Overall score	22.56	19.68	.22	3.93	11.937	0.001

Table 2 shows that during post test there is significant reduction in the percent of women having poor quality of life score in the experimental group and an increase was observed in the % of women having average and good QOL. Changes in the score are at very slow rate in the control group and the interventional programme was found to be statistically significant ( $P= 0.001$ ).

#### Effect of Interventional programme on weight of infertile women with PCOS

**Table 3: Mean, Standard deviation and p value showing effect of Interventional programme on weight of infertile women with PCOS**

Period	N	Experimental Group			Control Group			t	p	Sig.
		Mean	Median	sd	Mean	Median	sd			
Baseline to 3 <sup>rd</sup> month	115	69.31	69	10.18	68.12	67	8.68	0.961	0.34	NS
3 <sup>rd</sup> month to 6 <sup>th</sup> month	115	66.86	66	10.37	68.49	68.00	8.63	-1.301	0.195	NS
Baseline to 6 month	115	65.26	65	10.33	69.01	68.12	8.62	-2.988	0.003	HS

The mean total difference in the weight of experimental group was reduced from 69.31 to 65.26 and is statistically significant ( $p=0.003$ ).

**Table 4: Mean, standard deviation and p value showing percentage of change in weight between groups after implementation of interventional programme**

Period	N	Experimental Group		Control Group		t	p	Sig.
		Mean	SD	Mean	SD			
Baseline to 3 <sup>rd</sup> month	115	3.62	2.03	-0.6	0.96	20.143	0.000	HS
3 <sup>rd</sup> month to 6 <sup>th</sup> month	115	2.4	2.59	0.79	0.9	12.457	0.000	HS
Baseline to 6 month	115	5.95	2.92	-1.39	1.53	23.866	0.000	HS

Average percentage of weight reduction in the experimental group within 6 months after intervention was 5.95% and that of the controls was -1.39%. Study subjects from experimental group experienced greater percentage of weight reduction than controls and the interventional programme was found to be statistically significant ( $p=0.000$ ).

**Table 5: Mean difference, Standard deviation and 't' value showing effect of interventional programme on BMI of infertile women with PCOS.**

BMI	N	Experimental group		Control Group		t	p
		Mean	Sd	Mean	Sd		
Baseline to 3 <sup>rd</sup> month	115	1.05	0.58	0.17	-0.26	20.61	0.000
After 3 <sup>rd</sup> month to 6 <sup>th</sup> month	115	0.68	0.73	0.22	-0.26	12.436	0.000
Baseline to 6 <sup>th</sup> month	115	1.73	0.83	0.4	-0.44	24.405	0.000

The average change in BMI after 6 months of intervention in the experimental group was 1.73 and it was only -0.44 in control group and the programme is statistically significant ( $P=0.000$ )

#### **Section IV : Comparison of rate of pregnancy**

Rate of pregnancy was assessed at 8<sup>th</sup> month after implementation of interventional programme. 35.7% of women in the experimental group and only 10.4% of women in the control group became pregnant and the programme is statistically significant. ( $p 0001$ )

#### **Section V : Association between quality of life and selected socio demographic variables**

There was significant association between quality of life and educational status of women and presence of hirsutism

### **DISCUSSION**

The present study reveal that the most important quality of life concern reported by infertile women with PCOS was emotional problems followed by concern on weight, infertility related problems, menstrual problems and difficulties due to hirsutism. Emotional problems and weight difficulties are the greatest contributory factor for reduction in quality of life. The findings of the study was almost similar to the study conducted by Judy Griffin (2005). In her study the most important quality of life concern reported by women with PCOS was weight followed by infertility, menstrual problems and emotions. The present study also reveals that there was significant improvement in quality of life score among subjects in the experimental group after implementation of interventional programme ( $P=0.001$ ). The findings of the study was congruent with the study conducted by Thomson RL (2010) who proved that dietary restrictions compared with exercise had benefit in improving quality of life score in overweight and obese women with PCOS.

The average percentage of weight reduction in the experimental group after 6 months of interventions was 5.95%. This was in accordance with the study conducted by John C Mavropoulos 2005 who found that there was 12.1% of reduction in body weight with 24 weeks of life style management among women with PCOS.

### **CONCLUSION**

PCOS is a complex reproductive disorder and is the common cause of anovulation. It has been shown to cause a reduction in quality of life and a negative impact on body image and self esteem. The Interventional programme on lifestyle modification was found to be effective in improving quality of infertile women with PCOS and helped in improving quality of life, reducing weight, BMI and improving rate of pregnancy.

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**Conflict of Interest :** Nil

**Source of Funding :** Self funding

**Ethical Clearance:** Ethical clearance from Human Ethical Committee, Medical College, Thiruvananthapuram and consent from participants

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# Soothing Crying Babies and Preventing Shaken Baby Syndrome

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## ABSTRACT

Crying is a baby's primary way to communicate. A baby's cry just for a short while may not be a concern or bothersome for the mother or others. Long episodes of crying lead to sleepless nights for parents, and it also doubles the risk of mothers suffering from feelings of depression. This can be prevented by counseling parents on how and how not to respond to infant crying. Hunger, soiled diaper, pain, Sleepiness, wanting to be held, tiredness, colicky abdomen, unpleasant weather, teething, feeling unwell, overstimulation are some of the reasons often babies cry. It is essential that especially first time mothers be aware of the reasons of baby's cry and simple remedial measures to soothen them. In an attempt to quieting the crying babies, these babies are shaken violently which may cause severe damage to the baby's brain resulting in Shaken baby Syndrome. Parents and baby sitters must be aware of the danger in shaking the babies vigorously.

**Conclusion:** Shaken baby Syndrome [SBS] often results from shaking a baby vigorously in an attempt to quieting a crying baby. Parents and care givers of the baby must be counseled against this as SBS can result in permanent brain injury.

**Keywords:** *Soothing Crying Babies, Hunger, Soiled diaper, pain, sleepiness, wanting to be held, tiredness, colicky abdomen, unpleasant weather, teething, feeling unwell, overstimulation, Wants more stimulation, Shaken Baby Syndrome[SBS].*

## INTRODUCTION

It is through crying babies express or communicate to others about their needs and desires as they cannot talk. Crying is a baby's primary way to communicate. The babies cry normally in response to physical needs such as temperature change, hunger, and pain or discomfort. It tells us that they need our help as something is wrong with them somewhere.

A baby's cry just for a short while may not be a concern or bothersome for the mother or others. Babies do not cry exactly the same way every time. Mothers are the best people to understand the different patterns of crying of their babies and to

respond meaningfully. Mothers, over time, are able to recognize particular cries as if they were spoken words

The crying of the newborns in the first few days of life is believed to strengthen its heart and lungs.

Mothers' experience of infant crying and soothing vary socio-demographically. Much harm may be prevented by counseling parents on how and how not to respond to infant crying. Health education should start before the child's birth, because some soothing techniques can be fatal, even when practiced for the first time, such as the prone sleeping position, allowing the baby to continue to cry, smothering, and shaking.

Nearly half of mothers with babies over six months of age report problems with their baby's sleep. This common problem not only leads to sleepless nights for parents, but it also doubles the

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risk that moms will suffer from feelings of depression. This can be prevented by counseling parents on how and how not to respond to infant crying. Following are some of the reasons why babies cry.

**Hunger** -Hunger is the most common reason for baby's cry. The baby is probably hungry if three or four hours have passed since the last feeding and or has after a long sleep with a dirty diaper. A feeding will most likely stop the crying.

**Pain** - The cry of a baby in pain is sudden and shrill, just like when an adult or older child cries out when they get hurt. The cries are followed by a pause during which the baby appears to stop breathing, then catches his breath and lets out another long cry. Check the baby's temperature and undress him for a full-body examination.

**Sleepiness** –Babies need to sleep when they are tired. After a bath or playing for some time they feel tired and they may fuss and cry, especially if they're overly tired. Putting the baby to sleep as soon as she yawned the first time at any time of the day is best to make her cry a lot less and have fewer problems of going to sleep.

**Wants to be held** - Babies need a lot of cuddling. They like to see their parents' faces, hear their voices, and listen to their heartbeats, and can even detect their unique smell. Crying can be their way of asking to be held close.

**Soiled diaper** – Most babies feel very uncomfortable with a dirty diaper and this could be one of the reasons they start crying. They may tolerate a wet diaper for a quite a while. So, remember to check the nappy of the crying baby. Change it if dirty or too wet.

**Tiredness** - The baby may be tired if it yawns, loses interest in people and surroundings, rubbing eyes and looking dull with decreased activity. All it needs is a good sleep.

### **Colicky Cry**

If the baby often fusses and cries right after being fed, he may be feeling some sort of tummy pain. Colic can be suspected if the baby cries inconsolably at the same time each day. Some experts believe that colic is related to the immaturity of a baby's digestive

system. Colic occurs only to newborn babies, up to about four to five months of age.

Anti-gas drops for babies or gripe water (available over the counter) may be used but must be used only with a doctor's prescription. Even a snug elastic band of the trouser can make the baby have a colicky type of cry. Look for patterns to your baby's crying. Milk allergy is the most common cause.

If breastfeeding, feed on demand for nutrition as well as for comfort. Hold the baby in a more upright position for feeding and directly afterwards. The mother must try to avoid certain foods in her diet that may cause gas in the baby. Ayurveda prescribes the avoidance of certain food items such as oily fish, garlic, certain pulses and roots in the mother's food. If planning to introduce top ups or solid foods, start with it in the morning hours and offer more frequent but smaller meals. If bottle feeding, try bottles and nipples that prevent air from entering the baby as he drinks. Try burping to bring out the trapped air in the stomach.

Offer feeds or meals in a quiet setting. Some babies like a pacifier but remember to keep it clean always. A sling or carrier [pram] may be used during colicky periods. Warm bath is most often helpful. Gently massage the baby's tummy. If the weather is cold, swaddle the baby in a cotton blanket.

Keeping the baby's abdomen down across the mother's lap and massaging or patting her back often helps. Humming or singing while walking or the baby in a sling in a quiet, dark room also is helpful. Try keeping your baby away from highly stimulating situations during the day when possible to prevent sensory overload. The mother can lie on her back and keep the baby on her tummy and stroke the back of the baby.

### **Unpleasant weather**

Babies cry if they feel too cold or too warm. In warm weather regions like the south of India, the babies do not need woolen clothes. Remember, if you feel cold or warm, the babies do feel the same.

### **Teething**

Some babies become tearful with teething. These Some babies have mild to moderate temperature

along with irritability. Teeth erupt in some babies as early as the age of 6 to 8 months but it can happen earlier. The hard nub of a baby tooth can be felt on feeling his gums with a finger.

### **Over stimulation**

Journeys make most babies irritable. Babies learn from the stimulation of the world around them, but sometimes too much of it can be irksome to them. The baby can be easily disturbed if the room is noisy, too much lights and being passed from hand to hand. The baby then closes her eyes and cries ( or turns her head away).. A quiet and dark room with some cuddling would quieten the baby normally.

**Wants more stimulation** - Some babies are fond of the colourful nature. It may be a bit exhausting for the mother to take the baby out always. Try carrying them in slings or carriers. Babies also are fond of peer groups. See if association with children can be arranged.

**Not feeling well** - Even after the baby's basic needs are met and comforted him and he's still crying, he could be having some health problem. When your baby is sick, he may cry in a weak, moaning way. The cry of a sick baby is quite different from one caused by hunger or frustration. If your baby's crying "just doesn't sound right," trust your instincts and call or see a doctor.

### **What to do if the baby continues to cry?**

Hair wrapped tightly around a tiny toe or finger, or even the tip of penis in boys cutting off circulation can be reasons for baby's cry. Look for hair wrapped around the penis in a boy baby whose cry is inconsolable. Some babies are extra sensitive to things like scratchy clothing tags or fabric. It is wise to wash new clothes before putting on them

A new study released in the journal of Pediatrics suggests it is OK to let babies cry while trying to fall asleep [Brawn 2012]. Scientists say allowing infants to cry for a short time rather than immediately comforting them does no harm, (Borland 2012). Rather than always going to comfort babies, mothers and fathers should wait a bit longer before soothing the babies. The parents or caregiver should make sure that they stay in the same room with the child rather than leaving them crying.

When babies associate something like feeding, rocking, or bouncing with their transition to sleep, they often expect those same conditions when they wake during the night. When a baby knows how to self-soothe and falls asleep independently, she wakes in the night, checks her surroundings, and finding nothing to be alarmed about, she goes back to sleep without needing our help (Anders et al. 1992; Goodlin-Jones et al. 2001)

Picking up and carrying a crying infant normally calm the child. When an underlying reason for crying persists, such as hunger or sustained pain, the infant may start crying again soon after the end of carrying. Young babies carried by a walking mother were the most relaxed and soothed, compared with infants whose mothers sat in a chair and held them, the study found.

### **Shaken Baby Syndrome [SBS]**

SBS can happen when an adult or older child violently shakes an infant or young child. The baby's brain moves back and forth inside the skull, tearing blood vessels and causing blood to pool inside the skull. Shaking can cause brain injury, cerebral palsy, blindness, hearing loss, learning and behavior problems, seizures, paralysis, and even death. Newborn to one year (especially baby's ages 2 to 4 months), are at greatest risk of injury from shaking

Shaken a babies are victims of frustrated and upset parents when the baby would not stop crying. Personal issues such as money or problems at work or in relationships can also make a caregiver frustrated enough to shake a child .Most perpetrators of SBS didn't mean to hurt the child, and did not realize that their actions could have this effect. In most cases the person who shakes a baby are male, usually the child's step father or the baby's father. In a smaller number of cases, a paid caregiver or babysitter is responsible for shaking a baby. In some cases, the baby's mother is the accused.

### **Signs of Shaken Baby Syndrome**

There may not be any obvious marks or bruises on the baby's head or skin. Common signs include:

- The baby is not smiling
- Unusual y sleepy and fussy.

- Poor feeding or vomiting for no apparent reason.
- The baby is no longer making eye contact, or babbling.
- Stiff body or seizures (legs and arms become stiff or move in a repetitive, jerky manner).
- The baby's body is limp.
- Difficulty breathing, or there is a change in breathing pattern.

**SBS is not just a crime—it is a public health issue.**

If the baby presents with any two or three above signs, immediate medical attention is needed.

What can parents do to help soothe a crying baby?

.Check to see whether the crying is a signal that your baby needs something specific, like a diaper change, feeding, relief from being too hot or too cold, attention, or has a fever.

- Hold your baby. However, some babies do not like being passed from person to person.
- Wrap or swaddle newborn baby in a soft blanket.
- Turn off the lights and keep surroundings quiet. Too much stimulation can trigger crying or make it worse.
- Soft music, white noise or a gentle shushing noise can soothe some babies.
- Many babies are soothed by motion. Try walking with baby in a pram.g or in a stroller. Rock or sway with baby in a gentle, rhythmic motion. Or try going for a ride in a car or a walk with baby in a pram.
- Sucking sometimes helps babies to calm and relax. You can provide this by allowing your baby to breastfeed or by offering a pacifier.
- A warm bath often calms the baby.
- If you ever feel you may hurt your baby, call for help: a family member, neighbour, or police. What to do if the baby keeps crying inconsolably?

Being a parent or caregiver is not always easy. A baby's constant crying can be stressful and cause you

to feel frustrated especially when you are probably not sleeping much while trying to meet your baby's needs around the clock.

If your baby continues to cry after you've made sure there's no specific problem, try to stay calm and be aware of how you feel. If you feel like you might lose control, stop! Place your child safely in the crib. Take slow and deep breaths.

- Try to relax, Take a shower.
- Talk to a friend, family member, neighbor, or anyone else you trust, and get some support.
- Try to arrange for regular service of a maid. Try to get help of a family member who can look after your baby for periods while you get a break. If people that you trust offer help, accept it
- Never leave your child with someone you don't trust, someone who has violent reactions, or someone who is not baby friendly.
- If you have concerns or questions, consult a doctor or a public health nurse.

## CONCLUSION

Not all caregivers are prepared to care for a baby. Baby's Shaking most often occurs in response to a baby crying, or other factors that can lead the person caring for a baby to become frustrated or angry. All babies cry and do things that can frustrate caregivers. SBS resulting in head injury is a leading cause of child abuse death in the United States. Nearly all victims of SBS suffer serious health consequences and at least one of every four babies who are violently shaken dies from this form of child maltreatment. From a public health perspective, creating greater awareness about SBS is important. Keep n mind, that vigorously shaking a baby can be fatal or result in a permanent disability.

Everyone who is caring a young child should know to never, ever shake a baby

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# Relationship among Nurses Role Overload, Burnout and Managerial Coping Strategies at Intensive Care Units

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## ABSTRACT

**Aim:** was to investigate relationship among nurses role overload , burnout and managerial coping strategies at Intensive Care Units in Assiut University Hospital **Setting & Subjects:** Included all nurses working in Casualty, General & Postoperative Intensive Care Units and Coronary Care Unit in Assiut University Hospital. **Tools:** Four tools which includes Socio-demographic data sheet, role overload questionnaire, managerial coping strategies & burnout questionnaires. **Results:** Showed that role overload had highest mean score in General and Casualty ICUs. In addition, coping strategies had highest mean scores of rational problem solving , resigned distancing, and seeking support/ventilation in Casualty and post operative ICUs respectively except passive wishful thinking had highest mean scores in General and Casualty ICUs respectively. Also, burnout had highest mean scores in post operative and general ICU. **Conclusions:** Nurses employed at ICUs in Assiut University Hospital reported high burnout and use managerial coping strategies as rational problem solving, resigned distancing, seeking support/ventilation and passive wishful thinking to handle burnout and role overload except passive wishful thinking coping strategy not used with role overload.

*Keywords:* Coping strategies, nurses, role overload, burnout, Intensive Care Units.

## INTRODUCTION

Nurses having an important role in the health care system. They are considered to be members of a stressful job as a profession because they care for a stressful group comprising patients or those at health risk<sup>(1)</sup>. When a professional is affected by burnout they feel drained and used up and have little desire to return to work the next day. It is generally perceived that Intensive Care Nurses are particularly exposed to burnout since they literally deal with life and death situations most of the time. Therefore, it is suggested that nurses comprise the group that experiences the maximum stress, and burnout among health professionals. Burnout syndrome often occurs as a result of chronic work stress seen in Intensive Care Units<sup>(2)</sup>.

Burnout as a phenomenon is defined as “a syndrome of emotional exhaustion, cynicism and reduced professional efficacy”. Researches suggest that burnout contributed to job stressors is associated with a negative outcome in both individuals and organizations<sup>(3)</sup>.

Coping behavior is a constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person. Coping behavior affects well-being and adaptation. There is a growing understanding that coping strategies, play an important role in influencing the tangible and intangible outcomes of the stressor<sup>(4)</sup>.

Coping strategies may have a moderating effect on the relationship between the stressor and its consequential strain. Role overload may be regarded as a form of stressor, and burnout is one relevant stress reaction (i.e. strain), coping strategies are therefore likely to have a moderating effect on the relationship between role overload and burnout<sup>(5)</sup>.

### Significance of the study

Nursing is a sensitive job which includes communicating with patients and caring after them. The provision of Intensive Care can lead to a health care provider’s physical, psychological and emotional exhaustion, which may develop into burnout.

The researcher noticed that there were no specific studies regarding burnout syndrome done in Assiut University Hospital. So, the researcher decided to investigate the relationship among nurses role overload, burnout and managerial coping strategies at Intensive Care Units in Assiut University Hospital.

### AIM

Was to investigate relationship among nurses role overload, burnout and managerial coping strategies (i.e. rational problem solving, resigned distancing, seeking support/ventilation and passive wishful thinking) at Intensive Care Units in Assiut University Hospital.

#### Research question

- Is there a relationship between managerial coping strategies and nurses role overload and burnout?

### SUBJECTS AND METHODS

**Study design:** A descriptive design was used.

**Setting:** The study was carried out at four Intensive Care Units in Assiut University Hospital named : Causality ICU, General & Postoperative ICUs, and Coronary Care Unit (CCU).

#### Subjects

Includes all nurses working in aforementioned settings with a total number of 100 nurses.

#### Tools of data collection

Four tools were used to collect data for this study as follows:

- **1<sup>st</sup> tool :Socio-demographic data sheet:**

This part included age, sex, unit name, marital status, educational qualification, and years of experience.

- **2<sup>nd</sup>tool :Role overload questionnaire** which developed by **Harris and Bladen** <sup>(6)</sup>, it included five items. The Scoring system was five-point Likert-scale ranging from “strongly disagree” (1) to “strongly agree” (5).

- **3<sup>rd</sup> tool :Managerial coping strategies**

**questionnaire** which developed by **Chan**<sup>(7)</sup>, it included twenty nine items classified into four factors. rational problem solving, resigned distancing, seeking support/ventilation and passive wishful thinking. The Scoring system was four-point ranging from “not used” (0) to “used a great deal” (3), and

- **4<sup>th</sup> tool :Burnout questionnaire** which developed by **Maslach et al.**,<sup>(8)</sup>, it included twenty two items. The Scoring system was five-point Likert-scale ranging from “Not important” (1) to “More important” (5).

- Their reliability was assessed in a pilot study by measuring their internal consistency using Cronbach’s alpha coefficient method. This turned to be 0.88 for coping strategies, 0.90 for burnout, and 0.96 for role overload, thus indicating a high degree of reliability. The validity was measured by five experts in the field of Nursing Administration.

#### Pilot study

The pilot study served to test the feasibility, clarity and practicability of the data collection tool. It was carried out on 20 nurses from different inpatient departments in Assiut University Hospital. The pilot study collected on April 2015. The subjects included in the pilot study were excluded. Data collected from the pilot study were reviewed and no modifications done for the study tools

#### Fieldwork

An official permission was obtained from the hospital director, the nursing service director, and the head of each Intensive Care Unit before embarking on the study. The actual data collection was started in June 2015 and ended in July 2015. The researcher met the eligible nurses, explained to them the purpose of the study, and asked them for their oral consent to participate. Those who agreed to participate were given the tools and asked to fill them out and return them anonymously in the same setting or at most the next day.

**Ethical Considerations :** The study protocol was approved by the pertinent authority. Participants’ oral consent to participate was obtained after informing them about their rights to participate, refuse, or withdraw at any time. Total confidentiality of any obtained information was ensured. The study

maneuver could not entail any harmful effects on participants.

#### Statistical analysis

Data entry and statistical analysis were done using SPSS 16.0 statistical software package. Data

were presented using descriptive statistics. Pearson correlation analysis was used for assessment of the inter-relationships among quantitative variables, and Spearman rank correlation for ranked ones. Statistical significance was considered at p-value <0.05.

## RESULTS

**Table (1): Socio-demographic characteristics of studied nurses (n=100)**

	Frequency	Percent
Age (years):		
<30	79	79.0
30-35	14	14.0
>35	7	7.0
Mean±SD	25.28±0.58	
Department:		
Post operative ICU	20	20.0
General ICU	29	29.0
CCU	30	30.0
Causality ICU	21	21.0
Sex:		
Male	2	2.0
Female	98	98.0
Marital status:		
Single	50	50.0
Married	46	46.0
Divorced	3	3.0
Widow	1	1.0
Educational qualifications:		
Nursing Secondary school	44	44.0
Technical Institute of Nursing	33	33.0
Bachelor degree of Nursing	23	23.0
Experience years:		
<5	51	51.0
5-10	31	31.0
>10	18	18.0
Mean±SD	4.79 ±0.79	



**Table (2): Mean scores of role overload, managerial coping strategies , and burnout among studied nurses at ICUs (n=100)**

Study Variables	Mean $\pm$ SD			
	Post operative ICU	General ICU	Coronary Care Unit	Causality ICU
- Role overload	15.50 $\pm$ 2.43	<b>16.51<math>\pm</math>3.18</b>	15.30 $\pm$ 3.21	<b>15.71<math>\pm</math>3.18</b>
- <i>Managerial Coping strategies</i>				
-Rational problem solving	<b>33.50<math>\pm</math>7.68</b>	30.37 $\pm$ 6.52	30.96 $\pm$ 6.71	<b>34.80<math>\pm</math>4.08</b>
-Resigned distancing	<b>10.55<math>\pm</math> 0.32</b>	10.27 $\pm$ 2.76	10.43 $\pm$ 2.67	<b>11.42<math>\pm</math>2.35</b>
-Seeking support/ventilation	<b>14.50<math>\pm</math>3.76</b>	14.06 $\pm$ 3.53	14.10 $\pm$ 3.34	<b>15.23<math>\pm</math>3.40</b>
-Passive wishful thinking	12.20 $\pm$ 3.90	<b>12.68<math>\pm</math>3.08</b>	11.46 $\pm$ 2.80	<b>12.28<math>\pm</math>3.63</b>
- Burnout	<b>66.30<math>\pm</math>14.54</b>	<b>63.17<math>\pm</math>14.72</b>	60.90 $\pm$ 12.89	57.38 $\pm$ 15.23

**Table (3): Correlation of role overload, managerial coping strategies , and burnout among studied nurses at ICUs (n=100)**

Variables	Pearson correlation coefficient		
	Scores		
	Role overload	Managerial Coping strategies	Burnout
Role overload		0.13	0.16
Managerial coping strategies	0.13		0.49**
Burnout	0.16	0.49**	

**Table (4):Correlation matrix for scores of role overload, coping strategies, burnout and socio-demographic characteristics of ICUs nurses(n=100)**

Characteristics	Spearman rank correlation coefficient					
	Role overload	Scores of managerial coping strategies				Burnout
		Rational problem solving	Resigned distancing	Seeking support/ventilation	Passive wishful thinking	
Age <sup>f</sup>	0.04	-0.03	-0.09	-0.08	-0.12	-0.13
Marital status ( reference single)	0.02	-0.23*	-0.18	-0.19	-0.26**	-0.02
Qualification (reference: diploma)	-0.14	0.37**	0.04	0.20	0.07	-0.02
Experience years	0.05	-0.06	0.04	-0.08	-0.23*	-0.14
Role overload	-----	0.10	0.14	-0.01	0.07	0.49**
Burnout	0.49**	0.34**	0.23*	0.32**	0.45**	-----

(#) Pearson correlation coefficient (\*) Statistically significant at  $p < 0.05$  (\*\*) Statistically significant at  $p < 0.001$

**Table (1):** Illustrated that more than three quarters of study subjects were aged less than 30 yrs and more than one quarter worked at Coronary Care Unit, 98% were females and half of them were single. While, 44% had a diploma degree and more than half of the study subjects had less than 5 years of experience.

**Table (2):** Showed that role overload had highest mean score in general ICU followed by Casualty ICU ( $16.51 \pm 3.18$  &  $15.71 \pm 3.18$ ). In addition, managerial coping strategies highest mean scores of rational problem solving, resigned distancing, and seeking support/ventilation were in Casualty ICU followed by post operative ICU ( $34.80 \pm 4.08$  &  $33.50 \pm 7.68$ ;  $11.42 \pm 2.35$  &  $10.55 \pm 0.32$ ; and  $15.23 \pm 3.40$  &  $14.50 \pm 3.76$ ) respectively except passive wishful thinking had highest mean scores in General ICU followed by Casualty ICU ( $12.68 \pm 3.08$  &  $12.28 \pm 3.63$ ). Also, burnout had highest mean scores in post operative ICU followed by general ICU ( $66.30 \pm 14.54$  &  $63.17 \pm 14.72$ ) respectively.

**Table (3):** Illustrates that burnout had positive relations with managerial coping strategies with a highly statistically significant differences ( $r = 0.49^{**}$ ). While, there were no relation between role overload & burnout (0.16) and role overload & coping strategies (0.13).

**Table(4):** Demonstrates that burnout had positive relations with role overload, rational problem solving, resigned distancing, seeking support/ventilation and passive wishful thinking coping strategies with a highly statistically significant differences ( $r = 0.49^{**}$ ,  $r = 0.34^{**}$ ,  $r = 0.23^*$ ,  $r = 0.32^{**}$ , and  $r = 0.45^{**}$ ) respectively. While, role overload had weak negative statistically significant correlation with qualifications ( $r = -0.14$ ). In addition, burnout had weak negative correlations with age, marital status, educational qualifications, and years of experience ( $r = 0.13$ ,  $r = -0.02$ ,  $r = -0.02$  &  $r = -0.14$ ) respectively. Also, rational problem solving coping strategy had weak negative statistically significant correlations with age, marital status, and years of experience ( $r = -0.03$ ,  $r = -0.23$ , &  $r = -0.06$ ) respectively. Role overload had positive relations with rational problem solving, resigned distancing, and passive wishful thinking

managerial coping strategies ( $r = 0.10$ ,  $r = 0.14$  &  $r = 0.07$ ) respectively except seeking support/ventilation coping strategy had a negative relation with role overload ( $r = -0.01$ ).

## DISCUSSION

The results of the present study showed that role overload had highest mean score in general ICU followed by Casualty ICU. Also, burnout had highest mean scores in post operative ICU followed by general ICU respectively (**Table, 2**). These results indicated that nurses working in the intensive care unit and coronary care unit experienced lower levels of personal accomplishment and high level of stress and burnout due to these nurses face more death while exert more efforts so nurses use coping strategies to overcome the effects of job stress and burnout.

These results is supported by **Chang, Bidewell, & Huntington**<sup>(9)</sup>; **Lin, Probst & Hsu**<sup>(10)</sup> who found that type of coping strategy was significantly associated with physical and mental health, after controlling for the effects of job stress. In addition, **Gunusen & Ustun**<sup>(11)</sup> reported that burnout among nurses is reduced when coping skills training was provided. Nurses with habitual passive coping may experience little control over work and low support within the nursing team<sup>(12)</sup>. While, **Spooner-Lane & Patton**<sup>(13)</sup> found that burnout may develop in the individual as a result of a long duration of the state of stress.

The results of the current study demonstrates that burnout had positive relations with role overload and different types of managerial coping strategies with a highly statistically significant differences (**Table, 3&4**). These results might be attributed to the work in the ICUs is hard than other general units because nurses in ICU provide intensive care for a long period (12 hours) shift and after that patients may died so these situation is stressful and lead to burnout. These results supported by **Lashonda**<sup>(14)</sup> who mentioned that nurses when experiencing great stress, draw upon various coping strategies, and their manner of coping with stress, burnout and role overload influences the quality of their professional performance. In the same line, **GrusiFarshi & Moslemi**<sup>(15)</sup> clarified that one of the important factors in avoiding burnout is applying coping strategies.

As shown in (Table,4) burnout and rational problem solving coping strategy had weak negative correlations with age, marital status, educational qualifications, and years of experience. Role overload had positive relations with rational problem solving, resigned distancing, and passive wishful thinking coping strategies except seeking support/ventilation coping strategy had a negative relation with role overload. These results might be attributed to most of the studied nurses are young aged female with limited years of experience, so they had not the ability to use the support /ventilation coping strategy and may be unable to communicate effectively which may reflected on their performance. In addition, women continue to do multiple roles, including those roles related to the home and family, for which the women may have sole or major responsibility. These findings were inconsistent with Foster<sup>(16)</sup> who found that older nurses experienced a lower level of burnout in emotional exhaustion, depersonalisation, and reduced personal accomplishment than younger nurses.

In addition, Xie , Zhang , Zheng et al., <sup>(17)</sup>& Bao , Liu & Wu <sup>(18)</sup> found that Chinese nurses apply different coping strategies, such as wishful thinking, planned problem-solving, to deal with different stressors, and apply avoidance strategies to cope with stress, burnout resulting from the shortage of resources, role overload and interpersonal relationships.

### CONCLUSION

- Nurses employed at ICUs in Assiut University Hospital reported high burnout and use managerial coping strategies as rational problem solving, resigned distancing, seeking support/ventilation and passive wishful thinking to handle burnout and role overload except passive wishful thinking coping strategy not used with role overload.

### RECOMMENDATIONS

- Developing and implementing a training program on managerial coping strategies to assist nursing staff in health service institutions in Egypt to cope with burnout and role overload effectively.

- Further researches should be done to investigate relations among job satisfaction, job stress, personality traits and burnout among ICU staff.

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# Effectiveness of Structured Teaching Programme on Knowledge and Practice Regarding Intravenous Cannulation among the Staff Nurses

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## ABSTRACT

A pre-experimental study was undertaken to assess the effectiveness of structured teaching programme (STP) on knowledge and practice regarding intravenous cannulation (IV) among the staff nurses. A sample of 60 staff nurses were selected by using convenience sampling technique. A pre-test was conducted using knowledge questionnaire to assess the knowledge and observational checklist to assess the practice regarding intravenous cannulation which was followed by structured teaching programme. On the 8<sup>th</sup> day, post-test was conducted using the same knowledge questionnaire and observational checklist. The findings revealed that majority 52 (86.7%) of the staff nurses had adequate knowledge and majority 47 (78.3%) of the staff nurses had improve in their practice in the post-test. There was significance difference between the pre-test and post-test knowledge score ( $t=13.72$  at  $p<0.05$  level) and pre-test and post-test practice score ( $t=26.62$  at  $p<0.05$  level). There was a high positive correlation ( $r=0.9$ ) between the pre-test knowledge and practice score of the staff nurses. The pre-test knowledge score of the staff nurses was found to be associated with educational qualification. The pre-test practice score of the staff nurses was found to be associated with age, educational qualification and year of experience.

**Keywords:** Structured teaching programme, Intravenous cannulation.

## INTRODUCTION OR BACKGROUND

Vascular Access Devices are a common and important part of clinical practice for the administration of parenteral fluids, nutrients, medications and blood products. In addition, vascular access devices provide a route to monitor the hemodynamic status of a client. Nurses practicing vascular access care require knowledge, skill, and judgment to manage vascular access devices. Nurses with additional education and clinical expertise in infusion therapy serve as clinical champions and advocates. Hence, nurses should be aware of recent changes in intravenous cannulation procedure, care of the patient by updating their knowledge to provide high quality of care for individual that reduces on instrumental complications.<sup>1</sup>

## REVIEW OF LITERATURE

Arbaee, Ghazali (2013) conducted a cross

sectional study using a set of questionnaires, carried out to determine the knowledge and practice towards caring and maintaining peripheral intravenous (IV) cannulation among nurses in Pantai Hospital. The data was collected from 120 staff nurses from various departments or wards using convenience sampling technique. Almost all nurses have the knowledge how to care and maintain IV cannula but there are some nurses still do not know about this procedure. In this study, it was found out that 75.9 per cent of them have the knowledge in caring and maintaining IV cannula and 24.1 still do not know. 83.7 percent followed the correct practice of care and maintenance of IV cannula. Nurses should know about this vital procedure in order to prevent risk and complication to the patient.<sup>2</sup>

Kaur, Thakur, Kaur, Bhalla (2011) carried out a study to assess the risk factors leading to phlebitis amongst the peripheral intravenous cannulated patients. The study was conducted in Emergency

medical and surgical Out Patient Department of Nehru hospital, Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh. Total 200 patients were studied by using consecutive sampling technique. Mean duration of cannula in situ was 2.66 days. Out of total 200 subjects 113 (56.5%) developed phlebitis. There was significant relationship between the phlebitis and duration of cannula in situ, administration of antibiotics and electrolytes ( $\chi^2 = 21.74, 6.96, 14.18, p < 0.01$ ) respectively.<sup>3</sup>

Nishanth, Sivaram, Kalayarasan, Kate, Ananthkrishnan (2009) the prospective, randomized, controlled unblinded study was conducted in the Department of Surgery, Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER), Puducherry between May and June 2006. The study evaluated the effect of elective re-siting of intravenous cannulae every 48 hours on the incidence and severity of peripheral venous thrombosis (PVT) in patients receiving intravenous fluids/drugs. The randomized 42 patients who were admitted for major abdominal surgery to either the control or study group ( $n=21$  in either group). The study concluded elective re-siting of intravenous cannulae every 48 hours results in a significant reduction in the incidence and severity of PVT.<sup>4</sup>

Malach, et al (2006) conducted an eight year (1996 - 2003) nine-point prospective surveillance of phlebitis associated with peripheral intravenous catheters on all the hospitalized patients with peripheral intravenous cannula in Hebrew University – Haddasah Medical School, Jerusalem, Israel. In between these surveys, findings and guidelines for improvement were distributed among the staff. During the surveys,  $40\% \pm 8\%$  of hospitalized patients had peripheral intravenous cannula. The rate of peripheral intravascular catheter-associated phlebitis decreased from 12.7% (20/157) in 1998 to 2.6% (5/189) in 2003 ( $P < .01$ ) throughout the study period.<sup>5</sup>

Lundergren, Wahren (1999) in their study found that nurses were deficient in the use, care, handling and documentation of peripheral intravenous cannula and about 50% to 75% of complications were noted. The study included 36 nurses from Faculty of Health Sciences, Sweden were assigned to the experimental and control group. After the education programme, fewer complications, more carefully performed

care and handling, and better documentation and information were found in the experimental group. Education in evidence-based care and handling gives nurses the opportunity to improve their ability to use theoretical knowledge in clinical problems.<sup>6</sup>

## MATERIAL & METHODS

The objectives of the study were to -

- To determine the effectiveness of structured teaching programme on intravenous cannulation.
- To find out the correlation between the knowledge and practice regarding intravenous cannulation among staff nurses.
- To determine the association between the knowledge and practice with selected demographic variables.

The conceptual framework adopted for the study is based on "Ludwig Von Bertalanffy General System Theory (1968)".

*Research Approach* - An evaluative research approach was used for the study.

*Research design* - Pre-experimental one group pre-test post-test design.

*Population* - The target populations in this study were the staff nurses of down town hospital, Guwahati.

*Sample size* - The sample for the current study comprised of 60 staff nurses who fulfill the sampling criteria.

*Sampling technique* - Non-probability convenience sampling technique.

## DATA COLLECTION PROCEDURE

The data collection procedure commenced from 4<sup>th</sup> November to 30<sup>th</sup> December, 2013. Prior to the data collection, the researcher obtained Ethical Clearance from the Ethical Clearance Committee of Assam down town University, Panikhaiti, Guwahati, Assam. A prior permission was obtained from the authority of the down town hospital, Guwahati. The data collection was carried out in the month of November, 2013 in down town hospital, Guwahati. The staff nurses from different areas were selected based on inclusion criteria. On the first day, the purpose of the study was explained to the staff nurses and written consent was taken before starting the study. A pre-test was conducted on the first day by using

knowledge questionnaire to assess the knowledge and observational checklist to assess the practice regarding intravenous cannulation among the staff nurses which was followed by one hour structured teaching programme on intravenous cannulation by using demonstration on mannequin, charts and slides. Post-test was conducted on 8<sup>th</sup> day by using same knowledge questionnaire and observational checklist.

### FINDINGS

- The findings revealed that majority 37 (61.7%) of the staff nurses belongs to the age group of 20-25 years, maximum 34 (56.7%) of the staff nurses were having GNM qualification, maximum 38 (63.3%) of the staff nurses belongs to other areas of posting excluding ICU/CCU, A & E and Recovery, maximum 47 (78.3%) of the staff nurses were having experience of 1-3 years, majority 31 (51.7%) of the staff nurses were not exposed to any in-service programme related to intravenous cannulation.

- In pre-test 54 (90%) of the staff nurses had inadequate knowledge and six (10%) had adequate knowledge and in post-test 52 (86.7%) of the staff nurses had adequate knowledge and eight (13.3%) had inadequate knowledge as indicated in table 1.

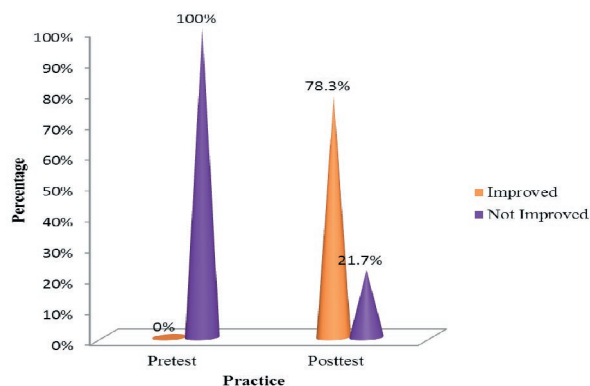
**Table 1: Frequency and percentage distribution of Pre-test and post-test knowledge score of the staff nurses on intravenous cannulation. n = 60**

Knowledge Score	Pre-test		Post-test	
	f	%	f	%
Adequate	6	10%	52	86.7%
Inadequate	54	90%	8	13.3%
<b>Total</b>	<b>60</b>	<b>100%</b>	<b>60</b>	<b>100%</b>

Maximum score = 30

- In the pre-test 60 (100%) of the staff nurses had not improve in their practice and in post-test 47 (78.3%) of the staff nurses had improve in their practice, 13 (21.7%) of the staff nurses had not improved as indicated in figure 1.

**Fig 1: Cone graph showing the percentage distribution**



### of pre-test and post-test practice score on intravenous cannulation

- The mean of post-test knowledge score (24.50) was higher than the mean of pre-test knowledge score (17.93) with a mean difference of 6.57. The mean of post-test practice score (26.63) was higher than the mean of pre-test practice score (17.83) with a mean difference of 8.8. Thus, indicating an increase in the post-test knowledge and practice of the staff nurses. Hence, structured teaching programme was effective in improving the knowledge and practice of staff nurses regarding intravenous cannulation.

- There was significance difference between the pre-test and post-test knowledge score with the paired-t value of 13.72 and found to be significant at p<0.05 level. There was significant difference between the pre-test and post-test practice score with the paired t-value of 26.62 and found to be significant at p< 0.05 level.

- There was a high positive correlation (r=0.9) between the pre-test knowledge and practice score of the staff nurses. Thus, it indicates that knowledge and practice are interdependent of each other.

- The pre-test knowledge score of the staff nurses was found to be associated with educational qualification and the pre-test practice score of the staff nurses was found to be associated with age, educational qualification and year of experience.

### CONCLUSION

The study revealed that the structured teaching programme was effective in improving the knowledge and practice regarding intravenous cannulation among the staff nurses.

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contribution and co-operation provided by the authority of the institution and staff nurses who participated in the study.

**Conflict of Interest:** The researchers declare that they have no financial or personal relationship(s) which may have influenced them inappropriately in writing of this study.

**Source of Funding:** Self

**Ethical Clearance:** Ethical clearance for the study was obtained from the Institutional Ethical Committee. In addition, informed written consent was obtained from the staff nurses and they were assured of both anonymity and confidentiality.

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# The Effect of Structured Teaching Programme among Patients with Ankylosing Spondylitis

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## ABSTRACT

A study was conducted to assess the effectiveness of structured teaching programme (STP) among patients with ankylosing spondylitis(AS). STP questionnaire was having 25 multiple questions to be answered. Their demographic details were also collected. On the basis of encouraging results gained from a pilot study of 10 patients, a major study with 70 similar cases was carried out. Education was given to these patients to improve their health condition during illness. The results showed statistically highly difference between pre and post ATP processing. The essential need of educating patients with AS about their sickness, diet and exercise they required. Chi square test showed significant association between STP and few demographic variables. We recommend similar educational programme to be included in nursing education. The present study should encourage nurses as well as nursing students to educate AS patients to assess their risk factors and help them to develop prevention strategies, as well as to lead a better life.

**Keywords:** *ankylosingspondylitis, structured teaching programme, nursing education, nursing administration, health education*

## INTRODUCTION

Ankylosing spondylitis (AS) is an important spinal cord disorder which leads to decreased physical mobility. AS is a chronic inflammatory disorder of the axial skeleton affecting the sacroiliac joints and spine<sup>1</sup>. The exact cause of AS is unknown. HLA-27 was identified as a risk factor<sup>2</sup>. Prevalence of AS in different continents as in 10,000 population was 23.8 in Europe, 16.7 in Asia, 31.9 in North America, 10.2 in Latin America and 7.4 in Africa<sup>3</sup>. It is not a man's disease as it is thought<sup>4</sup>. Though, in India AS was more in male than in female (16:1)<sup>5</sup>. In China the ratio of AS was remarkably low<sup>6</sup>.

The present study was to assess the effectiveness of structured teaching programme among hospitalized AS.

## MATERIALS & METHODS

Selection of AS patients were done after studying the cases where physical examination findings included sacroilitis, spinal muscle spasm and decreased hip mobility. X-ray and erythrocyte

sedimentation findings were considered<sup>1</sup> was reported as an important genetic marker for AS<sup>7</sup>.

Patients consent was taken prior to the study and assurance was given that all collected data would be kept confidential. Each patient's data was collected during an interview which lasted approximately 35 minutes. Data included patient's age, sex, education, occupation, monthly income of family, hobbies, knowledge about their illness as well as exercise to perform and duration of illness.

A structured teaching programme (STP) was prepared and employed on knowledge of AS patients regarding their illness. The STP was translated to local language. Reliability and feasibility of STP was tested prior to the study proper. Questionnaire consisted of 25 multiple choice questions. Each correct answer was given a score of one and wrong answer zero. Reliability, was established by split half method by using Spearman Brown prophesy formula. The reliability, feasibility and validity of tool obtained was (r =0.8). Patient was to fill questionnaire before and after STP.

The method of instructions adopted was lecture cum discussion using visual aids like flash cards, hand outs, and posters. After collecting their demographic details on the same day STP was conducted in their local language and which lasted for 50 minutes. The post - test was conducted after a week of the pre-test with interview schedule by using the same questionnaire.

As a pilot study 10 AS patients were tested employing STP. Result was promising so we initiated the present study where 70 male and female (age 20-65) AS patients were included. They were selected by purposive sampling. The ten patients included in pilot study were excluded here.

The knowledge of AS patients before and after participating in STP was analyzed in terms of frequencies, percentages, mean, median and standard deviation.

The results obtained was considered statistically significant at  $\leq 0.05\%$  level. The difference between pre-

test and post-test knowledge scores were determined by paired "t" test. The association between post-test level of knowledge and demographic variables were seen by using "Chi square" test.

## RESULTS

Majority of our patients were males (53.33%), and they were educated upto high school class (33.33%). Most of them (63.33%) did not do any exercise. By profession they belonged to agriculture or business and some were unemployed. Their hobbies were gardening (23.33%), playing games (10%), reading books (33.33%), and others (33.34%). Majority of them gathered health information from radio and their mode of transport was (56.67%) four wheelers. Their illness varied from 1-5 years (90%).

The paired "t" test showed that the STP was statistically significant ( $p < 0.001$  level) in AS patients (Table 1).

**Table 1. STP: pre and post-test mean and standard deviation and t-value on AS patients**

Know-ledge	Mean	SD	Paired t- test value	Df	p- value
Pre-test	11.15	2.64	29.6	59	p<0.001 (highly significant)
Post-test	18.18	2.47			
Paired mean difference	7.03	0.17			

The Chi square test showed a significant ( $p < 0.005$ ) association between knowledge and only demographic variables like in age, education, exercise, occupation, hobbies, health information, mode of travelling and duration of illness.

## DISCUSSION

The present study was carried out to identify the effectiveness of structured teaching programme (STP) on patients with AS. Which allowed us to assess AS patient's level of knowledge, using a self-administered multiple-choice questionnaire. We preferred patients to use questionnaire in their own language. This is essential to exclude mistakes and wrong answers<sup>8</sup>. The prepared questionnaire was consistent, reliable and easy to read and was based on the Arthritis and Rheumatism Council (ARC)

leaflet on AS which examined four areas: (A) general knowledge; (B) immunogenetic tests and inheritance; (C) general management; (D) joint protection, pacing and priorities.

As is a kind of chronic inflammatory autoimmune disease and mainly involves axial joints<sup>9</sup>. Signs and symptoms of AS include difficulty in sleeping, morning backache, stiffness, neurological changes such as bowel and bladder incontinence, fever, pulmonary fibrosis, uveitis and inflammatory bowel disease<sup>2</sup>. Inflammation lead to fusion of articular tissue. Extra articular inflammation may affect eyes, lungs, heart, kidney and peripheral nervous systems<sup>10</sup>. The inflammation of arthritis, affects the joint capsules and their attached ligaments and tendons. Principally affected is intervertebral and sacroiliac joints.

Pyogenic bacteria could be a cause for inflammation<sup>11</sup>. If not treated early it would lead to blurred vision and shortness of breath<sup>12</sup>. AS patients suffer commonly from peripheral arthritis and low back pain<sup>5</sup>. In our country increased frequency of peripheral arthritis among AS patients was reported<sup>13</sup>. Among females juveniles which was associated with extensive extra axial movement<sup>14</sup>. Patients as well as society were spending money for treating AS patients<sup>15</sup>. Thus health economy was affected by this disease<sup>16</sup>.

AS is associated with HLA -B27 antigen. It is characterized by low back stiffness and possible ocular, cardiac and pulmonary manifestations. Arthritis associated with inflammatory bowel disease<sup>12</sup>.

Anemia is a common complication in AS. Using Aspirin<sup>17</sup>, Infliximab<sup>18</sup>, TNF blocking drugs<sup>19</sup>, adalimumab for five years<sup>20</sup> or balneotherapy<sup>21</sup> were used and basically to improve working capacity of patient. Non-steroidal anti-inflammatory drugs are suggested<sup>22</sup>. The modern medicine has no specific therapy<sup>23</sup>. Total hip arthroplasty was recommended in required cases<sup>24</sup>.

Our aim to conduct a systematic study in a major group of AS patients (n=70) to access the effectiveness of structured teaching programme(STP) was based on a pilot study conducted earlier with 10 AS patients. The results showed poor knowledge of patients about the disease. Association of post –test knowledge with demographic variables was done using Chi square test. Results showed that all variables except sex and monthly income had highly significant association with the post- test findings among patients as shown below. In a similar study done it was found poor functioning and physical health affected quality of life<sup>25</sup>.

	STP	
	Pre	post
%	43	73
	10.8	18.2
SP	2.32	1.73
't' test	*	*
*significant		

The investigators had assessed the effectiveness

of STP with each component by observing it before and after STP.

Table 1 undoubtedly confirm that the STP was significantly effective in improving the knowledge of AS patients participated in this study.

The component wise pre- test knowledge score 11.15%was inadequate in all areas like general information, signs and symptoms. Similar findings were reported earlier<sup>26</sup>. The results showed AS patients to have a high level of knowledge (mean = 19.4, maximum possible = 25), although some wrong beliefs about the role of blood tests, the HLA-B27 antigen and inheritance were observed. The data suggested that the present questionnaire was a simple way to detect the level of knowledge of patients with AS. The average score achieved by AS patients was outstanding, reflecting the quality of educational programme (STP) we parted and which they attended. Patients' confusion regarding blood tests, genetics and inheritance was highlighted and we made them understand these points satisfactorily.

This present study is important in the nursing field of practice, education and administration and nurses as members of health team have a major role in taking care of AS patients by preventing the possible immobility due to illness<sup>27,28</sup>. They should make aware the details of AS to these patients and their relatives. Monitoring of the AS patient in clinical daily should also include specific concepts pertaining to the disease, which will aid in the detection of disease, progression, the requirement of therapeutic intervention and the response to therapy<sup>29</sup>. Essential nursing care include hot application, advice the patients to maintain good dietary habits sleep without pillows in supine position, proper physical exercise, breathing exercise and monitor the physical mobility and skeletal changes.

Findings of the study will be useful in nursing education. Nurse educator should encourage the students for care, prevention and helping AS patients to do daily exercise. The students should be educated for special exercise for AS and daily activities in these patients. Teaching plan is a guide for the teacher because it helps to cover the topics comprehensively with proper sequence of points.

Nursing administration should make public awareness on AS and its preventive measures. Towards this a protocol for nursing care of patients with AS shall be prepared. The study shall be a beginner in education programme and continuing nursing education programmes to be initiated for nurses to update the knowledge on AS patients.

The nurse administrators should organize the programme and prepare the audio-visual aids and hand-out for effective health education.

In conclusion STP improved the knowledge of AS patients about their illness, required diet and the exercise they had to perform. The study showed implications made by this in the field of nursing practice, nursing education and nursing administration.

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**Ethical Clearance :** was granted for the study

**Source of Funding :** Self

**Conflict of Interest:** Nil

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# An Exploratory Study to Assess the Psychosocial Problems Experienced by Migrants Residing in Selected Districts of Punjab, 2015

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## ABSTRACT

**Background of the study:-** Migration (human) is the movement of people from one place in the world to another for the purpose of taking up permanent or semi permanent residence, usually across a political boundary. People can either choose to move (“voluntary migration”) or be forced to move (“involuntary migration”). Punjab has recorded an above average growth rate of 10 percent over the years due to migration. Various research reports reveal that today Punjab need outside workers for various reasons. Therefore more reasonable thing is to understand the migrants also – their compulsions, expectations.

### Objectives

1. To explore the psychosocial problems experienced by migrants residing in selected districts of Punjab.
2. To find out the association between the psychosocial problems experienced by migrants and their selected socio demographic variables.

### Research Methodology:

<b>Design</b>	:	Non Experimental, Exploratory design
<b>Setting</b>	:	Selected districts of Punjab.
<b>Target Population</b>	:	Migrant workers working in selected districts of Punjab.
<b>Sample size</b>	:	200 students
<b>Sampling Technique</b>	:	Simple random sampling technique

**Result and Conclusion:** Mean score of psychosocial problems and Standard deviation of total 200 sample were  $79.99 \pm 12.76$  respectively Median of 200 samples was 78. Majority 142 (71%) of migrants experienced moderate psychosocial problems whereas 31(15.5%) migrants experienced severe psychosocial problems and 27(13.5%) migrants experienced mild psychosocial problems.

**Keywords:** “Psychosocial problems” “Migrants”.

## INTRODUCTION

Migrant is a person who moves from one place to another in order to find work or better living conditions. According to American psychiatric council (2010), the term ‘migrants’ refer to people with a wide range of different types of status, including refugees, asylum seekers, refused asylum seekers, trafficked persons, undocumented migrants, migrant workers, family migrants, international students<sup>1</sup>.

Although the **Fifth EWCS (European Working Conditions Survey)<sup>2</sup> (2010)** reveal a higher prevalence of workers in the agriculture sector and construction sector that were on: a fixed term contract (16.8% vs. 12%), in temporary employment (2.8% vs. 1.3%) Migrant workers are often employed in low-paid and unskilled roles, which are typically characterized by poor working conditions (e.g., working long hours, evenings or night work, working during weekends). Undoubtedly, collectively these factors may constitute

a significant risk for workers' safety and physical or mental health. 4.1% of employees reported being subjected to bullying or harassment at work in the present year. The highest prevalence was found in France (9.5%), Belgium (8.6%), the Netherlands (7.7%), Luxemburg (7.2%), and Austria (7.2%). In some countries, very low prevalence was measured; Bulgaria (0.6%), Poland (0.7%), Italy (0.9%), Slovakia (1.2%), Turkey (1.3%), Kosovo (1.4%), and Albania (1.5%) In the EU level, bullying or harassment seemed to be somewhat more common in the service sector (4.6%), as compared to in industry (3.1%). In some countries (e.g., the Netherlands, France, Latvia, and Slovenia) the experience of bullying or harassment was observed to be more common in the service sector, than in industry. In a survey in 70 organizations from 18 sectors in Britain, bullying was found to be most common in prison service, post- and telecommunications, and teaching.

**As per ILO<sup>3</sup>** i.e. International Labour Organization (2007) Countries whose workers report a high prevalence of physical violence were France (3.8%), the United Kingdom (3.3%), Ireland (3.2%), Denmark (2.9%) and Belgium (2.9%). Low rates were found in Italy (0.2%), Lithuania (0.3%), Hungary (0.3%), Estonia (0.4%) and Cyprus (0.4%), exposure to physical violence increased from 4% in 2005 to 6% in 2012.

**S Chandrasekhar, Ajay Sharma<sup>4</sup> (2014)** conducted a study on Internal Migration for Education and Employment among Youth in India, results revealed that there are four migration streams: rural-rural, rural-urban, urban-rural and urban-urban. Further, the stream can be intra-district, intra-state and inter-state. Majority of the migrants move within the state, i.e. move within same districts or move to other districts of the same state. Of the 110 million individuals aged 15-32 years, over 70 percent of them, i.e. 77.5 million report moving on account of marriage. While nearly 10 percent report moving in search of employment, and 3.5 percent report moving on account of education.

**National Sample Survey Organization<sup>5</sup> (NSSO)** (2009-2010) conducted a survey on the distribution of workers by sector was as follows agricultural sector: 53.2 percent, secondary sector: 21.5 percent and tertiary sector: 25.3 percent manufacturing

accounts for 27 percent. Unlike the case of migration for education which was primarily an intra-state phenomenon, 46 percent of individuals migrate to work in other states where as 54 percent work in the same state Moreover, 72 percent of these migrant workers are employed in rural areas.

**Ravi Srivastava and S.K Sasikumar<sup>6</sup> (2006)** conducted a study on An overview of migration in India and its impact and key issues revealed that, Towns and villages of Punjab are the destination of large-scale spatial mobility of unskilled populations from rural areas of backward states especially Uttar Pradesh and Bihar. These migrants reach Punjab from all over the country individually as well as in groups with or without the help of contractors/agents, the population of migrant labour in Punjab has reached 2.5 million within Ludhiana being its focal point. Punjab's entire agriculture, paddy, plantation and allied fields such as poultry and dairy are almost fully dependant on migrant labour. The same is reflected in the case of small and medium scale industries. The steel, iron, sugar, wool, knitwear etc. are also heavily dependent on migrant labour.

## MATERIALS & METHOD

Quantitative approach and Non-Experimental, Exploratory research design was adopted for the study. The study was conducted in selected districts of Punjab (Coca Cola Industry, Distt. Ludhiana (Majha region), Doaba Milk Industry, Distt. Jalandhar (Doaba region), Esperton Woolen Industry, Distt. Gurdaspur (Malwa region). Simple random sampling technique was used to select 200 migrant workers. The tool consisted of two sections: - **Part-I Socio-Demographic Variables:** Consists of 11 items for obtaining information about the sample's Age, Gender, Education, Marital status, Occupation, Income (in Rs./month), Residence, Religion, Place of origin, Language preference and Duration of residing in Punjab (in years). **Part-II Self Structured Questionnaire:** Consists of 40 questions. On the basis of response Agree contains 3 marks, Uncertain contain 2 marks and Disagree contain 1 mark. The maximum score was 120 and minimum score was 40. The data will be analyzed according to objectives of the study using description and inferential statistics such as frequency, percentage, mean, standard deviation, coefficient of correlation, 'Z' test, ANOVA

test. **Criterion Measure:** There were 40 items to assess the psychosocial problems experienced by migrants. Criterion measure used in the study was as follow:

Level of Psychosocial problems	Scores
Mild	40-66
Moderate	67-93
Severe	93-120

### MAJOR FINDINGS

- Maximum number 125(62.5%) of migrants belonged to age group of 35-54years.
- Majority of respondents were male 161(80.5%) and 39(19.5%) were females.
- Highest i.e. 90(45%) migrants were illiterate.
- More than half 158(79%) were married migrants.
- More than half of the migrants 120(60%) were unskilled and 80(40%) were skilled.
- Out of 200 study subjects, 90(45%) of migrants were having 10001-15000 monthly income.
- As per religion maximum 95(47.5%) migrants were Hindu followed by 50(25%) Sikh migrants.
- As per place of origin maximum 60(30%) migrants originates from Bihar.
- Out of 200 study subjects 110(55%) migrants resides in rural areas.
- Majority of the respondents 110(55%) prefer Hindi language.
- As per duration of residing in Punjab (in years) 80(40%) migrants resides in Punjab from 6-8 years.
- The findings of the present study revealed that mean psychosocial problems score of migrants is 79.99
- Level of psychosocial problems was not significant with any of the socio-demographic variable other than the occupation, income (in Rs./month), religion, place of origin and duration of residing in Punjab (in years).

### CONCLUSION

The study was undertaken to assess the psychosocial problems experienced by migrants residing in selected districts of Punjab. A total of

200 samples was taken. Simple random sampling technique was used to collect data. The result was calculated by using descriptive and inferential statistics. From the findings it was concluded that the majority of migrants 125(62.5%) belonged to age group of 35-54years, 161(80.5%) were male and 39(19.5%) were females, highest i.e. 90(45%) migrants were illiterate, more than half 158(79%) were married migrants, more than half of the migrants 120(60%) were unskilled and 80(40%) were skilled, out of 200 study subjects, 90(45%) of migrants were having 10001-15000 monthly income, as per religion maximum 95(47.5%) migrants were Hindu followed by 50(25%) Sikh migrants, as per place of origin maximum 60(30%) migrants originates from Bihar, the findings of the present study revealed that mean psychosocial problems score of migrants is 79.99.

### DISCUSSION

A self structure three point Interview schedule was used to collect the data. Study was done to assess the psychosocial problems experienced by migrants residing in selected districts of Punjab, investigator utilized Simple random sampling technique to select the subjects. The findings were discussed on the basis of demographic characteristics, objectives of the research study.

First objective of the study was to explore the Psychosocial problems experienced by Migrants residing in selected Districts of Punjab, findings of the study revealed that out of 200 migrants, maximum 142(71%) migrants experienced moderate level of psychosocial problems, followed by 31(15.5%) migrants experienced severe level of psychosocial problems and minimum 27(13.5%) migrants were experience mild level of psychosocial problems .The finding of study was supported by, Economic and Statistical Organization, Department of Planning, Government of Punjab in his study results revealed that out of 100 study samples Majority (60%) of the migrants experience moderate level of psychosocial problems while (5%) of mothers were having severe psychosocial problems and (35%) migrants experience mild psychosocial problems.

Second objective of the study was to find out the association between the psychosocial problems experienced by migrants and their selected socio demographic variables, In the present study



Age, Gender, Religion, Marital status, Education, Occupation, income (in Rs./month), residence, place of origin, language preference, duration of residing in Punjab (in years) as socio demographic variables and revealed that occupation, income (in Rs.), religion, place of origin and duration of residing in Punjab (in years) was significant with the level of psychosocial problems variable in the study. Otherwise, there was no other socio demographic variable which is significantly associated with the level of psychosocial problems in the study and other than this there was no significant association found between levels of psychosocial problems with other selected socio demographic variables. The findings of the study was supported by the study conducted by Economic and Statistical Organization, Department of Planning, Government of Punjab as they revealed that there is a significant relationship between psychosocial problems and age, gender, occupation, income, religion, duration of residing in Punjab socio-demographic variables and no association between psychosocial problems and education, marital status, residence, place of origin, language preference socio-demographic variables.

### ETHICAL CONSIDERATIONS

1. Written permission will be taken from principal S.G.L Nursing College, Semi, Jalandhar, Punjab.
2. Ethical clearance will be taken from Research Ethical Clearance Committee of S.G.L Nursing College, Semi, Punjab.

3. Written permission will be taken from the higher authorities where the migrants are working.
4. Written informed consent will be taken from each study sample.
5. Confidentiality and Anonymity of samples will be maintained throughout the study.

**Source of Funding:** Self

**Conflict of Interest:** Nil

**Acknowledgement:** Those who do not move, do not notice their chains.

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# Communication: An Essence to Operating Room Nursing

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## ABSTRACT

Research suggests that inadequate communication is a primary cause of medical errors and that communication among the professions in the operating room (OR) is essential to patient safety<sup>1, 2, 3</sup>. Hence adequate and effective communication among team-members reduces risks and raises patient safety. Being a part of OR team it is essential for a nurse to know how to communicate effectively. This article will enable us to communicate effectively among OR team members and the patients.

**Keywords:** Communication, holding bay, operating suite, post anesthesia care unit and barrier.

## INTRODUCTION

Excellent communication skills, both verbal and nonverbal, are needed throughout the perioperative experience to educate patients undergoing surgery and so ease their anxiety<sup>4</sup>. Nursing throughout ages has mastered the art of communication both with the patients as well as with the multidisciplinary team and other departments. Good communication skills always help in building good interpersonal relationships. Good interpersonal relationships pave way for a conducive working environment, thereby directly impacting both work as well as patient outcomes at the same time.

## COMMUNICATION STATIONS IN OR

Patients, who enter the Operating Room complex, have a short encounter with its team members before leaving the OR after the surgical intervention. These encounters occur as the patients are wheeled from the ward till the patients reach back after being monitored in the Post Anaesthesia Care Unit.

The holding bay nurse receives a verbal report about the patient from the ward nurse, which

comprises of patient’s name, hospital number, name of the surgery, site and side of the surgery, informed consent, anesthesia consent, NPO status, premedication, implants, loose tooth, articles for surgery sent with the patient. The holding bay nurse cross checks the details and documents the time of arrival, patient’s health status and other significant details pertaining to that individual in the peri-operative record.

Holding bay is the face of OR, keeping this in mind the holding bay nurse communicates effectively with the patient. Seeing a friendly, welcoming face, helps the patients to cope with their fears<sup>5</sup>. The nurse providing care to the patient in the holding bay must remember the following approach.

- H- Hold the hand
- O- Observe the patient
- L- Listen patiently to ease fear
- D- Do not over communicate
- I- Individual differences must be respected
- N- Never leave the patient’s alone
- G- Greet the patient by name

## COMMUNICATION AT THE HOLDING BAY



Fig. 1

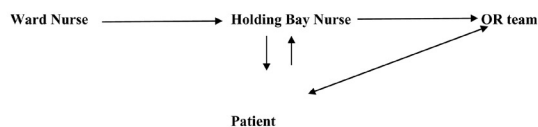


Fig. 2

**B-** Be cautious about your facial expression

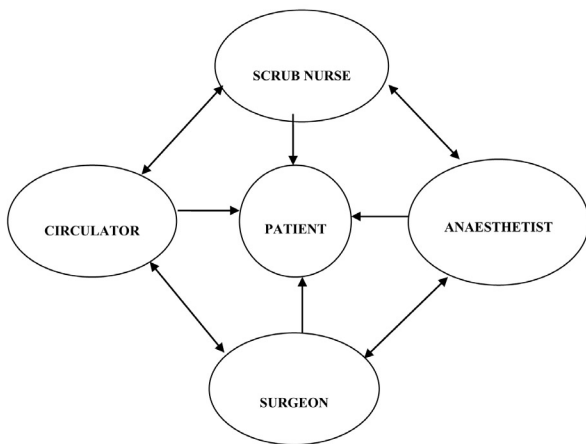
**A-** Avoid grape vine communication

**Y-** Why? Clarify their doubts in simple-terms

The holding bay nurse communicates the patient's name, hospital number, name of the surgery, site and side of the surgery, NPO status, premedication, and any other significant information to the team members. OR team members re-affirm the details with the patients.

The communication must be clear, concise, relevant and timely.

### COMMUNICATION IN THE OPERATING SUITE



**Fig: 3**

Patient is the center of the communication process in the operating room. Each team member communicates with the patient as well as with one another. Since multidisciplinary team is involved clear, concise use of language is vital. Careful choice of words is essential in maintaining interpersonal relationship and better patient satisfaction. Active listening skills, probing and questioning skills are important for effective communication in OR <sup>6</sup>.

#### Barriers of communication in the operating suite

1. Nurse-Nurse
  - a. Expectation from the Nursing fraternity
- b. Inter personal conflicts
- c. Prejudice
- d. Language
- e. Serial Distortion

f. Nurses role confusion

h. Physical barriers: Hearing difficulty, Noise from audio system, power tools

#### 2. Nurse- OR team

- a. Inadequate knowledge
- d. Lack of assertiveness
- c. Use of Jargon
- d. Abusive words by the team members
- e. Lack of active listening by the team members
- f. Irrelevant comments and queries by the team members
- g. Fear of being ridiculed
- h. Stress
- i. Impolite response from team members
- j. Unrelated conversation by staff
- h. Serial distortion by the Nurse

#### Visible Effects of Communication Failure<sup>7</sup>

1. Procedural delay
2. Inefficiency
3. Procedural Errors
4. Team tension
5. Wastage of Resources

#### Strategies to enhance effective communication in the operating suite

1. Focus on updating nurse's knowledge
2. Assess reasons for unwanted noise and avoid them
3. Obtain soft skill and continue to be polite
5. Establish rapport among team members
6. Train the nurses to be clear on nurse's role in the operating suite
7. Intervene promptly when conflicts among nurses occur
8. Coordinate activities to reduce procedural delay and work stress
9. Ensure use of professional language
10. Devout time for team building among nurse.

## COMMUNICATION IN POST ANAESTHESIA CARE UNIT

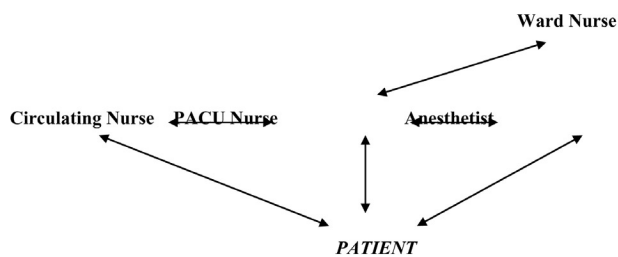


Fig:4

Post anesthesia care unit is the heart of the OR. Patients admitted are highly vulnerable, as they recover from the anesthetic effect. Communication among the post anesthesia care providers is critical. The circulating nurse and the anesthetist providing care to the patient in the intra operative period must provide appropriate hand off information to the PACU nurse<sup>8</sup>. Hearing is the first sense to return in the recovering patient hence whatever spoken near the patient must be pleasant and polite. The PACU nurse will have to react in a non- confrontational manner towards confused and aggressive patients, offering continuous support and reassurance.

### Characteristics of a good hand-off reporting skill

1. Clear
2. Concise
3. Complete
4. Correct
5. Connected

### Communication skills required for a PACU Nurse

1. Speaking slowly
2. Speaking clearly and not loudly
3. Stopping to listen
4. Specializing other languages
5. Sensitiveness and polite

## CONCLUSION

Effective communication is vital in OR. It enables its smooth functioning. Proper communication saves time, efficiency and enhances good patient outcome. A Peri-operative nurse must always take all effort to ensure good communication with the patients and

among the team members. As holding bay is the face of the OR, remember to receive the patients with a smile, and since the PACU is the heart of the OR, handle patients with care. Communication is an art, hence cultivate it.

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**Ethical Clearance:** Ethical Clearance is not obtained since it is a concept article

**Source of Funding :** Nil

**Conflict of Interest:** The authors declare no conflict of interest as it is a concept article.

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# Effectiveness of Educational and Selected Exercise Programme to Reduce Back Pain in Staff Nurses

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## ABSTRACT

**Aim.** The study was aimed to evaluate effectiveness of educational & selected exercise programme regarding back pain among staff nurses.

**Material and Method:** All the Staff Nurses from selected hospital of Mysore District were surveyed for 3 days to explore the incidence rate. Staff nurses those who were suffering from back pain were included in the study. Participants were selected into a control group (n1=35) and an intervention group (n2=35). The intervention programme involved educational component on knowledge and practice regarding back pain emphasizing on the causes, symptoms and preventive aspects such as ergonomics, followed by selected exercise programme for 15 days in the morning time for 30 to 40 minutes of duration.

Participants were asked to answer structured knowledge questionnaire, structured practice questionnaire. Data were collected before and after the intervention programme.

**Analysis:** Data was analysed by using statistical software Epi- info. Quantitative data was expressed in terms of mean±standard deviation. Qualitative data was expressed in terms of frequency and percentage. Independent t-test, paired t test, were used to analyse the data at 5% level of significance.

**Results:** Two hundred sixty three staff nurses were surveyed. The incidence rate of back pain was estimated 62.64%. It was estimated that the mean pre –test knowledge score (11.83±3.37) and practice score (68.83±13.5) of staff nurses regarding prevention and management of back pain was lower than the mean post test knowledge score (25.14±3) and practice score (115.3±4.37). The difference were found to be statistically significant at 5% level of significance. There was a statistically significant decrease in the Intensity of back pain and related absenteeism at the end of 15 days in the intervention group (P<0.05).

**Conclusion:** It was concluded that the planned teaching and selected exercise programme is an effective strategy which can help nurses to increase their knowledge and practice regarding prevention and management of back pain.

**Keywords:** *Back Pain, Staff Nurses, Knowledge, Practice, prevention and management of Back Pain.*

## INTRODUCTION

One of the universal health problems today is the back pain. It has become the second most reason after common cold leading to the loss of work days among people under the age of 45 years than any other medical condition, and, almost one percent of work force is chronically disabled due to of back pain<sup>[1, 2]</sup>.

Repetitive work, posture, work control and work organisation are considered as having association

with symptoms and injuries of the musculoskeletal system<sup>[3,4]</sup>, thus the risk for occupational accidents of the back is higher among nurses than among working women in the general population. Work related back pains among nurses constitute a foremost cause of morbidity in the health care environment.<sup>[5]</sup>

Patient management events have long been accepted as being a major provider to the high incidence of musculoskeletal injury, which results in

back pain, among nurses<sup>[6,7,8]</sup>. A range of educational approaches have been used over the years to try and reduce this problem<sup>[9]</sup>, and professional bodies continue to produce direction on patient management<sup>[10]</sup>. Back pain being multifactorial in origin requires an ergonomic approach, which attempts to integrate equipment, repetitive work task, personnel, and the physical work environment.<sup>[11]</sup>

### **AIM**

The study was aimed to explore incidence rate, and evaluate effectiveness programme among staff nurses of educational & selected exercise programme among staff nurses.

### **METHODS**

An explorative and evaluative research approach was used for the study. The research design adopted was true experimental design. The sample consists of 70 nurses, 35 each in experimental group and control group.

The study was conducted in a multispecialty teaching hospital. A survey was conducted to explore incidence rate of back pain among Nurses. The sample population included all the Nurses working at the dependent inpatient care units (Emergency, Orthopedic, Operation theater, and ICUs) and Ambulatory Units (Private ward, General Medicine and Surgery wards and Gynecology Unit).

The Nurses were involved in overall Nursing Care such as transportation, lifting, shifting, drug administration, assisting in invasive procedures, conducting delivery, personal hygiene care and feeding patients.

Inclusion criteria for the study participants were age less than 45 years, working as staff nurse, involved in direct patient care in different shift duties and, suffering from back pain from last 3 months or more and willing to participate in the study. Exclusion criteria were, spinal disorder or medically restricted for movements/exercises or medical history of spinal surgery.

The sample population was 171 Nurses with back pain. All the participants signed informed consent forms and with Systematic Random Sampling technique Nurses were enrolled into control group (n1=35) and experimental group (n2=35). The control and experimental group were pre-tested to assess

knowledge and practice regarding prevention and management of back pain among Nurses.

The experimental group received a 60 minutes planned teaching programme on prevention and management of back pain on day one followed by selected exercise programme for 15 days.

The tools developed and selected for the data collection were: (1) Survey questionnaire to explore the incidence, (2) Structured knowledge questionnaire to assess the knowledge of Nurses regarding prevention and management of Back Pain; (3) Structured practice questionnaire to assess the practice of body mechanics and performance of certain back strengthening and stretching exercises for Nurses regarding prevention and management of Back Pain. Content validation and reliability was established for all tools.

The teaching content was based on previous research studies. The planned teaching programme was conducted soon after pre-test in experimental group.

The exercise programme was designed with the help of Physiotherapist for experimental group for a 45 minutes of duration in the every day morning for 15 days. Author has demonstrated the selected exercises (warm-up, stretching and strengthening) and Nurses performed those exercises.

### **DATA COLLECTION**

Survey questionnaire was prepared to collect personal variables data, question on presence or absence of back pain, which was found reliable with test retest method and 96% similarity were found. To assess the knowledge and practice regarding prevention and management of back pain, a structured knowledge and practice questionnaires were prepared. Reliability was obtained by computing coefficient correlation, which was found to be 0.86 for knowledge and 0.97 for practice questionnaire.

### **STATISTICAL ANALYSIS**

The data was calculated by using statistical software Epi- info. Categorical data represented in the form of Frequency and percentage. Quantitative data was expressed in the terms of mean and standard deviation. Paired t test was used to compare the pre test score to post test score. Independent t test was used to compare the mean of control and experimental group.

## ANALYSIS

The incidence rate of back pain among surveyed among 263 nurses. Of 263 Nurses, 171 (62.64%) were suffering from back pain. These 171 nurses having back pain formulated the target population for the the study, from which 70 were selected as samples for the study.

**Selected personal variables of nurses:** In the present study majority (75.71%) of the total sample were in the age group of 20-30 years. This indicates that majority of the nurses were in their most productive and functionally active age group. Whereas majority (97.14%) of the sample were female

and they were equally distributed, 34 in both the groups experimental and control group.

With regards to area of work majority (67.14%) of the Nurses were working in Ambulatory care units. In the present study majority (75.71%) of sample had  $\geq 3$  years of professional experience. Nurses were asked about the duration they were suffering from back pain, overall 52.86% samples were suffering from back pain for 1-2 years of duration and 47.14% were suffering for  $\geq 2$  years of duration. Majority (55.71%) of the sample had back pain in 2-3 locations. Same trend was seen in experimental and control group (51.43% and 60% respectively) Table 1.

**Table 1: Demographic charecteristics, durationa and location of back pain among Nurses in experimental and control group.** N=70

Sample characteristics		Experimental group (n1 = 35)		Control group (n2 = 35)		Total	
		F	%	F	%	F	%
Age (Years)	a. 20-30	27	77.6	26	74.3	53	75.7
	b. 30-40	08	22.9	09	25.7	17	24.3
Gender	a. Male	01	02.9	01	02.9	02	2.85
	b. Female	34	97.1	34	97.1	68	97.1
Education Qualification	a. Diploma (GNM)	35	100	35	100	70	100
Area of working	a. Dependent care units	16	45.7	07	20	23	32.9
	b. Ambulatory care units	19	54.3	28	80	47	67.1
Years of professional experience	a. 1-3 Years	10	28.6	07	20	17	24.3
	b. $\geq 3$ Years	25	71.4	28	80	53	75.7
Duration of back pain	a. 1-2 Years	19	54.3	18	51.4	37	52.9
	c. $\geq 2$ Years	16	45.7	17	48.6	33	47.1
Location of back pain	a. 1 Location	09	25.7	12	34.3	21	30
	b. 2-3 Locations	18	51.43	21	60	39	55.7
	c. > 3 Locations	08	22.86	02	5.7	10	14.3

There is significant mean difference between the pre-test to post-test knowledge and practice scores in experimental group.  $p < (0.05)$  (Table 2)

To find significance of the gain in knowledge and practice scores from pre to post-test, paired 't' test was computed and the obtained values of 't' (34) = 24.42 and 20.59 were found significant at 0.05 as well as at 0.01 level.

**Table 2: Effects of training programme in experimental group.****(n=35)**

Variables	Mean		Mean <sub>D</sub>	SE <sub>MD</sub>	SD <sub>D</sub>	Paired 't' Test
	Pretest	Posttest				
Knowledge score	11.83	25.14	13.31	0.545	3.22	24.42
Practice score	68.83	115.3	46.47	2.25	13.34	20.59

't' (34) = 2.025 p < (0.05) and 't' (34) = 2.713 p < (0.01)

The data presented in Table 3 shows that modified mean gain scores of post-test of knowledge and practice scores of experimental group are 0.73, and 0.89 which were apparently much higher than that of control group (-0.02, and -0.054). The difference between the modified mean gain in knowledge and

practice score of the experimental and control groups is 75.0 and 94.4.

The statistical significance of the difference was computed and the 't'(68) = 17.17 for the knowledge and for practice 28.44 were found highly significant at 0.05 level of significance.

**Table 3: Difference in control and experimental group****(N=70)**

Variables	Group	Modified mean gain	Mean <sub>D</sub>	SD <sub>D</sub>	SE <sub>MD</sub>	't'
Knowledge	Experimental group	0.73	75.*	3.41	0.82	17.17
	Control group	-0.02				
Practice	Experimental group	0.89	94.4*	7.36	1.76	28.44
	Control group	-0.054				

Independent 't'(68) = 1.996 p < 0.05

\* The modified mean score is multiplied by 100

## DISCUSSION

It was found that out of 263 nurses, 171(62.64%) were suffering from back pain. This finding was consistent with the results of studies [12,13,14,15,16,17,18] showed a high incidence rate of back pain (87.5%, 54.7%, 69.%, 70%, 66.8%, 52%, and 76%) among nurses and nursing personnel, which were rather close to the studies in Western countries.

Maximum number of nurses were belongs to the age group of 20-30 years and 67(97.14%) of samples were female. This trends were observed regarding the age and gender in other studies [19, 20, 14, 11,21, 22.]

It was found that 75.71% of nurses had ≥3 years of professional experience. Similar findings were observed in studies [6,8,23,13,24,18,25] where most of the nurses with back pain had >3 year of professional experience. This indicates that with increasing

number of years of experience more nurses suffer from back pain. Little more than half (52.86%) of nurse's duration of back pain was 1-2 years. These findings were consistent with the findings of other study [12, 26,18] had back pain occurrence from the last 12 months. It was found that 55.71% nurses with back pain in 2-3 locations. Similar results were found in a study<sup>[1]</sup> which showed 42% nurses had back pain among multiple site, 35% single site and 23% no pain.

The mean post-test knowledge and practice scores of nurses, who have attended Planned Teaching and Selected Exercise Programme was significantly higher than their mean pre-test knowledge and practice scores (t(34)=24.42, and 20.59, at 0.05 level of significance).

The knowledge and practice modified mean gain scores of experimental group are 0.732, and 0.89, and of the control group -0.021, and -0.054, which is apparently much less than the experimental group.



Mean gain in post-test knowledge and practice scores of nurses in experimental group was significantly high than the control group as evident 't' value of 17.17 with post-test for the knowledge and for practice 28.44 at df (68) accordingly were found highly significant at 0.05 level of significance.

These findings were consistent with the findings of other studies<sup>1,27</sup> which showed the significant reduction in intensity and absenteeism after the educational and exercises programme for the back pain among nurses.

### RECOMMENDATIONS

Since this study was carried out on a small sample size, the results can be used only as a guide for further studies.

### CONCLUSION

It was concluded that the planned teaching and selected exercise programme is an effective strategy which can help nurses to increase their knowledge and practice regarding prevention and management of back pain and reduces intensity of back pain.

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**Source of Funding-** Self

**Conflict of Interest -** Nil

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# Cognitive Function among Elderly Residing in Families versus Old Age Homes

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## ABSTRACT

**Introduction:** The demographic transition of the society into aging societies has taken place in the context of changing family relationships, old age, income which in turn possess variety of social, economical and health care challenges. **Research Objectives:** This study was undertaken to assess and compare the cognitive function of the elderly living in families and old age homes. **Material and Methods:** A comparative study design was utilized in order to recruit 102 (51+51) elderly individuals residing in families of Udupi and old age homes of Udupi and Mangalore districts. The tools used were demographic proforma and Mini Mental Status Examination. **Results:** Findings of the study showed that there was a significant difference between the two groups ( $p = .001$ ), with a mean score of 26.57 for the elderly in families and mean score of 24.20 for those living in the old age homes. **Conclusion:** The findings signify that elderly living in old age homes has more cognitive impairment than those residing in families. Thus it throws light in to the fact that there is an immediate need for checking into the concern and implementing a strategy which would capacitate the elderly in these settings to maintain their liberty and thus preserve their quality of life.

**Keywords:** Cognitive function, elderly, old age home, living in family

## INTRODUCTION

The global proportion of people over 60 years of age was 8 per cent in 1950, rose to 11 per cent in 2009 and is projected to reach 22 per cent by 2050. "Globally, the population of older persons is growing at a rate of 2.6 per cent per year (Gavrilov, 2007). The mature society is thus transforming into aging societies, Thus elderly health problems are the major concern of the society since some years. As we all know, aging is accompanied by multiple illness and physical ailments, out of which aged are more likely to be the victims of deteriorating cognitive functions, affecting fluid intelligence, working memory capacity etc, affecting the elderly in all areas of living (Rajan, 2006).

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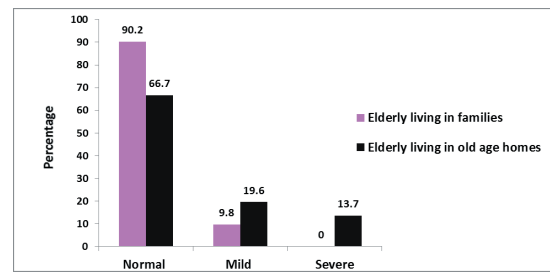
While assessing the life satisfaction of elderly individuals living in family environment and nursing homes in Turkey among 240 elderly individuals residing in three nursing homes found that the mean scores of life satisfaction of women and men who live in a family environment were higher than the mean scores of life satisfaction of women and men who live in nursing homes (OZER, 2012). In the present study, cognitive function primarily refers to things like memory, the ability to learn new information, speech, and reading comprehension. Steady decline in many cognitive processes is seen across the lifespan, accelerating from the twenties or thirties. The decline or change may be both biological and psychological. Therefore the present study aimed at assessing and comparing the cognitive function among elderly living in families and old age homes and thus provide data on the cognitive status of the elderly living in two different setting which will highlight the necessity of an interventional strategy for this section of vulnerable population.

## MATERIALS & METHODS

With prior administrative permission, ethical clearance and consent from the elderly aged 60 years and above living in families as well as living in old age homes of Udupi and Mangalore districts were recruited using purposive sampling technique. The sample size calculated was 51 in each group. Elderly who were bed ridden, not able to perform activities of daily living (ADL) and who were suffering from any mental disorders, paralysis, mental retardation and chronic illnesses like cancer, AIDS etc were excluded from the study. Using interview technique, the Mini Mental Status Examination (MMSE) was used to assess the cognitive function which comprised of 5 areas such as orientation, registration, attention & calculation, & recall and language. Maximum score that all elderly could score was 30. Less than 17 scores were considered having severe cognitive impairment. Mild impaired score ranges from 18-23 and those who scored between 24-30 scores were considered having no cognitive impairment.

## RESULT AND DISCUSSION

Findings revealed that majority, 66.7% of the elderly were age between 60-70 years with female being majority in both the groups (68.6% & 56.9% in family and old age homes). All elderly knew to read and write. Majority, 22 (43.1%) of the elderly living at home were supported financially by their children where as in the old age home, 13 (25.5) of them were supported by their pension and old age allowances. In regard to history of diseases, 23 (45.1%) of elderly living at home and 17 (33.3%) living in old age home reported no diseases. Majority of the elderly, 15 (29.4%) living in family had hypertension and 16 (31.4%) of elderly in old age home had hypertension and diabetes. Joint pain was reported by one elderly at home and by two elderly in old age home. Two elderly at home complaint of having asthma and 2 (3.9%) reported backache, and one elderly living in the old age home reported having backache. Most, 44 (86.3%) & 47 (92.2%) of elderly living at home and old age homes had no involvement in social organizations or club activities that would in fact keep them engaged and improve their sense of wellbeing.



**Figure 1: Assess the cognitive function among elderly residing in families and old age homes**

(n=51+ 51=102)

Data presented in the above figure show that, 90.2% of elderly living in families had normal cognitive function when compared to elderly (66.7%) living in old age home. Mild cognitive impairment was seen in 9.8% of elderly in families and 19.6% of the elderly living in old age homes. Severe cognitive impairment was observed in 13.7% of elderly living in old age home.

## DISCUSSION

The present study findings are supported by findings of Sethi V, Kritika S who conducted a survey study which intended to find the effect of changes in the level of memory in subjects living in community & old age homes. Findings of the study showed that there was a significant difference in between the groups i.e. the mean score of mini-mental state examination was 19.42 with S.D. value 3.522 in group 'a' living old age home & 22.63 with S.D. value of 2.894 in group 'b' living in community, p value is 0.000 which declares there is significant difference in Mini-Mental Status Examination scores, thus the memory is affected more in those from old age homes than those living in families (Sethi, Kritika,, 2012). Findings of a systematic review on cognitive decline in the general population (Park, O'Connell, Thomson, 2003) states that prevalence of cognitive impairment and rate of decline increases with age. Although cognitive impairment is universal, neuropsychological test would help identify the true rate of cognitive decline so that appropriate diagnosis and management could be incorporated in the clinical management.

Other supporting findings from a door to door survey conducted by Tiwari et al in Lucknow, India among 2283 elderly to identify the prevalence of neuropsychiatric disorders revealed 7.6% elderly with cognitive impairment (Tiwari, Rakesh, Aditya, Kar, Ragini, 2014).

The present study showed cognitive function in elderly living in old age home is more affected than individuals living with family members. Therefore, it focuses on the fact that certain interventional strategies need to be implemented for protection and preservation of the cognitive function of the elderly living in old age homes so that it would help them lead a self-sufficient life for the growing elderly population. The present study limits to only elderly living in selected old age homes and also a purposively selected homes of a particular village. Cultural and psychosocial factors may also play as confounders and as mentioned, generalizability becomes a concern due to its small sample size. However, the findings can serve as a useful tool to plan interventions for quality geriatric care across the developing countries. Today, the nurse administrator and educator have a major role to play in regard to geriatric population management be it at home or in institutionalized homes. In India 90 percent of aged people live in unorganized sector, 40 percent live below poverty line, 80 percent of people live in rural areas, 55 percent of the people are widows. National commission on population 2000, states that composition of elderly population in India is reported and projected to be 8.94% in 2016. In India the aged population i.e. 60 years and older is the second largest in the world (Central statistics office Ministry of Statistics & Programme implementation, Government of India, June 2011). For a country like India rising elderly population becomes a challenge in terms of elderly pension, health care expenditures, nutrition, shelter or housing, psychosocial problems and having no immediate family members to care for with the cognitive impairment. Therefore, it is the need of the hour to pay greater attention towards age related issues, and promote holistic approach to geriatric care.

### CONCLUSION

The present study shows that there was a significant difference between the two groups for the elderly in families and for those living in the old age homes. Future studies can be replicated by random sampling method with larger coverage and a multicentre study would prove differences in terms of elderly issues related to health and wellbeing.

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# Loneliness in Elderly and Non-elderly Residents of Nursing Homes

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## ABSTRACT

**Objective:** Aging has become a global phenomenon and attention to matters at this stage is a social necessity. At this age, loneliness as result of lack of social relationships is one of the factors affecting the mental health of the elderly. The aim of this study is assessment of loneliness and relation with some demographic factors in elderly and non-elderly residents of nursing homes in Shahrekord city.

**Methods:** This study is a descriptive cross sectional study. The sample included 100 women and men over 60 years. Data was collected by the two part questionnaire including demographic factors and loneliness self-reported questionnaire. Collected data were analyzed with SPSS/16 software.

**Results:** The results showed that the rate of alone among elderly people in the nursing home is higher than seniors living in households. According to the results of the independent t-test loneliness among women elderly living in nursing homes compared with elderly woman was living in the household is higher.

**Conclusion:** Living with other family members feel they have a positive impact on the mental health of the elderly. Thus, according to Iranian orders mental and cultural status, home environment is the best position to meet the psychological needs. Well as the need for more senior housing authorities in order to formulate plans to investigate, detect and prevent the phenomenon of loneliness in old people too is essential

**Keywords:** Loneliness, Elderly, Nursing homes.

## INTRODUCTION

Nowadays, the population over age of sixty is an almost equal with those under five years of age. The geriatric population is estimated to reach over two billion people in the world in next 50 years.<sup>1</sup> In Iran, based on national census of geriatric population over 65 years of age in 2006, this age group accounts for 5.2% of total population and it is predicted to reach 19% in 2030.

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With regard to an increase in life expectancy index in Iran, and based on WHO report, the number of Iranian geriatric population can predicted to be growing so much that Iran will face serious problems of this group and solving their problems.<sup>2</sup> Consideration of health promoting behavior and QOL improvement is an important issue, which has been neglected. Therefore, aging and the specific condition of the elderly as well as provision of their mental and physical health need special attention.<sup>3</sup> Improvement of life conditions, health and treatment care, life expectancy and length of life have resulted in the phenomenon of the elderly in societies, which needs improvement of health, hygiene, and social, recreational and rehabilitative promotion strategies

to enhance their QOL.<sup>4</sup> Loneliness is a vast context among the experts in all age groups, especially in the elderly due to their physiologic changes, special aging conditions and vulnerability.<sup>5</sup> Loneliness seems to be age-dependent as it increases through age in young adults and early adulthood, and reaches its peak in middle age while decreases after age of 60 years. Loneliness is a degree of ability for self-control in having related functions. It refers to a sort of confidence about doing a certain action the individuals face in a specific situation and expectation for certain outcomes.<sup>6</sup> Some researchers and psychologists interpret the general concept of Loneliness as individuals' beliefs and judgments about their general capability and ability in facing stressful and threatening events or situations.<sup>7</sup>

On the other hand, high Loneliness brings about feeling of easygoing when facing difficult tasks and actions.<sup>8</sup> Loneliness is of great importance among the elderly. Research shows its effect on different dimensions of elders' life. The positive association between Loneliness and physical functions has been reported by various studies so that the elders, undergoing Loneliness promotion, had a better physical function and life satisfaction.<sup>9</sup> Elders' care is among the issues having an impact on provision of their physical and mental needs. It should be noted that Loneliness and self-care are lower among the elders residing in a nursing home due to absence of a close relationship and feeling of more Loneliness, compared to those living with their family members.<sup>10</sup> Despite the growth of geriatric population and changes of population pyramid in Iran, the needs of this vulnerable group have not been focused.<sup>11</sup> As urban and rural various districts are culturally different, individuals' psychological dimensions and Loneliness can be influenced by cultural conflicts and seem different.

The present study aimed to investigate Loneliness in the elderly residing in a nursing home and those living with their families in Shahrekord.

## METHODS

This is a cross-sectional comparative study investigated Loneliness in the elderly residing in a nursing home and those living with their families in Shahrekord in 2014. Study population comprised 100 female and male elders over age of 60 years who were

selected through convenient sampling. They used to live with either their families or a nursing home in Shahrekord and met the inclusion criteria of the present study.

Tools loneliness was built in 1386 by Dehshiri and et al, 3 loneliness agent due to family ties, loneliness resulting from emotional connect with friends and symptoms alone is formed. And a total of 38 questions with Likert scale of five options is very high to very low. Loneliness Scale and three subscales it is acceptable internal consistency. Cronbach's alpha for the total scale of 0.91, 0.80 in scale resulting from the relationship with family, with friends in scale only by the 0.88 and emotional symptoms subscale alone was 0.79. The convergent and divergent validity scale by calculating the correlation between the scores of the UCLA Loneliness Scale and scale Oxford 0.60 and -0.68 reported. Validity through factor analysis confirmed.<sup>12</sup> Its validity in the present study was measured by content validity in such a way that firstly, through referring to existing scientific references and corresponding with authors of international articles and through use of the supervisors' counseling and statisticians' indications, the primary draft was prepared. Then, the tools were distributed among ten academic members in nursing and midwifery school of Shahrekord University of Medical Sciences. Next, after modification, the final tool was given to the supervisors and the counselors again. In the present study, Cronbach alpha was calculated for reliability. The researcher distributed the questionnaires among 30 elders after referring to research environment, and after collection of the questionnaires, calculated Cronbach alpha of 0.9 through SPSS version 16.

The inclusion criteria were residing in the nursing home for at least six sequential months (in case the subject was residing in a nursing home), age equal or over 60 years, and no diagnosed acute or chronic disabling physical and mental diseases (blindness, deafness and cognitive disorders). The subjects had identical counterparts in control group concerning age, sex and residing location. To select the elders, living with their families, the researcher referred to health care centers and extracted the related list from their medical records. To conduct sampling, the elders would refer to census centers and obtain the related information. After selection of the qualified subjects, the researcher introduced herself

to them and explained about the goal of study. After attaining their written consent and assuring them about the confidentiality of their information, the questionnaires were distributed among the subjects. The researcher read out the questions to the subjects and recorded the subjects' responses word by word. Sampling went on for about three months to complete the sample size. Data were analyzed by inferential statistical tests through SPSS version 16. Descriptive statistical method was adopted to design tables.

**RESULTS**

Results showed that most of the subjects in both groups were 40 female subjects (80%). Mean age of the subjects living with their families and in the nursing home were 75.58 (8.22) and 77.78 (7.93) years respectively. With regard to residing location, 31 subjects (62%) lived in urban and 19 (38%) in rural areas. Demographic characteristics of the subjects have been presented in table 1. Mean and SD of Loneliness scores among those subjects living with their families and those in nursing home were 51.76 (11.48) and 48.44 (5.26) respectively. Comparison of Loneliness in two groups of elders showed that mean Loneliness score was higher among the subjects living with their families, compared to those living in the nursing home.

Independent t-test showed a significant difference in Loneliness scores between two groups ( $p < 0.001$ ).

Comparison of two main variables of the study showed that women had high Loneliness. There was an association between Loneliness and employment status and being satisfied with the family members in this group of elders. Independent t-test showed a significant difference between Loneliness scores and subjects' gender and residential location in such way that those subjects, who used to live in rural areas and were residing in the nursing home at the time of the study, had a higher Loneliness. There was also a significant association between self- efficacy, and age group and satisfaction with the nursing home (Table 2).

**Table 1. Frequency distribution of demographic characteristics of the elders' in two groups**

Frequency of the elders' residing in nursing home (%)	Frequency of the elders' living with their family (%)	Variable	
(20) 10 (80) 40	(20) 10 (80) 40	Male Female	Sex
(16) 8 (46) 23 (38) 19	(22) 11 (46) 23 (32) 16	60-69 70-80 >80	Age
(26) 13 (12) 6 (8) 4 (54) 27	(42) 22 0 (2)1 (56) 28	Married Single Divorced Widowed	Marital status
(96) 48 (2) 1 (2) 1	(86) 43 (12) 6 19 (3)	Illiterate Under diploma High school diploma	Education
(62) 31 (38) 18	(2) 1 (62) 31	Urban area Rural area	Residential location
(28) 24 (0) 0 (70) 35 (2) 1	(56) 28 (14) 7 (18) 8 (12) 6	Home maker Retired Disabled Jobless	Employment status
(40) 20 (30) 15 (30) 15	(54) 27 (18) 9 (28) 14	Yes No Somehow	Satisfaction with the family members
(50) 25 (6) 12 (38) 19	-----	Yes No Somehow	Satisfaction with nursing home



**Table 2. Association of Loneliness with some baseline variables**

Loneliness	ANOVA and independent t-test in the elders living with their families	ANOVA and independent t-test in the elders residing in nursing home
Sex	T=0.599 P<0.001	T=1.181 P=0.035
Employment status	F=1.881 P=0.046	-----
Satisfaction with the family members	F=11.988 P<0.001	-----
Age group	-----	F=1.539 P=0.025
Residing location	-----	T=2.161 P=0.041
Satisfaction with nursing home	-----	F=1.435 P=0.48

## DISCUSSION

Our findings, showed a minor significant increase in Loneliness score of the elders residing in the nursing home, compared to those living with their families. Torki et al, in a study on general Loneliness of the elderly residing in a nursing home in Tehran, obtained results, consistent with the present study.<sup>12</sup> There are several factors affecting the reduction of elders' Loneliness, which should be considered. Deprivation from the family can be one of these factors. Mc Dougall believes that higher Loneliness among the elders living with their family may be due to the social support that helps them cope with their reduced physical and psychological function better.<sup>13</sup> The environment, in which the elders living with their family are in, facilitates their needed social communications and interaction and not only helps them detect their abilities but preserve their Loneliness as well. Our findings also showed the significant effect of gender on subjects' Loneliness in both group of elders. Loneliness mean score was higher among female subjects, compared to males ( $p<0.001$ ,  $p=0.035$ ). Change et al also obtained similar results.<sup>14</sup>

Meanwhile, in studies of Torki et al and Callaghan et al, Loneliness was reported more among men.<sup>12,15</sup> The results of the present study showed a significant association between Loneliness and occupational status of the elders living with their families. It also showed that the lowest score of Loneliness belonged to the jobless subjects and the highest to those who were either retired or a homemaker ( $p<0.05$ ). This finding is in line with that of Lam et al and Steinke et al.<sup>8,16</sup> Individuals are involved in self blame due to not having an appropriate job, which results in their lower Loneliness.<sup>17</sup> Our obtained results revealed a significant association between Loneliness with being satisfied with the family among the elders living with their families. Paul and Bradley obtained consistent results with the present study, while Callaghan et al attained contrary results.<sup>15,18</sup>

Bradley and Paul stated that not being satisfied with the family, Loneliness and isolation affect interpersonal communications and influence Loneliness.<sup>18</sup> Self-efficacy had a significant association with age, residential location and satisfaction with nursing home among the elders residing in a nursing home, which is in line with the studies of Casper et al and Liu et al.<sup>10,19</sup> Meanwhile, Steinke et al found controversial results.<sup>16</sup> In the present study, the elders who used to live in rural areas and were residing in the nursing home at the time of study had a higher Loneliness. Morgan believes that the people living in a village have a better ability of overcoming their life, can make decisions more conveniently and take risk of selection. So, when they are taken to a nursing home, they can go on with everyday life resulted from their previous personality features.<sup>20</sup> The elders with a higher age had higher Loneliness in the nursing home. Research shows that the elders at lower ages evaluate themselves disable and inactive in relation with nursing home environment and feel dull and lonely, and consequently, have a lower Loneliness.

## CONCLUSION

As mean Loneliness score of the elders, living in a nursing home, was lower, and there was a significant difference in mean scores of Loneliness in the elders living with their families and those residing in a nursing home, nursing homes authorities should pay close attention to the elders' needs, public education and prevailing the culture of taking care of the elderly

in the family unit. Therefore, all organizations aiming at having healthy elders and society should take a step toward achieving their goal through planning education and conduct counseling with the families with elders.

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# Quality of Life of Adolescents Studying in Schools in Kerala

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## ABSTRACT

The main objective of the study was to assess the quality of life of adolescents studying in schools. The study assesses the quality of life of adolescents studying in schools in Kothamangalam taluk in Kerala. The research design was descriptive in nature. 128 adolescents who attend 6th to 12th class formed the sample. Quality of life was measured using the KIDSCREEN-52. Result represent that level of mean score was high in social support(24.21) and parent relations(23.71). Least mean score was found in social acceptance and bullying (5.79). The findings of the study suggest the ways to improve the quality of life of adolescents by reducing bullying in schools, family and community.

**Keywords:** *Quality of life, adolescents.*

## INTRODUCTION

Adolescence is a very significant and vital stage in the development of human being. Most of the physiological, psychological, and social changes within the person take place during this stage of life<sup>1</sup>. The period of adolescence can be looked upon as a time of more struggle and turmoil than their early days. Rapid physical and emotional growth, as well as the frequently conflicting and influential cultural messages they receive from the outside world, account for the unique nature of their health concerns.

The World Health Organization has stated that 'the health of young people is significant for the well-being of this age group and also for future public health'<sup>2</sup>. The perception of adolescents towards quality of life is due to many factors like physical, psychological, environmental and social relationship etc.

Quality of life is an important subjective measure of one's wellbeing. Quality of life includes several domains of subjective experience including physical ability, psychological well-being, social interactions and school or work performance<sup>3</sup>. Assessment of health-related quality of life of healthy children, as well as children with cancer, asthma, cystic fibrosis, chronic headache, arthritis and obesity has been

reported to be a useful tool to characterize the global burden of the disease<sup>4</sup>. A study conducted among the physically disabled shows that majority of the disabled are having average quality of life. There is below average Psychological and environmental quality of life with disabled adolescents. The findings of the study suggest the ways to improve the quality of life of adolescents by reducing social, environmental barriers to promote integration of adolescents with disabilities in schools, family and community<sup>5</sup>.

Adolescence is a period of transition and experimentation, which necessitates Health-Related Quality of Life studies to inform priorities in adolescent health. A cross-sectional study was conducted among adolescents in February 2010 using WHOQOL-BREF scale showed that score was lowest for environment domain (63.5 [17.5]) and highest for social domain (77.3 [22.8])<sup>6</sup>. Adolescents face health challenges that pediatric and adult physicians alike are often ill-equipped to handle. Rapid physical and emotional growth, as well as the frequently conflicting and influential cultural messages they receive from the outside world, account for the unique nature of their health concerns. Without proper education and support, adolescents lack the knowledge and confidence to make decisions<sup>7</sup>. Quality of life has become an important concept in evaluating health

care, in both child and adolescent populations. As nurses concerned with quality of life and well-being, it is important for us to identify the main factors that contribute to the promotion and sustenance of adolescent's well-being.

### **Research problem**

**A descriptive study to assess the health related quality of life of adolescents in a selected community.**

#### *Objectives of the study:*

- Assess the quality of life of adolescents.
- Find out the association between quality of life of adolescents with selected demographic variables.

## **METHODOLOGY**

### *Research approach and design*

Quantitative descriptive survey approach was used. The study used a descriptive design to describe quality of life of adolescents who attends school.

#### *Setting of the study*

The study was conducted among the adolescents in a selected urban community. The community is located 3 km away from Kothamangalam Taluk.

#### *Population*

The population of the study includes all school-going children, male and female, aged 12-17 years.

#### *Data Analysis*

The collected data were analyzed and done the percentage analysis constructed in SPSS.

### *Sample and sample size*

The sample size was 128. The sampling technique was convenient sampling.

### *Selection criteria*

Samples were selected based on the following criteria.

Inclusion: Adolescents (12-17 years), female and male

Exclusion: Parent/ adolescent refused to participate in the study.

### *Tools and technique*

Section A - Demographic variables of adolescents.

Section B - KIDSCREEN- 52<sup>8</sup> a standardized scale to assess the Quality of life. The scale assess the quality of life in the 10 domains like physical, psychological, home life, social relations, school environment and financial matters of adolescents. It had a total of 52 questions.

### *Data collection procedure*

Ethical approval was received from the institutional ethical committee. Consent was obtained from parent and adolescents. The data was collected by house to house survey. The purpose of the study was explained to the adolescents and data was collected individually by using the questionnaire.

## **RESULTS OF THE STUDY**

**Table 1: Socio-demographic variables of the samples**

**n=128**

S.no.	Socio-demographic variables	Categories	Frequency (f)	Percentage (%)
		12	05	03.1
		13	16	12.5
		14	22	17.2
		15	33	25.8
		16	19	14.8
		17	33	25.8
	Location of school	Urban	89	69.5
		Rural	39	30.5
	Gender	Male	48	37.5
		Female	80	62.5

Cont... Table 1: Socio-demographic variables of the samples

n=128

	Religion	Hindu	34	26.6
		Muslim	11	08.6
		Christian	83	64.8
	Family type	Nuclear	105	82
		Joint	23	18
	Educational level	6 <sup>th</sup> class	01	00.8
		7 <sup>th</sup> class	04	03.1
		8 <sup>th</sup> class	16	12.5
		9 <sup>th</sup> class	22	17.2
		10 <sup>th</sup> class	33	25.8
		11 <sup>th</sup> class	19	14.8
	Employment status of the father	12 <sup>th</sup> class	33	25.8
		Coolie	33	25.8
		Agriculture	32	25
		Health worker	08	06.3
		Teacher	07	05.5
		Govt .employee	07	05.5
		Private employee	27	21.1
Others	14	10.9		
	Employment status of the mother	Unemployed	68	53.1
		Coolie	20	15.6
		Agriculture	08	03.9
		Health worker	05	03.9
		Teacher	09	07
		Govt .employee	01	00.8
		Private employee	13	10.2
		Others	04	03.1

Table 1 depicts that majority of the adolescents were females (62.5%). Majority of the adolescents (25.8%) were in the age group of 15 & 17 years. Majority of the respondents were studying in schools located in urban area 89 (69.5%) and only 39 (30.5%) studying in rural school.

**Table2: Distribution of samples according to perception of quality of life in different domains**  
n=128

S no.	Domains of quality of life	Mean	S d
1	Physical wellbeing	16.66	4.22
2	Psychological well being	21.13	5.43
3	Moods and emotions	11.60	4.06
4	Self perception	13.58	3.22
5	Autonomy	15.46	4.45
6	Parent relations and home life	23.71	4.58
7	Social support and peers	24.21	4.67
8	School environment	23.24	5.36
9	Social acceptance and bullying	05.34	2.53
10	Financial resources	08.90	3.46
	Over all	163.88	22.29

Mean knowledge score was highest in social support (24.21) and parent relations(23.71). Least mean score was found in social acceptance and bullying (5.79)

**Table 3: Mean scores of quality of life with gender****n=128**

S no.	Domains of quality of life	Male	Female
		Mean	
1	Physical wellbeing	17.75	16
2	Psychological well being	21	21.23
3	Moods and emotions	12	11.36
4	Self perception	14.04	13.31
5	Autonomy	16.58	14.83
6	Parent relations and home life	23.27	23.93
7	Social support and peers	24.97	23.81
8	School environment	21.68	24.18
9	Social acceptance and bullying	05.79	5.08
10	Financial resources	08.85	8.91
	<b>Over all</b>	<b>165.95</b>	<b>162.70</b>

Table 3 represents the quality of life of adolescent in different genders. When compared to female(163) male(166) enjoys better quality of life.

**Table 4: Association between the quality of life of adolescents and selected demographic variables****n=128**

No	Socio-demographic variables	Test value	p-value
1	Age	0.01	0.96
2	Location of school	1.23	0.22
3	Gender	0.08	0.43
4	Religion	0.84	0.43
5	Family type	0.02	0.99
6	Educational level	0.55	0.77
7	Employment status of the father	1.20	0.31
8	Employment status of the mother	1.03	0.41

Statistically no significant association was not able to identify between socio demographic variables.

## RESULTS AND DISCUSSION

The respondents include 48 males (37.5%) and 80 females (62.5%). Majority of the respondents were studying in schools located in urban area 89 (69.5%) and only 39 (30.5%) studying in rural school.

Table 2 elicits the quality of life in different domains of an individual's life. The various domains assess the experiences in quality of life at their home, school and environment. The findings in the various

domains represent that level of mean score was high in social support(24.21) and parent relations(23.71). Least mean score was found in social acceptance and bullying (5.79). Table 3 represents the quality of life of adolescent in different genders. When compared to female(163) male(166) enjoys better quality of life. Statistically no significant association was not able to

identify between socio demographic variables. The finding clearly shows the need for more intervention among adolescents to improve their quality of life to attain high quality of life in physical, psychological, social and environmental domains. The family, school and the community as a whole need to go hand in hand to ensure a high quality of life for the adolescents.

### SUMMARY & CONCLUSION

The study was limited to 128 samples in a selected urban community and the adolescents available at the time of data collection. Knowledge about the factors most significant to adolescents' quality of life is applicable to all clinical settings where nurses meet adolescents; i.e., hospitals, outpatient clinics and school health services.

In summary, adolescents showed better quality of life in majority of the domains except social acceptance and bullying. Investigator believe that programs aimed at improving quality of life should be directed to community also to have better understanding in defining approaches to the management of adolescent problems.

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# Effectiveness of Structured Teaching Programme on Knowledge Regarding Prevention and First Aid Management of Insects Bite in Children among the Primary School Teachers of Mysore, Karnataka

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## ABSTRACT

**Background of the Study:** Insect's bites and stings are very common in children, especially during the spring and summer months. Knowing how to prevent and treat common Insects bites and stings, and knowing when to not overreact, can help keep the kids safe and healthy. The investigator felt the need to conduct a study on Prevention and first aid management of Insects bite in children as it is assumed that school teachers spend most of their time with children in schools next to parents.

**Aim:** The main objective of the study was to assess the knowledge regarding prevention and first aid management of insect bite among primary school teachers using structured questionnaires before and after administration of structured teaching programme

**Materials and Methods:** Pre-experimental with single group pre-test post-test design was adapted. The study was conducted at primary school in Mysore district. 60 primary teachers selected as a sample for the study. Simple random sampling method was used for the selection of samples. The tool designed to collect the data were sociodemographic Performa, structured knowledge questionnaire.

**Results:** Collected data was analyzed by using descriptive and inferential statistics. the study revealed that 6.7% primary school teachers had poor knowledge, 80% of primary school teachers had average knowledge, 13.3% primary school teachers had good knowledge and school none of them had very good knowledge in pre-test, whereas in post-test 65% primary school teachers had very good knowledge and 35% primary teachers had average knowledge.

**Conclusion:** Structured teaching programme prevention and first aid management of insect bite was effective in enhancing the knowledge of primary school teachers.

**Keywords:** Effectiveness, STP, knowledge, insect bite, prevention, first aid management

## INTRODUCTION

Children are the blessings for today and promises for the days to come! The body of children is the most super sensitive, delicate and susceptible form which can be easily be harmed if not taken care of. Well

being of your kid comprises of physical, mental and social well-being. Children can become seriously ill and any sort of infection may be dangerous, so don't take chances because illness at this age requires immediate attention.

Highly effective and often "low-tech" solutions, as well as improvements in health delivery systems, have enabled rapid declines in child mortality to occur, even in developing countries.

Since children playing outdoors are often bitten or stung by Insects, when children are outside and

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no matter what they are doing, it is important for them to be protected. Knowing how to prevent and treat common Insects bites and stings, and knowing when to not overreact, can help keep your kids safe and healthy.

The symptoms that can be caused by Insects bites depend on the type of Insects and how sensitive you are to it. Symptoms can vary from mild swelling, pain, itchiness and redness to large blisters or life threatening anaphylactic reactions

First aid is the provision of initial care for an illness or injury. It is usually performed by a non-expert person to a sick or injured person until definitive medical treatment can be accessed. Certain self-limiting illnesses or minor injuries may not require further medical care past the first aid intervention. It generally consists of a series of simple and in some cases, potentially life-saving techniques that an individual can be trained to perform with minimal equipment.<sup>4</sup>

“Stay Safe! “

“Follow universal precautions and

“Wear personal protective equipment if you have it.

Keeping the same as the reference, the present study was planned to assess the knowledge level of the school teachers regarding prevention and first aid management of Insects bite in children

## RESEARCH METHODOLOGY

1. RESEARCH APPROACH - Pre Experimental approach

2. RESEARCH DESIGN - One group pre-test post-test design

3. VARIABLES:

Independent variable-

i. STP on Prevention and first aid management of Insects bite in children.

Dependent variable-

ii. Knowledge of Primary school teachers regarding Prevention and first aid management of Insects bite in children.

## 4. SETTING

The settings selected for the study is Selected Primary schools of Mysore

## 5. POPULATION:

PRIMARY SCHOOL TEACHERS OF SELECTED PRIMARY SCHOOLS AT MYSORE

## 6. SAMPLE

Primary school teachers, those who fulfil the inclusion criteria.

## 7. SAMPLE SIZE

Total sample size is 60 Primary school teachers

## 8. SAMPLING TECHNIQUE

Convenient sampling technique {Non-Probable Sampling} will be used.

## METHOD OF DATA COLLECTION

The study was done from AUGUST to SEPTEMBER months. The subjects were explained about the purpose of the study. Consent was taken from each subject for assessing knowledge in insect bite

Data was collected through structured questionnaire.

## PLAN FOR DATA ANALYSIS

1. Descriptive statistics used to analyze the variable and level of knowledge.

2. Inferential statistics used to analyze and find out the association and D.V with knowledge Score

## RESULTS AND DISCUSSION

### SECTION I:-DESCRIPTION OF SAMPLE CHARACTERISTICS.

Table No:1

N=60

Demographic variables		No.of teachers	Percentage
Age	20-25 Years	12	20.0%
	26-30 Years	33	55.0%
	31-34 Years	0	0%
	35-40 Years	12	20.0%
	>40 Years	3	5.0%
Gender	Male	28	46.7%
	Female	32	53.3%
Religion	Hindu	24	40.0%
	Christian	6	10.0%
	Muslim	30	50.0%
Educational Qualification	General degree	6	10.0%
	Diploma	43	71.7%
	B.Ed	11	18.3%
Marital Status	Unmarried	14	23.3%
	Married	46	76.7%
Experience	0-4 Years	16	26.7%
	5-8 Years	30	50.0%
	9-12 Years	12	20.0%
	>12 Years	2	3.3%
Type of Diet	Vegetarian	16	26.7%
	Mixed	44	73.3%
Area of Residence	Urban	18	30.0%
	Semi urban	32	53.3%
	Rural	10	16.7%
Source of Information	Family members / Friends	6	10.0%
	Colleagues	28	46.7%
	Mass media	24	40.0%
	Health professional	2	3.3%
Previous information on First aid	Yes	28	46.7%
	No	32	53.3%

The majority of Primary School Teachers 55% were in the age of 26-30 years, 53.3% were females, 76.7% were married, 50% of Primary School Teachers belongs to 5 to 8 years experience, 53.3% were belongs to semi urban area and 53.3% were did not have previous information on first aid, 46.7% were got information on insect bite from colleagues.

### Section II: ASSESSMENT OF KNOWLEDGE

Assessment of knowledge of Primary School Teachers regarding prevention and first aid management of insect bite.

Knowledge assessment on insect bite revealed that 6.7% primary school teachers had poor knowledge, 80% of primary school teachers had average knowledge, 13.3% primary school teachers had good knowledge and school none of them had very good knowledge in pre-test, whereas in post-test 65% primary school teachers had very good knowledge and 35% primary teachers had average

**Section III:- COMPARISON OF OVERALL KNOWLEDGE**

The mean post test score 24.18% was higher than the mean pre-test score knowledge score of 13.52%.

**Table:2**

	Max score	Mean score	Mean differences in knowledge with 95% confidence interval	Percentage differences in knowledge with 95% confidence interval
Pre-test	30	13.52	10.66	35.50%
Post-test	30	24.18	(10.14-11.20)	(33.8%-37.3%)

\*significant at  $p < 0.05$ \*\* highly significant at  $p < 0.01$ \*\*\*\*\* very high significant at  $p < 0.001$

**SECTION IV:-**

ASSOCIATE THE DEMOGRAPHIC VARIABLES WITH KNOWLEDGE REGARDING PREVENTION OF INSECT BITE.

Among the demographic variables age, educational qualification, experience, previous information were significant with the knowledge score.

Over all, it shows that Structured Teaching Programme was very effective to improve the knowledge level of Primary School Teachers and it can reflect on their school children practice.

**RECOMMENDATION AND SUGGESTIONS**

1. A survey can be conducted to estimate the insect bite rates and factors influencing in promotion of prevention and first aid management of insect bite in children.

2. A descriptive study can be conducted to assess the knowledge of the teachers and community people regarding prevention and first aid management of insect bite in children.

3. A similar study with a larger sample

**Acknowledgement:** I wish to acknowledge my guide Mrs.Kavimani for her dedication in motivating and encouraging me.

**Ethical Clearance:** Approval for the study was gained from college duration ethical committee on august 2011

**Sources of Funding:** - Self

**Conflict of Interest:** - None

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# Effectiveness of Awareness Programme on Prevention of Vector Borne Diseases among School Age Children

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## ABSTRACT

**Background of the study:** Vector-borne disease" is the term commonly used to describe an illness caused by an infectious microbe that is transmitted to people by blood-sucking arthropods<sup>1</sup>. Vector-borne infections (VBI) are very common around the globe and they account for many devastating diseases<sup>2</sup>.

Vectors typically become infected by a disease agent while feeding on infected vertebrates (e.g., birds, rodents, other larger animals, or humans), and then pass on the microbe to a susceptible person or other animal<sup>3</sup>. Every year over 1 million people all around the world die due to vector borne diseases. Focusing mainly on the increasing threat of viral and parasitic infections caused by insects, this year's World Health Day (April 7, 2014) highlights 'Prevention of vector borne diseases'<sup>4</sup>.

**Methodology:** A pre – experimental research approach with one group pre – test post-test design was for the study. 60 school aged children was considered as a sample after fulfilment of inclusive criteria. Convenient sampling technique was used. Tool made reliable with r=0.76 pilot testing done with 10% of overall population. Pre – test done followed by intervention was given and after seven day post – test was given. The data was analysed by using both descriptive and inferential statistics on the basis of the objectives and hypothesis of the study.

**Results:** Mean posttest knowledge score was 17.24 & Mean of pretest knowledge score 25.48 the obtained' value was statically significant at p<0.05 level. Hence the score predict the significant difference between the mean of pretest and posttest. Therefore there was no evidence to accept the null hypothesis. Hence the researcher rejects the null hypothesis and alternative hypothesis was accepted indicating the gaining knowledge was not by chance but because of the intervention.

**Conclusion:** The intervention was effective in improving knowledge of school age children regarding prevention of selected vector borne diseases

**Keywords:** Knowledge, School age children, Awareness programme, Prevention, Vector -borne disease.

## INTRODUCTION

Vector borne diseases are diseases caused by pathogens that are transmitted to humans through insects and ticks carrying the pathogen. They are

difficult to prevent because of several challenges facing the control of vectors and transmissibility of the pathogens. 7<sup>th</sup> April 2014 was World Health Day and the theme this year is 'Vector-borne diseases – small bite, big threat'. Simple preventive measures like improving access to safe drinking water, proper sanitation facilities and checking growth of pathogens like mosquitoes and sand flies can control vector-borne diseases like dengue and malaria. According to the World Health Organization (WHO), vector-borne diseases account for 17 percent of the estimated global

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burden of all infectious diseases. Every year, more than one billion people are infected and over one million die from vector-borne diseases worldwide. It is estimated that almost 70 percent of such diseases are reported from the low and middle income countries<sup>5</sup>. Malaria, kala Azar, Dengue, Plague, Filariasis, Chikungunya, Lime disease, Yellow fever, Japanese encephalitis are top vector borne diseases that contribute to increased morbidity and mortality<sup>6</sup> Directorate of National Vector Borne Disease Control Programme (NVBDCP) is the central nodal agency for the prevention and control of vector borne diseases i.e. Malaria, Dengue, Lymphatic Filariasis, Kala-azar, Japanese Encephalitis and Chikungunya in India<sup>7</sup>In India, cattle and buffaloes are frequently heavily infested with multi-species of ticks, which apart from transmitting diseases such as theileriosis, babesiosis and anaplasmosis, also cause extensive damage to the livestock health and production<sup>8</sup> The mosquito borne diseases of public health importance are complex and their occurrence depends on the interaction of various biological, ecological, social and economic factors<sup>9</sup>. Climate also affects like water, food, air quality, diseases, physical comforts and human health. Any change in climatic conditions is likely to affect human health<sup>10</sup>.

**Methodology:** The Research Approach was pre – experimental research approach with one group pre – test post-test design used for the study

Pre-test	Treatment	Post-test
O <sub>1</sub>	X	O <sub>2</sub>

O<sub>1</sub> :Assessment of knowledge of school age children before an awareness programme.

X: Awareness programme regarding prevention of selected vector borne diseases.

O<sub>2</sub> :Assessment of the knowledge of school age children after awareness programme.

Whereas, independent variable of study was an awareness programme regarding prevention of selected vector borne diseases & Dependent variable was knowledge level of school age children. Hypothesis of the study are. H<sub>1</sub>- The mean post-test knowledge score of the school age children regarding prevention of selected vector borne diseases was significantly higher than that of their mean pretest

knowledge score. H<sub>0</sub>: There was no significant difference between the mean pretest knowledge score and post-test knowledge score. All hypothesis were tested at p<0.05level of significance. The setting selected for the main study data collection was selected from private school under Doiwala block, Dehradun, (Uttarakhand) population consisted of school age children in Doiwala Block. The total sample size for the study was 60 school age children considered after fulfilling the inclusive & exclusive criteria. Convenient sampling technique was used, The data collection tool was divided into 2 parts- Tool 1:- Socio-demographic variables Tool 2:- Knowledge questionnaire consist of 32 questions related to prevention of selected vector borne disease to assess the knowledge of school age children. Ensured the content validity of tool from seven experts and seek their opinion and suggestions regarding the item of tool which included different departments, experts are based on their experience and clinical expertise. Pretesting was done with formal administrative permission was obtained before the pretesting. Hindi version of tool was administered to five participants i.e. 5 school age children of government school The reliability of tool- 2 was established split half method followed by Pearson’s co relation (r) formula and it was found to be 0.76 and for tool-1 test retest method. A pilot study is a small preliminary investigation of the same general character of the main study. It is designed to acquaint the investigator with the problem to be corrected in preparation for the larger research project. Prior permission was taken from block education officer Doiwala. After obtaining informed consent, tool-1,2 was applied on 10 participants i.e. school age children. It was conducted to assess the feasibility of the study and also to determine any major flaws in the research design used. It also helps to determine the plan of statistical analysis. The pilot study didn’t show any problem. The research tool was found to be feasible, practicable and acceptable. Written permission was obtained from ethical committee of H.I.H.T, Principal Himalayan college of nursing and block education officer. The written consent was also obtained from each study participants before starting data collection. The data was collected selected school from 4 April 2014 to 12 April 2014 after obtaining permission from respected authority. All subjects who fulfilled the inclusion criteria were included in the study. The purpose of

the study was explained to the subjects. The data was planned to be analysed by using both descriptive (mean, median, mean difference and standard deviation) and inferential (independent 't' test) statistics on the basis of the objectives and hypothesis of the study.

**Results:** Results of study was as follows:

**Table No.1: Frequencies and percentage distribution of sociodemographic variables of study participants (N=60)**

S.No.	Variables	Frequency	Percentage(%)
1	<b>Gender</b>		
	• Male	35	58.3
	• Female	25	41.7
2	<b>Type of Family</b>		
	• Nuclear	33	55
	• Joint	27	45
3	<b>Participation</b>		
	• Yes	6	10
	• No	54	90
4	<b>Monthly income (Rs.)</b>		
	• 5000-10000	4	6.7
	• 10001-15000	10	16.7
	• 15001-20000	17	28.3
	• 20000 above	29	48.3
5	<b>Education of father</b>		
	• Primary	4	6.7
	• Inter college	26	43.3
	• Graduation	30	50
6.	<b>Education of Mother</b>		
	• Not attend school	2	3.3
	• Primary	4	6.7
	• Inter college	22	36.7
	• Graduation	32	53.3
7.	<b>Presence of cattle</b>	31	51.7
8.	<b>Presence of water tank</b>	59	98.3
9.	<b>Using Mosquito Repellent</b>	47	78.3

Table No. 1 illustrates the frequency and percentage distribution of socio-demographic variables of study participants. Majority (58.3%) of the subjects were male and 55% lives in nuclear family. The monthly family income of 48.3% participants was above Rs. 20,000/-.



Father of every second participant is a graduate (50%) and 53.3% of mothers were graduate.

More than half (51.7%) of the households has presence of cattle and more than three fourth (78.3%) were using mosquito repellents. Only one participant reported that they don't have water tank in home and only 10% of the subjects had earlier participated in health awareness programme regarding mosquito prevention.

**Objective 1:** To assess the knowledge regarding selected vector borne disease among the school age children.

**Table No. 2: Comparison of mean, median, mode and SD of pretest and post-test knowledge score of participants (N=60)**

Knowledge score	Mean	Standard Deviation	Median	Mode	Minimum	Maximum
Pre – test	15.52	2.46	16	16	9	21
Post – test	25.48	3.91	26	26	18	32

Table No.2 Mean, median and mode of both pretest and post-test knowledge score was nearly similar (16 for pretest and 26 for post-test) which shows the normal distribution of knowledge score in both pretest and post-test evaluation. Hence the paired sample 't' test was performed to compare the means of pretest and post-test knowledge score.

**Objective 2:** To evaluate the Effectiveness of an awareness programme on prevention of selected vector borne diseases among school age children.

**Table No. 3: Comparison of mean pretest and post-test knowledge score regarding prevention of vector borne disease (N=60)**

Knowledge score	Mean $\pm$ SD	Mean Difference	95% Confidence Interval of Difference		't' value	p value
			Lower	Upper		
Pre – test	15.52 $\pm$ 2.46	9.96	8.8	11.1	17.24	0.001
Post – test	25.48 $\pm$ 3.91					

- \*paired sample 't' test was used. T = 1.67 at df=59 and p<0.05 level

Table No.3 compares the mean pretest and post-test knowledge score. The mean post-test knowledge score (25.48 $\pm$ 3.91) was apparently higher than that of mean pretest knowledge score (15.52 $\pm$ 2.46). Paired sample 't' test was performed to compare the means of pretest and post-test knowledge scores.

The calculated 't' value was 17.24 and p value was 0.001. As the p value was less than 0.05 (probability of type I error is less than 5%), the null hypothesis was rejected and the research hypothesis was accepted. So the mean post-test knowledge score was significantly (p=0.001) higher than that of mean pretest knowledge score.

The significant improvement in knowledge score can be attributed to the awareness programme conducted between pretest and post-test knowledge assessment. Hence it can be concluded that the awareness programme was effective in improving the knowledge score of the participants regarding prevention of vector borne diseases.

**Objective 3:** Association between the pretest knowledge score of the school age children with their socio demographic variables.

**Table No. 4: Association between pretest knowledge score of school age children with socio demographic variables (N=60)**

Variables	n	Mean±SD	Mean difference	't' value	'p' value
<b>Gender</b>					
• Male	35	15.29±2.50	.55	.85	.672
• Female	25	15.84±2.41			
<b>Family</b>					
• Nuclear	33	15.82±2.36	.67	1.05	.396
• Joint	27	15.15±2.56			
<b>Participation</b>					
• Yes	6	15.33±1.50	.20	.91	.170
• No	54	15.54±2.55			
<b>Presence of Cattle</b>					
• Yes	31	15.19±2.73	.66	1.05	.332
• No	29	15.86±2.11			
<b>Use of Mosquito Repellent</b>					
• Yes	47	15.47±2.43	.22	.28	.791
• No	13	15.69±2.62			
<b>Income status of family</b>					
• Lower income (<Rs. 15000)	14	16.29±2.6	1.0	1.34	.616
• Higher income (>Rs. 15000)	46	15.28±2.3			
<b>Educational status of father</b>					
• Primary	4	15.50±2.8	.01	.01	.978
• Secondary and above	56	15.52±2.4			
<b>Educational Status of mother</b>					
• Illiterate and primary	6	16.67±2.0	1.27	1.21	.386
• Secondary and above	54	15.39±2.4			

\*independent sample 't' test was used.  $T_{tab} = 1.67$  at  $df=58$  and  $P=0.05$  level

Table No.4 compares the mean knowledge score of participants based on their socio-demographic variables.

Independent sample 't' test was performed to compare the knowledge score of participants based on selected socio-demographic variables.

Table shows that there was no significant

difference in mean knowledge scores between male and female participants ( $p=0.672$ ), who lives in nuclear and joint family ( $p=0.39$ ), who owns cattle or not ( $0.33$ ), who use mosquito repellent or not ( $p=0.79$ ), and participants from lower income and higher income family ( $p=.616$ ).

There was no significant association between knowledge score of participants and their parents

educational status (both father and mother). There was no significant difference between mean knowledge score of participants who had earlier attended any awareness programme and who had not attended ( $p=0.17$ ).

This reveals that there was no significant association between pretest knowledge score and any of the socio-demographic variables of the study participants.

## DISCUSSION

The main aim of the study was to assess the effectiveness of an awareness programme on the knowledge of school age children regarding prevention of selected vector borne diseases in a selected school in Doiwala, Dehradun.

A total of 60 school age children were selected through convenient sampling technique. Pretest was conducted by using structured questionnaire. An instructional module was given by the investigator. After seven days the post test was conducted by using same questionnaire. An open module was given regarding prevention of selected vector borne disease to the school age children. After intervention knowledge score were increased in post-test. The findings of the study have been discussed with references to the objectives and hypothesis in lights of other study conducted in same area.

Baseline data presented show that Most of school age children (98.3%) were in the age group 12-15 years of age . more than half of children (58.3%) were male participants and more than half of children (55%) were belongs to nuclear family. Majority of school age children (90%) were didn't participated in any awareness program me. less than half of school age children's father's monthly income was more than 20,000. Half of the school age children's father (50%) had passed graduation. And more than half of school age children's mother (53.3%) had passed graduation. Most of school age children (51.7%) having cattle in their home. Majority of school age children (98.3%) were having water tank in their home and majority of school age children (78.3%) were using mosquito repellents.

Mean post-test knowledge score was apparently higher than the pre-test knowledge scores and the

obtained 't' value was 17.24 which was statically significant at  $p<0.05$  level. Mean of pretest knowledge was computed 15.52 and also post-test knowledge score was computed 25.48 which was higher than that of the mean of pretest knowledge score. hence the score predict the significant difference between the mean of pretest and post-test at  $p<0.05$  level. There for there was no evidence to accept the null hypothesis, hence the researcher reject the null hypothesis and alternative hypothesis was accepted indicating the gaining knowledge was not by chance but because of the intervention.

## CONCLUSION

Mean posttest knowledge score was apparently higher than the pre-test knowledge scores and the obtained't' value was 17.24 which was statically significant at  $p<0.05$  level. Mean of pretest knowledge was computed 15.52 and also posttest knowledge score was computed 25.48 which were higher than that of the mean of pretest knowledge score. hence the score predict the significant difference between the mean of pretest and posttest at  $p<0.05$  level. There for there was no evidence to accept the null hypothesis. Hence the researcher rejects the null hypothesis and alternative hypothesis was accepted indicating the gaining knowledge was not by chance but because of the intervention.

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# Assessment of Compliance and Factors Influencing Therapeutic Regimen among Patients with Heart Failure in a Tertiary Care Hospital, Kochi, Kerala, India

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## ABSTRACT

A descriptive study was undertaken to assess the factors influencing compliance to therapeutic regimen among patients with heart failure in a tertiary care hospital, Kochi. It was aimed to identify level of compliance among patients with heart failure and to determine the factors influencing compliance to therapeutic regime with a view to prepare an information booklet on therapeutic management of patients with heart failure. A quantitative research approach has been used. The data was collected using structured interview schedule to assess socio demographic profile and semi structured interview to assess level of compliance and factors influencing compliance. The data was analyzed using descriptive (frequency and percentage and mean and standard deviation) and inferential (chi – square test) statistics. Among 70 subjects with heart failure, most of the subjects 34 (47.2%) have good compliance, 33(45.8%) subjects exhibited average level of compliance. Three among the 70 subjects (4.2%) identified with poor compliance to therapeutic regimen. Among the factors influencing compliance, health care system related factor is the prominent factor influencing compliance (76.5%). Followed by patient related factor (70.7%) and therapy related factor (66.1%). It is evident that Economic factor is the crucial factor leading to non compliance (30%). There is significant association between level of compliance and individual factors influencing compliance to therapeutic regimen.

**Keywords:** compliance, therapeutic regimen, influencing factor, heart failure.

## INTRODUCTION

Heart failure (HF) has been described as one of the emerging pandemics of the 21st century. Heart failure is a serious clinical syndrome with high mortality and an important public health problem. HF is defined as an abnormality of cardiac structure or function leading to failure of the heart to deliver oxygen at a rate commensurate with the requirement of the metabolizing tissues, despite normal filling pressure or only at the expense of increased filling pressure.<sup>1</sup> The in-hospital mortality for these patients is 4.1 %,

with a mean length of hospital stay of 6.5 days. Heart failure is third most common cardiovascular disease in the US affecting 2 per cent of the U.S. population, or almost 5 million people. Based on disease-specific estimates of prevalence and incidence rates of heart failure, it is conservatively estimated the prevalence of heart failure in India due to coronary heart disease, hypertension, obesity, diabetes and rheumatic heart disease to range from 1.3 to 4.6 million, with an annual incidence of 4.9 lakhs -18lakhs. In Kerala approximately one in every hundred older adults has HF.<sup>2</sup>

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Patient compliance with medical regimen is a behavioural problem of interest because it affects the patient's health. If the therapeutic regimen is to be effective, the patient must comply with the regimen. The consequences of poor/non-compliance

are extensive. It negatively impacts treatment effectiveness thus resulting in poor therapeutic outcomes. Non-compliance in some instances could result in serious complications requiring the individual to be hospitalized. Compliance with a complex health care regimen is required of most of patients with heart failure. Non-compliance with medication, exercise and diet contribute to worsening of HF symptoms, in many cases leading to hospitalization.<sup>3</sup> It was estimated that the compliance rate of long-term medication therapies was between 40% and 50%. The rate of compliance for short-term therapy was much higher at between 70% and 80%, while the compliance with lifestyle changes was the lowest at 20%–30%.<sup>4</sup> According to the HF guidelines of the European Society of Cardiology and the American Heart Association/American College of Cardiology (AHA/ACC) multiple medication (ACE-inhibitors, diuretics, beta-blockers, spironolactone, digoxin) are beneficial for HF patients and should therefore be prescribed. Medication is the cornerstone of the treatment of HF patients nowadays. Non-pharmacological life style changes such as fluid- and sodium-restriction, daily weighing, adjustment of activity, smoking cessation and limitation of the amount of alcohol are requested. Nonpharmacologic management strategies represent an important contribution to HF therapy. They may significantly impact patient stability.<sup>5</sup>

Successful management of HF usually requires major lifestyle adjustments by patients and their families. Lifestyle adjustments include modifications in diet and activities, compliance with a complex medication regimen, and the need to monitor symptoms.

## MATERIALS & METHODS

The present study was aimed at identifying the level of compliance and factors influencing compliance to therapeutic regimen among patients with heart failure. The quantitative research approach with descriptive design was used to accomplish the aim of the study. The study is conducted in outpatient and inpatient units of cardiology department of Amrita Institute of Medical Sciences, AIMS, Kochi. The sample was selected from the accessible population based on the sampling criteria. The sampling technique used for the study is non – probability purposive sampling.

The sample size estimated was 70.

Tools used for the study were **Structured interview schedule to assess the sociodemographic and clinical variables, Semi structured interview schedule to assess level of compliance to therapeutic regimen of heart failure.** The scale has 12 items with a five point response format never -1, rarely -2, sometimes - 3, usually -4 and always -5. Scoring was categorized into three: Good compliance 45-60, Average compliance 29-44, Poor compliance 12-28. **Tool 11: Semi structured interview schedule to assess the factors influencing compliance to therapeutic regimen among patients with heart failure.**

Semi structured interview schedule consists of 46 Yes/No type questions organized under 7 domains based on WHO's adherence model(2003).

Patient related factor – 9 questions, Therapy related factor -9 questions, Health care system related factor – 7 questions, Sociocultural factors – 5 questions, Economic factors - 4 questions, Disease related factor – 6 questions and Psychological factor – 6 questions

The content validity index calculated for tool 11 and Tool III was found to be 0.96 and 0.89 respectively. Reliability analysis of level of compliance was conducted by using Cronbach's Alpha and the score obtained was 0.975. Reliability analysis of factors influencing compliance was done by Spearman Brown Coefficient and score obtained was 0.914.

## RESULTS

In this section, statistical analysis and interpretation of collected data were organized under five sections.

### Section 1(a) : Distribution of subjects based on demographic variables

Demographic variables	Frequency (f)	Percentage (%)
<b>(a) Age in Years</b>		
20-35	4	5.7
36-50	9	12.9
51-65	37	52.9

**Cont.. Section 1(a): Distribution of subjects based on demographic variables**

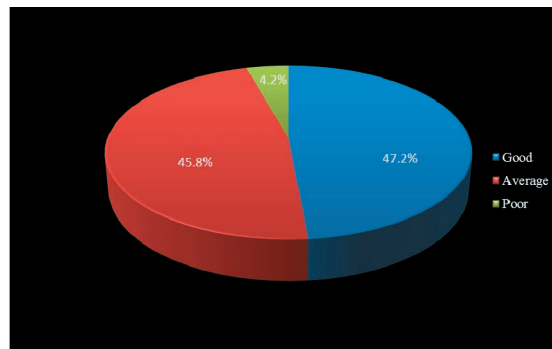
66-80	20	28.5
<b>(b) Sex</b>		
Male	56	80.0
Female	14	20.0
<b>e) Educational status</b>		
Primary	9	12.9
Secondary	24	34.3
Higher secondary	18	25.7
Diploma	5	7.1
Graduate	9	12.9
Post graduate	5	7.1
<b>(g) Income per month(Rs)</b>		
<5000	19	27.1
5001-15000	28	40.0
15001-25000	16	22.9
25001-50000	6	8.6
>50001	1	1.4

**Section I (b): Distribution of subjects based on clinical variables**

Characteristics	Category	Frequency	Percent
Duration since Diagnosis	6MONTHS TO 1 YEAR	15	21.4
	1-3YEARS	15	21.4
	3-5YEARS	10	14.3
	>5YEARS	30	42.9
NYHA Classification	NYHA II	34	48.6
	NYHA111	32	45.7
	NYHA1V	4	5.7
EJECTION FRACTION	31-40	52	74.3
	21-30	15	21.4
	11-20	3	4.3
Alternative therapy	Yes	1	1.4
	No	69	98.6

History of hospitalisation	ONE TIME	19	27.1
	2-3 TIMES	7	10.0
	>3 TIMES	7	10.0
	NIL	37	52.9

**Section II (a) – Description of Level of compliance to therapeutic regimen among patients with heart failure**



Pie diagram showing distribution of subjects based on level of compliance to therapeutic regimen among patients with heart failure.

Pie Diagram shows that most of the subjects 34 (47.2%) have good compliance. 33(45.8%) subjects exhibited average level of compliance. Three among the 70 subjects (4.2%) identified with poor compliance to therapeutic regimen.

**Section III Distribution of subjects according to the factors influencing compliance to therapeutic regimen among patients with heart failure**

Dimensions	Range	Mean	SD	Mean %
<b>Patient Related Factors</b>	2 - 10	7.07	2.804	70.7
<b>Therapy Related Factors</b>	1 - 8	0.29	2.214	66.1
<b>Healthcare System Related Factors</b>	0 - 7	5.36	1.745	76.5
<b>Socio-cultural Factors</b>	0 - 5	2.57	1.528	51.4
<b>Economic Factors</b>	0 - 4	1.20	1.389	30.0
<b>Disease Condition Related Factors</b>	0 - 6	3.71	2.114	61.9
<b>Psychological Factors</b>	0 - 6	3.31	1.854	55.2

Among the seven factors health care system related factor is the highest factor influencing compliance (76.5%). Followed by patient related factor (70.7%) and therapy related factor (66.1%). It is evident that Economic factor is the crucial factor leading to non compliance (30%).

#### Section IV : Association of the factors affecting compliance with level of compliance n=70

Factors		Inadequate		Adequate		Calculated $\chi^2$ value
		f	%	f	%	
Patient related factors #	Inadequate	22	61.1	4	11.8	16.185**
	Adequate	14	38.9	30	88.2	
Therapy related factors	Inadequate	21	58.3	5	14.7	14.255**
	Adequate	15	41.7	29	85.3	
Health care system related #	Inadequate	16	44.4	3	8.8	9.490**
	Adequate	20	55.6	31	91.2	
Socio-cultural factors	Inadequate	23	63.9	10	29.4	8.341**
	Adequate	13	36.1	24	70.6	
Economic factors#	Inadequate	34	94.4	22	64.7	7.896**
	Adequate	2	5.6	12	35.3	
Disease condition related factor #	Inadequate	26	72.2	3	8.8	26.410**
	Adequate	10	27.8	31	91.2	
Psychological factors	Inadequate	28	77.8	7	21.2	22.041**
	Adequate	8	22.2	26	78.8	

Association between level of compliance and factors influencing compliance at 0.01 level of significance. Table shows that there is highly significant association between level of compliance and factors influencing compliance.

#### Section V(a): Association of selected demographic variables with level of compliance to therapeutic regimen among patients with heart failure

Demographic/ Clinical variables	Level of compliance				Calculated $\chi^2$ value
	Inadequate		Adequate		
	F	%	f	%	
Gender					
Male	24	42.9	32	57.1	6.609**
Female	12	85.7	2	14.3	
Income					
< 5000	12	63.2	7	36.8	6.071*
5001-10000	17	60.7	11	39.3	
> 10001	7	30.4	16	69.6	
Occupation					
Employed	8	30.9	18	69.2	10.953**
Unemployed	14	82.4	3	17.6	
Retired	14	51.9	13	48.1	

Level of compliance is associated with gender ( $\chi^2 = 6.609, p < 0.01$ ), income ( $\chi^2 = 6.071, p < 0.05$ ) and occupational status ( $\chi^2 = 10.953, p < 0.01$ ).



**Section V(b): Association of selected clinical variables with level of compliance to therapeutic regimen among patients with heart failure**

Demographic/Clinical variables	Level of Compliance				Calculated $\chi^2$ value
	Inadequate		Adequate		
	f	%	f	%	
History of hospitalisation					
One time	15	78.9	4	21.1	18.709**
More than one time	11	78.6	3	21.4	

There is significant association between frequency of hospitalization and level of compliance ( $\chi^2 = 18.709$ ,  $p < 0.01$ ) and the relationship is inversely proportionate. From the above table it is clearly evident that level of compliance of subjects with frequent hospital admission is lower when compared to other subjects without hospitalization.

**CONCLUSION**

The study revealed that level of compliance of patients with heart failure is ranging from average to good. Overall compliance level can be further improved with modifying factors influencing compliance.

**Ethical Clearance:** Ethical clearance is taken from thesis review committee of Amrita Institute of medical sciences, Kochi.

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# Parental Alcoholism and Psychosocial Problems of Adolescents

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## ABSTRACT

The impact of parental alcoholism on adolescents is a psycho-social issue that urgently requires research and public awareness. **Purpose:** The aim of this study was to find out the prevalence of psychosocial problems of adolescents of alcoholic parents. **Method:** Case Control observational design was selected for this study. Ninety adolescents were systematically (every 5<sup>th</sup> sample) selected from the study population. Consecutively 41 adolescents of alcoholic parents were retained in the Case group and 49 adolescents of non-alcoholic parents were in the Control group. The adolescents between 15-19 years of age were considered to be the study subjects. Standardized ( $r=.97$ ) Pediatric Symptom checklist was used to collect information regarding psychosocial problems from the adolescents. **Result:** Study results show that every fifth adolescent of alcoholic parents was found to have severe psychosocial problems. Also the logistic regression figures state that adolescents of alcoholic parents were two and half times more at risk of developing psychosocial problems than the adolescent of non-alcoholic parents. **Conclusion:** Parental alcoholism has a negative impact on the psychosocial well-being of the adolescents, and they also face a greater challenge in adjusting to the environment and to society. They are highly vulnerable for developing psychosocial problems i.e. emotional, behavioral and cognitive. Thus parental alcoholism hampers the normal psychosocial development of a child.

**Keywords:** Adolescents, Impact, Parental alcoholism, psychosocial problems.

## INTRODUCTION

A human being goes through the various stages of life and one of the most important stages is adolescence. Adolescence is a period when rapid physiological and psychological changes take place and new social roles take place. It is the period of transition from childhood to adulthood and plays a decisive role in the formation of a pro or anti-social adult.

There is strong evidence to suggest that family dysfunction during childhood can have a negative

influence in later life and in adjustment.<sup>(1)</sup> A drinking habit may interrupt normal family tasks, cause conflict and demand adaptive responses from family members who do not know how to respond appropriately. Alcoholism creates a series of escalating crises in the family structure and function. As a result, the members may develop dysfunctional coping behaviors.<sup>(2)</sup> Marital conflict and a lack of coping mechanisms were more frequent in these families and children of alcoholic (COAs) parents represented a group at risk for the early onset of psychiatric problems.<sup>(3)</sup>

There has been an increased focus on children of alcoholics who are seeking to understand the adverse impact of parental alcoholism on their growth and psychosocial functioning. Indian literature from this perspective is scanty and there is a need for more comprehensive investigation to explore the consequences of parental alcoholism particularly on

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adolescent children.

It is well established that children of problem drinkers have an increased risk of developing mental health problems, not only during childhood but also when they grow up into adolescents and adults.<sup>(4)</sup>Children of alcoholics exhibit high rates of psychopathology and may be at risk specifically for behavioral and conduct disorders.<sup>(5)</sup>Behavioral problems in adolescence have been shown to be associated with the presence of a positive family history of alcoholism and negative parenting practices.<sup>(6)</sup>

However, in the literature on alcoholism there is a contention pertaining to children of alcoholics that they manifest no significant differences in terms of psychopathology or other behavioral and personality deficits when compared to children of non-alcoholics. Children may exhibit normal psychosocial functioning despite having an alcoholic parent and found no differences between adult children of alcoholics and the Control group.<sup>(7)</sup>The brief review of the literature in the field reveals that while a lot of investigation has been carried out with adult children of alcoholics those with a specific focus on adolescent children are not many. Further there is a dearth of exploration carried out on this issue in the Indian socio-cultural context. This investigation was carried out against this background primarily from the stress

perspective associated with co-dependency, which hypothesizes that the stress of living in a family with an alcoholic parent could have adverse consequences on the personality traits of adolescent children and may manifest deficiencies in their psychosocial functioning.

## METHODOLOGY

A Case Control design with Observational approach was chosen to study the psychosocial wellbeing of the adolescents of alcoholic parents. Inter and Degree colleges were preferred to gather subjects for the study. With the help of a systematic random sampling technique 90 adolescents were recruited from the study population. Among randomly recruited subjects 41 adolescents were consecutively retained for the Case group and 49 adolescents were placed in the Control group. The 15-19 year old adolescents were included in the study and it was decided to exclude the mentally and chronically ill from the study population. A standardized "Pediatric Symptom Checklist" was used to interview every individual study subject for 15-20 minutes to elicit the information about their present psychosocial status. Permission from the ethical committee was obtained and a written informed consent taken from all the study subjects who were age above 18 years of and from the parents of all those who were under 18 years of age.

## RESULTS

**Table: 1 Socio-demographic characteristics of the study subjects.**

S. No	Sample Characteristics	Case (alcoholic) group f (%)n1=41	Control(non- alcoholic) group f (%)n2=49	p value
1.	<b>Gender</b> Male Female	27 (65.9) 14 (34.1)	25 (51.0) 24 (49.0)	0.11
2.	<b>Educational status</b> Secondary school Graduate	15 (36.6) 26 (63.4)	17 (34.7) 32 (65.3)	0.4
3.	<b>Number of siblings</b> Two or less Three or more	08 ( 19.5) 33 (80.5)	03 (6.1) 46 (93.9)	0.3
4.	<b>Family type</b> Nuclear Joint	32 (78.0) 09 (22.0)	32 (65.3) 17 (34.7)	0.07

**Table: 1 Socio-demographic characteristics of the study subjects.**

5.	<b>Living with</b> Parents Divorced parents, Relatives	38 (92.7) 03 (7.3)	46 (93.9) 03 (6.1)	0.3
6.	<b>Monthly family income</b> Below 5000 5001and above	31 (75.6) 10 (24.4)	40 (81.6) 09 (18.4)	0.35
7.	<b>Father's occupation</b> Laborer Self , Government employee	22 (53.7) 19 (46.3)	22 (44.9) 27 (55.1)	0.29
8.	<b>Mother's occupation</b> Housewife Working	36 (87.8) 05 (12.2)	45 (91.8) 04 (8.2)	0.48
12.	<b>Any other habit</b> None Tobacco, Smoking	17 (41.5) 24 (58.5)	38 (77.6) 11 (22.4)	0.14
9.	<b>Duration of taking alcohol</b> Less than 5 yrs. More than 5 yrs.	07 (17.1) 34 (82.9)	Not applicable	
10.	<b>Patterns of taking alcohol</b> Only at night Binging, anytime	39 (95.1) 02 (4.9)	Not applicable	
11.	<b>Frequency of taking alcohol</b> 3-4 times/wk Daily	33 (80.5) 08 (19.5)	Not applicable	

Table no 1 show that the mean age of adolescents of Case group is  $17.5 \pm 1.4$  and the mean age of the Control group is  $17.3 \pm 1.5$ . In the Case group most of the study participants (65.9%) were male and only few (34.1%) were females. In the Control group both male (51%) and female (49%) were more or less in equal proportion. In the Case group two thirds of the study participants (63.4%) were graduates and only (36.6%) had higher secondary schooling. In the Control group also approximately every other participant (65.3%) was a graduate. In the Case group majority of the study participants (80.5%) had more than three siblings and the Control group also the participants (93.9%) had more than three siblings. In the Case group most of the study participants (78%) belonged to a nuclear family and in the Control group also the majority (65.3%) belonged to nuclear family. In the Case group as well as the Control group the majority (92.9%) of the study participants were living

with their parents. In the Case group majority (68.3%) of study participants belonged to the group where monthly family income was less than Rs 5000 and in the Control group also (81.6%) belonged to the same range of monthly family income.

In the Case group majority (53.7%) of the adolescents' fathers were laborers whereas in the non-alcoholic group the majority (53.7%) of the adolescent's fathers were self-employed. In the Case group a large proportion of the study participants (89.8%) mothers were housewives and similarly in the Control group also the (92.7%) adolescent's mothers were housewives. Hence it can be interpreted that the inferential statistics proved both groups were statistically homogenous.

Majority (82.9%) of adolescent's fathers was consuming alcohol for more than five years and (95.1%) they were night drinkers. Two thirds of the

study participants' (70.7%) fathers were consuming alcohol 2-3 times a week. Approximately half of the (58.5%) fathers also liked to chew tobacco and smoked whereas in the control group there were 75.6% adolescents fathers who were not using tobacco or smoking.

**Table No 2: Prevalence of psychosocial problems among Case (alcoholic) group and Control (non-alcoholic) group. (n=90)**

Psychosocial problem cut off score	Case group (n <sub>1</sub> =41) f (%)	Control group (n <sub>2</sub> =49) f (%)	Total	Relative Risk(RR)
Less than 28	33 (80)	49 (100)	82	2.5
Equal to greater 28	08 (20)	0	08	
Total	41	49	90	

Table no 2 shows that 20% of the adolescents of the alcoholic group had psychosocial problems against standard definition whereas the adolescents of the non-alcoholic group were found not to have any psychosocial problem. Also, the Logistic regression figures states that an adolescent of alcoholic parents were two and half times more at risk at developing psychosocial problems than the adolescent of non- alcoholic parents.

**Table No 3: Comparison of mean psychosocial problem score of Case (alcoholic) group and Control (non-alcoholic) group. (n=90)**

Groups	Mean psychosocial problem score $\pm$ SD	Mean difference	SE	95% CI	t value	p value
				Lower	Upper	6.68*
Case group (n <sub>1</sub> =41)	17.56 $\pm$ 10.3	11.3	1.69	7.9	14.7	<0.001
Control group (n <sub>2</sub> =49)	6.22 $\pm$ 3.3					
t <sub>tab</sub> = 1.98 at df=88 at the level of P<0.05			*Significant			

The data presented in Table No 3 show the mean psychosocial problem score of alcoholic and non-alcoholic groups. The sphericity of the group was measured where as the 't' value states the normal distribution of the data. Parametric Independent 't' test was performed to compare the mean psychosocial problem score of alcoholic and non-alcoholic groups. The psychosocial problems mean score of alcoholic group (17.56  $\pm$ 10.3) was significantly (p=0.001) higher than the mean psychosocial problems score of non-alcoholic group (6.22  $\pm$  3.3). Therefore it can be interpreted that the psychosocial problems are higher in the alcoholic group.

**Table No 4: Association between socio-demographic variables and the psychosocial Problem Score of case (alcoholic) group. (n<sub>1</sub>=41)**

S. No	Demographic variables Case (alcoholic) group	<28	≥28	p value#
1.	<b>Gender</b>			1.0
	Female	22	05	
	Male	11	03	
2.	<b>Educational status</b>			0.22
	Secondary	14	01	
	Graduation	19	07	
3.	<b>Siblings</b>			0.15
	Two or less	05	03	
	Three or more	28	05	
4.	<b>Mother's occupation</b>			1.0
	Housewife	29	07	
	Working	04	01	
5.	<b>Duration of taking alcohol</b>			1.00
	Less than 5 years	06	01	
	More than 5 years	27	07	
6.	<b>Pattern of taking alcohol</b>			0.35
	only at Night	32	07	
	Binging, Anytime	01	01	
7.	<b>Any other habit</b>			1.00
	None	14	03	
	Tobacco, smoking	19	05	
8.	<b>Family type</b>			0.11
	Nuclear family	24	08	
	Joint family	09	0	
9.	<b>Frequency of taking alcohol</b>			0.64
	3-4 times/wk	27	06	
	Everyday	06	02	
10.	<b>Father's occupation</b>			0.7
	Labor	17	05	
	Self, Government employee	16	03	
11.	<b>Monthly income</b>			0.65
	<5000	24	07	
	5001 and above	09	01	
12.	<b>Living with whom</b>			0.48
	Parents	31	07	
	Divorced parents, Relative	02	01	

p&lt;0.05, df= 1

The data presented in Table No 4 show the proportion of the demographic variables and association with psychosocial problem score of alcoholic parent's adolescents.

Hence it can be interpreted that the psychosocial problem was not statistically influenced by any of their demographic variables i.e. gender, educational status, number of siblings, father's occupation, mother's occupation, family type, monthly income, living with whom, duration, pattern and frequency of alcohol consumption, and any other bad habit.

## DISCUSSION

The present study highlighted that nearly one fifth of the adolescents of alcoholic parents had identified psychosocial problems against standard definition whereas the adolescents of non-alcoholic parents were not found to have any psychosocial problems. These findings were correlated with L.Hyunhwa's (2010) findings that, significant relationships between parental alcoholism, depressive symptoms, sense of belonging, resilience, social support, family functioning, parental mental health problems, and domestic violence. Interestingly, the sense of belonging was the only mediator between parental alcoholism and depressive symptoms.<sup>(8)</sup>

The results of the study parallel with Melanie Chalder et al, (2005) that children of alcoholic parents constituted almost one-fifth of the sample group and were found to drink more frequently, more heavily, and more often alone, than children of non-alcoholic parents.<sup>(9)</sup>

Also Wall T L et al (2000), study findings suggest that sons of alcoholics experience more behavioral problems than sons of non- alcoholics.<sup>(10)</sup>

The study results also revealed that the severity of psychosocial problems among adolescents of alcoholic parents was notably higher than in the adolescents of non-alcoholic parents. The adolescents of alcoholic parents are about three times more at risk in developing the psychosocial problems than the adolescents of non-alcoholic parents.

These results were supported by Fartein A Torvik, et al.(2011) that children of alcoholics had moderately elevated attention and conduct problem scores.<sup>5</sup> The findings of this study agreed with that of Stanly S. and Vanitha C. (2008) that lower self-

esteem and poor adjustment were identified among adolescents of alcoholic parents.<sup>(11)</sup> In contrast, the results are congruent with that of Morey (1999) who reports that self-esteem ratings for adolescents of alcoholic parents were significantly lower in comparison to ratings for adolescents of non-alcoholic parents.<sup>(12)</sup>

The study results correlate with Hossang and Chassin (2004) where it was found that children of alcoholics showed a statistically significant difference in their emotional and behavioral aspects such as shyness, insecurity and low self- esteem.<sup>(13)</sup> Haugland (2003), also reports that children of alcoholic fathers were found to have more adjustment problems compared to a general population sample.<sup>(14)</sup> It is therefore important that the therapeutic needs of these adolescents are addressed through individual psychotherapy and other supportive therapies by providing an opportunity for ventilation of feelings and integrating elements that will boost their self - esteem and promote their psychosocial adjustment in different areas.

The investigator likes to recommend nurses working in the community areas can further strengthen teaching programs for parents regarding the ill-effects of alcohol on their children's psychosocial status and themselves too. School health nurses can focus more on the early identification of the psychosocial problems of these children for necessary management or referral.

Limitations of the study were that the investigator had to rely on the information taken from the adolescents. The investigator did not have any control on other factors like parent child relationship, time spent with their children and communication between parents which has also an influence on the psychosocial status of adolescents. As the sample size was small, the scope of generalization of finding was limited.

## CONCLUSION

The study results publicized an inordinate need to develop programs for adolescents of alcoholic parents with a strong focus on strengthening resilience in them and inculcating desirable personality traits and enhancing their psychosocial functioning through appropriate psychotherapeutic procedures. The investigator statistically recognized parental alcoholism hampers the normal psychosocial

development of an adolescent. Intervention with adolescents of alcoholic parents must hence involve resolution of individualized issues pertaining to adolescence as well as parental alcoholism.

**Acknowledgment:** No

**Conflict of Interest:** No

**Source of Funding:** Self

**Ethical Clearance:** Ethical committee permission was obtained from the HIHT Ethical committee before starting the study.

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# Qualitative Data Analysis: Making it Easy for Nurse Researcher

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## ABSTRACT

Qualitative data analysis is less prescribed than statistical analysis as its goal is the discovery of new ideas and their associations, a new nursing researcher of qualitative study may find it as a great challenge. Fortunately, techniques, strategies, and procedures have been developed to help qualitative researchers extract meaning from their data (including software) and interpret it in ways that enhance our understanding of complex phenomena. This paper provides an overview of the process of coding and category systems for qualitative data, which is an important part of developing and refining interpretations in interview, focus group or observational data.

**Keywords:** *qualitative data analysis; memoing, coding and steps of coding, patterns, themes and categories and display.*

## INTRODUCTION

“Any researcher who wishes to become proficient at doing qualitative analysis must

learn to code well and easily. The excellence of the research rests in large part on

the excellence of the coding.”

(Anselm L. Strauss, 1987, p. 27)<sup>1</sup>

Generally, as a beginner qualitative researcher you will face the task of recording data via a variety of methods (interviews, observation, field notes, etc.), coding and categorizing (using a variety of clustering and classification schemes), attaching concepts to the categories, linking and combining (integrating) abstract concepts, creating theory from emerging themes, and writing and understanding.

Data analysis tends to be an ongoing and iterative (nonlinear) process in qualitative research.

Throughout the entire process of qualitative data analysis it is a good idea to engage in memoing (i.e., recording reflective notes about what you are learning from your data). The idea is to write memos to yourself when you have ideas and insights and to include those memos as additional data to be

analyzed. As a qualitative researcher you have to transcribe your data; that is, you type the text (from interviews, observational notes, memos, etc.) into word processing documents. Then you develop coding and category systems, it is here that you carefully read your transcribed data, line by line, and divide the data into meaningful analytical units (i.e., segmenting the data). When you locate meaningful segments, you code them.

**What is Coding?** Coding is defined by Saldhana<sup>2</sup> as marking the segments of data with symbols, descriptive words, or category names. A code in qualitative inquiry is most often a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data. The data can consist of interview transcripts, participant observation field notes, journals, documents, literature, artifacts, photographs, video, websites, e-mail correspondence, and so on.

An order to arrive at explanations of situations or processes, you need to systematically reduce the complexity of the information you have generated in the qualitative data collection. While it is absolutely central to qualitative research to create this complexity in the first place, it is nevertheless essential to reduce

it in order to arrive at generalized explanations. If you want to find explanations linking conditions, effects, and mechanisms, you need to systematically reduce complexity and bring our data in a form that supports pattern recognition.

• **Data Analysis: The goal is to analytically reduce the data. The steps are:**

- Identifying and Identifying and locating raw data
- Structuring raw data: Indexing themes, Indexing content, Extracting content
- Searching for patterns in the data
- Integrating patterns
- Coding

#### **Identifying and locating raw data**

In qualitative processes, collecting qualitative data inevitably includes the creation of large amounts of unnecessary information—things that were said, written, or recorded but have nothing to do with the research question. This “dilution” of—the data—is necessary of qualitative data collection because to assign a high degree of control of data generation to respondents. Since the frames of reference and frames of relevance of respondents are different from ours, they will also communicate information we don’t need. This is why the first step of qualitative data analysis often is to identify and locate the relevant raw data in the abundance of information created in the data collection process. This first step is based on an interpretation of the text by the analyst. Depending on interpretation, the analysts will regard different parts of a text as relevant, and will link parts of texts to different variables/categories. Criteria of relevance may of course change in the course of the analysis, which may necessitate a return to the initial steps and a revision of previous decisions.

***Structuring raw data: Indexing themes, Indexing content, Extracting content***

Structuring raw data means detailing the link between the data and the research questions and identifying links between data. The major tool for this step is a system of categories. Categories are thus similar to variables because they, too, are constructs that can assume different states depending on the empirical phenomena they describe.

Searching for patterns in the data

Coding for patterns

In larger and complete data sets, you will find that several too many of the same codes will be used repeatedly throughout. This is natural and deliberate – natural because there are mostly repetitive patterns of action and consistencies in human affairs, and deliberate because one of the coder’s primary goals is to find these repetitive patterns of action and consistencies in human affairs as documented in the data.

Integrating patterns

Pattern can be characterized by:

- Similarity (things happen the same way)
- Difference (they happen in predictably different ways)
- Frequency (they happen often or seldom)
- Sequence (they happen in a certain order)
- Correspondence (they happen in relation to other activities or events)
- Causation (one appears to cause another)

Look for above mentioned characteristics in your data. These patterns are converted into codes.

Coding

Coding as a System of Organizing Your Data

Coding is a very old technique that has been widely used for a long time to structure text (Kelle, 1997)<sup>3</sup> One easy way to think about coding is to see it as a system to organize your data. In essence, it is a personal filing system. You place data in the code just as you would file something in a folder. A systematic way to code data is to ask yourself the following questions as you read the text:

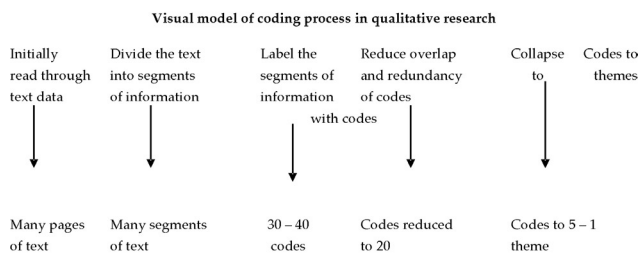
1. What is this saying? What does it represent?
  - a. What is this an example of?
  - b. What do I see is going on here?
  - c. What is happening?
  - d. What kind of events is at issue here?

e. What is trying to be conveyed?

Most commercial and freeware software packages for the support of qualitative data analysis (e.g. ATLAS.ti, MAXQDA, and NVIVO) support coding and only coding, thereby contributing to its transformation into a disembodied standard technique of qualitative data analysis (Coffey, Holbrook & Atkinson, 1996).<sup>4</sup>

**Purpose of coding**

1. To make sense out of text data.
2. To divide text data into image segments, segments to code. Collapse codes into themes.



**Coding Data**

Tesch (1990)<sup>5</sup> and Creswell (2007)<sup>6</sup>

1. Get sense of the whole.
2. Pick one document and ask the question what is this person talking about?
3. Sentences and paragraphs that relate to a single code are called text segments.
4. Codes are labels used to describe a segment of text or an image.
5. Codes can address many different topics such as – a. setting /context b. Perspective held by participants. (Perspective – Ways of thinking about people and objects by participants.) c. Processes (description) d. Activities e. Strategies f. Relationships and social structure
6. After coding an entire text, make a list of all code words. Group them and reduce them to a small number of themes.
7. Go back data, try and check whether new codes emerge.
8. Reduce the codes to get 5-7 themes.

Themes Categories - are similar codes aggregated together to form a major idea in the data base.

Description - is a detailed rendering of people, places or events in a setting in qualitative research.

9. Describing and developing themes from the data consists of answering the major research questions and forming an in depth understanding of the central phenomena through description and thematic development.

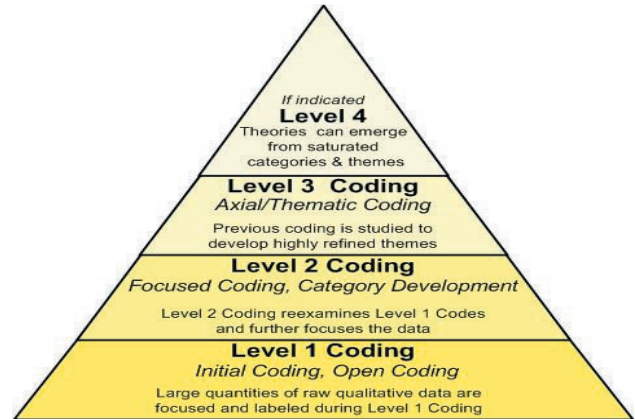


Fig 1. Levels of coding by Christopher Hahn<sup>7</sup>

Coding Example: My mother cares about me. She’s always STABILITY

been there for me, even when my father was not there. She’s one of the few things that I hold as a constant in my life. So it’s nice. I really feel comfortable around her. “COMFORTABLE”

**Themes**

**Description of themes**

A theme is an *outcome* of coding, categorization, and analytic reflection.

Rossmann & Rallis (2003)<sup>8</sup> explain the differences: “think of a category as a *word or phrase* describing some segment of your data that is *explicit*, whereas a theme is a *phrase or sentence* describing more *subtle and tacit* processes” As an example, SECURITY can be a code, but A FALSE SENSE OF SECURITY can be a theme.

**Layering and interrelating themes**

Layering the analysis – 1<sup>st</sup> and 2<sup>nd</sup> order abstractions means representing the data using interconnected levels of themes.

You subsume minor themes with in major themes and include major themes with in broader themes. The entire analysis becomes more and more complex as the researcher works upward toward broader and broader levels of abstractions.

**Interrelating themes**

Inter connecting themes means the researcher connects the themes to display a chronology or sequence of events so as to generate a theoretical and conceptual model.

**Representing Findings**

Qualitative researchers display their findings usually (Miles and Huberman, 1994)<sup>9</sup> by using figures or picture that argument the discussion. Example is as follows

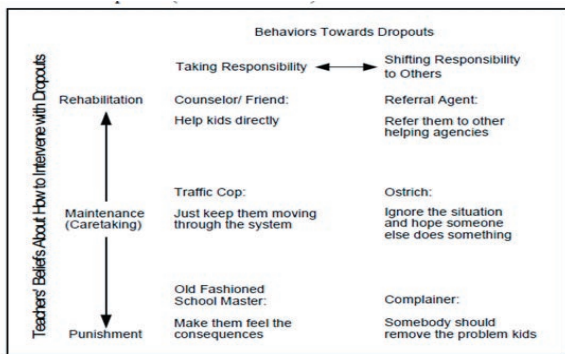


Fig 2. A conceptual framework on teacher's belief and behavior with dropout students

**Reporting findings**

A narrative discussion is a written passage in qualitative study in which analyzer summarize in detail the findings from the data analysis.

**Format of presentation by Creswell<sup>6</sup>**

Qualitative Format	Quantitative Format
<p><b>Title page</b></p> <p><b>Abstract, Introduction</b> – Statement of problem The purpose and research question Delimitation and limitation</p> <p><b>Procedure</b> – Qualitative methodology and design Research site and purposeful sampling Data analyses procedure Researches vote and potential ethical issue</p> <p>Methods of validation preliminary findings – Anticipated outcome ]</p> <p>Time line, Budget and tentative ROL preliminary chapter outline</p> <p><b>Reference and Appendices</b></p>	<p><b>Title page</b></p> <p><b>Abstract , Introduction</b> - – Statement of problem The purpose and research question/ Hypothesis Theoretical perspective Definition of terms Delimitation and limitations ROL</p> <p><b>Methods:</b> Study design, procedure, instrument, Reliability, validity, data analysis, preliminary results ethical issue.</p> <p>Time line, Budget, preliminary chapter outline</p> <p><b>Reference and Appendices</b></p>

**Summarize findings**

The overall in text is to provide readers with the overview findings to complement the more details results in the description and theme passages.

**Convey personal reflection.**

You base your personal interpretation based on hunches, insights and intuition. Because you have been at it at greater lengths you will be in a position to reflect and remark on the larger meaning of the data.

**e.g. Wolcott (1983)<sup>10</sup> in the meaning of learning:**

Learning – In the broad acculturative sense of coming to understand what one needs to know to be competent in the role one may expect to fulfill in society rather than in the narrow sense of learning done at school is a ongoing process person engages throughout a life time.

**Make comparison to the literature.**

Interpretative studies, the researcher interprets the data in view of past research, which may support or contradict the present study.

Offer limitations and suggestions for future research.

**Validation**

1. Triangulation – It is a process in which the researcher asks one or more participants to study to check the accuracy of the account.

2. External Audit – A person outside to conduct a thorough review of the study and report back in writing, the strength and weaknesses of the project.

**Summary:** This paper dealt with the concept of qualitative data analysis. Its aim was to make a new researcher to understand and become comfortable with the process of qualitative analysis.

**Acknowledgement** - Nil

**Ethical Clearance**- College ethical committee

**Source of Funding**- Self

**Conflict of Interest** - Nil

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# A Descriptive Study to Assess the Knowledge Regarding Nosocomial Infections among the Second Year GNM Students in D. Y. Patil Institute of Nursing Sciences, Kadamwadi, and Kolhapur, Maharashtra

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## ABSTRACT

**Aims & Objectives:** • To assess the knowledge regarding nosocomial infection among second year GNM students.

**Methods:** 50 second year GNM Nursing Students were selected by non-probability purposive sampling technique. The knowledge regarding Nosocomial infections by using the structured knowledge questionnaire. A single pre test approach was used. Data was analyzed by descriptive statistics.

**Results and Conclusion:** The finding of study reveals that majority of the 30(60)% had an average knowledge, while 12(24%) had good and 8(16%) had poor knowledge about nosocomial infection.

**Keywords:** Assess, Knowledge, Nosocomial infections, GNM students.

## INTRODUCTION

The term nosocomial comes from the Greek word nosokomeian, “nosos” meaning disease and “komeian” meaning hospital. Nosocomial infection is thus any infection causing illness that was not present, or in its incubation period, during the time of admission and includes those infections, which occur after 48 hours of admission to the hospital<sup>1</sup>. Nosocomial infections also known as a Hospital Acquired infection, is an infection whose development is favored by a hospital environment, such as one acquired by a patient during a hospital visit or one developed among hospital staff. Such infections include fungal and bacterial infections and are aggravated by the reduced resistance of individual patients<sup>1</sup>.

Health care-associated infections have long been

recognized as crucial factors bedeviling the quality and outcomes of health care delivery. Renewed effort geared towards education in terms of training and retraining about standard infection control, as well as strict adherence by health care staff and students to aseptic practice can reduce the extent of these risks.<sup>[2]</sup> Student nurses are often exposed to various infections during their clinical education. Knowledge and compliance with standard precautions is essential to prevent hospital associated infections and protect patients as well as medical workers from exposure to infectious agents.<sup>[3]</sup> Healthcare associated infections are responsible for significant morbidity and late mortality. Thus nurses plays important in prevention of infection. This mainly focuses on assessing the knowledge related to nosocomial infection.

## PROBLEM STATEMENT

“A Descriptive study to assess the knowledge regarding Nosocomial infections among the second year GNM students in D. Y. Patil Institute of Nursing Sciences, Kadamwadi, and Kolhapur, Maharashtra”

**OBJECTIVE:** 1. To assess the knowledge regarding nosocomial infection among second year

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G N M students.

**ASSUMPTION:** This study assumes that nursing student possess some knowledge regarding prevention of nosocomial infection.

**MATERIAL & METHOD**

In view of the nature of the problem under study and to accomplish the objectives of the study, descriptive survey approach was found to appropriate to describe the knowledge on nosocomial infections among second year GNM students. The study participants were selected by Non probability purposive sampling technique. 50 nursing students were selected from 2<sup>nd</sup> year GNM students at D.Y Patil Institute of Nursing Education, Kolhapur. Tool was prepared on the basis of the objectives of the study. A closed ended structured knowledge questionnaire was prepared to assess knowledge of second year GNM students. The questionnaire has 2 sections. Section A: Questionnaire focused on Personal Data and Section B: structured knowledge Questionnaire focused on nosocomial infections and it consists of 30 multiple choice questions. Data was analyzed by Descriptive statistics for summarizing empirical information.

Data will be analyzed by following steps

- o Organizing the data in master sheet
- o Frequency and percentage of data will be calculated for describing demographic variables
- o Mean; mean percentage and standard deviation was used to present the knowledge scores on nosocomial infections.
- o Analyzed data will be presented in the form of tables and diagrams

In order to achieve the objectives of the study opinion from statistician, guide and experts was taken to categorize the samples according to their knowledge.

**Interpretation of knowledge scores:**

S.no.	Category	Level of Knowledge
1.	Adequate knowledge	65 - 100%
2.	Moderate knowledge	35 - 65%
3.	Inadequate knowledge	0 - 35%

**FINDINGS**

**Part 1: Description of demographic characteristics of nursing students.**

This part deals with distribution of participants according to their demographic characteristics. Data was analyzed using descriptive statistics and are summarized in terms of percentage.

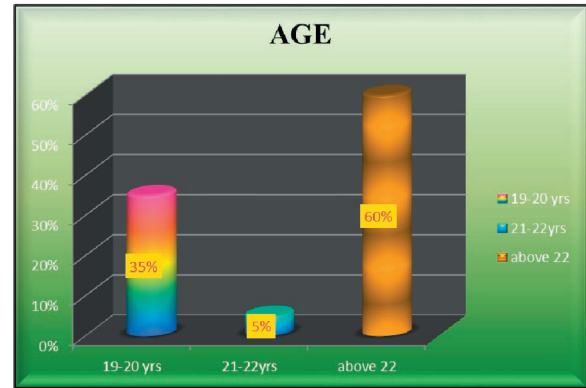


Figure1; Cylinder diagram showing the age wise distribution of nursing students.

The above diagram shows the distribution of the nursing students according to age where in majority 60% students were above 22 year old, 05 % were 21 -2 2 year old and 35 % knowledge were 19-20 year old.

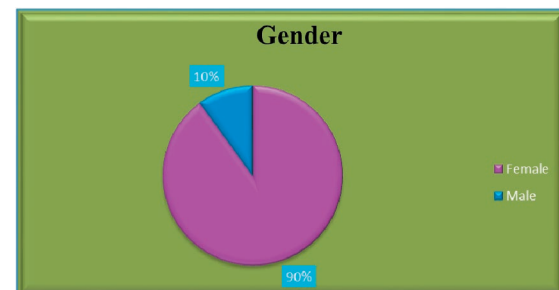


Figure 2: Pie diagram showing the gender wise distribution of nursing students.

The above diagram shows the distribution of the samples according to Gender, where in majority 90% were female and 10 % were male.

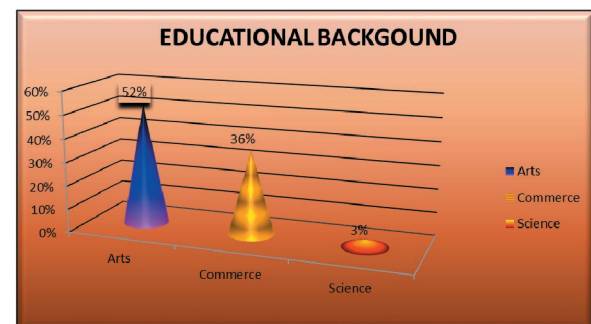


Figure 3: Cone diagram showing distribution of based on Educational background.

The above diagram shows the distribution of the nursing students according to previous educational background 3% were from science, 36% were from arts, 52% were from commerce.

Part II: Analysis of existing knowledge of nursing students regarding nosocomial infection.

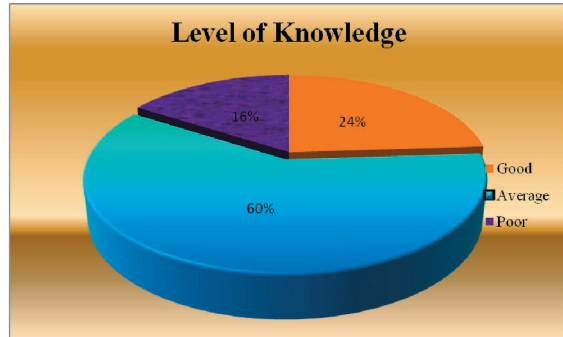


Figure 4: Pie diagram showing distribution of level of knowledge

Above diagram shows that assessment of the knowledge of 2<sup>nd</sup> year GNM students reveals that majority of the students 30 (60) % had an average level of knowledge while 12 (24%) had good and 8 (16) % had poor knowledge on nosocomial infection

## DISCUSSION

The present study has been under taken to assess the knowledge of 2<sup>nd</sup> year GNM students regarding nosocomial infection at selected college, Kolhapur, Maharashtra. The data was collected from 50 nursing students and analyzed by descriptive statistics. The results shows that in Pre test knowledge majority of the students 30 (60) % had an average level of knowledge while 12 (24%) had good and 8 (16)% had poor knowledge on nosocomial infection.

A Similar descriptive study conducted by Prathibha D'Souza.V & Umarani. J to assess the knowledge of final year B.Sc. nursing students regarding prevention of nosocomial infection in pediatric wards in selected colleges of Mangalore, India is supporting the findings of present study and the results shows that majority (88%) of students had moderate level of knowledge, only (12%) had adequate knowledge and none of them were had inadequate knowledge on prevention of nosocomial infection in paediatric wards. The overall mean knowledge score found was (84.63%) and there was no significant association between level of knowledge and selected demographic variables.<sup>17</sup>

## RECOMMENDATIONS

Based on the findings of the study the following recommendations were made

- The study can be replicated among staff nurses.
- The experimental study can be replicated with intervention and control group.
- Comparative study can be done between staff nurses and student's nurses.
- A descriptive study can be conducted to find out the nature of problems related to nosocomial infections in newborn.
- A similar study may be replicated on the large sample for wider generalization.

## CONCLUSION

The preventive and promotive aspect of the health, student nurse must be competent and responsible to promote health information and practice good health for patient and health professionals. So educational sessions can influence on knowledge and can prevent nosocomial infection at hospitals.

**Acknowledgement:** Sincere gratitude to Principal and Vice Principal of D.Y Patil Institute of Nursing Education and warm appreciation to all participants of the study.

**Source of Funding – Self**

**Conflict of Interest Statement:** There is no conflict of interest exists in this study.

**Ethical Clearance:** The investigator obtained the ethical clearance from the college research and ethical committee prior to the study. The full information was provided to participant regarding the study and confidential. After that the consent was obtained from the participants about their willingness to undergo the study.

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# Assessment of Knowledge among Caregivers on Safe Feeding Practice in Infants Admitted in Pediatric Medical Ward of a Tertiary Care Hospital

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## ABSTRACT

A descriptive study was undertaken to assess the knowledge of the caregivers of infants about the safe feeding practice in a tertiary care hospital at Ernakulum. This study was aimed to determine the knowledge among caregivers on safe feeding practice in infant as well as to identify relationship between knowledge and selected demographic variables.. A quantitative research approach has been used. The data was collected using socio demographic profile and self administered knowledge questionnaire among caregivers of infants admitted in a tertiary care hospital. The data was analysed using descriptive (frequency, percentage) and inferential (Fishers exact probability test) statistics. Among 30 caregivers 86.7% (26) have average knowledge and 13.3% (4) have poor knowledge. There is no significant association between knowledge of the care givers and selected demographic variables. The investigation of knowledge of caregivers warranty's the improvement of health of the infants admitted with illness.

**Keywords:** Knowledge, safe feeding practice, caregiver, infant.

## INTRODUCTION

Children are vulnerable to various illness due to their low immune power. If articles used for feeding a baby are not sterilized; virus, bacteria and parasite can gather and make the baby sick. Baby may develop any illness from mild thrush to bout of vomiting and diarrhoea<sup>1</sup>. According to statistics in India 26% of the illness in infants contributes to diarrhoea<sup>2</sup>.

Researches reveal that food contamination causes serious illness in infants that increases the infant mortality rate :Marino DD, conducted a study on water and food safety in the developing world; global implications for health and nutrition of infants and young children(2007;Nov). Contaminated food and water are the major causes of mortality and malnourishment. The strategies identified to prevent diarrhoea in children are implementing low technology sanitizing water<sup>3</sup>. A similar study was

conducted by RW Byard, V Gallard on safe feeding practice in infant and young children. Admission of children to the health care institute due to food induced airway obstruction. Asphyxia due to aspiration of feed that put forth the need of health education about safe feeding practice in parents<sup>4</sup>.

Emphasizing benefits of breast feeding, promoting prepared foods and educating food preparers. Resolution of water and food safety problem requires a collaborative interdisciplinary approach among health professionals and involvement of community<sup>5</sup>.

**It is important to remember that the food handling practices are used to prevent all food poisoning diseases.** Washing your hands with soap and drying them on a paper towel or with a clean cloth is the best way to stop the spread of bad bacteria<sup>6</sup>.

Health workers conducting infant feeding education is necessary to eradicate illness in infants, need to be aware of the infant feeding practices and infant feeding beliefs held by their target group<sup>7</sup>.

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## MATERIALS & METHODS

The present study was aimed at determining the knowledge of caregivers of infants admitted in a tertiary care hospital, quantitative research approach was found to be most appropriate. Descriptive design was used to accomplish the aim of the study. The study was conducted in the paediatric ward of a tertiary care hospital, Kochi.

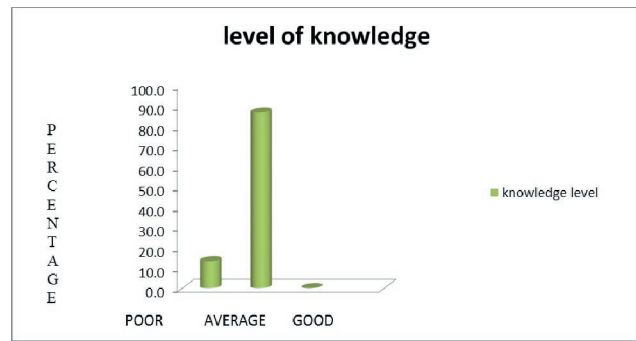
A convenience sampling technique was used to recruit the sample. 30 samples were used. The reliability was analyzed by means of Cronbach’s alpha and yielded reliability coefficients of as 0.939 and content validity index of 0.9.. The tools used for the study were socio demographic profile of the caregivers that deals with demographic variables such as Age, relationship, educational status, occupation, number of children , types of family, age of the child. A semi structured questionnaire to assess the knowledge of the caregivers were of 25 in number, out of which 3 questions were from safe utensils,2 from safe water, 5 from safe preparation of feed and 15 from safe feed. The knowledge level were been interpreted as 1 to 10 score is poor knowledge, 11 to 15 is average knowledge and 16 to 25 is good knowledge.

Data collection was done, after obtaining ethical clearance from the Thesis review committee of AIMS. Formal permission from the Head of paediatric department. Then, the investigator visited the paediatric ward on the given date and the purpose of the study was explained to the subjects. Assurance was given to the subjects that confidentiality would be maintained and then assent was obtained before conduction of the study. The tools were administered and it took about twenty minutes to collect the data from a sample. Sample selection criteria were those caregivers of infant admitted in the pediatric ward and who were available at the time of data collection.

## RESULTS

In this section, statistical analysis and interpretation of collected data were organized under three sections.

**Section: I** Level of knowledge of caregivers on safe feeding practice



**Figure 1:** Level of knowledge of caregivers on safe feeding practice.

The graph shows that 4% of subjects had poor knowledge,86.7 % had average and none of them had good knowledge.

**Section: II** Item wise analysis of safe feeding practice

**Table 1:** Item wise analysis of the knowledge score with respect to components of semi- structured questionnaire  
n = 30

Items	Mean	Median	Mean %	SD
Safe Utensils	1.17	1	38.9	0.913
Safe Water	1.03	1	51.7	0.615
Safe Preparation of Feed	1.87	2	37.3	1.137
Safe Feed	7.10	7	47.3	1.954
Overall Knowledge	11.17	11	44.7	2.052

The subjects mean scores and mean percentages of scores in relation to various components of the semi structured questionnaire on level of knowledge. It is evident from the table that the subjects have limited knowledge about safe utensils, preparation of feed respectively, Where as highest knowledge is evident in the area of safe feed.

**Section III:** Association between level of knowledge and selected demographic variables

**Table 2: Association between level of knowledge among the caregivers and selected demographic variables.**

Sl.No	Demographic Variable	knowledge level		Total	P-value
		poor	average		
<b>1) Age of caregiver</b>					
	18-23yrs	1(20%)	4(80%)	5	0.254 <sup>ns</sup>
	24-29yrs	1(5.6%)	17(94.4%)	18	
	30-35yrs	2(33.3%)	4(66.7%)	6	
	Above 35yrs	0%	1 (100%)	1	
<b>2) Educational status</b>					
	Primary	0%	3(100%)	3	0.990 <sup>ns</sup>
	High school	4(16.7%)	20(83.3%)	24	
	Higher secondary	0%	2(100%)	2	
	Graduate	0%	1(100%)	1	
<b>3) Occupational status</b>					
	Home maker	0%	14(100%)	14	0.166 <sup>ns</sup>
	Private Employee	4(26.7%)	11(73.3%)	15	
	Business	0%	1(100%)	1	
<b>4) Number of children</b>					
	One	1(6.3%)	15(93.8%)	16	0.393 <sup>ns</sup>
	Two	3(23.1%)	10(76.9%)	13	
	More than three	0%	1(100%)	1	
<b>5) Type of family</b>					
	Nuclear	3(11.5%)	23(88.5%)	26	0.454 <sup>ns</sup>
	Joint	1(25%)	3(75%)	4	
<b>6) Age of the child</b>					
	6-7months	2(10%)	18(90%)	20	0.667 <sup>ns</sup>
	8-9months	2(25%)	6(75%)	8	
	10-12months	0%	26(86.7%)	2	

ns= not significant      \*= p <0.05 , using Fisher exact test      \*\*= p<0.01

The calculated fishers exact test value in case of association between the caregivers demographic variable and knowledge level, from that it is evident that there is no significant relationship between the demographic variables and the knowledge level.

### CONCLUSION

About 86.7% of caregivers are with average knowledge level. The knowledge of the caregivers play a vital role in the prognosis of the child's health

status. One of the reason for illness in children may be due to lack of knowledge among caregivers.

**Acknowledgement:** I owe my profound gratitude to Dr. Sasidharan Head of the pediatric department, AIMS, Kochi and all the caregivers of children admitted in the pediatric ward, AIMS for their co-operation and valuable feedback.

**Source of Funding :** Self

**Conflict of Interest :** Nil

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# A Quasi Experimental Study to Assess the Effect of Structured Teaching Programme on Knowledge Regarding Nomophobia among Students of Selected Colleges in District Jalandhar, Punjab

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## ABSTRACT

**Background of the study:**-Nomophobia is a relatively new phenomenon which literally refers to “no-mobile phones- phobia” means fear of being out of mobile phone. Nomophobia is an overwhelming fear of being out of mobile phone which causes anxiety when separated from phone, compulsive checking of phone for messages or battery life.

### Objective

1. To assess the pre test knowledge score regarding Nomophobia among students in control and experimental group.
2. To assess the post test knowledge score regarding Nomophobia among students in control and experimental group.
3. To compare the pre test and post test knowledge score regarding Nomophobia among students in control and experimental group.
4. To find out the association between post test knowledge score regarding Nomophobia among students and selected socio-demographic variables in control and experimental group.

**Research Methodology:** Quasi Experimental (Non Equivalent Pre Test Post Test Control Group) research design was used in the study. The sample size was 100 college students and was selected from selected colleges of District Jalandhar, Punjab using Convenience sampling technique.

**Result and Conclusion:** The Pre test mean knowledge score of experimental group was 8.02 and Post test mean knowledge score was 18.14. The Pre test mean knowledge score of control group was 7.98 and Post test mean knowledge score was 7.78. The significant difference between pre test and post test knowledge score was 21.451\* in experimental group so research hypothesis ( $H_1$ ) was accepted at  $p < 0.05$  level of significance. Hence, it was concluded that structured teaching programme was useful in providing knowledge regarding Nomophobia.

**Keywords:** “Knowledge” “Nomophobia” “students” “selected colleges”.

## INTRODUCTION

Nomophobia is a new phenomenon which refers to “no-mobile phones- phobia” means fear of being out of mobile phone. The term Nomophobia was coined during a 2008 study by the UK Post Office who commissioned YouGov. Nomophobia is a

psychological syndrome in which person is having an overwhelming fear of being out of contact through mobile phone which causes physical side effects such as panic attack, shortness of breath, dizziness, trembling, sweating, accelerated heart rate, chest pain and nausea.<sup>1</sup> People, especially teenagers get

very anxious when they lose their mobile phone, run out of battery or credit or due to less network coverage which adversely affects the concentration level of the person.<sup>2</sup>

According to Dr. David Greenfield, an Assistant Clinical Professor of Psychiatry at the University of Connecticut School of Medicine, an attachment to your mobile phone is similar to other addictions in that it involves a dysregulation of dopamine. Dopamine is a neurotransmitter that regulates the brain's reward center, meaning that it motivates people to do things they think they will be rewarded for doing. Every time person get a notification from his mobile phone, there's a little elevation in dopamine that says person might have something that's compelling, whether that's a text message from someone he like, an email, or anything.<sup>3</sup>

The emerging trend of mobile phones into college student's life had made them to depend so heavily on their mobile phone. The addictions on mobile phones of college students include behavior such as obsessively checking on their phones if there are missed calls, text messages, emails or updates, feeling anxious when there is poor reception of network, feeling panic when one cannot find his or her mobile phone, feel insecure when there is exhaustion of battery of mobile phones and etc (Peraza, 2012).<sup>4</sup>

## MATERIALS & METHOD

This study was conducted in college students in different colleges of district Jalandhar .i. e. A.P.S. College of Nursing, C.T. Institute of Technology, D.A.V. College and S.B.B.S. Institute of Engineering, Jalandhar, Punjab, India. Quasi - Experimental Design (non equivalent pre-test, post-test control group design) was adopted and a total of 100 college students were selected for the study, who met the inclusion criteria. Self-structured knowledge questionnaire was used to assess the knowledge of college students regarding Nomophobia.

## RESULTS

The first objective revealed that in control group, majority (68%) of students had poor knowledge score, followed by average knowledge score (32%). Among experimental group, majority (72%) of the students had poor knowledge score, followed by average knowledge score (28%).

The second objective revealed that post test knowledge score after administration of structured teaching programme in experimental group was 76% of students had good knowledge score, 24% had average knowledge score and no one had poor knowledge score. Among control group, majority (60%) of the students had poor knowledge score followed by average knowledge score (40%).

According to third objective in present study comparison, the post test mean knowledge score 18.14 in experimental group was higher than post test mean knowledge score 7.78 in control group and it was statistically significant at  $p < 0.05$  level as calculated 't' value ( $t = 21.581^*$ ) was more than the table value at  $p < 0.05$  level of significance.

The fourth objective revealed that in control group significant association were found in post test with gender and monthly family income variable whereas in experimental group, significant association were found in post test with age and education pursuing.

## CONCLUSION

A total number of 100 samples were selected for this study. The Pre test mean knowledge score of experimental group was 8.02 and Post test mean knowledge score was 18.14. The Pre test mean knowledge score of control group was 7.98 and Post test mean knowledge score was 7.78. The significant difference was 21.451\* in experimental group, research hypothesis was accepted at  $p < 0.05$  level of significance and null hypothesis was rejected. Age and education pursuing had impact on knowledge regarding Nomophobia among college students. Hence, it was concluded that structured teaching programme was useful in providing knowledge regarding Nomophobia.

## DISCUSSION

The first objective was to assess the pre test knowledge score regarding Nomophobia among college students. The findings of the present study revealed that in control group, majority (68%) of students had poor knowledge score followed by average knowledge score (32%). Among experimental group, majority (72%) of the students had poor knowledge score, followed by average knowledge score (28%).

According to second objective in the present study structured teaching programme was implemented through lecture-cum-discussion method, and with audio-visual aids. After that post test findings of the present study revealed that in experimental group 76% of students had good knowledge score, 24% had average knowledge score and no one had poor knowledge score. Among control group, majority (60%) of the students had poor knowledge score, followed by average knowledge score (40%).

In present study comparison, the post test mean knowledge score 18.14 in experimental group was higher than post test mean knowledge score 7.78 in control group and it was statically significant at  $p < 0.05$  level as calculated 't' value ( $t = 21.581^*$ ) was more than the table value at  $p < 0.05$  level of significance. It showed that the post test of control and experimental were significantly related. Pre test and post test of experimental group were also significantly related as calculated 't' value ( $t = 21.451^*$ ) was more than the table value at  $p < 0.05$  level of significance.

The fourth objective was to find out the association between knowledge score regarding Nomophobia among college students and their selected socio demographic variables. Present study revealed that in control group significant association were found in post test with gender and monthly family income variable whereas in experimental group, significant association were found in post test with age and education pursuing.

The finding of study were supported by **Abraham Nidhin, Mathias Janet, Williams Sheela (2014)** to assess the knowledge and effect of Nomophobia among 200 students of selected degree colleges in Mysore, Karnataka. The results shown that majority (83%) of the sample were 18-20 years of age, 41.5% of them were interested in mobile games and 59.5% of the sample had never heard the term Nomophobia. It was concluded that majority (89.5 %) of students had poor knowledge and half (51%) of them had moderate effect of Nomophobia.<sup>5</sup>

**Acknowledgement:** I want to express my gratitude especially to the Principals of the colleges, who allowed me to conduct study and the subjects those who participated in the study. I also want to thank my affectionate and adoring Parents,

brothers and sister and co-guide Ms. Amritpal Kaur and my friends for their constant support and encouragement.

### ETHICAL CONSIDERATIONS

1. Written permission was taken from Principal, S.G.L Nursing College, Semi, Jalandhar, Punjab.
2. Ethical Clearance was taken from the Ethical Clearance Committee of S.G.L. Nursing College Semi, Jalandhar, Punjab.
3. Written permission was taken from Principals of selected colleges i.e. A.P.S. College of Nursing, C.T. Institute of Technology, D.A.V. College and S.B.B.S. Institute of Engineering, Jalandhar, Punjab.
4. Written informed consent was taken from each study sample.
5. Confidentiality and Anonymity of samples were maintained throughout the study.

**Source of Funding:** Self

**Conflict of Interest:** Nil

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# A Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge and Practice Regarding ET Tube Suctioning among Pediatric ICU Staff Nurses in Selected Hospital at Bangalore

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## ABSTRACT

The management of endotracheal tubes covers a large part of work time of nurses involved in the care of children. These procedures, although continuously performed, have not yet been scientifically demonstrated. At many times nurses rely on deterioration in the patient's condition to indicate when suctioning is required. Hence practice guidelines and education is necessary for pediatric ICU staff nurses on ET tube suctioning. Keeping this in mind, a quasi-experimental study was undertaken to assess the effectiveness of structured teaching programme regarding ET tube suctioning among pediatric ICU staff nurses in selected Hospital at Bangalore.

**Methods:** In this study quasi-experimental one group pretest posttest research design was adopted. The structured knowledge questionnaire and observational checklist was developed to collect the data. The samples were selected by using simple random sampling technique and data collection was carried out among 30 pediatric ICU staff nurses in selected hospital, Bangalore. Later pre-test & post-test was conducted before and after structured teaching programme. The data collected was analyzed.

**Results:** Results showed that the pretest mean knowledge score was 18.60, posttest mean knowledge score was 29.40, and the pretest mean practice score was 22.07, posttest mean practice score was 26.93. The significance of the findings was obtained by using paired 't' test, the value of pretest and posttest of knowledge and practice was 12.565 (P<0.001) and 13.978 (P<0.001) respectively, emphasizing the significant improvement. The study also revealed that there was no association found between the mean pretest knowledge and practice score with selected baseline variables.

**Conclusion:** The study concluded that there was a significant gain in knowledge and practice among pediatric ICU staff nurses following a structured teaching programme.

**Keywords:** Structured teaching programme, Knowledge, Practice, Pediatric ICU staff nurses, Endotracheal suctioning

## BACKGROUND OF THE STUDY

"For breath is life, and if you breathe well you will live long on earth."

- Sanskrit Proverb

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For good breathing airway patency is necessary. Normally, children and babies will keep their airway patency clear by coughing, sneezing, blowing their noses and by the protective mechanisms of the gag reflex. Where as in intubated child airway patency is achieved through the intervention of endotracheal suctioning, which is a necessary prerequisite for patient on mechanical ventilator.<sup>①</sup>

Suctioning of an artificial airway (ET Tube) clears

the airway by removing pulmonary secretions, blood, vomitus, saliva or other foreign material, potentially improving oxygenation and ventilation.<sup>(2)</sup>

The main indications of ET tube suctioning are, excessive secretions, desaturation, any obstruction in the respiratory tract poor cough mechanism. There are some conditions also that can cause over production of mucus like cystic fibrosis, tracheo-esophageal fistula before surgery. After ENT and oral surgery child may bleed postoperatively may required ET tube suctioning.<sup>(1)</sup>

However, ET tube suctioning is not a benign procedure; which has associated risks like cardiac dysarrhythmias, hypoxemia, atelectasis, bronchospasm, infection, trauma to the mucosal linings and cilia of the airway, and increased intracranial pressure.<sup>(3)</sup>

Despite the risks associated with suctioning, failure to suction when needed can result in a plugged ETT and the trauma of reintubation, atelectasis, and decreased oxygenation and ventilation.<sup>(2)</sup>

Also there is limited evidence regarding several points such as the frequency of endotracheal suctioning, the level of suction pressure, the duration of suctioning, the depth of catheter insertion, the sterility, and the use of normal saline during endotracheal suction.<sup>(3)</sup>

Although many investigators have assessed the technique of endotracheal tube suctioning, the issue is how to assess? The need of ET suctioning remains difficult. Study conducted at Edith Cowan University, Australia, revealed that the assessment of the patient's clinical signs and symptoms is a complex process requiring skilled interpretation. It is a concern that many nurses rely on a deterioration in the patient's condition to indicate when suctioning is required. A policy of suctioning is necessary to give clarity in guidelines and for education of all staff.<sup>(4)</sup>

In another study was conducted in children's cardiac Intensive care by Gilbert M, which was aimed to investigate, how nurses in pediatric intensive care environment assess the need for endotracheal suction. Results showed that large numbers of ETS were performed in response to an identified need based clinical signs and patient behavior. This study

highlights complex nature of nurses' assessment of the need for ETS and it has implications for training and Education of nursing staff.<sup>(5)</sup>

Therefore developing a teaching programme for pediatric ICU staff nurses will help to improve knowledge and practice regarding ET tube suctioning.

## OBJECTIVES

- a. To assess the knowledge of pediatric ICU staff nurses regarding ET tube suctioning before and after structured teaching programme.
- b. To assess the practice of pediatric ICU staff nurses regarding ET tube suctioning before and after structured teaching programme.
- c. To determine the effectiveness of structured teaching programme on knowledge and practice of pediatric ICU staff nurses regarding ET tube suctioning among staff nurses.
- d. To identify the association between pre-test knowledge score of pediatric ICU staff nurses regarding ET tube suctioning with selected baseline variables.
- e. To identify the association between pre-test practice score of pediatric ICU staff nurses regarding ET tube suctioning with selected baseline variables.

## MATERIAL & METHODS

In this study modified conceptual frame work was used, which is based on Tobin, Wise and Hull's modified comprehensive model (1979) (Fig: 1). To accomplish the objectives of study quasi-experimental one group pretest posttest research design was adopted. (Fig: 2)

In this study, the structured teaching programme on ET tube suctioning was the independent variable, knowledge and practice of pediatric ICU staff nurses regarding ET tube suctioning were selected as the dependent variable. Later 30 pediatric ICU staff nurses were selected by using the simple random sampling technique from the selected hospital, Bangalore.

After extensive review of literature the structured knowledge questionnaire and observational checklist was developed as a tool, based on the subtopics in

the structured teaching programme. The structured knowledge questionnaire consisted of 38 questions on different knowledge variables and observational checklist consisted of 34 practice variables of ET tube suctioning in children.

The content validity was obtained from the 10 experts in the field. The reliability of the tool was calculated by doing split off method ( $r=0.71$ ) for questionnaire and by interrater method ( $r=0.79$ ) for observational checklist after pilot study.

After obtaining permission from the hospital authority, pre-test & post-test was conducted before and after structured teaching programme. The data collected was analyzed and interpreted based on descriptive and inferential statistics.

**FINDINGS**

The findings of data was done in accordance with objectives of study and divided in following parts

**Part I:** Description of baseline variables.

**Part II:** Analysis of knowledge and practice score of pediatric ICU staff nurses.

**Part III:** Evaluation of the effectiveness of structured teaching programme regarding ET tube suctioning.

**Part IV:** Association of pretest knowledge levels with selected baseline variables.

**Part V:** Association of pretest practice levels with selected baseline variables.

**Part I: Description of baseline variables:**

- As shown in table 1 greater percentages 86.66% (26) of subjects were in the age group of <25 years, whereas 13.33% (4) were between 25-30 years of age. In educational qualification 36.66% (11) of the respondents were B.Sc nursing, and 60% (18) of the respondents were GNM and 3.33% (1) of the respondent was P.B.B.Sc nursing. In Years of experience 46.66% (14) had <1year experience, 43.33% (14) had 1-3 years of experience and 6.66% (2) had 3-5 years of experience in pediatric ICU. Where as in In-service education 60% (18) of subjects have attended the in-service education and 40% (12) subjects has not attended the in-service education regarding ET tube suctioning.

**Table 1: Description of baseline variables of pediatric ICU staff nurses**

Sl. No	Baseline Variables	Frequency	%tage
1.	<b>Age</b>		
	a) <25 yrs	26	86.66
	b) 25-35 yrs	4	13.33
2.	<b>Educational Qualification</b>		
	a) B.Sc nursing	11	36.66
	b) GNM	18	60
	c) P.B.B.Sc nursing	1	3.33
3.	<b>Years of experience</b>		
	a) <1 year	14	46.66
	b) 1-3 year	14	46.66
	c) 3-5 year	2	6.66
4.	<b>In-service education.</b>		
	a) Yes	18	60
	b) No	12	40

Part II: Analysis of knowledge and practice score of pediatric ICU staff nurses. This part consists of 4 sections as follows:

➤ **Section A:** Analysis of pre test and post test knowledge score of pediatric ICU staff nurses regarding ET tube suctioning. N=30

**Table 2: Analysis of pretest and posttest knowledge percentage score of pediatric ICU staff nurses regarding ET tube suctioning.**

Level of knowledge (score)	Number of respondents			
	Pretest		Posttest	
	Freq- uency	Percen- tage	Freq- uency	percen- tage
< 50% (Poor)	15	50	0	0
51-74% (Average)	15	50	10	33.33
75% and above (Good)	0	0	20	66.66

The table 2 depicts that in pretest 15 (50%) subjects had poor level of knowledge, 15 (50%) subjects had average level of knowledge and none of the subjects had good level of knowledge, whereas in posttest

20(66.66%) subjects had gained good level of knowledge, 10(33.33%) staffs gained adequate level of knowledge while none had inadequate level of knowledge regarding ET tube suctioning.

➤ **Section B:** Mean, Standard Deviation, and mean percentage of the pretest and posttest knowledge score.

**Table 3: Aspect wise pretest and posttest knowledge score on ET tube suctioning. N=30**

Sl. No	Knowledge variables aspect wise	Maximum possible score (38)	Subjects knowledge					
			Mean score		Standard Deviation		Mean percentage score	
			Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test
1.	Knowledge (Aspect 1)	5	2.77	4.40	0.971	0.621	55.4	88
2.	Anatomy and physiology. (Aspect 2)	6	3.03	4.67	1.245	0.758	50.5	77.83
3.	Indication. (Aspect 3)	5	2.40	3.73	1.003	1.202	48	74.6
4.	Equipment (Aspect 4)	5	2.90	4.17	0.885	0.791	58	83.4
5.	Preparation. (Aspect 5)	5	2.27	3.83	1.015	1.085	45.4	76.6
6.	Procedure (Aspect 6)	8	3.30	5.53	1.149	1.717	41.25	69.12
7.	Complication. (Aspect 7)	4	1.93	3.07	0.944	1.112	48.25	76.75

Table 3 shows that Pretest subjects obtained maximum mean percentage score in the aspect related to equipment regarding ET tube suctioning was 58% and obtained minimum mean percentage score in the aspect related to Procedure regarding ET tube suctioning was 41.25%. Where as in the posttest subjects obtained maximum mean percentage score in the aspect related to knowledge regarding ET tube

suctioning was 88% and obtained minimum mean percentage score in the aspect related to Procedure regarding ET tube suctioning was 69.12%.

➤ **SECTION C:** Analysis of pretest and posttest practice percentage score of pediatric ICU staff nurses regarding ET tube suctioning.

**Table 4: Analysis of pretest and posttest practice percentage score of pediatric ICU staff nurses regarding ET tube suctioning. N=30**

Level of practice (score)	Number of respondents			
	Pretest		Posttest	
	Frequency	Percentage	Frequency	Percentage
< 50% (Poor)	0	0	0	0
51-74% (Average)	30	100	2	6.66
75% and above (Good)	0	0	28	93.33

The table 4 depicts that in pretest none of the subjects had poor level of practice, 30 (100%) subjects had average level of practice and none of the subjects had good level of practice, whereas in posttest 28(93.33%) subjects had gained good level of practice, 2(6.66%) staffs gained average level of practice while

none had poor level of practice regarding ET tube suctioning.

➤ **SECTION D:** Mean, Standard Deviation, and mean percentage of the pretest and posttest practice score.

**Table 5: Area wise pretest and posttest practice score on ET tube suctioning. N=30**

Sl. No	Practice variables area wise	Maximum possible score (34)	Subjects skill					
			Mean score		Standard Deviation		Mean percentage score	
			Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test
1.	Assessment (Area 1)	5	2.87	3.70	0.776	0.596	57.4	74
2.	Preparation (Area 2)	8	6.13	7.40	0.681	0.675	76.62	92.5
3.	Procedure (Area 3)	11	7.10	8.87	0.960	0.681	64.54	80.63
4.	Post-procedure (Area 4)	10	5.97	6.97	0.890	0.615	59.7	69.7

Table 5 shows that Pretest subjects obtained maximum mean percentage score in the aspect related to preparation regarding ET tube suctioning was 76.62% and obtained minimum mean percentage score in the aspect related to assessment regarding ET tube suctioning was 57.4%. Where as in the posttest subjects obtained maximum mean percentage score in the aspect related to Preparation regarding ET tube suctioning was 92.5% and obtained minimum

mean percentage score in the aspect related to Post-procedure regarding ET tube suctioning was 69.7%.

Part III: Evaluation of the effectiveness of structured teaching programme regarding ET tube Suctioning.

**H1:** The mean post-test knowledge score of staff nurses who have received structured teaching programme will be significantly higher than their mean pre-test knowledge score at 0.05 level.

**Table 6: Comparison of pre test and post test knowledge score among the subjects.**

Knowledge score	Mean score	Mean difference	SD of Mean difference	Paired 't' test value	df	Level of significance
Pretest	18.60	10.80	0.859	12.565	29	0.000 Sig
Posttest	29.40					

Sig: significant

accepted at 0.001 levels of significance.

The table 6 reveals that pretest mean score was 18.60, posttest mean score was 29.40 with a mean difference of 10.80 and its SD of 0.859. The paired't' test value is 12.565 at df=29 at <0.001 level of significance. Hence the formulated hypothesis (H1) is

**H2:** The mean post-test practice score of staff nurses who have received structured teaching programme will be significantly higher than their mean pre-test practice score at 0.05 level.

**Table 7: Comparison of pre test and post test practice score among the subjects.**

Practice score	Mean score	Mean difference	SD of Mean difference	Paired 't' test value	df	Level of significance
Pretest	22.07	4.86	1.907	13.978	29	0.000 Sig
Posttest	26.93					

Sig: significant

The table 7 shows that pretest mean score was 22.07, posttest mean score was 26.93 with a mean difference of 4.86 and its SD of 1.907. The paired 't' test value is 13.978 at df=29 significant at <0.001 levels. . Hence the formulated hypothesis (H2) is accepted at 0.001 levels of significance.

PART IV: Association of pretest Knowledge practice levels with selected baseline variables.

**H3:** There will be significant association between knowledge pre-test score with selected baseline variables.

**Table 8: Association of Pretest knowledge score with their baseline variables N=30**

Sl. No	Baseline Variables	Knowledge levels		df	Fisher's exact value	Chi-square value	Inference
		<40%	>40%				
1.	<b>Age</b> a) <25 yrs b) 25-35 yrs	5 2	21 2	1	0.225		>0.05 NS
2.	<b>Educational Qualification</b> a) B.sc nursing b) GNM c) PcB.sc	2 5 0	9 13 1	2		$\chi^2=0.666$ P= 0.717	>0.05 NS
3.	<b>Years of experience</b> a) <1 year b) 1-3 year c) 3-5 year	1 6 0	13 8 2	2		$\chi^2=5.643$ P= 0.060	>0.05 NS
4.	<b>In-service education.</b> a) Yes b) No	4 3	14 9	1	1.000		>0.05 NS

S- Significant

The table 8 shows that there was no significant association between selected baseline variables with mean pretest knowledge score ( $p<0.05$ ) of pediatric ICU staff nurses regarding ET tube suctioning. Therefore the research hypothesis (H3) was rejected.

NS- Non significant

PART V: Association of pretest Practice levels with selected baseline variables.

**H4:** There will be significant association between practice pre-test score with selected baseline variables.

**Table 9: Association of Pretest practice score with their baseline variables****N=30**

Sl. No	Baseline Variables	skill levels		df	Fisher's exact value	Chi-square value	Inference
		<60%	>60%				
1.	<b>Age</b> a) <25 yrs b) 25-30 yrs	10 0	16 4	1	0.272		>0.05 NS
2.	<b>Educational Qualification</b> a) B.sc nursing b) GNM c) PcB.sc	4 6 0	7 12 1	2		$\chi^2=0.545$ P=0.761	>0.05 NS
3.	<b>Years of experience</b> a) <1 year b) 1-3 year c) 3-5 year	5 5 0	9 9 2	2		$\chi^2=1.071$ P=0.585	>0.05 NS
4.	<b>In-service education related to ET tube suctioning</b> a) Yes b) No	3 2	15 10	1	1.000		>0.05 NS

S- Significant

NS- Non significant

The table 9 shows that, there was no significant association between selected baseline variables with mean pretest practice score ( $p < 0.05$ ) of pediatric ICU staff nurses regarding ET tube suctioning. Therefore the research hypothesis (H4) was rejected.

### CONCLUSION

Although endotracheal tube suctioning is a hazardous procedure associated with numerous complications, it is mandatory procedure for maintaining airway of intubated child. Due to this nature of the procedure it is imperative that pediatric nurse should have thorough knowledge and skill of the procedure. The study demonstrated that the structured teaching programme was effective in increasing the knowledge and practice regarding ET tube suctioning among pediatric ICU staff nurses.

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**Ethical Clearance** - Taken from Ethical committee formed at Institution level

**Source of Funding** – Self

**Conflict of Interest** - Nil

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# Protein Energy Malnutrition among Children

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## ABSTRACT

Protein energy malnutrition (PEM) previously termed protein calorie malnutrition has assumed the position of being the leading cause of death directly or indirectly among children under five years of age in the developing world in the past forty years, in spite of our wide knowledge and understanding of human nutritional requirements. A descriptive study was conducted among 109 under five children in Kottayam District. The main aim of the study was to determine the prevalence of PEM, and its association with selected demographic variables. The study population consisted of 109 under five children and their mothers attending selected anganwadies of Kottayam District, during the period of data collection. Purposive sampling was used to select the samples. Data were gathered by administering demographic proforma, observation record and dietary practice assessment questionnaire. Among the samples 41.28% had grade I PEM. No significant association was observed between protein energy malnutrition and age, gender, education of parents, occupation of parents, monthly income, number of children and type of family.

**Keywords :** Protein Energy Malnutrition, Children – Soja.S.L

## INTRODUCTION

Protein energy malnutrition is the most common form of nutritional deficiency among patients who are hospitalized in the developing countries. It is a state of poor nutrition due to an insufficient or poorly balanced diet to ill health and ill health contributes to further deterioration in nutritional status. These effects are most dramatically observed in infants and young children, who bear the brunt of the onset of malnutrition and suffer the highest risk of disability and death associated with it<sup>1</sup>.

Malnourished children who survive are more frequently sick and show poorer scholastic performance, impaired intellectual and social development. Childhood stunting leads to a significant reduction in adult size. One of the consequences of small adult size resulting from childhood stunting is

reduced work capacity, which in turn has an impact on economic productivity of our Nation. Undernutrition among children varies greatly by mother's education and household standard of living<sup>2</sup>.

Protein energy malnutrition (PEM) is a global health problem, more prevalent in the developing countries like India. It is a potentially fatal body depletion disorder and is the cause of death in children in developing countries. It often starts in the womb and ends in the tomb. PEM is a disease of multi deprivation and poverty, affecting nearly 150 million children under the age of five years in the world. Out of 120 million children in India, over 75 million are estimated to suffer from visible PEM. Almost half of children (47%) under three years of age are underweight and among them 46% are stunted. Severe underweight is observed for 18% of children and severe stunting for 23%. Sixteen percentage of children are excessively thin. Rural children are much more likely than urban children to be undernourished<sup>3</sup>.

The prevalence varies across the States, and Kerala rates low (27%). This is to be viewed with

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serious concern, and necessary steps are to be taken to analyze the situation and arrive at feasible solutions. Improved child health and survival are considered universal humanitarian goals. Understanding the nutritional status of children has far-reaching implications for the better development of future generations<sup>4</sup>.

A study done by Rajaram, Sunil and Zottarelli (2003) to determine the nutritional status of children below 5 years and the confounding factors that influence the nutritional status of children in two states of India, 'Kerala and Goa' showed that the relative prevalence of under-weight and wasting was high in Kerala, but the prevalence of stunting was medium. In Goa, on the other hand, the relative prevalence of wasting and underweight was very high, and that of stunting was high. Both socio-economic and family planning variables were significantly associated with malnutrition in these states, but at varied levels<sup>5</sup>.

Majority of undernourished children can be treated effectively if the problem is detected early. Identifying the risk factors associated with malnutrition helps in development of alternative methods to combat its pathology. Protein energy malnutrition continues to be significant problem for children and adults in India<sup>6</sup>.

The effects of PEM are multidimensional. The most important among them are reduced activity, reduced growth, increased susceptibility to infection, reduced intellectual capability and performance, reduced work efficiency and increased mortality<sup>7</sup>.

Since malnutrition forms a major disease burden of childhood and constitutes about 50% of morbidity and mortality among children, it is high time to take corrective and preventive actions to decrease the burden on the country<sup>8</sup>.

It is estimated that anemia affects 1.62 billion people across the world. The figures from national surveys show an alarming number of anemic children and women in India. A third of the world's anemic children live in India and close to two thirds of pregnant Indian women are anemic. The reason why there is anemia among these groups is the lack of bioavailability of iron, vitamin B12 and folic acid. The prevalence of anemia among adolescent girls in

rural India is even more alarming and is 90% as per studies published by the Indian council for medical research (2001). The National Family Health survey report show insignificant change in the prevalence of iron deficiency anemia among adult women since 1998.<sup>9</sup>

India has the world's largest number of undernourished infants and children, approximately 61 million. Today, India has several programmes meant to overcome undernutrition. Yet in the given situation achieving the first millennium development goal (MDG) of eradicating extreme hunger and poverty by 2015, remains unrealistic. ICDS, receives the major share of funding. In most anganwadi centers food is in the form of cooked meals for preschool children and macro/micronutrient powder for pregnant mothers and infants less than 2 years. Studies suggest that nutrient powder is ineffective in meeting nutritional needs. Alternative and more effective methods are needed to combat undernutrition.<sup>10</sup>

#### **Objectives :**

1. To determine the prevalence of protein energy malnutrition among children.
2. To determine the association of severity of PEM and;
  - 2.1 socio demographic variables such as age, gender, education of parents, occupation of parents, monthly income and type of family.
  - 2.2 child variables such as birth order, number of children and immunization

#### **MATERIALS & METHODS**

In view of accomplishing the research objectives descriptive survey approach was considered the best. The study population consisted of the children between 2-5 years who are attending in selected anganwadies of Kottayam District, during the period of data collection in 2013. Anganwadies were selected by systematic sampling and children were selected by purposive sampling technique. Total sample size was 109.

The instruments used to collect data were Demographic proforma and observation record. The demographic proforma consists of 2 parts. Part A, consists of 6 socio demographic items such as age,

gender, education of parents, occupation of parents, monthly income, and type of family. Part B-consists of 5 child variables such as number children, birth order of the child, immunization, history of communicable disease and type of diet.

The observation record consists of grades of protein energy malnutrition as per weight for age based on IAP classification. The score is divided into five categories like Normal (>80%), grade I (71-80%), grade II (61-70%), grade III (51-60%) and grade IV (<50%).

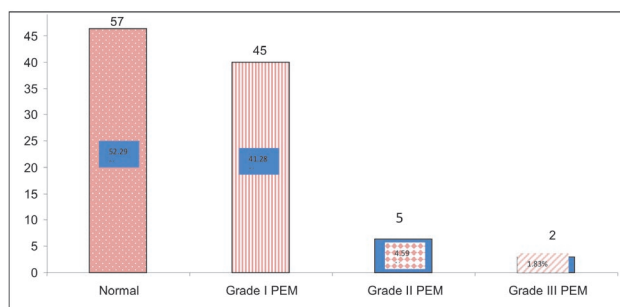
**Procedure for data collection :** The data were collected from children studying in anganwadies and their mothers. The children and their mothers were contacted and administered the proforma and the weight of the children were recorded in their respective anganwadies during working hours according to their convenient time.

**Ethical considerations :** Written permission was obtained from District ICDS officer and ICDS project officer of Ettumanoor block. The study proposal was presented to the ICDS district level officers and ethical clearance was sought. Permission was also sought from the teachers of the anganwadies from where the subjects were selected. The researcher introduced herself and the purpose of the study was explained to the subjects and written consent was taken. The subjects were assured of the confidentiality of the information given.

## RESULTS

The gathered data were first coded and summarized in a master sheet and then analyzed using SPSS 20.

### Prevalence of Protein Energy Malnutrition



**Fig (1) :** Bar diagram showing prevalence of protein energy malnutrition

### Description Of Demographic Characteristics

**Table 1 : Frequency and percentage distribution of sample characteristics with regard to sociodemographic variables. n = 109**

Sociodemographic Variables	Freq-uecy (f)	(%)
<b>Age in years</b>		
2 - <3	32	29
3 - <4	55	51
4 - 5	22	20
<b>Gender</b>		
Male	58	53
Female	51	47
<b>Education of Father</b>		
Illiterate	24	22
Primary level	32	29
Secondary level	36	33
Diploma/Degree and above	17	16
<b>Education of Mother</b>		
Illiterate	29	26.6
Primary level	42	38.5
Secondary level	23	21.1
Diploma/Degree and above	15	13.8
<b>Occupation of Father</b>		
Physical worker	60	55
Government Job	14	12.8
Private Job	22	20.2
Self employed	09	8.2
Unemployed	03	03
Social Service	01	01
<b>Occupation of Mother</b>		
Physical worker	05	05
Government Job	29	26.6
Private Job	35	32
Self employed	19	17.4
Unemployed	21	19
Social Service	00	00
<b>Average Monthly income of family</b>		
Rs> 20000-50000	0	0
Rs 19000-19999	0	0
Rs 5000-9999	15	13.7
Rs 2500-4999	25	23.
Rs 1000-2499	69	63.3
<b>Type of family</b>		
Nuclear family	52	48
Joint family	33	30
Extended family	24	22

**Table 2 : Frequency and percentage distribution of sample characteristics with regard to Child variables. n = 109**

Child Variables	Frequency (f)	percen-tage (%)
<b>Birth order of the child</b>		
First	21	19
Second	52	48
3 <sup>rd</sup> or above	36	33
<b>Number of children in the family</b>		
One	08	7.3
Two	46	42.2
Three	49	45
More than three	06	5.5
<b>Immunization</b>		
Completed	89	82
Not completed	20	18
<b>History of communicable diseases</b>		
Yes	40	37
No	69	63
<b>Type of diet</b>		
Vegetarian	01	01
Non vegetarian	108	99

**Table 3 : chi-square value showing the association between severity of PEM with respect to Child variables. n = 109**

Child Variable	PEM P	χ <sup>2</sup>	P value
<b>Number of Children</b>			
One	3		
Two	27	3.959	0.271
Three	20		(fishers exact)
>Three	2		
<b>Birth order</b>			
First	13		
Second	25	2.82	0.244
Third/above	14		

<b>Immunization</b>	42	0.587	0.945
Completed			
Not completed	10		
<b>History of communicable disease</b>			
Yes	17	1.472	0.755
No	35		
<b>Type of diet</b>			
Vegetarian	01	4.896	0.477
Nonvegetarian	51		

### DISCUSSION

In the present study the prevalence of protein energy malnutrition were 41.28% had grade I PEM, 4.59% identified with grade II PEM, 1.83% had grade III PEM. Similar finding is reported by Mukhopadhyay (2013) where 35.9% children were under weight and 15.9% severely underweight. Stunting was found in 31.4% children and 15.1% were severely stunted<sup>11</sup>. Supportive findings are also reported by Saravanan (2013), who conducted an epidemiological study of malnutrition among under five children<sup>12</sup>. In this study the prevalence of malnutrition as per the weight for height index is more in the children of age group of 13-24 (28.68%) and 49-60 moths (24.28%). Study conducted by Kumaramma (2013) tallies with the present study finding where the 44% of children less than 2 years of age were malnourished, 23%, 16%, 4% belonged to grade I, grade II and grade III malnutrition respectively<sup>13</sup>.

The present study findings did not show any significant association between severity of PEM and sociodemographic variables such as age, gender, education and occupation of parents, monthly income, number of children, birth order and type of family at 5% level of significance. Study conducted by Saravanan (2013), differs from the finding of the present study where female gender and poor socioeconomic status were significant risk factors for assurance of malnutrition in underfive children<sup>12</sup>. The present study findings reveals an independent association between severity of PEM and child variables such as number of children, birth order of the child, immunization, history of communicable disease and type of diet. This contradicts the finding of Kanani which reported that there is significant

association between protein energy malnutrition and child variables like birth order, birth spacing, diet and immunization<sup>14</sup>.

### CONCLUSION

Keeping in mind the results obtained in this study the investigator concludes that the prevalence of protein energy malnutrition was high among under five children of the area studied. Multi pronged approach like maternal and child health care, nutritional education, growth monitoring etc will be beneficial to combat the problem of malnutrition among young children.

**Acknowledgement :** Author is thankful to the teachers and helpers of the selected anganwadies, the children and their mothers who have participated in the study willingly.

**Ethical Approval:** This research approved by ethical committee of Nitte University Mangalore. Ethical consideration had obtained by taking written permission from the authority of the hospital and informed consent was obtained from the study samples for participating in the research.

**Conflict of Interest :** None

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# A Study to Assess the Knowledge on the Supplementary Feeding among Mothers with Children age 6-24 Months in Selected Rural Community at Mullana, Ambala

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## ABSTRACT

An evaluative study was conducted to assess the knowledge of mothers on supplementary feeding who was having children aged 6-24 months in a selected rural community area at Ambala and also to determine the association between pre test knowledge and baseline characteristics of mothers who were having children aged 6-24 months.

**Methods:** An evaluative approach was used for the study. The research design was descriptive. The sample comprised of 40 mothers who had children aged 6-24 months. The area was selected by convenience sampling whereas subject was selected by purposive sampling technique. The data collection was carried out from 13 May, 2010 to 21 May, 2010 under Primary Health Centre Mullana, Ambala to conduct the study and informed consent was obtained from participants prior to the collection process. Data was collected by administering the semi-structured interview schedule

**Results:** The results of this study revealed that a majority of the respondents had poor level of knowledge (32.5%), (37.5%) had average, (15%) had good and (15%) had excellent knowledge on supplementary feeding. The mean knowledge score of mothers was 15.9. The knowledge score of the subjects on supplementary feeding was in range of 6-26. The mean  $\pm$ S.D. of the knowledge score was 15.9  $\pm$ 3.48, and median was 16. It was concluded that the knowledge of mothers regarding supplementary feeding had association with the baseline characteristics namely occupation of husband.

**Conclusion:** The findings of the study support the need for conducting health education, counseling and mass awareness program on supplementary feeding to the public. Study proved that the mothers had poor knowledge of supplementary feeding and there was an association between knowledge score and baseline characteristics.

**Keywords:** Knowledge, Supplementary feeding, mothers with children age 6-24 months.

## INTRODUCTION OR BACK GROUND

Good nutrition is important at any time of development, but it is especially critical in infancy because the baby's brain and body are growing so rapidly<sup>1</sup>. This is because 25% of infant's total calories intake is devoted to growth and extra calories are needed to keep rapidly developing organs of body functioning properly<sup>1, 8</sup>. It is a difficult period in the infant's life, because if the food supplements or substitutes are not adequate in quantity and quality, growth can be permanently stunted and

child becomes malnourished<sup>2</sup>. Unhygienic feeding practices may result in enteric infections and diarrhea, further compromising the nutritional state<sup>3</sup>. A normal healthy baby requires 170 ml of milk per kg of body weight till 6 months of age to get 120 kcal/ kg of body weight<sup>4</sup>. During this period mother can secrete 450 – 600ml of milk to meet the demands, so for the first 6 months breast feed alone is sufficient for baby's requirements for normal growth and development<sup>5</sup>. UNICEF recommends for supplementary feeding at about 6 months whereas delayed introduction of supplementary food is known to cause malnutrition,

Protein Energy Malnutrition, Premature introduction of such foods exposes to the risk of infections and the resultant morbidity and mortality<sup>7</sup>.

Hence, mother should have knowledge about supplementary feeding, parenting, immunization and also be able to recognize the signs of malnutrition of infants. They must be aware of the normal growth and development of infants and nutritional requirement of them at each stage.

## MATERIAL & METHODS

“A Study to assess the knowledge on the supplementary feeding among mothers with children age 6-24 months in selected rural community at Ambala.”

### OBJECTIVES

1. To assess the knowledge on supplementary feeding among mothers with the children age 6 – 24 months.

2. To determine the association between the knowledge scores and baseline characteristics on supplementary feeding among mothers with the children age 6 month.

An evaluative research approach was selected to achieve the objectives. The descriptive research design was adopted for the study. Purposive sampling technique is used to select the sample. Forty mothers having children 6-24 months of age were taken under Primary Health Centre, Mullana. The tool used in this study is a baseline characteristics and semi-structured interview schedule. Base line a characteristic was consists of 8 Items. It included age, religion, type of family, educational status, educational status of husband, occupation of wife, occupation of husband & no. of Children. Semi-structured Interview Schedule was consisted of 28 items. Based on the suggestion given by the validators necessary modification were done. The reliability was 0.8 which was significant. Hence, the tool was found reliable. The interview was conducted using semi- structured interview schedule. The average time taken was 30 minutes.

### FINDINGS

The data collected from the subjects have been organized and presented under the following

headings:

I. Baseline characteristics.

II. Knowledge of mothers.

III. Association knowledge score of mothers with selected baseline characteristics

#### Section: I Baseline characteristics:

**Table 1: Frequency and percentage distribution of sample characteristics**

S. No.	Demographic Variables	Freq-ueency	%
1)	<b>Age (in years)</b>		
	a) 18-25	20	50
	b) 25- 30	18	45
	c) 30- 35	2	5
	d) more than 35	0	-
2)	<b>Religion</b>		
	a) Hindu	40	100
	b) Muslim	0	-
	c) Christian	0	-
	d) Sikh	0	-
3)	<b>Type of family</b>		
	a) Nuclear	10	25
	b) Joint	30	75
	c) Extended	0	-
4)	<b>Educational status of wife</b>		
	a) Illiterate	1	2.5
	b) Primary	6	15
	c) Secondary	15	37.5
	d) Graduate and above	18	45
5)	<b>Educational status of husband</b>		
	a) Illiterate	1	2.5
	b) Primary	6	15
	c) Secondary	22	55
	d) Graduate and above	11	27.5
6)	<b>Occupation of wife</b>		
	a) Employed	2	5
	b) Unemployed	38	95
7)	<b>Occupation of husband</b>		
	a) Govt. job	4	10
	b) Unemployed	6	15
	c) Private job	30	75
8)	<b>Numbers of children</b>		
	a) 1	22	55
	b) 2	14	35
	c) 3 or more	04	10

The data showing that majority of the respondents were in the age of group of 18-25 years (50%) followed by the 25-30 years (45%) and 30-35 years (5%). Most of subjects (75%) belonged to joint family, 25% belonged to nuclear family. Below than half of the respondents (45%) had completed graduation, (37.5%) had completed secondary education, (15%) had primary

education and (2.5%) were illiterates. More than the half of the subject's husband (55%) had completed their secondary education, (27.5%) are graduate or above, (15%) had completed their primary education and (2%) are illiterate. Majority of subjects (95%) were unemployed and (5%) had skilled job. Most of the subject's husband were having private job (85%), were govt. job (10%) and were unemployed (15%).

Nearly half of the subjects (55%) were having 1 child, (35%) were having 2 children, and only (10%) were having 3 or more than 3 children. All subjects were Hindus.

**Section- II: knowledge score of mothers on supplementary feeding.**

Data regarding knowledge score has been presented using frequency and percentage in table 2.

**Table - 2: Frequency and percentage distribution of mothers according to their knowledge scores. N=40**

Knowledge Score	Mothers	
	Frequency	Percentage
0-10	13	32.5%
11-20	15	37.5%
21-30	06	15%
31-40	06	15%

Maximum score = 28

The data presented in table 2 reveals that 13 respondents out of 40 had scored between 0-10, 15 respondents scored between 11-20, 6 respondents scored 21-30 and 6 respondents had scored between 31-40.

**Table - 3 : Frequency and percentage distribution of subjects according to their knowledge score on supplementary feeding. N=40**

Grading Of Knowledge Score	Pre-test Knowledge Score	
	Frequency	Percentage
Poor	13	32.5%
Average	15	37.5%
Good	06	15%
Excellent	06	15%

The data presented in the table 3 depicts that majority of the respondents had poor level of knowledge (32.5%), (37.5%) had average, (15%) had good, (15%) had excellent knowledge on supplementary feeding.

**Table - 4 : Range, mean, median, standard deviation of knowledge score of mothers. N=40**

Knowledge	Range	Mean	Median	S.D.
Pretest	6-26	15.9	16	3.8

Maximum score= 28

The data presented in the table 4 shows that the knowledge score of the subjects on supplementary feeding was in range of 6-26. The mean  $\pm$ S.D. of the knowledge score was 15.9  $\pm$ 3.48, and median was 16.

**Section III: Association between knowledge score of mothers with baseline characteristics.**

The median of the knowledge score was calculated and was found 16. The number of the respondents who were above and below the median were identified and grouped according to their baseline characteristics like age, religion, type of the family, educational status of wife, educational status of husband, occupation of wife, occupation of husband and number of children. To find the association between the knowledge score and baseline characteristics, the following null hypothesis was formulated:

$H_{01}$ : There will be significant association between knowledge score of mothers with selected baseline characteristics like occupation of husband at .05 level of significance.

**Table -5: Chi-square test showing association between pre-test knowledge score and baseline characteristics of the subject N=40**

Variable	≤Median	>Median	df	X <sup>2</sup>
<b>1. Age(in years)</b>				
a) 18-30	18	19		
b) 30 or more	01	2	1	0.26
<b>2. Type of family</b>				
a) Nuclear	2	7		
b) Joint	17	14	1	2.9
<b>3. Educational status of wife</b>				
a) illiterate	1	0		
b) primary, secondary & graduate	18	21	1	1.13
<b>4. Education status of husband</b>				
a) Illiterate	0	1		
b) Primary, secondary & graduate	19	20	1	0.92
<b>5. Occupation of wife</b>				
a) Employed	2	0		
b) Unemployed	17	21	1	2.32
<b>6. Occupation of husband</b>				
a) Employed	19	17		
b) Unemployed	0	4	1	4.021
<b>7. Number of children</b>				
a) 1 or 2	16	20		
b) 2 or more	3	1	1	1.34

$$X^2_{(1)} = 3.841, P < 0.05$$

*\*significant*

The data presented in the above table 5 shows that association between the knowledge score of the mothers on supplementary feeding and selected baseline characteristics. The calculated chi-square values for the selected variable was more than the table value. Hence, it was concluded that the knowledge of mothers regarding supplementary feeding had association with the baseline characteristics namely occupation of husband.

### CONCLUSION

The results indicated that half of the participants were in the age group of 18- 25 years and most of 37.5% and 32.5% had only poor or average knowledge about the matter. This also shows that there may be a risk of malnourishment in their children. The result of this study revealed that mothers in general, lack of knowledge on supplementary feeding. The mean knowledge score of mothers was 15.9.

The findings of the study support the need for conducting health education, counseling and mass awareness programme on supplementary feeding to the public. Study proved that the mothers had poor knowledge on supplementary feeding before the administering of Planned Teaching Programme and their knowledge improved to a remarkable extent after giving.

**Conflict of Interest** – Nil

**Source of Funding**- Self financed

**Ethical Clearance** – For the study Ethical permission was taken from the college committee, concerned village primary health centre. Informed consent was taken from mother participant.

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# Comparison of Patient Safety Measures Related to I.V Infusion and I.V Injection Adopted by Staff Nurses of a Government and a Private Hospital of Delhi

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## ABSTRACT

**Objectives:** The objectives of the study were to: to assess the patient safety measures related to I.V infusion and I.V injection adopted by staff nurses in selected units of a Government and a Private Hospital, to compare the patient safety measures and to find the association between patient safety measures related to I.V infusion and I.V injection adopted by staff nurses and selected demographic variables, to assess and compare the general safety measures present in the selected units of a government and a private hospital of Delhi and to develop and disseminate guidelines on patient safety measures.

**Method:** Quantitative Research with descriptive comparative research design was used. Tools used for data collection comprised of structured observation checklist to assess patient safety measures related to I.V Infusion and I.V Injection and structured observation checklist to assess general safety measures. Convenient sampling was adopted to select 100 staff nurses, 50 from each hospital and 12 units, 6 medical surgical units from each hospital. The study was conducted at a selected government hospital and a private hospital in Delhi.

**Results:** Data was analyzed using Descriptive and Inferential statistics. The findings showed that there was a significant difference in the patient safety measures related to I.V Infusion and I.V Injection adopted by staff nurses in the government and private hospital. Patient safety measures were better in the private hospital than the government hospital. Findings also revealed that general safety measures were better in the private hospital than the government hospital.

**Conclusion:** The study concluded that staff nurses in the private hospital adopted better patient safety measures related to I.V Infusion and I.V Injection than those in government hospital. General safety measures were better in the private hospital than the government hospital.

**Keywords:** Patient safety measures, I.V Injection, I.V Infusion.

## INTRODUCTION

Patient safety has become both a national and international imperative in recent years, with increased emphasis across the world on patient safety in policy reform, legislative changes and development of standards of care driven by quality improvement initiatives. Studies of adverse events in numerous countries around the world demonstrate that between 4% and 16% of patients admitted to hospital experience one or more adverse events, of which up to half are preventable<sup>1</sup>. Safety is a condition

or state of being resulting from the modification of human behaviour and/or designing of the physical environment to reduce hazards, thereby reducing the chance of accidents<sup>2</sup>.

With the advancement of medical technology and rising community aspiration for quality services, there is growing public expectation for health care institutions to provide error free and safety services. The objective is to ensure that the premises, the systems of work and practices are safe. There is also greater awareness of danger and preparedness to deal

with emergencies through identification, analysis, assessment, minimization and monitoring of risk.<sup>3</sup>

Nurses constitute the largest workforce of professionals working in any health care setting.

Their presence in the health care system plays a vital role and helps in the speedy recovery of

the patients from their illnesses. Medication errors can threaten patient outcomes and are a dimension of patient safety directly linked to nursing care. It is an integral part of the nurse's role; therefore the nurses must adapt the principles and techniques of Intravenous (I.V) medication administration to ensure patient safety.

### OBJECTIVES

- To assess the patient safety measures related to I.V infusion and I.V injection adopted by staff nurses in selected units of a Government and a Private Hospital.
- To compare the patient safety measures related to I.V infusion and I.V injection adopted by staff nurses in selected units of a Government and a Private Hospital.
- To find the relationship between patient safety measures related to I.V infusion and I.V injection adopted by staff nurses and selected demographic variables.
- To assess and compare the general safety measures present in the selected units of a government and a private hospital of Delhi.
- To develop and disseminate guidelines on patient safety measures.

### METHODOLOGY

**Research Approach and Design-** A quantitative research approach was adopted. The research design selected for the study was comparative descriptive research design.

**Population-** In the present study, population comprised of staff nurses, who were working in a the general medical and surgical wards of a selected government and a private hospital.

**Sample and sampling:** In the present study total staff nurses were 100; 50 each from government and private hospital and 12 units; 6 units each from government and private hospital.

The sampling technique adopted in the present study was convenience sampling technique.

### Inclusion Criteria

For Nurses

- Staff nurses willing to participate and available during the study.

For units

- General medical and surgical units of government and private hospital.

Data collection Tools and Techniques:

Based on the conceptual framework and objectives of the study, following tools were

developed to generate the data:

- Structured Observation Checklist for the assessment of the patient safety measures related to I.V Infusion and I.V Injection adopted by staff nurses.
- Structured Observation Checklist to assess General Safety Measures present in the Selected Units.

### Description of Tools

**Tool 1: (Structured Observation Checklist to assess Patient Safety Measures related to I.V Infusion and I.V Injection)**

The tool was divided into 3 sections.

Part 1: It consisted of items related to demographic data.

Part 2: It consisted of 29 items related to I.V Infusion.

Part 3: It consisted of 29 items related to I.V Injection.

Scoring for Tool 1 (Structured Observation Checklist to assess Patient Safety Measures related to I.V Infusion and I.V Injection)

- Each item under part2 and part3 of structured observation checklist was scored as "1" if the steps were fully and correctly performed and "0" if the steps are not fully performed and incorrectly performed by the nurse. The possible range of score ranged from 0 - 58. The patient safety measures related to I.V Infusion and I.V Injection were categorized into four categories viz. Poor, Average, Good and Very Good.

Tool 2: (Structured Observation Checklist to

assess General Safety Measures present in the selected units)

- It consisted of 30 items related to general safety measures present in the unit.

Scoring for Tool 2 (Structured Observation Checklist to assess General Safety Measures present in the selected units)

- Each item in Tool 2 under Structured Observation Checklist was scored as "1" if the general safety measures are present and "0" if the general safety measures are not present. The possible

range of score ranged from 0-30. The general safety measures were categorized into four categories viz. Poor, Average, Good, Very Good.

**Content Validity:** In order to ensure the validity of the structured observation checklists, the tools were given to 11 experts from fields of Nursing, Medicine, Microbiology, Infection Control and Administration.

**Reliability of the Tool:** Reliability of the tools (structured observation checklists) were worked out by inter-rater reliability and were found to be 0.87 indicating high reliability of the tools.

## RESULTS

**Table 1: Frequency and Percentage of Staff Nurses working in the Government and the Private Hospital as per their demographic Characteristics  $n_1 + n_2 = 100$**

S. No	Sample Characteristics	Government Hospital		Private Hospital	
		$n_1=50$		$n_2=50$	
		Frequency	Percentage (%)	Frequency	Percentage (%)
<b>1</b>	<b>Age (In Years)</b>				
	20 -29	17	34	36	72
	30 – 39	26	52	13	26
	40 - and above	7	14	1	2
<b>2</b>	<b>Gender</b>				
	Female	44	88	45	90
	Male	6	12	5	10
<b>3</b>	<b>Professional Qualification</b>				
	DGNM	43	86	38	76
	Post Basic Nursing	3	6	0	-
	B. Sc Nursing	4	8	12	24
<b>4</b>	<b>Marital Status</b>				
	Single	11	22	28	56
	Married	39	78	22	44
<b>5</b>	<b>Work Experience (in years)</b>				
	0 – 4	9	18	30	60
	5 – 9	17	34	13	26
	10 – 14	13	26	6	12
	15 and above	11	22	1	2
<b>6</b>	<b>In-service Education</b>				
	Yes	38	76	21	42
	No	12	24	29	58
<b>7</b>	<b>Experience in ISO certified hospital</b>				
	Yes	32	64	26	52
	No	18	36	24	48

**Table 2: Mean, Median, Standard deviation, Mean Difference, Standard Error of Mean Difference and 't' Value for Significance of Mean Difference between Patient Safety Scores of Staff Nurses working in the Government and the Private Hospital  $n_1+n_2=100$**

Category	Group	Mean	Median	Standard Deviation (SD)	Mean Difference	SE <sub>MD</sub>	't'	p value
I.V infusion	Government Hospital $n_1=50$	17.10	17.00	3.55	0.70	0.60	1.18	0.24
	Private Hospital $n_2=50$	17.80	18.00	2.26				
I.V injection	Government Hospital $n_1=50$	17.52	18.00	2.46	1.40	0.45	3.14	0.00**
	Private Hospital $n_2=50$	18.92	19.00	1.97				
I.V infusion I.V injection (total)	Government Hospital $n_1=50$	34.62	35.00	5.54	2.10	0.95	2.21	0.02*
	Private Hospital $n_2=50$	36.72	36.00	3.78				

\*\* 't' value (98) = 2.62, p value < 0.01, significant at 0.01 level of significance

\* 't' value (98) = 1.98, , p value < 0.05, significant at 0.05 level of significance

Table 2 shows that patient safety measures related to I.V injection and I.V infusion adopted by staff nurses in the private hospital are better than the patient safety measures related to I.V injection and I.V infusion adopted by staff nurses in the government hospital.

**Table 3: Category wise frequency and Percentage distribution of Staff Nurses working in selected Units of the Government and Private Hospital as per Patient Safety Measures related to I.V Infusion and I.V. Injection adopted by them**

S. No	Category	$n_1 + n_2 = 100$			
		Government Hospital		Private Hospital	
		$n_1=50$		$n_2=50$	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1	Very good patient safety measures (> 80 %)	0	0	0	0
2	Good Patient Safety Measures (70%- 79 %)	6	12	9	18
3	Average Patient Safety Measures (60 % - 69%)	20	40	28	56
4	Poor Patient Safety Measures (< 60 %)	24	48	13	26

The data in Table 3 reveal that in the government hospital 24 (48%) staff nurses adopted poor patient safety measures related to I.V infusion and I.V injection followed by 20 (40%) staff nurses who adopted average patient safety measures and only 6 (12%) adopted good patient safety measures. In the private hospital, most of the staff nurses 28 (56%) adopted average patient safety measures followed by 13 (26%) staff nurses who adopted poor patient safety measures and only 9 (18%) of staff nurses adopted good patient safety measures related to I.V infusion and I.V injection.

**Table 4: Association between patient safety measures related to I.V infusion and I.V injection adopted by staff nurses in the government and private hospital and selected demographic variables viz. age, gender, professional education, work experience, in-service education, experience in ISO certified hospital.**

$n_1 + n_2 = 100$

Group	Category	Good Patient Safety Measures	Average Patient Safety Measures	Poor Patient Safety Measures	Test Used (Value)	p Value
Government and private hospital $n_1 + n_2 = 100$	<b>Age (In Years)</b>				Fisher exact (1.3)	0.09
	20 – 29	11	27	15		
	30 – 39	4	15	20		
	40 And above	0	6	2		
	<b>Gender</b>				Fisher exact (3.8)	0.42
	Female	15	42	32		
	Male	0	6	5		
	<b>Professional Qualification</b>				Fisher exact (7.4)	0.66
	DGNM	11	37	33		
	Post Basic	0	1	2		
	B. Sc Nursing	2	10	4		
	<b>Work Experience (In Years)</b>				Fisher exact (8.9)	0.28
	0 – 4	8	21	10		
	5 – 9	3	14	13		
	10 – 14	2	6	11		
	15 AND ABOVE	2	7	3		
	<b>In-Service Education</b>				Chi Square (3.5)	0.92
	Yes	8	29	22		
	No	7	19	15		
	<b>ISO Certified Hospital Experience</b>				Chi Square (3.0)	0.76
Yes	9	26	23			
No	6	22	14			

In the Table 4, shows that there was no significant association found between the patient safety measures related to I.V infusion and I.V injection adopted

by the staff nurses and the selected demographic variables viz. age, gender, professional educational, work experience, In-service education, experience in ISO certified hospital.

**Table 5: Mean, standard deviation, mean difference, standard error of mean difference, degree of freedom, and 't' value for significance of mean difference between general safety measures scores in the selected units of government and private hospital.**

$n_3+n_4=12$

Category	Government Hospital $n_3=6$		Private Hospital $n_4=6$		Mean Difference	SE <sub>MD</sub>	Degree of Freedom	't'	P Value
	Mean	S.D	Mean	S.D					
General Safety Measures	17.33	1.97	23.33	2.42	6.0	1.27	10	4.71	0.00*

\* 't' value(10) = 3.17,  $p < 0.01$ , significant at 0.01 level of significance.

Table 5 shows that the general safety measures present in the private hospital are much better than the general safety measures present in the government hospital. Unpaired 't' test was used to find the significance of difference of the means and was found to be significant at 0.01 level.

**Table 6: Category wise frequency and Percentage distribution of units in the Government and Private Hospitals as per general Safety Measures present in them**

$n_3 + n_4 = 12$

S. No	Category	Government Hospital		Private Hospital	
		$n_3=6$		$n_4=6$	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1	Very good general safety measures (> 80 %)	0	-	4	66.67
2	Good general Safety Measures (70% - 79 %)	1	16.66	1	16.67
3	Average general Safety Measures (60 % - 69 %)	1	16.66	1	16.66
4	Poor general Safety Measures (< 60 %)	4	66.67	0	-

The data in Table 6 reveal that in private hospital general safety measures were better than the government hospital.

## CONCLUSION

The conclusions drawn on the basis of study are given below:

- In the Government hospital, most of the staff nurses adopted poor patient safety measures.

- Staff nurses in the private hospital adopted better patient safety measures related to I.V infusion and I.V injection than the staff nurses in the government hospital.

- No significant association was found between the patient safety measures and selected demographic variables.

- In the government hospital, majority 4 (66.67%) units had poor general safety measures whereas in private hospital most of the units, 4 (66.67%) had very good general safety measures.

- There was statistical significant difference found in the general safety measures present in the selected units of a government and a private hospital.

## DISCUSSION

The present study was aimed to assess and compare the patient safety measures related to I.V infusion and I.V injection adopted by staff nurses in selected units of government and private hospital and general safety measures.

In a study conducted by Choudhary, Roy and et al,<sup>4</sup> they explored the I.V Injection safety practices in primary care hospitals (Government) in Bangladesh. They observed 120 health care providers while giving I.V injection. The findings of the study showed that immediate disposal of syringe was not done in 83.5% samples. The aspect of disposal of syringe was also observed in the present study and it was found that 18% of the staff nurses in the government hospital did not dispose the syringe immediately. Choudhary, Roy and et al,<sup>4</sup> also reported that none of the Injection provider washed their hands properly with antiseptic soap. These findings are consistent with the present study where hand-washing was performed only by 5% staff nurses in the government hospital. Paul Bobby, Roy Sima et al<sup>5</sup>, did a study on Safe Injection Practices of Nursing Personnel in a Tertiary Care Hospital of Kolkata, West Bengal, India and found that only 12.5% study subjects washed their hands with soap and water before administering injection. In a study done in Patiala only 20% of the samples studied followed correct hand washing technique<sup>6</sup>.

### Implications of the Study:

Every Staff nurse needs to ensure that they adopt safety measures for their patients under care. Staff nurses need to refine their skills in all the steps related to I.V Injection and I.V Infusion especially

hand washing. There needs to be periodic updating of knowledge and skills of every health professional related to patient safety measures working in various units. .

**Acknowledgement:** The author is thankful to all the staff nurses who participated in the study and the hospital administration for granting permission to conduct the study.

**Conflict of Interest:** None.

**Source of Funding:** This study was self financed as it was conducted as a part of partial fulfillment of the requirements for the degree of M.Sc. Nursing.

**Ethical Clearance:** Ethical permission was taken from Jamia Hamdard Institutional Review Board. The study was conducted keeping all the ethical issues in mind. Consent was taken from all the samples of the study. The information provided by the sample was kept strictly confidential and were used for the purpose of research only.

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# Level of Satisfaction of Care among Patients

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## ABSTRACT

Patient satisfaction is important to for quality assurance and measures health care agencies and providers outcome. The purpose of the study to analyse the level of satisfaction of care among patients. Fifty patients were selected by using non probability purposive sampling technique and interviewed by using a semi structured interview schedule. The findings of the study on level of satisfaction of care among patients shows that highest percentage (56%)were minimally satisfied, 34% of them were moderately satisfied and 10% were fully satisfied. There is no significant association was found between the level of satisfaction of care among patients and their demographic variables.

**Keywords:** *Patients, Care, Level of Satisfaction*

## PURPOSE OF THE STUDY

Health is a state of physical, mental, social and spiritual wellbeing and not merely the absence of disease or infirmity (WHO)<sup>1</sup>. Physicians, nurses and other team members should have good planning and intervention for patients for discharge and also for their satisfaction about care (Railey et al, 1996)<sup>4</sup>. Hall and Steven(1995)<sup>5</sup> has described that access to health care is not only to professional services but also access to the knowledge, skills, support, safety and resources that patients need to be healthy. Patients satisfaction regarding care in hospital is associated with the improvement of quality of care (Van Essen et al, 2002)<sup>2</sup>. Nursing is primarily concerned with an individual to cope with daily activities of living in such a way as to promote his optimal level of health or to cope with exigencies of terminal illness (Dugas,2004)<sup>3</sup>. Nair(2004)<sup>6</sup> conducted a study on consumer satisfaction in holy family hospital, Mumbai. The findings reveals that high satisfaction or delight creates an emotional bond with the hospital in the mind of the patient. Von Essen et al,(2002)<sup>6</sup>, has conducted a study on satisfaction with care associations with health related life and psychological functions among Swedish patients. It shows that patients were getting high satisfaction in doctor's technical skills.

## OBJECTIVES

- To assess the level of satisfaction of care among patients
- To explore relationship between level of satisfaction of care among patients and their selected demographic variables

## METHODOLOGY

Descriptive design with survey approach was used to conduct the study. 50 patients were selected by using non probability purposive sampling technique in a selected private hospital, Salem. Rating scale were used as tool to assess the level of satisfaction of care among patients. Data were collected with semi structured interview schedule among patients. Level of satisfaction was graded as fully satisfied, moderately satisfied, minimally satisfied and not satisfied.

## FINDINGS AND DISCUSSION

Major of the findings reveals that majority of the patients in the age group of 21 – 30 years (58%), males(56%), had school education (54%), belongs to joint family(56%), from urban area(52%), unemployed(40%), belongs to monthly income of Rs 1001 - 3000(70%) and not having previous exposure in hospitalization(62%).

Level of satisfaction of care among patients shows that highest percentage (56%) were minimally satisfied, 34% of them were moderately satisfied and 10% were fully satisfied (Fig No:1).

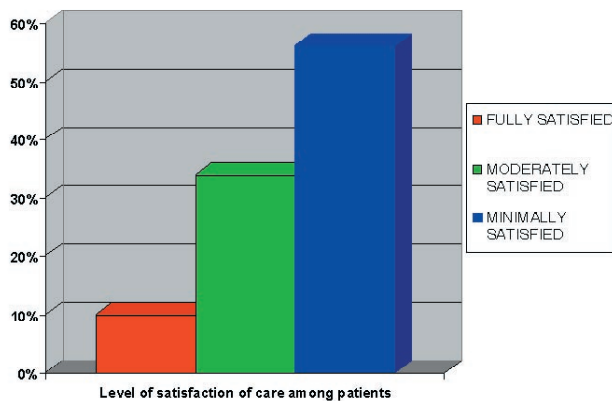


Fig No:1 Assessment of level of satisfaction of care among patients

There is no significant association was found between the level of satisfaction of care among patients and their demographic variables. Potter and Perry (2009) also recommended that patients are expecting to fulfill their basic needs where ever they are getting treatment.

## CONCLUSION

From the findings it can be concluded that level of satisfaction of care among patients shows that highest percentage (56%) were minimally satisfied, 34% of them were moderately satisfied and 10% were fully satisfied. There is no significant association was found between the level of satisfaction of care among patients and their demographic variables.

## RECOMMENDATIONS

Based on the following study the following recommendations have been made for further study,

- Similar study can be undertaken for large sample to generalize the findings
- Study can be conducted to assess the level of satisfaction of care among postoperative patients

- Interventional study can be undertaken to improve the level of satisfaction of care among patients

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**Ethical Clearance** - Taken from Research committee, setting authority and samples

**Source of Funding** - Self

**Conflict of Interest** - Nil

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# A Study to Assess the Knowledge of Rural Adults Regarding Selected Central Sponsored Schemes in Selected Rural Community at Mysore

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## ABSTRACT

**Background :** The Government of India is involved in a large number of programmes in sectors/area such as education, health, labour, skill development etc. that are in the State List through operation of Selected Selected Centrally sponsored schemes (CSS) and provision of Central Assistance to State Governments. The CSS are operationalized by Central Ministries based on scheme specific guidelines and are implemented by State Governments or their designated agencies. The CSSs are implemented to achieve social objectives like poverty reduction, improving health services, raising food production etc.

**Aim and objectives:** The aim of the study was to assess the knowledge regarding selected Selected Centrally sponsored schemes among rural adults.

**Methodology:** Descriptive survey approach was used. 60 rural adults between the age group of 18-45 years were selected using non probability convenient sampling technique. Data was collected by using structured knowledge questionnaire.

**Results:** study results revealed that majority of the rural adults 25(41.66%) had average knowledge, 21(35%) had good knowledge, 14(23.33%) had poor knowledge regarding central sponsored scheme.

**Keywords:** CSS, Knowledge, NRHM,

## INTRODUCTION

The main aim of the Central Sponsored Schemes are to provide accessible, affordable and quality health care to rural populations, especially vulnerable and underserved population groups in the Country. Some of the Selected Centrally sponsored schemes which are included in this study are NRHM, RCH, Total sanitation Camp, Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

The National Rural Health Mission (NRHM) is launched in April, 2005 (for seven years i.e. 2005 to March 2012) seeks to provide accessible, affordable and quality health care to the rural population, especially the vulnerable sections. The mission

proposes to facilitate increased access and utilization of quality health services. This has been carried out by increasing the spending on health and improving the health care services at the community level. The mission also addresses issues on sanitation and hygiene nutrition, safe drinking water, gender, social concerns, and inter-state as well inter-district disparities in health care provision.

Janani Suraksha Yojana (JSY) is a nationwide, Selected Centrally sponsored schemes being implemented with the objectives of reduction in infant and maternal mortality by improving coverage of institutional delivery among pregnant women. Under the scheme, cash assistance is provided to pregnant women for giving birth in a health facility.

Reproductive and Child Health programme is a comprehensive sector wide flagship programme, which is being implemented under Government of

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India's National Rural Health Mission (NRHM), to achieve the targets for reduction of maternal and infant mortality and total fertility rates.

Central Rural Sanitation Programme was launched in 1986 with the objective of accelerating sanitation coverage in rural areas. Globally, 2.4 billion people do not have access to adequate sanitation and most of them tend to be victims of poverty. In India, the severity of sanitation problem has a long history. So the Government of India endorsed priority to sanitation by stating that, "the elimination of abject poverty will not be attained to certain acceleration in the rate of growth of the economy alone, but improvements in drinking water and environmental sanitation have direct correlation with levels of living". Thus, providing public health facilities became part of poverty alleviation programme. This is, in fact an eye opener for the policies regarding sanitation services. The TSC (Total Sanitation Campaign), in addition to households, extends support for community Sanitary Complexes, which will have multiple facilities such as toilets, washing platform, bathing rooms, etc. The CRSP (Central Rural Sanitation Programme) initiation was a precursor to many such programmes in Karnataka such as Nirmal Grama Yojane (NGY, 1993), Integrated Rural Water Supply and Sanitation programme (IRWSS1993) and Swacha Grama Yojane (SGY 2000).

Mahatma Gandhi NREGA was launched in 200 selected districts on 2006 with the aims at enhancing livelihood security of households in rural areas of the country by providing at least one hundred days of guaranteed wage employment in a financial year to every household whose adult members volunteer to do unskilled manual work.<sup>12</sup> And it was extended to 130 additional districts during 2007-08. All the remaining rural areas in the country have been covered under the Act. Presently, Mahatma Gandhi NREGA is being implemented in all the notified rural areas of the country.

## OBJECTIVES

1 .To assess the knowledge regarding Selected Centrally sponsored schemes among rural adults.

2. To determine the association between the level of knowledge regarding Selected Centrally sponsored schemes among rural adults with their selected personal variables.

## HYPOTHESES

**H1**-There will be significant association between the level of knowledge regarding Selected Centrally sponsored schemes among rural adults with their selected personal variables viz: age, gender, qualification, occupation, previous exposure to mass media regarding Selected Centrally sponsored schemes.

## METHODOLOGY

The research design adopted for the study was descriptive survey approach. 60 rural adults between the age group of 18-45 years were selected using non probability convenient sampling technique. Data was collected by using structured knowledge questionnaire.

## FINDINGS

**Table 1 : Frequency and percentage distribution of subjects according to their selected personal variables. n = 60**

Sl. No.	Sample characteristics	Freq- uency	%tage
1	Age in years		
	18-25	24	40%
	26-33	11	18.33%
	34-41	19	31.66%
	42 and above	6	10%
2	<b>Gender</b>		
	Male	28	46.60%
	Female	32	53.33%
3	<b>Educational qualification</b>		
	Illiterate	11	18.33%
	Lower primary school	24	40%
	Upper primary school	13	21.66%
	High school	6	10%
	Degree	2	3.33%
4	<b>Occupation</b>		
	Agriculture	19	31.66%
	Business	23	38.33%
	Cooli	15	25%
	House wife	3	5%
5	<b>Previous exposure to mass media regarding CSS(Selected Centrally sponsored schemes)</b>		
	Yes	37	61.66%
	No	23	38.33%

**TABLE 2: Frequency and Percentage distribution of Rural adults according to their level of knowledge.**

n = 60

Knowledge scores	Frequency	Percentage (%)
Good knowledge	21	35
Average knowledge	25	41.66
Poor knowledge	14	23.33

**TABLE 3: Mean, median and standard deviation of knowledge scores of rural adults regarding central sponsored scheme. n=60**

Knowledge Score	Mean	Meadian	Standard deviation
	13.58	14	3.42

### CONCLUSION

The current study findings revealed that majority of the rural adults had average knowledge. Effective implementation of CSS demands participation by users and beneficiaries in fine tuning scheme guidelines to local situations and requirements. Special interventions should be undertaken on a priority basis to bridge the gaps so as to achieve millennium development goals in all population groups

### RECOMMENDATIONS

1. A large scale study can be conducted to generalize the findings.
2. A study can be conducted to explore the factors influencing the knowledge of rural adults regarding CSS.
3. An experimental can be conducted to determine the utilization of CSS by rural adults.
4. Study can be conducted to compare rural and urban population.

**Conflict of Interest:** The author declares that there is no conflict of interest

**Source of Funding:** Self

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**Ethical Clearance:** Obtained ethical clearance from ethical committee of our institution.

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# A Comparative Analysis of Academic Performance of Diploma Nursing Students of Public, Private and Faith based Schools in Tanzania

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## ABSTRACT

As the current nursing practice increases concerns about students' academic performance, there had been high rate of failure among diploma nursing students in their final examinations in Tanzania. This study aimed to make comparative analysis of academic performance of diploma nursing students of public, private and faith based schools. An ex-post facto research design was used in which 116 students were randomly selected from 1154 pre-service diploma nursing students, who sat for their final examination in July, 2013. A developed checklist form was used as research instrument and data gathered were analyzed by using Statistical Package for Social Sciences 21 version (SPSS) computer software. The findings revealed a significant difference in entry qualifications among students from public, private and faith based nursing schools ( $\rho = 0.000$ ). A significant positive relationship between students' entry qualifications and academic performance in nursing schools was found ( $r = 0.212$ ,  $p = 0.022$ ). No significant difference in academic performance of students from public, private and faith based owned nursing schools was also found ( $\rho = 0.059$ ).

**Keywords:** *Comparative analysis, academic performance, pre-service diploma nursing students, nature of school ownerships*

## INTRODUCTION

All nursing education programs aim to provide unique professional education essential for competent practice promoting caring attitudes and behaviors in the nursing profession<sup>1</sup> and therefore, nursing schools are obliged to produce well educated, knowledgeable, and skilled nurses who can make reasoned and informed patient oriented decisions in a variety of health care delivery setting<sup>2</sup>. Measurement of students' academic performance itself is an effective way to assure that graduates meet the required competencies<sup>3</sup>. Grade point average (GPA), cumulative average point (CGPA) and results of each subject<sup>4, 5, 6</sup> are used in measuring students' academic performance. However, Overtime there has been serious discussion in this era of public-private partnership both in educational sciences, sociology and economics not only in developed countries but also in developing countries about the quality of applicants, graduate and tutor in public, private

and faith based owned institutions<sup>7</sup>. Likewise in Tanzania, has been a serious discussion among tutors, administrators and students in public nursing schools as well as in private and faith based nursing schools<sup>8</sup>.

Previous studies account self-motivation, age of student, learning preferences<sup>9</sup>, class attendance<sup>10</sup>, students' effort and previous schooling<sup>11</sup>, parents' education, family income<sup>13</sup>, and entry qualifications as factors that have a significant influence on the students' academic performance in various settings. For the sake of this study, only students' entry qualifications, nature of school ownerships and tutors' educational qualifications were reviewed.

## STATEMENT OF THE PROBLEM

As the current nursing practice increases concerns about nursing students' academic performance and public-private partnership, there had been high rates of failure among diploma nursing students in their

final examinations in Tanzania. The high failure rate raises doubts on the professional competence of the graduate in providing nursing care. Therefore, this study aimed at performing comparative analysis of academic performance of diploma nursing students to determine the influence of entry qualifications, tutors' educational qualifications and nature of school ownerships in Tanzania.

### PURPOSE OF THE STUDY

The main purpose of this study was to do comparative analysis of academic performance of diploma nursing students of public, private and faith based schools to determine the influence of entry qualifications, tutors' educational qualifications and nature of school ownerships in Tanzania.

### OBJECTIVES OF THE STUDY

- Compare entry qualifications of diploma students from nursing schools based on their nature of ownerships in Tanzania.
- Determine relationship between entry qualifications and academic performance of diploma students from nursing schools in Tanzania.
- Compare academic performance of diploma students from nursing schools based on their nature of ownerships.
- Determine relationship between tutors' educational qualifications and students' performance in modules they taught.

### MATERIAL & METHODS

**Research Design:** An ex-post facto research design was used to compare students' entry qualifications, tutors' educational qualifications and academic performance of diploma nursing students from public, private and faith based schools.

#### Target Population

1154 pre-service nursing students (183, 51 and 919 from Public, Private and Faith Based owned schools respectively) who sat for their final examination in July, 2013 in Tanzania<sup>15</sup> was the target population of this study.

#### Sampling Procedure and Sample Size

As recommended by Birchall and Kothari<sup>14</sup>,

10% (116) of the total target population was used as the sample size. Stratified sampling technique and systematic sampling techniques were used to group the target population into three groups or strata based on their nature of ownership and to obtain students from each stratum for the study sample respectively. A total of 20 (15.9%) students was gathered from public, 5 (4.4%) from private and 91(79.7%) from faith based owned nursing schools.

#### Data Collection Instrument

A developed checklist form was used to collect secondary data which were available in the records (database) of the MoHSW training department.

#### Method of Data Collection

Extraction of secondary data from the database by administering checklist form to the head of training department for nurses and midwives at the Ministry of Health and Social Welfare was used.

#### Operational definition of variables

**Academic performance;** refers to a performance of a candidate in each module examined and overall performance in the final examination as measured in terms of grades and overall GPA respectively.

**Entry qualification;** refers to a prerequisite that qualify a student for admission into diploma nursing program as measured through computing entry grade point from three subjects such as Biology, Chemistry and Physics/Mathematics performed by the student/applicant in CSEE conducted NECTA.

**Nature of school ownership;** refers to a type of school ownership in which the student was admitted to pursue diploma nursing program. This can be Public, Private or Faith Based owned nursing school.

**Tutor's educational qualification;** refers to the highest professional certificate achieved by the nurse tutor from a respective institution/university attended in a specified period of time at a time of data collection. This can be diploma, advanced diploma, bachelor, master or PhD in nursing profession

#### Method of Data Analysis

A computerized data analysis software package known as Statistical Package for Social Science (SPSS) 21 version was used in data analysis. Descriptive statistics and inferential statistics were applied.

**Ethical consideration**

The study started upon approval from Kenya Methodist University and Catholic University of Health and Allied Sciences Research Ethics Committees followed by permission to collect data granted by the permanent secretary of the MoHSW.

**FINDINGS OF THE STUDY**

All checklist forms administered (9) during data collection were correctly filled and returned. This gave a response rate of 100%. Majority of students' records accessed and recorded in the checklist forms were for female students (69.8%).

**Students' entry qualifications**

Mean entry grade point for students from public nursing schools was higher than those of private and faith based nursing schools as summarized in Figure 1.

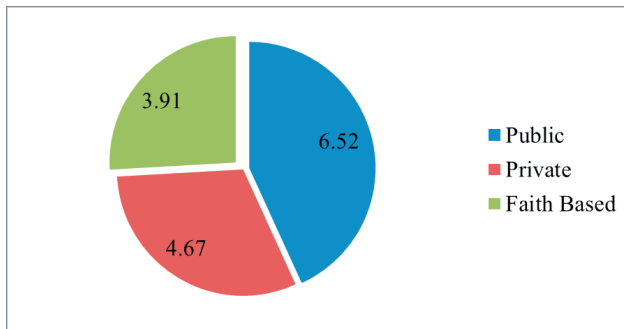


Figure 1: Mean entry grade points of diploma nursing students

**Academic performance**

Majority of students from almost all nature of school ownerships were awarded with lower second class followed by pass class both in public, private and faith based owned schools as summarized in Figure 1.

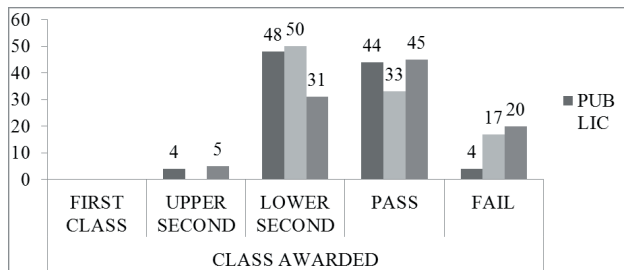


Figure 2: Frequency of students' performance

Moreover, the mean overall GPA for students from public owned schools was higher than that of students from private and faith based schools as summarized in Table 3.

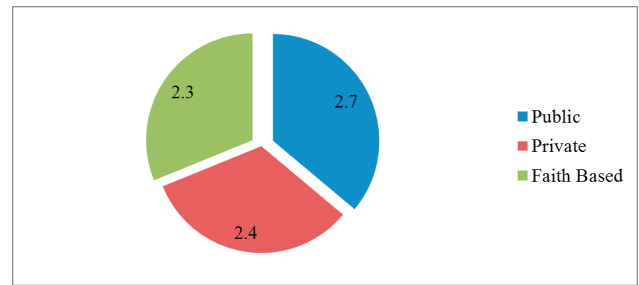


Figure 3: Students' mean overall GPA based on the nature of school ownerships

**Tutors' educational qualifications**

As summarized in the Table 4, the findings showed that almost in all modules taught, the leading population of tutors based on their educational qualifications is the group of tutors with advanced diploma (200) followed by those with bachelor (182), master/ PhD (51) and finally with diploma (31).

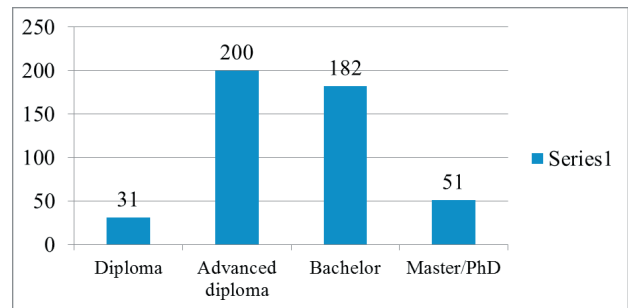


Figure 4: Frequency of tutors based on their educational qualifications

**Inferential statistics**

**Entry qualifications and nature of school ownerships**

It revealed a significant difference in entry qualifications of students in nursing schools based on their nature of ownerships at  $\alpha = 0.05$  ( $F = 11.066$  and  $q = 0.000$ ).

Table 1: One-Way ANOVA for comparing students' entry qualifications and nature of school ownerships

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	132.171	2	66.085	11.066	.000
Within Groups	674.820	113	5.972		
Total	806.991	115			



Post Hoc Analysis was also performed. It revealed a significant difference in mean entry qualifications only between students from public and faith based diploma nursing schools at  $\alpha = 0.05$  ( $q = 0.000$ ) as summarized in Table 6.

**Table 2: Post Hoc Analysis for comparing students' entry qualifications and nature of school ownerships**

(I) Nature of School Ownership	(J) Nature of School Ownership	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Public	Private	1.853	1.111	.098	-.35	4.05
	Faith Based	2.614*	.556	.000	1.51	3.72
Private	Public	-1.853	1.111	.098	-4.05	.35
	Faith Based	.761	1.032	.463	-1.28	2.81
Faith Based	Public	-2.614*	.556	.000	-3.72	-1.51
	Private	-.761	1.032	.463	-2.81	1.28

\*. The mean difference is significant at the 0.05 level.

Students' entry qualifications and academic performance

Bivariate correlation analysis revealed a significant positive relationship between students' entry qualifications and academic performance at  $\alpha = 0.05$  ( $r = 0.212$ ,  $q = 0.022$ ) as it summarized in Table 7.

**Table 3: Bivariate correlation between entry qualifications and academic performance**

		Entry Qualification	Overall Academic Performance
Entry Qualification	Pearson Correlation	1	.212*
	Sig. (2-tailed)		.022
	N	116	116
Overall Academic Performance	Pearson Correlation	.212*	1
	Sig. (2-tailed)	.022	
	N	116	116

\*. Correlation is significant at the 0.05 level (2-tailed).

Nature of school ownerships and students' academic performance

One-way ANOVA revealed no significant difference in academic performance of students based of their nature of school ownerships at  $\alpha = 0.05$  ( $q = 0.059$ ) as summarized in Table 8.

**Table 4: One-way ANOVA for comparing nature of school ownerships and students' academic performance**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.621	2	1.311	2.894	.059
Within Groups	51.175	113	.453		
<b>Total</b>	<b>53.797</b>	<b>115</b>			

## Tutors' educational qualifications and students' academic performance

Bivariate correlation analysis revealed no significant relationship between tutors' educational qualifications and students' performance in all modules they taught as summarized in Table 9.

**Table 5: Correlation of tutors' educational qualifications and students' performance in modules they taught**

		Tutors' educational qualification	
		Pearson Correlation (r)	p-value
Performance in	NMT 06225	.143	.125
	NMT 06122	-.132	.159
	NMT 06227	-.030	.745
	NMT 06228	.154	.099

## DISCUSSION

### Entry qualifications and Nature of school ownerships

In general, this study indicated that public owned diploma nursing schools admit pre-service students with higher entry qualifications as compared to those admitted in private and faith based owned schools. It is in line with the findings of the study conducted in Europe by Romero and Del Rey and the study done at the University of Leicester by Oliveira that, due to government sponsorship and free tuition fees in public owned schools, give them chance to attract students with higher entry qualifications compared to those admitted in private and faith based schools<sup>15,16</sup>.

### Entry qualifications and academic performance

This study indicated that entry qualifications have significant positive relationship with academic performance in diploma nursing schools in Tanzania. It is in line with the findings of the study done in Kenya by Mutonga, in Uganda by Martha, Enugu state- Nigeria by Ogonnaya, Okpuruka, et al, and in Philippines by Oducado and Penuela that, there is a significant positive relationship between entry qualifications of students admitted in schools and their academic performance<sup>17, 18, 19, 20</sup>. However, it is contrary to the findings obtained by Alimi, Ehinola and Alabi in Ondo state-Nigeria found no relationship between entry qualifications of students with their prospective academic performance<sup>21</sup>.

### Academic performance and Nature of school ownerships

This study indicated that despite the Ministry of health to select only students with higher entry qualifications into public diploma nursing schools but there is no significant difference in academic performance with other students from private and faith based schools. It is in line with the findings of the study conducted in Ondo state-Nigeria by Alimi, Ehinola and Alabi who found a significant difference in resources but not in academic performance of students from public and private schools<sup>28</sup>. However, it is contrary to the findings of the study conducted in Katsina state-Nigeria by Olasehinde found that students from private schools outperform students from public schools in standardized examinations<sup>22</sup>.

### Academic performance and tutors' educational qualifications

It indicated that tutors' educational qualifications have no significant influence on academic performance of diploma nursing students on those modules they taught. It is in line with the finding of the study done in Kano state in Nigeria by Igwe as cited in the article of Abel and the study conducted in Punjab- Pakistan by Dahar, Dahar, Dahar and Faize found no significant relationship between tutors' educational qualifications and academic performance of students<sup>23,24</sup>. However, it is contrary to the findings of the study conducted in Owerri west-Nigeria by Unanma, Abugu, Dike and Umeobika which found a perfect positive relationship between tutors' educational qualifications and students' academic performance<sup>25</sup>.

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**Conflict-of-Interest Statement** : I declare that, I have no any conflict of interest throughout writing this work.

**Source of Funding:** The main source of fund for this work was CUHAS. This is my employer.

**Ethical Clearance:** This study gathered only secondary data from the training department database at the Ministry of Health and Social Welfare. Names of the selected files of students were not recorded anywhere instead codes which bear no link to the identification of the student were used for statistical purposes. As the study did not involve students direct, no risk for participation was anticipated. Furthermore, there was no direct benefit to the people who participated or involved in providing data for this study instead it was beneficial in creating awareness on comparison of academic performance and entry qualifications, nature of school ownerships and tutors' educational qualifications in diploma nursing schools in Tanzania.

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# Practice of Female Smoking among Older Females in Rural Areas of Uttarakhand

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## ABSTRACT

**Introduction:** Smoking is a leading risk factor for many types of diseases globally. Tobacco smoking by women is culturally unacceptable in India, but still women smoke tobacco at various stages of their life. The study was aimed to explore the current practices of smoking among older females in rural areas of Northern state of India. **Methods:** Quantitative non experimental approach with exploratory descriptive design was used to attain error free outcomes. Eighty (80 Nos.) older females were selected by Snowball sampling technique from selected rural areas. The Older females aged more than 55 years and who reside in the rural areas were only included in the study. Semi structured interview was conducted to explore the current practices of smoking among Older females. Self developed practice checklist was used during the data collection. Ethical committee permission from Swami Rama Himalayan University, Dehradun was obtained from the concerned authority and informed consent was taken from the study participants. **Results:** Most (81.23%) of the Older Females smoke daily and two-third (65%) smoke less than 10 times in a day. Half (50%) of the older females were inspired by their friends to smoke, 82.50% feel energetic after smoking, 52.50% smoke to get relief from stress, 80% like to smoke at home and majority (53.75%) like to smoke more in winter season as they feel energetic after smoking. **Conclusion:** Awareness of adverse effects is quite low needing proper intervention and education to decrease health complications for future generations.

**Keywords:** Older Females, Practice, Rural areas, Smoking.

## INTRODUCTION

According to the **World Health Report 2002**, among industrialized countries, where smoking is common, the habit is estimated to cause over 90% of lung cancer in men and about 70% of lung cancer among women. In addition, in these countries, the attributable fractions are 56%–80% for chronic respiratory disease and 22% for cardiovascular diseases<sup>[3]</sup>. Globally 20% of smokers are women and tobacco smoking cause 1.5 million deaths in women.

Among them, more than 75% live in low and middle-income countries.<sup>[1]</sup>

Information on prevalence of tobacco use in India is available from surveys carried out in general community. According to the national cross-sectional household survey, India has more than 200 million tobacco consumers. However, prevalence of smoking and tobacco chewing varies widely between different states, and has a strong association with individual's socio-cultural characteristics. A recent nationwide study on smoking and mortality in India estimated that smoking in persons between the ages of 30 and 69 years is responsible for about 1 in 20 deaths of women and 1 in 5 deaths of men, totality to 1 million deaths per year.<sup>[5]</sup>

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In India, smoking is more prevalent in men than in women and among older people. Whereas

men smoke throughout their lives, women tend to become smokers at an older age. [4] Different cultural, psychosocial and socioeconomic factors can be the reasons for tobacco use. Use of traditional tobacco products like bidi, khaini, chutki, betel quid used by women in India is poorly understood and studied. [1]

Furthermore, it is found that smoking is more prevalent among less-educated, poorer, rural, and lower-caste men, and among women in urban areas. A greater decline in smoking over time among more-educated women is documented. Health behaviors such as smoking and physical inactivity are risk factors for many chronic diseases and leading causes of death and disability. [4] Smoking also increases the incidence of clinical tuberculosis, a cause to half the tuberculosis death in India. [5]

The statistics on cigarette consumption do not reflect the widespread use of smokeless tobacco among rural women. In India, for example, 22% of rural women in Kerala chew tobacco in pan (betel leaf). Women also smoke bidi (small indigenous cigarettes) and hookahs, as in Bihar, parts of Punjab and Haryana. Rural women in Goa are known to rub and plug the inside of their mouths with burnt powdered tobacco. [2]

Hence, this study was designed to study the practice of smoking among older females.

## METHODOLOGY

A quantitative approach with exploratory descriptive design was carried out to study the practice of smoking. The universe of study population comprised of older females above 55 years of age who were selected by using snow ball method. Participants who were practicing smoking at present were included in the study. Eighty participants were recruited for the study after exclusions. The investigator used self developed checklist to study practice of smoking among older females. Ethical committee permission from Swami Rama Himalayan University, Dehradun was obtained from the concerned authority and informed consent was taken from the recruited participants. The data was analyzed by using descriptive and inferential statistics.

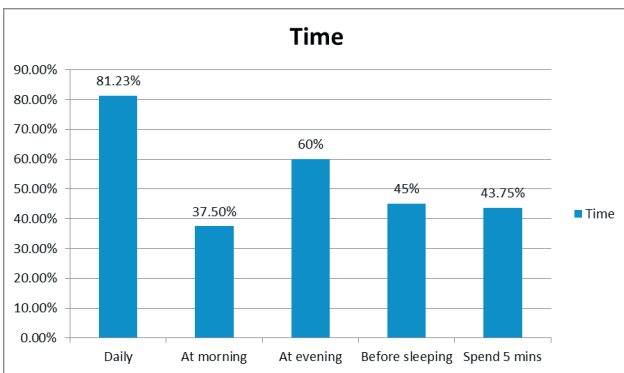
## RESULTS

**Table No. 1 Frequency and percentage wise distribution of socio demographic characteristics of participants.**

n = 80

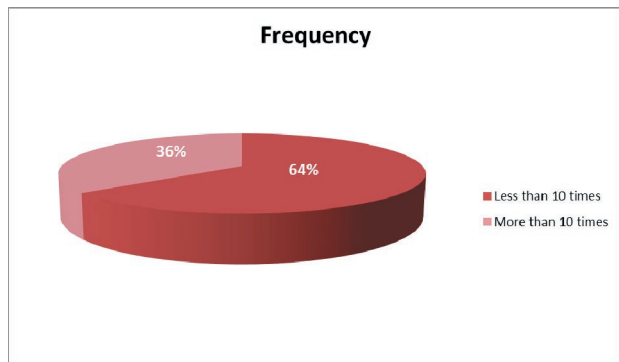
S. No.	Sample Characteristics		Frequency and percentage (f &%)
1.	<b>Type of Family</b>	Nuclear	19(23.8)
		Joint	43(53.7)
		Extended	18(22.5)
2	<b>Education</b>	<b>Illiterate</b>	74(92.5)
		Primary	5 (6.3)
		Secondary	1 (1.2)
		Graduation	0 (0)
3	<b>Marital Status</b>	<b>Married</b>	55(68.8)
		Unmarried	1 (1.2)
		Widow	24(30)
		Divorced	0 (0)
4	<b>Occupation</b>	Farmer	18(22.5)
		Housewife	39(48.8)
		Labor	22(27.5)
		Any other	1 (1.2)
5	<b>Type of Smoking</b>	<b>Bidi</b>	71 (88.8)
		Cigrate	0 (0)
		Hookah	1 (1.2)
		Bidi & Hookah	8 (10)
6	<b>Monthly Expenditure on Smoking</b>	<b>Rs 300</b>	41(51.3)
		< Rs 300	27(33.7)
		>Rs 300	12(15)

- Approximately half (53.7%) of the study participants belongs to the joint family.
- Maximum (92.5%) numbers of the study participants were illiterate.
- Two third (68.8%) of the study participants were married and (30%) were widows.
- 48.8% of the study participants were housewife and 27.5% were laborers.
- Majority (88.8%) of the study participants were using bidi for smoking.
- Approximately half (51.3%) of the study participants spend rupees 300 per month on smoking.



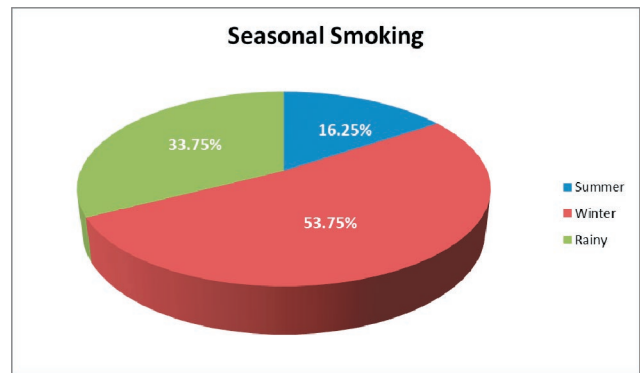
**Figure :1 Time and duration of smoking among older female.**

Most (81.23%) of the older females smokes daily, 60% prefers to smoke at evening, 45% smoke before sleeping, 43.75% spend almost 5 minutes to smoke at a time and approximately one-third (37.5%) of the older females prefers to smoke at morning.



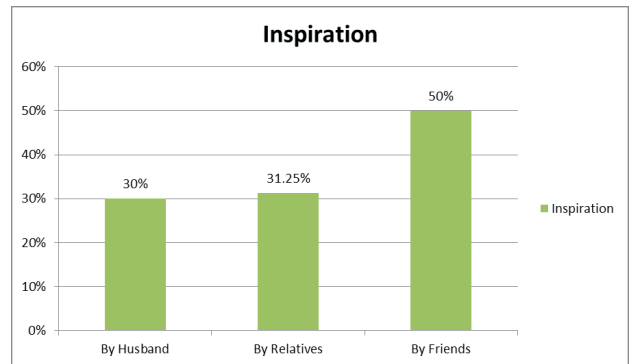
**Figure: 2 Frequency of smoking among older female**

Approximately two-third (64%) of the older females reported they smoke less than 10 times a day and remaining 36% smoke more than 10 times a day.



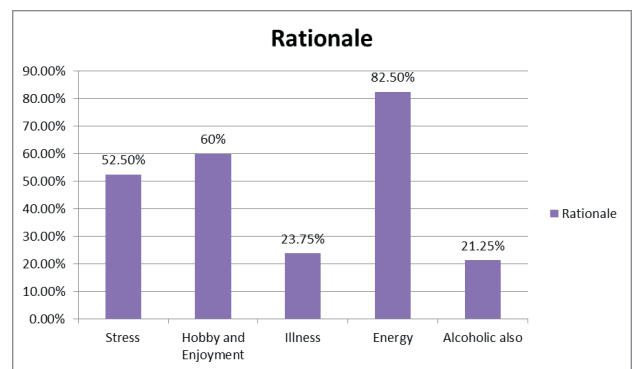
**Figure: 3 Season in which smoking is more among older female.**

Majority (53.75%) of the older females prefer to smoke in winter season followed by rainy season (33.75%) and very few (16.25%) older females prefer to smoke in summer.



**Figure: 4 Inspiration of smoking among older females.**

Every second (50%) older female reported that their smoking habits inspired from friends and every third older female was inspired by relatives (31.25%) or Husband (30%).



**Figure: 5 Reasons of smoking among older female.**

Most (82.50%) of the older females smoke to get energy, approximately two-third (60%) smoke as a hobby and enjoyment, half (52.50%) of the older females smoke for relief from stress and 23.75% older females smoke when they are ill. An important finding that has come is that 21.25% of the older females were also alcoholic.

**Table No: 2 Association between socio- demographic variables and practice of smoking among older females.**

Sr. No.	Demographic Variables	≤10	>10	P value	
1.	Type of Family	Nuclear	9(11.25)	10 (12.5)	0.0703
		Joint	33(41.25)	10 (12.5)	
		Extended	<b>13(16.25)</b>	<b>5 (6.25)</b>	
2	Education	Non formal	<b>51 (63.75)</b>	<b>23 (28.75)</b>	<b>0.618</b>
		Formal	<b>3 (3.75)</b>	<b>3 (3.75)</b>	
3	Marital Status	Married	<b>36 (45)</b>	<b>19 (23.75)</b>	<b>0.56</b>
		Widow	18 (22.5)	7 (8.750)	
4	Occupation	Farmer	8 (10)	10 (12.5)	0.0041
		Housewife	25 (31.25)	14 (17.5)	
		Labor	<b>21 (26.25)</b>	<b>2 (2.5)</b>	
5	Type of Smoking	Bidi	48 (60)	22 (27.5)	0.4861
		Hookah	1 (1.25)	1 (1.25)	
		Bidi & Hookah	<b>5 (6.25)</b>	<b>3 (3.75)</b>	
6	Monthly Expenditure on Smoking	Rs 300	27 (33.75)	14 (17.5)	0.6087
		< Rs 300	20 (25)	7 (8.75)	
		>Rs 300	<b>7 (8.75)</b>	<b>5 (6.25)</b>	

The table no.2 shows the proportion of the demographic variables with practice of smoking of older females. According to the distribution of the data the inferential statistics like Chi Square, Fisher's exact and Yate's correction was used to analyze the data. All the demographic variables like type of family, education, marital status, type of smoking and monthly expenditure on smoking were not significantly associated with the practice score, only 'type of occupation' statistically associated with practice score at the level of  $p < 0.05$ .

## DISCUSSION

A small sample size and unique composition of the study makes it difficult to compare the study with other available studies that have larger sample size and varying socio economic characteristics. Approximately two-third of the older females reported they smoke less than 10 times a day and remaining smoke more than 10 times a day. The study results were consistent with Abdullah Abu.s, stillman Frances A, yang Li, Zang Zhiyong, and Samet Jonathan M (2013-2014) that significant association that categorized smokers as light, moderate or heavy, with varying definitions, making comparison among

studies and one half of subject smoke more than 20 cigarette per day.<sup>[6]</sup>

Half of the older females like to smoke during winter season and remaining like to smoke during rainy season These findings correlated with Chan Zuying, Bailey Linda Godfrey, Schiff Isaac, and Hausor Russ(2004) that majority of females smoke during spring and winter season.<sup>[7]</sup>

Majority of older females like to smoke at home. These findings were supported by Trevor Woollery, Samira Asma, and Donald Sharp (2000) that majority of countries had some form of restriction on smoking in public place and work site. Smoking restriction may also alter the perceived norm related to smoking by changing attitude the social acceptability of smoking.<sup>[8]</sup>

Half of the older females were inspired by their friend which was associated with Abdulghani Hamza M, Alhaqwi Ali, Takroni Redwan, Ahmad Farah and Zahir Mohammed Ali(2013) findings that the majority (77%) of smoker's parents were also smokers. More than half (54%) of the smokers started their smoking habit from friends for entertainment, and 44.4% of the participants did know that smoking



causes serious health problems.<sup>[9]</sup>

Maximum of the study participants feel energetic after smoking. These findings were correlated with Jane Murray Cramm, and Lee Jinkook(2014) that larger population of older female in poor health were smokers and physically inactive.<sup>[10]</sup>

This study was limited with few points. First, investigator has to rely on the information taken from the older females. Second, investigator does not have any control on other factors like relationship between family members and psychosocial status of older females. Third, as the study's sample size was small the scope of the generalization of findings will be questionable.

### CONCLUSION

The current study highlights about the practice of smoking in older females. Majority of the older females were inspired by their friends, smoke less than 10 times a day mainly to get relief from stress and like to smoke more in winter season as they feel energetic after smoking. Awareness of adverse effects is very poor needing intervention and education to decrease health complications in future.

**Acknowledgment:** No

**Conflict of Interest:** No

**Source of Funding:** Self

**Ethical Clearance:** Ethical committee permission was obtained from the SRHU Ethical committee before starting the study.

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# Untold Aspects of Accountability in Curriculum: Social Accountability from the Experiences of Providers and Receivers in the Health System

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## ABSTRACT

**Introduction:** Social accountability is among important and updated issues in the scientific community and medical education. Since Iran has undergone different changes in the way of medical education, it is important to address this issue from different aspects and evaluate its challenges.

**Methods:** This study is a qualitative study with a phenomenological approach that has been carried out through 23 individual interviews and working on 5 groups focusing on students, faculty, patients, and their companions at the University of Medical Science of Jahrom. Sampling was performed in a purpose-oriented fashion and by using a triangulation method with the aim of gathering information from different groups ( different levels of students, professors of various groups, patients of different units and their companions) with a maximum variation and it continued until saturation. The content analysis method was used to analyze the data.

**Results:** Of all the 105 codes extracted from the data, 5 categories and 14 sub-fields were extracted that these categories included some items such as informing (1), accountability (2), practical education (3), professional ethics (4) and professional status (5).

**Conclusions:** With respect to the significance of accountability as the requirement of the present and future community of the country and also as an important aspect in medical curriculum, So, providing professional appropriate training along with offering practical models as the hidden aspect of environment can be effective in its promotion and development.

**Keywords:** Social accountability, Qualitative study, Professionalism, Teachers, Students, Curriculum

## INTRODUCTION

Although the issue of social responsibility in recent decades has attracted much attention, no complete and accurate definition has been provided yet <sup>(1)</sup>. All medical education institutions are obliged to conduct their activities, services, training and research to meet the concerns and health priorities of their covered communities <sup>(2)</sup>.

In Social Accountability issue there are three words used interchangeably in most papers incorrectly <sup>(3)</sup>. These three words are: 1-Responsibility 2- Responsiveness 3- Accountability

Responsibility is the accountability of the providers of medical education towards training competent physicians who can meet the needs of the community.

Responsiveness includes the correct planning of the curriculum and clinical education practices in meeting health needs with regard to the priorities of each community.

Accountability is gathering evidence that

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indicates the amount of graduates' competency in order to meet the health needs of the community<sup>(3)</sup>.

Accountability is one of the terms that has appeared in the third millennium with a new meaning and experts believe that medical education in Iran has not yet been able to respond to the real needs of society, as expected<sup>(4,5)</sup>.

Bolan and woolard (two experts in this issue) assert that medical universities can be evaluated only when they have been standardized on the basis of social accountability<sup>(6)</sup>. Accordingly, some researchers have tried to design a model to assess the social accountability of medical universities, including Ryan Meili et.al who presented CARE model. CARE is an acronym for Clinical activity, Advocacy, Research, Education and training and they believe that universities must be held accountable in these areas<sup>(7)</sup>. In 2013 Larkins et al designed a model called the Training for Health Equity Network (THEnet) to investigate the social accountability of medical universities. This model can help the medical universities in achieving social accountability<sup>(8)</sup>.

A very important question posed in the field of social accountability a physician is that what the characteristics of a respondent doctor are? To answer this question, the researchers believe that: Since the problems of each community are different and the expectations of a physician differ in different societies, and, on the other hand, time passage creates new problems and changes in the expectations of the community from the doctor, so no same criteria can be held for accountable physicians and these criteria are dependent on time and community<sup>(9,10)</sup>.

But unfortunately, few independent researches in our country have been done in the field of social accountability in medical field. This study aimed to investigate the experiences of providers and recipients of medical care in the field of social accountability as an untold aspect of accountability in curriculum.

## MATERIALS & METHODS

This study is a qualitative study with a phenomenological approach to the experience of professors, students, staff, patients and patients' companions that was conducted in the context of social accountability. The use of heterogeneous groups determined the depth of experiences and helped the content validity of the data and enriched

it. Data collection was through semi-structured individual interviews and using focused group, that first started with determining the interested outlines in this project by providing general interview inquiry and questions in which this question was posed that when people talk of social accountability what came into their minds? And then continued with narrower questions like "from your perspective, what factors increase social accountability?", and the rest of the questions were proportionate with and corresponds to the initial question. The data gathering tools were using focus groups and individual interviews. Then, content analysis was conducted from their views. Qualitative content analysis was used in the content analysis.

In this method, key concepts and hidden patterns are extracted and collected from the content of the data and the data analysis is performed simultaneously.

The accuracy criteria in the content analysis are expressed by credibility, transferability, dependability, and the ability of authentication.

To assess reviewing participants, apart from reflecting words and experiences of the participants, full-text codes and classes were submitted to two masters who were familiar with qualitative research and their comments were used to correct or confirm them. For conformability, the full-text with codes and categories were handed in to two faculty members and the comments of two experts in the field of qualitative research were used.

After reviewing the comments and provided literature, at first, two cooperators of the project studied the expressed issues separately and then, in addition to its compatibility with each other, themes and sub-themes were identified through resultant content and analysis of the collection was dealt with. To enhance the validity of the method, participants' confirmation was used in this part and was presented after the final conclusion.

The content analysis method was used to analyze the data. Interviews were digitally recorded and then transcribed word by word, reviewed, coded and analyzed immediately. For initial coding, the participants' own words and indicating codes (the researcher's impression of statements) were used. Semantic units of the statements made by participants were extracted in the form of original codes or the open codes from interviews and the

codes were reread several times, and the codes expressing a single subject based on the similarities and the proportion were put in one group or class, classification with separate applicable codes, and frequent review and integrating the same code were done. So the second level of coding (axial), or data classification, was formed. And in the next step, classes were compared and those classes that were similar in terms of characteristics were combined to form a larger class and themes emerged. Ethical consideration conclude Participants consent , ensure anonymity and confidentiality for the participant and move on all strip and interview after research. Also all human research ethical norm considered in this study . Jahrom Research committee approved ethical consideration in this study.

## RESULTS

Totally, 5 professors, 10 patients, 7 companions, 4 focused students groups (medical, anesthetic, nursing, and operating room) and 10 individual interviews with students of different levels and disciplines were used.

Of the total of 105 extracted codes, 6 themes and 11 sub-themes were obtained which encompass the following items.

Themes	Subthemes
Informatics	Purposeful Training Patient's Expectations
Accountability	Commitment Democracy Self-direction
Practical training	Practical feedback Effective Training Role Model (Patterns)
Professional Ethics	Internalized moral Love for humanity
Professional status	Material and spiritual dignity Professional motivation

Of the total of 105 extracted codes, 5 category and 14 subclasses were extracted that classes include areas such as communication, responsibility, practical education, medical ethics, and templates.

The first class among the extracted classes is **informatics** which can be seen in the depth of

experience expressed by students, teachers and patients and all the people.

Providing the patient with appropriate information, provide education about illness and disease from the perspective of patients and their companions are criteria of social responsiveness.

Patient number 3 (35 years old): "the fact that the nurses answer any questions that the patient has, that what services the doctors or the nurses offer, and that they explain what they are doing, what are the advantages, and if not done, "

The domain of informatics, from students and faculty perspectives, can contribute to a better answer.

Student of Medical Externship:"A doctor is needed to have a good command of his field of study. His knowledge is very important and some scientific and standard information that can be very helpful in the workplace, such as knowing how to announce bad news."

The second area of the extracted areas is **responsibility**, which includes the fields like commitment and work ethic.

Experienced professor in education states that: "Sense of responsibility of medical staff is so important that other 70-80% of cases depend readily on it.

Focus group of Anesthetic students: "democracy is one of the symbols of accountability. In every job, the person should treat with the patient properly, ethically and respectfully and in compliance with standards. This means that being the personnel must not cause ignorance to the patient,..... "

**Practical training** is of other categories that can be seen in the context of individual experience. This issue emphasizes deep and practical training, accountability of medical professionals practically, patterns and sampling from the symbols of power and internalizing it through educational training.

The companion of 32-year patient: "These issues should creep into the depth of courses that are given to the student; what taught her? What has he learnt? What has he wanted? ...."

Student number 8: "setting the courses of medical

ethics has an impact, but they are not applicable, they probably have an effect on our actions but it is better to practice and see them in the context”.

The role of patterns in expressing responses, according to a medical student has been explained in this way: “patterns are a practical example of the response. When I see a patient teacher and his situation is not different I will act like him.”

One of the professors, in other words: “the faculty has a very important role; students take model from us. Unfortunately, some teachers have no specific effect. And, if irresponsible people are put in this group.”

**Professional status** is another category that has been identified at this location and it stresses that maintaining the dignity of the medical staff, paying attention to their financial and spiritual status and supporting their dignity can be effective in compliance with accountability.

Intern student: “the payment of a doctor is of importance; a physician who has spent seven years of his life, if he graduate from medicine at the age of 26, yet he has not taken a profit from life, so if the government does not address their destiny and future, that doctor who has got blind to humanity.”

Focus group of nursing student group: “It is true that knowledge and experience are very important, but it cannot be said that money is not important.

**Professional Ethics** is among the last classes obtained from the results. This issue points to the proper education of medical ethics and then its internalization as a professional responsibility and accountability which has been often emphasized in the statements.

Case No. 9: 38-year-old man: “Dealing with the sick, some nurses only want to meet their obligations, and others willingly do this job and love to do it; this is a matter of morality that shapes these behaviors.”

## DISCUSSION

The issue that first appeared in interviews with teachers, students, patients and their companions was that many interviewees did not have a correct definition and perception of the term social accountability. Experts of social responsibility also believe that in order to analyze and understand the

depth of this issue, a cultural change is needed in which doctors and patients become familiar with their rights and duties <sup>(11)</sup>.

In a review of the others, it can be seen that the inability of graduated doctors derives from medical training drawbacks <sup>(12-14)</sup>. In this regard, many developed countries have started to make changes in medical education curriculum in order to empower their physicians <sup>(10 & 15)</sup>. However, the issue of training doctors is still one of the most controversial issues in Iran and other countries <sup>(10)</sup>. In another study in the UK it was found that only 4% of the students agreed with the relevance of the curriculum to empower doctors and about 40 percent were completely opposed to its effectiveness <sup>(12)</sup>.

Our respondents believed that teachers, as practical models, played a vital role in medical ethics education. Wallenburg also believes that the doctors learn the professional ethics from experienced physicians and asserts that promoting role models among medical faculty should be invested <sup>(16,17)</sup>. Regarding the professional status, our respondents believed that the dignity of the physicians motivate them. By the same token, some researchers believe that the curriculum should train doctors who have both the ability to work in underserved areas and a positive attitude and the desire to establish and provide services in these areas. <sup>(18-21)</sup>

The other raised class in this study is responsibility with subclasses of democracy commitment and self-direction. Boelen believes that the current system of accepting medical students is not an appropriate system and the elected person should have a positive attitude toward serving the community and sympathizing with people <sup>(6)</sup>. As in many universities abroad, one of the conditions of entering to medical field that he has already spent a period of time as a social worker in the service of the people <sup>(22)</sup>.

Another discussed class is practical training. Our respondents believed that as long as the Advocacy (physician advocacy of society) is not included in the curriculum, it cannot be expected that these students turn out into accountable doctors the students in the future. According to Dharamsi, Medical Colleges expect physicians and clinical students to maintain their professional values in society, while they do not teach these issues to their students even superficially <sup>(23)</sup>.

## CONCLUSION

Considering the importance of social accountability in medical profession, we can offer special workshops to make all providers of health care services in the community familiar with this discussion so that social accountability has gradually become a mainstream culture.

Medical Universities should require themselves to know and understand the problems and needs of their society, and change their curricula to meet those needs so as to train more competent and accountable physicians in the future.

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**Conflict of Interest :** No

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# Nursing Student's Clinical Learning Experiences and the Barriers Faced

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## ABSTRACT

Training as a Professional nurse is a rigorous exercise. The student undergoes various learning experiences out of which clinical is the most important. An exploratory study was conducted to determine the student nurse's clinical learning experience during their basic nursing education at selected institutes of nursing education in Pune city, with the objective of determining student nurses' clinical learning experience and recognizing the barriers in learning. The data was collected using a semi structured questionnaire from 363 students, who had undergone at least one year of training.

**Findings:** Though 68.6% students had desired to be a nurse when they joined the course, 90.91% expressed that theory classes generated interest for clinical. More than 80% of the students responded positively regarding clinical learning experience in relation to nursing process, practicing clinical procedures and clinical supervision. Barriers for learning were mainly in the area of clinical field in particular lack of equipment (46.2%), over work (30.25%), excess number of health professionals especially trainees (31.68%), overcrowded clinical activities (8.26%), uncooperative patient and relatives(5.8%), inadequate clinical time(5.5%). The study findings also revealed that, insensitive ward staff (29.75%), restriction to practice certain nursing procedure due to hospital policy (8%), current practices expected to be done in the clinical area are not as taught in class (33%) are some of the important areas contributing to the barriers in clinical experience.

**Conclusion:** Students have freely expressed their views which are important for the educators to identify gaps and develop strategies to improve the clinical experience.

**Key words:** Clinical learning experience, Professional Nursing, Clinical skill, student nurse.

## INTRODUCTION

Professional nursing is the process of purposeful action undertaken between the nurse and the client. Clinical practice is an indispensable part of nursing student's training. This preparation allows the student to utilize the opportunity to correlate theoretical knowledge with clinical practice. Evidence obtained from research studies demonstrated that

students experience problems and difficulties throughout their clinical practice<sup>1,2</sup>.

It's hard work to be trained as a nurse – combining the dual demands of studying and practical experience. Clinical rotation in a basic nursing program is provided with an aim to integrate skills and knowledge obtained from the classroom setting into the clinical practice setting.

Clinical skills are any actions performed by a nurse involved in direct patient care which has a definite impact on clinical outcome in a measurable way. Clinical skills developed during basic nursing education / training generally remains permanent, therefore, it should be ensured that it is accurate<sup>3</sup>

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and the learner need to be encouraged and must get exposure to the appropriate practical scenario.

Students of nursing have a responsibility to society in learning the academic theory and clinical skills needed to provide safe, quality nursing care. The clinical setting presents unique challenges and responsibilities for the nursing student while caring for human beings in a variety of health care environments.

#### **Need for the study:**

- Clinical practice exposes the nursing student to the work of the nursing profession and assists them in adopting professional ideologies and behaviors.

- Nursing is a practice-based profession. Therefore clinical education carries about 75 to 80 % weightage in the undergraduate nursing curriculum. The quality of nurse education depends largely on the quality of the clinical experience<sup>4,5</sup>. Students require effective clinical placements to allow the application of theory into practice<sup>4</sup>. These experiences are central to the student's preparation for entering the workforce as a competent and independent practitioner.

Clinical practice is important because it provide student nurses with:

- The opportunity to privilege of direct access to patients and experience the world of nursing and also, to reflect on and to speak to others about what is experienced.

- The reference system to critically evaluated practice, to predict future actions.

- The motivation essential to acquire the skills critical to delivery of quality patient care.

- The environment that enables them to understand the integrated nature of practice and to identify their learning needs.

- The opportunity to take responsibility, work independence and receive feedback on their practice.

- A chance to learn Clinical decision making skills and also to be accountable for the decisions made.

- Ability to develop self motivation to be a lifelong learner and develop habit of updating

- Possibility to form their vision of nursing. Students are influenced by their placements they

acquire their values and beliefs about what good patient care is and what a good nurse is.

- The student can develop their professional self-image and this will help the student to go from being able to achieve various tasks to becoming a nurse who understands what their role entails and someone who is an independent and competent practitioner. They may identify a role model.

### **PROBLEM STATEMENT**

Exploratory study to determine the student nurse's clinical learning experience during their basic nursing education at selected institutes of nursing education in Pune city.

### **OBJECTIVES**

1. To determine student nurse's clinical learning experience during their basic nursing education.

2. To recognize the barriers in learning during their clinical experience.

### **METHODOLOGY**

**Research Design:** Exploratory research design

**Research Tool:** semi structured questionnaire consisting of 20 closed ended and one open ended question .

**Validity :** The developed tool was validated by 7 senior nursing faculty from various colleges of Nursing

**Reliability :** was done by test retest method and r value was 9.6.

**Population:** Student Nurses of Basic nursing education courses

**Sample:** Student Nurses of Basic nursing education courses, from the selected institutes, who have undergone at least one year of training

**Sample size:** 363

**Sampling technique:** Purposive sampling

**Inclusion criteria:**

1. All students of second year and above of Basic BSc Nursing course and RGNM programme were included in the study.

2. Students who are available and willing to participate in the study.

Exclusion criteria:

1. Students of first year RGNM and Basic BSc Nursing course.

**Limitation:** Study is limited to the selected institutes,

Students who have failed and not attending regular classes are not included

**Research setting :** Four institutes of Nursing education of which three were colleges of Nursing and one school of nursing.

## ETHICAL CONSIDERATIONS

Permission for data collection was sought from the Principals of the selected nursing institutes of Pune. The students were informed about the aim of the study, requested to facilitate in data collection promising confidentiality and willingness to participate was considered as consent. The autonomy of the student was protected; Identification in data saving and analysis was done by a different person.

## FINDINGS

Analysis of the findings of the study is done and presented in two sections:

Section I: Demography of the students:

DEMOGRAPHY OF STUDENTS	TOTAL	F	%
Gender	Male	25	6.8
	Female	338	93.1
Language proficiency	Hindi	284	78.23
	English	314	86.50
	Marathi	12	0.03
	Other languages	28	7.7
Home Town	Maharashtra	53	14.6
	Kerala	249	68.59
	Rajasthan	23	6.33
	Gujarat	1	0.27
	Punjab	4	0.01
	Not mentioned	33	9.09
Course of study	Final year B Sc nursing Students	115	31.68
	TYBSC Nursing students	111	30.58
	SYBSC Nursing Students	92	25.34
	TYGNM students	45	12.40

### Section II: Analysis of the questionnaire:

- Most of the students (68.60%) stated that, they have joined nursing out of their own interest,

- 93.94% revealed that, the clinical instructors orient the students to the ward during first entry to the ward.

- 90.91% expressed that, the theory classes generate interest for gaining experience in the clinical area.

- 81.82% mentioned that, before doing a new procedure, students read whatever is taught in the class .57.85 % **expressed that, they do additional**

reading in the library for performing a new procedure in the ward.

- **80.44% said that** they practice in the lab well before performing any procedure on the patient and **88.71%** mentally rehearse the procedure before performing in the ward. **70.52% stated that,** they maintain a checklist of procedures to be learnt in a particular clinical area.

- All the students felt free to clear their doubts related to patient care from the clinical instructors (55.65%), senior students (20%), on duty nursing staff (15.15%) and any of them (2.2%)

- **76.31% revealed that, they are** supervised by the clinical instructors while performing a procedure for the first time, 66% by senior students and 5% by on duty nursing staff.

- While enquired about the availability of equipment and supplies to perform procedure in the ward, 49.59% of the students brought out the fact that, the equipments were available, whereas 50.41 expressed that they were not adequate.

- 69.97% students reported that, they take a chance to practice every procedure at least five times during their training. This reflects that 30.3% do not practice their procedure at least five times during their training.

- **65.56% stated that,** the nursing procedures are done in the same manner during examination and daily practice, however it also reveals that a large group of students do not practice procedure as taught when not supervised

- 82.64% affirmed that, they practice performing nursing assessment daily for their assigned patient.

- Majority of the students claimed that they practice writing nursing process (71.35%) and writing nurses notes (84.59%) for the patient on whom they are not writing an assignment.

- 66.12% declared that, they are able to communicate with the patients' in local language effectively, which is an essential component in assessment of needs of the patient and also to deliver nursing care efficiently.

- 95.59% expressed that, they are able to complete an assignment that involves a group /team of people.

The barriers expressed by students to practice nursing skill in the clinical area

Only 57.85% of the students responded to the open ended question.

The most common responses were categorized as follows

1. Factors related to Clinical Area/Practice
  - Shortage of equipments and supply of materials for patient care (46.2%)
  - High workload in the clinical area (30.25%)
  - Current practices expected to be done in the clinical area are not as taught in class (33%).
  - Overcrowded clinical areas by students and staff (31.68%)
  - Uncaring attitude of ward staff (29.75%)
  - Overcrowded clinical activities (8.26%)
  - Restriction to practice certain nursing procedure due to hospital policy (8%)
  - Un- cooperative patients and relatives (5.8%)
  - Inadequate clinical time (5.5%)
2. Personal factors of the student
  - Language problem (4.9%)
  - Lack of interest (0.4%)
  - Lack of confidence (5.35%),
  - Lack of respect as a student (3%)
3. Factors related to teaching institution
  - Uncaring attitude of college tutors (1.8%)

[The above mentioned percentage is calculated based on total number of students (363)]

## DISCUSSION

- Though a majority of the students stated that they have joined the profession out of their own interest it is also worth noting that a substantial number of students joined nursing without their own interest. Even in this situation interest to practice nursing process as well as accuracy in performing nursing procedure has been generated during the course of study.

- Learning needs of the students are not adequately met at the clinical area due to shortage of equipment and supply, overcrowding of students, uncaring attitude of the hospital staff, Restriction to

practice certain nursing procedure due to hospital policy, wide gap between theory and practice<sup>6,7, 1</sup>.

- But learning experience in the above mentioned constrains prepares the student to practice nursing ideally in an actual work situation<sup>6</sup>.

- In a qualitative study conducted by Chapman and orb on Nursing student's lived experience of clinical practice it was elicited that hindrance in learning was due to personal difficulties feeling of frustration and being tired when students needs were not recognized<sup>8</sup>.

- A study done in Italy also shows finding similar to the current study in the area of Learning process of Nursing students during apprenticeship 36% of students stated that a very high workload in the ward does not allow the student to pursue the aims of the educational project<sup>9,10</sup>.

- Findings of the present study revealed that, all students always had some nursing personnel available to clear their doubts and supervising them for the procedure that they are performing for the first time on the patient.

- Apart from clinical supervision, studies have revealed that, peer support and social support as vital elements in facilitating student's learning (Kellys 2007 and Roberts 2008)<sup>11,12</sup>.

- The study findings reflect that educational institution prepared the student well for the clinical, generating interest for patient care during theory classes and adequately supervising them in the field, but a very small percentage of students did express about the uncaring attitude of teachers. A study conducted by Sharif and Masoumi in 2005 reports that, the clinical nurse educators take a role of evaluation more than supervision and the nursing staff who lacked teaching experience may be supervising the students and may not know the needs of the students<sup>6,13</sup>.

- In contrast to this, the study by Fischer, Boshoff and Elharin on student nurses need for developing basic study skills concluded that the student nurses needed more guidance to develop basic study skill also mentioned about the language medium of the study material had a profound effect

on the learning and study process of student nurses<sup>6,14,15</sup>.

## CONCLUSION

The study finding revealed the student nurses were aware of the gaps in their learning experience and expressed freely when asked. This study has implications for clinical supervisors, administrators at the practice area and academic setting. Clinical learning experience is the most important component in preparation of a professional nurse, for which nursing teachers and administrator both college and hospital are important.

Professional actions by the nursing student enhance the image of nursing and contribute to build a trusting relationship between the nursing student and the client, and between the nursing student and the health care team.

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# Effect of Yoga and Raw Diet on Physiological Variables and Quality of Life of Prediabetic Patients

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## ABSTRACT

This study was an attempt to understand the effect of yoga and raw diet on physiological variables and quality of life of Prediabetic Patients. In this study the investigator used Pre-test Post test control group design. Study Sample consist of 60 Individuals with Prediabetes, age 30 years and above. Random sampling was used for the study. Raw diet and yoga was the independent variable. Dependent variable were Physiological variables like Fasting blood sugar level, blood cholesterol, Pulse rate, blood pressure, and quality of life. Descriptive and analytic statistics were used in the study. Percentage were used to describe the study samples baseline characteristics. The significant difference between the mean scores of the variables were calculated by paired t test. The findings of the study highlighted that quality of life and physiological variables score were improved after yoga and raw diet therapy in Prediabetic experimental group.

**Keywords:** *yoga, raw diet, quality of life, physiological variables, Prediabetic patients.*

## INTRODUCTION

Type 2 diabetes is fuelled by rapid urbanization, nutrition transition and increasingly sedentary life styles, large intake of refined carbohydrates such as white rice, consumption of food low in nutritive value during pregnancy and in early life and in contrast having over nutritious food in later life, all these play a big role in spreading Diabetes. It is important to think aloud, how to prevent this in the early stage of development?. The understanding and insight about root cause of the disease condition helps to take remedial steps to prevent the disease condition in more fruitful manner in the Prediabetic state<sup>1</sup> one of the major risk factors of diabetes is obesity. Observations predict that Indians who are lean and have a lower BMI are also are equal risk as those who are obese<sup>2</sup>. High per capita income, increasing life expectancy, urbanization, changes in lifestyle, food habits, sedentary lifestyle, mental stress all these lead to diabetes and its complications. The additional burden of decreasing cognitive abilities is

taking a huge toll of human resource utilization. It is believed that diabetes is the single most important bodily disorder that can affect every organ system in the body<sup>3</sup>. Yoga is an ancient science and a rich cultural heritage of India. Many earlier books cite the usefulness of yoga in treatment of certain diseases as well as to maintain normal health in individuals. However, a detailed examination of the effect of yogic practices on the management of diabetes has not been done. So the investigator attempted to understand the effect of yoga and raw diet on physiological variables and quality of life of Prediabetic Patients<sup>4</sup>.

**PROBLEM STATEMENT:** effect of yoga and raw diet on physiological variables and quality of life of Prediabetic Patients .

## OBJECTIVES

1. To find out the effect of raw diet and yoga on physiological variables of Prediabetic experimental and control group before and after raw diet and yoga therapy.

2. To find out the effect of raw diet and yoga on quality of life of Prediabetic experimental and control group before and after raw diet and yoga therapy.

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## HYPOTHESES

Ho: There is no significant difference on physiological variables of Prediabetic experimental and control group before and after raw diet and yoga therapy.

Ho: There is no significant difference in the quality of life of Prediabetic experimental and control group before and after raw diet and yoga therapy.

## MATERIAL & METHODS

A experimental study with pre-test post test control group design using random sampling technique. physiological variables and quality of life of Prediabetic patients were assessed using self administered questionnaire to a total of 60 Prediabetic patients between 30-60 years from medical and endocrinology OPD,s of a private medical college Thrissur. Participants were divided into experimental group and control group. Adequate guidance and counselling was given to all the Participants in the experimental group to compliance with raw diet and yoga . The protocol was approved by the institutional ethical committee and all participants gave written informed consent. Details of the study were given to the subjects before introducing the experiment. These subjects had one week separate holistic health camp organized by the investigator in Thrissur districts of Kerala state. Their blood sugar levels and lipid profile were noted from the case sheets. The same measures were noted at subsequent follow ups of the camp. Raw diet and yogasana were the cure methods followed in the camps. Naturally cultivated fruits, vegetables and nuts were preferred. Every morning

and evening during the camp period a basic course in yogasana training were given to patients. which includes different asanas like Halasana, Bhadrasana, Bugangasana, Dhanurasana, Matsyanthrasana, Vipari thakarani, Pachimudhrasana, Ardhamalsendhrasana, Ardhalasana, Chakrasana, Salabhasana, Vakrasana, Naukasana, Vajrasana, Yogamudhra, Tree Pose, Sarvangasana and Savasana. Yoga practices done in morning and evening at least 30 minutes for 40 days. Campers gathered together on the 40<sup>th</sup> day to assess physiological and psychological variables.. A total of 60 patients completed the study. In the present study independent variable is the Yoga and raw diet. Dependent variables were the physiological variables and quality of life Patients. Physiological variables like blood sugar level, blood cholesterol, high density lipoprotein( HDL), low density lipoprotein (LDL), Triglyceride (TG), pulse rate and blood pressure levels were collected from the medical charts. The quality of life (WHOQOL) questionnaire was used to assess the quality of life It includes 26 questions. The 26 questions were grouped into four domain scores (physical, psychological ,social and Environmental). Domain scores are calculated based on each item in the particular domain. All questions had a range of 1-5 score. Upper scores indicate higher quality of life. Descriptive statistics were used to measure sociodemographic variables. Quality of life and physiological variables were calculated by using paired t test.

## RESULTS

In order to evaluate the effect of raw diet and yoga on the various physiological variables, the pre intervention and post intervention score of samples were compared using paired t test.

**Table 1: Mean, Standard deviation and paired t value of Physiological (Hematological) values of Prediabetic experimental and control group before and after raw diet and yoga therapy.**

Hematological Variables	Group (Pre/Post)	Prediabetic Experimental Group			Prediabetic Control Group		
		Mean (n=30)	SD	't' value	Mean (n=30)	SD	't' value
Cholesterol	Pre	207.03	42.53	6.37***	186.20	42.64	0.11
	post	175.47	33.87		186.67	39.86	
HDL	Pre	52.93	11.09	1.64	48.97	17.46	2.13*
	post	50.33	8.59		43.00	10.45	
LDL	Pre	131.67	38.22	5.77***	112.90	34.04	0.21
	post	107.23	32.86		114.00	38.17	
TG	Pre	104.43	36.19	0.57	123.80	31.85	1.00
	post	101.03	36.04		118.20	33.12	
FBS	Pre	105.90	2.58	17.58***	111.80	8.33	1.32
	post	81.07	7.60		113.73	11.55	

\*p<.05;\*\*\*P<.001

Table 1: shows the mean, standard deviation and t value of raw diet and yoga therapy on Physiological values of Prediabetic experimental and control group before and after raw diet and yoga therapy. Paired t test showed a statistically significant result between pre test and post test scores of the experimental group ( $P<.001$ ) in cholesterol, LDL and FBS. On comparing the mean scores between pretest and post test of Prediabetic experimental group, it is observed that the difference in cholesterol( $t = 6.37, P<0.001$ ), LDL ( $t = 5.77, P<0.001$ ) and FBS ( $t = 17.58, P<0.001$ ) are statistically significant. But this type of reduction in physiological values were not observed in the control group, a significant change was observed in HDL ( $t= 2.129, P<0.05$ ) values of control group were not in line with the expected value. When we consider

the difference in the mean score in both groups, Prediabetic experimental group have statistically significant results which shows that Prediabetic experimental group had a better outcome with Yoga and Raw diet therapy. There is no such significant reduction in scores observed among control group who did not practice raw diet and yoga therapy. So the formulated null hypothesis that there is no significant difference in the physiological variables like blood sugar and cholesterol of Prediabetic experimental and control group before and after raw diet and yoga therapy was rejected. Yoga and Raw diet therapy is effective in controlling Physiological variables in Prediabetic experimental group.

**Table 2: Mean, Standard deviation and paired t value of Physiological (Vital signs) values of Prediabetic experimental and control group before and after raw diet and yoga therapy.**

vital signs	Group (Pre/Post)	Prediabetic Experimental Group			Prediabetic Control Group		
		Mean (n=30)	SD	't' Value	Mean (n=30)	SD	't' Value
Systolic BP	Pre	123.87	5.73	7.85***	119.33	6.39	1.98*
	post	114.93	4.80		117.67	7.74	
Diastolic BP	Pre	80.67	2.54	2.51*	80.00	0.00	-1.96*
	post	78.93	3.05		80.60	1.67	
Pulse	Pre	79.87	3.75	15.03***	76.33	1.97	7.74***
	post	74.73	3.46		72.80	2.49	

\* $p<.05$ ;\*\*\* $P<.001$

It is very clear from table 2 that among the experimental group pre-test Systolic blood pressure score is high (123.87) compared to post test (114.93) Systolic blood pressure score. But in diastolic Blood pressure pretest score (80.67) to post test score (78.93) variation is shown slight difference. However, there is a remarkable reduction in pulse rate from pre test score (79.87) to post test score (74.73). In the case of control group Pretest Systolic blood pressure score is (119.33) and after 40 days it is (117.67) with some difference. diastolic Blood pressure pretest score (80) to post test score (80.60) variation is very minimal. However there is a remarkable reduction in pulse rate from pre test score (76.33) to post test score (72.80). Prediabetic experimental group Shows that mean Systolic Blood Pressure, ( $t=7.85, P<.001$ )

Diastolic Blood Pressure ( $t=2.51, P<.05$ ) and Pulse rate ( $p=15.03, P<.001$ ) have statistically significant reduction in vital signs after yoga and Raw diet therapy as compared to its Pretest values. However a mean Systolic Blood Pressure ( $t=1.98, P<.05$ ), Diastolic Blood Pressure ( $t=1.96, P<.05$ ) and pulse rate ( $t=7.74, P<.001$ ) of Prediabetic control subjects also shown a significant results. It can be due to initial stress and anxiety of the subjects during the measurement of vital signs for the control subjects. When we consider the difference in the mean score and P value in both groups Prediabetic experimental group had a better outcome with yoga and raw diet therapy. so the hypothesis that there is no significant difference in the physiological variables like pulse rate and blood pressure of Prediabetic experimental and control group before and after raw diet and yoga therapy was rejected.



The following tables present the results about the effect of raw diet and yoga on quality of life variables of each of Prediabetic experimental and control group before and after raw diet and yoga therapy.

**Table 3: Mean, Standard deviation and paired t value of quality of life of Prediabetic experimental and control group before and after raw diet and yoga therapy.**

Quality of life Variables	Group (Pre/Post)	Prediabetic Experimental Group			Prediabetic Control Group		
		Mean (n=30)	SD	't' Value	Mean (n=30)	SD	't' Value
Overall quality of life	Pre	4.13	0.57	6.16***	3.97	0.49	1.00
	post	4.70	0.53		4.00	0.45	
Over all health	Pre	4.23	0.50	4.71***	3.60	0.93	2.69**
	post	4.67	0.48		3.80	0.71	
Physical Domain	Pre	121.57	2.64	7.25***	116.00	5.86	0.21
	post	138.00	5.16		115.86	5.55	
Psychological Domain	Pre	125.83	4.45	18.65***	113.17	12.32	1.17
	post	139.17	5.15		115.17	8.35	
Social Domain	Pre	124.67	6.03	2.23*	123.00	2.00	0.67
	post	134.33	1.53		125.33	4.04	
Environmental Domain	Pre	123.13	12.84	10.87***	116.00	7.41	0.49
	post	132.75	11.37		117.13	11.87	

\*\*P<.01;\*\*\*P<.001

Table 3: indicate that all quality of life domains had a significant change in the Prediabetic experimental groups overall quality of life [t=6.16,P<0.001], and overall health [t=4.71,P<0.001] Physical domain[t=7.25,p<0.001], Psychological Domain[t=18.65,p<0.001], social domain[t=2.23,P<0.05], and Environmental Domain[t=10.87, p<0.001] ; whereas control group did not give any significant change in four domains but Overall health [t=2.69,P<0.01] was statistically significant in the control group. It discloses the effect of raw diet and yoga on quality of life of experimental group after the intervention. So the null hypothesis that there is no significant difference in the Quality of life of Prediabetic experimental and control group before and after raw diet and yoga therapy is rejected. When we consider the difference in the mean score in both groups with its normal values Prediabetic experimental group had a better outcome with Yoga and Raw diet therapy..

## DISCUSSION

The present study findings shows that there

was a significant reduction in Fasting Blood Sugar, cholesterol, LDL, systolic BP, Diastolic BP and pulse rate of Prediabetic experimental group after yoga and raw diet therapy; whereas control group had statistically significant increase in Diastolic BP and significant reduction in HDL, systolic BP, and pulse rate. The findings of the muscle strengthening activities with the risk of T2 diabetes in women were observed from the nurses' health study are in line with present study findings. Women who performed aerobics for a minimum of 150 minutes /week and muscle strengthening exercise for 60 minutes /week had a much lower risk of Type 2 Diabetes as compared to inactive women<sup>5</sup>.The ability of yoga to reduce the risk factors for diabetes were assessed by 41 participants of which 20 were asked to attend yoga classes and the remaining 21 participants were asked to complete monitored walking 3-6 days a week for 8 weeks. Marked reduction in systolic diastolic blood pressure, total cholesterol, anxiety, depression and perceived stress were seen as compared to the other group<sup>6</sup>. The restorative yoga intervention was practiced for inactive and overweight adults with metabolic syndrome. The results showed a

trend towards decreasing blood pressure and a greater increase in energy level as well as an overall improvement in general wellbeing compared to control group <sup>7</sup>The usefulness of physical activity in the management of Type 2 Diabetes. Studies indicated that advanced levels of bodily movement evidently connected with a lesser occurrence of Type 2 Diabetes <sup>8</sup>.

Along with this study findings a study with 99 Type2 diabetes patients practiced 22 weeks vegan diet with 75% carbohydrate, 15% protein ,and 10% fat and the control group consumed multi unsaturated fatty acids. Vegan group versus control group body weight reduction 4.4kg vs 3.0kg(P<0.001); TC reduction 20.4mg/dl vs 6.8%(P<0.01). Alternate Healthy eating Index improved in vegans (P<0.001) and the control did not show the difference.The effectiveness of the Mediterranean life style Programme (MLP) in reducing cardiovascular risk factors in Type 2 diabetic menopausal women who were randomized to usual care (control) or treatment ( MLP) conditions.Then changes in biological parameters like lipid profile, BMI, blood pressure, plasma fatty acids and flexibility impact of quality of life was evaluated. MLP condition group was compared to usual care at the six month follow up. Favouring result in lipids profile, blood pressure and flexibility were observed<sup>10</sup>. The findings of the study highlighted that yoga and raw diet therapy had a significant influence on quality of life and physiological variables of Prediabetic patients.

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# The Development and Psychometrics of SEAT (Self-Efficacy Assessment Tool)

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## ABSTRACT

**Background:** There are limited high-fidelity simulation (HFS) framework-based tools for evaluating students' self-efficacy (SE) while assess signs and symptoms to determine when specific nursing interventions are needed to promote positive patient outcomes.

**Purpose:** To develop and test psychometrics of Self-Efficacy in Assessment Tool (SEAT) within a HFS environment.

**Methods:** During a five year period, over 800 sophomore nursing students completed SEAT pre- and post-HFS. Factor structure and reliability were assessed using principal components analysis (PCA) and Cronbach's Alpha, respectively.

**Results:** The PCA identified two factors, labeled *SE to Assess* (pre-  $\alpha=.871$  and post-  $\alpha=.904$ ) and *SE to Assess and Intervene* (pre-  $\alpha=.855$  and post-  $\alpha=.868$ ).

**Discussion:** Although limited in construct validity, the SEAT was found to be a reliable tool for use in testing SE of undergraduate nursing students in HFS.

**Keywords:** *Self-efficacy, nursing, education, simulation, psychometric*

## INTRODUCTION

Over the last decade, high-fidelity simulation (HFS) has been shown to be an effective and safe tool in evidence-based clinical education for both medical and nursing schools<sup>(1,2)</sup>. Therefore, use of an interactive manikin-based curriculum often complements traditional classroom course work<sup>(2)</sup>. HFS allows educators to observe student behavior in critical situations in an appropriate and safe environment that can be both controlled and changed<sup>(2)</sup>. One goal of these simulations is to improve student competence by increasing their self-efficacy (SE) when performing assessments and interventions in a

myriad of clinical situations<sup>(1-4)</sup>. Although competency and SE are viewed as essential attributes to promote in the new nursing student, limited research has examined students' SE in correctly assessing signs and symptoms or identifying nursing interventions needed for positive patient outcomes<sup>(4, 5)</sup>. A review of SE instruments<sup>(3-6)</sup> found few used in HFS clinical education<sup>(6,7)</sup>, fewer used in nursing<sup>(5,8)</sup>, and many not framework based<sup>(3, 4)</sup>. Thus, the purpose was to test psychometrics of Self-Efficacy in Assessment Tool (SEAT) within a HFS environment.

## METHODS

### SEAT Design and Development

After Institutional Review Board approval a development team of five nursing experts in both simulation and SE were gathered<sup>(4-6, 9)</sup>. The team consisted of two clinically based members (one from the cardiac intensive care unit and one from a traditional floor unit) and 3 nurse educators

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(1 from the sophomore skills laboratory and two whom had both sophomore class-room and student-clinical assignments). All team members were avid users of HFS, SE, and agreed on focusing on four systems: respiratory, cardiovascular, neurological, and gastrointestinal. The team selected Bandura's model<sup>(8)</sup>.

During development, the team reviewed Schwarzer and Jerusalem's Generalized Self-Efficacy Scale (GSE) as a guide for question structure<sup>(10)</sup>. Structure of tool's items in SEAT began in a similar manner, e.g., "I am self-confident that I can..."<sup>(10)</sup>. However, content of SEAT differed in its focus on SE in situations applicable to sophomore nursing students and had a set of system focused questions separating assessment only and assessment with intervention<sup>(4)</sup>.

The Liverpool Undergraduate Communication Assessment Scale (LUCAS) was also reviewed during instrument development. The LUCAS, a 10-item rating scale, is intended for use during structured clinical examinations<sup>(7)</sup>. The formative portion focuses on changes as the scenario progresses (e.g. professional behavior, greeting and introduction, identity check, audibility and clarity of speech, and other non-verbal behavior) and the subjective portion on procedural aspects (e.g. questions, prompts or explanations, empathy and responsiveness, clarification and summarizing, and consulting style and organization)<sup>(7)</sup>, p274. After discussions and reviews, SEAT questions were based on a five-scale item selection method which was deemed more subjective and focused at a sophomore student level.

Prior to use, discussions continued and it was noted that only covering the basic course and clinical contents included both the basic skills in assessing and the added skills necessary for the student to decide when to intervene for each of the four systems<sup>(5)</sup>. The review team decided that these system based parameters for assessment was insufficient to portray a life-like crisis environment<sup>(5)</sup>. Thus, a fifth crisis item was added, which combined both respiratory and cardiovascular systems; plus the student's administration of appropriate interventions to Basic Life Support<sup>(5)</sup>. , Thus, the final version of the SEAT consisted of five question pairs for a total of 10 questions. The instrument structure is numeric, with odd numbered items denoting situations where the patient is not at risk and even numbered items

denoting situations where the patients is at risk and some intervention is required to attain positive patient outcomes. This permitted the odd numbered items to ask students to rate their SE when assessing patient status. Even numbered items required students to assess their SE in both assessing signs and symptoms and making appropriate initial interventions to assist the patient. All 10 questions use a 5-point Likert rating scale (1, below average to 5, above average)<sup>(8)</sup><sup>10)</sup>.

## SEAT ADMINISTRATION

Pre-administration of the SEAT, over a five year period, 848 undergraduate sophomore nursing students completed a 10–12 week course taught using traditional methods, e.g., lecture, lab and clinical experience. These courses, taught during the initial term of the sophomore year, were the first that involved clinical experience. This traditional based instruction included lecture (42 hrs.), skills lab (28 hrs.) and clinical experience (56 hrs.). To insure consistency, all instructor(s) and course objectives for lecture, skills lab, and clinical experience were held constant for the entire study period. Faculty instruction in skills lab and clinical was focused on assessment of student proficiency and remediation, if needed. Two theory and six competency exams were used to test proficiency prior to practicing skills in the clinical setting. Key concepts in lecture lab and clinical became the foundation for the simulation scenarios<sup>(11)</sup>. After completing their traditional instruction, but before the HFS, each student was given the option to complete the pre- test SEAT on-line.

During a four hour period, six subgroups of 4 (24 total) participated in a series of simulations grounded in HFS exemplars. These HFS exemplars used SimMan® and were based on the International Nursing Association for Clinical Simulation & Learning (INACSL) best evidence for simulation standards<sup>(12)</sup>. During these simulations, the instructor vocalized both the patient and inter-professional team's responses to each of the four student actions. The remaining 20 students observed the 4 students actions throughout the simulation through video feed in a separate room. This approach served two purposes: 1) facilitated the scheduling of large groups and 2) promoted self-efficacy through peer modeling. After participating in the simulation experience students were invited to complete SEAT. Completion of both portions of SEAT were optional and not

a requirement of the course. Electronic versions of SEAT were hosted on a confidential web-based interface, on the simulation center's web-site and de-identified at the time of submission.

### DATA ANALYSIS

Using IBM SPSS Version 22 Armonk, NY, descriptive and pre-post statistics were computed for the demographic variables and each item on the SEAT; missing data, normality, and outliers were assessed. A principal components analysis (PCA) was conducted on both pre- and post-SEAT responses to summarize interrelationships and reduce the dimensionality of the items.<sup>(13)</sup> An inter-item correlation matrix was generated to abstract interrelationships among the ten SEAT items. The Kaiser-Meyer-Olkin (KMO)<sup>(14)</sup> statistic ( $>.6$ ) and Bartlett's test of sphericity<sup>(15)</sup> ( $p<.05$ ) were obtained to ensure the appropriateness of factor analysis. Scree plots<sup>(13)</sup>, eigenvalues  $\geq 1$ <sup>(14)</sup>, and total variance explained per factor ( $>5\%$ )<sup>(13)</sup> were used to determine factor structure. Factor loadings of greater than .4 were considered adequate, with items having factor loadings of .4 or greater on multiple factors considered cross-loading<sup>(13)</sup>. In all instances, PCA was initially performed without rotation. However, in order to obtain more definitive results, rotation was applied. Because extracted components were not found to be correlated, an orthogonal (i.e., Varimax) rotation was selected<sup>(13)</sup>.

Cronbach's alpha assessed internal consistency<sup>(13)</sup>. Both pre- and post-SEAT emergent factor reliabilities were obtained. Cronbach's alpha levels of .70 or higher were considered adequate as SEAT is a newly developed instrument<sup>(13)</sup>. The Cronbach's alpha if an item was deleted was also examined.

### FINDINGS

Of the 848 who participated, complete survey data was available for 823 students pre-simulation and 826 students post-simulation, representing a missing rate of less than 5% at both time points. The average age was approximately 20 years (range=18-51 years;  $M=20$  years). The majority (83%) of the students were female. Pre- and post-SEAT descriptive statistics for each item are provided in Table 1. No outliers or influential points were revealed by the graphical analysis. In contrast to the Shapiro-Wilk test results, an examination of histograms and q-q plots indicated that the instrument responses were slightly skewed to

the left, but approached normality.

### FACTOR STRUCTURE

Inter-item correlations ranged from  $r=.295$  to  $r=.742$ . The obtained KMO statistic (.835) and significant Bartlett's test of sphericity ( $p=.000$ ) indicated an adequate sample size and sufficiently strong inter-item correlations. Initially, PCA with Varimax rotation was conducted using all items. A two factor structure ( $\lambda=4.188$  and  $\lambda=2.494$ ) that explained 66.82% of the total variance was revealed. The second factor was comprised of items five and six, which evaluated the confidence of the student to assess gastrointestinal/genitourinary symptoms (item 5) and initiate appropriate clinical interventions (items 6). This information was the only content area that had not been formally presented to students in lecture at the time of the simulation intervention. Due to the influence lack of instruction had on the factor structure of the SEAT, items five and six were removed and the factor analysis was re-conducted.

The PCA with Varimax rotation, excluding items five and six, suggested two factors (Figure 1), accounting for 37.26% ( $\lambda=2.980$ ) and 34.19% ( $\lambda=2.735$ ) of the total variance, respectively. Four items (items 1, 3, 7, and 9) loaded onto Factor 1, three items (items 2, 4, and 8) loaded onto Factor 2, and one item (item 10) cross-loaded onto both factors (Table 2).

Item 10 loaded higher on Factor two and was deemed to be more conceptually appropriate within the construct represented by the items comprising Factor 2. Factor 1 (items 1, 3, 7, and 9), *SE to Assess*, evaluates the student's SE to correctly assess signs and symptoms that fall outside the range for health. Factor two (items 2, 4, 8, and 10), *SE to Assess and Intervene*, evaluates the student's SE to make appropriate initial nursing interventions.

The post-simulation factor structure analysis presented correlations from the inter-item correlation matrix ranging  $r=.380$  to  $r=.822$ . The obtained KMO (.866) and significant Bartlett's tests of sphericity ( $p=.000$ ) indicated that factor analysis was appropriate. PCA with Varimax rotation was first conducted with all tool items. Two factors ( $\lambda=4.632$  and  $\lambda=2.552$ ) that explained 71.84% of the total variance resulted. In congruence with the pre-simulation analysis, items five and six loaded exclusively onto Factor 2. Therefore, items five and six were again removed

from the analysis.

PCA with Varimax rotation of the post-SEAT without items five and six suggested the same factor structure indicated by the pre-simulation assessment (Figure 1). Four items (items 1, 3, 7, and 9) loaded onto Factor 1 ( $\lambda=3.20$ ), two items (items 4 and 8) loaded onto Factor 2 ( $\lambda=2.81$ ), and two items (items 2 and 10) cross-loaded onto both factors (Table 2). Both items two and ten loaded more strongly on and were determined to be most theoretically appropriate within Factor 2, with the resultant Factor 1 and Factor 2 conceptually representing *SE to Assess* and *SE to Assess and Intervene*, respectively.

### RELIABILITY

The internal consistencies for Factor 1 were  $\alpha=.871$  and  $\alpha=.904$  for the pre- and post-SEAT, respectively. Internal consistencies (Cronbach's alphas) for Factor 2 were  $\alpha=.855$  and  $\alpha=.868$ . Omission of a single item did not result in a notable change in reliability.

### DISCUSSION

This study's goals were to develop and test an instrument that would measure SE of nursing students and, in particular, the contribution (or lack thereof) of adding HFS following traditional instruction. Content provided in the initial term of this program was designed to prepare students to assess patient response outside the range of health and to initiate appropriate initial nursing interventions. A review of available instruments were either not available at the time<sup>(9)</sup> or did not fit our goals<sup>(3)</sup>. Therefore, we developed a new clinical assessment tool.

This study revealed a two factor structure at pre- and post-SEAT assessments. Factor 1, *Self-Efficacy to Assess*, was comprised of the odd SEAT questions which focused on the student's SE to simply assess signs and symptoms that fall outside the range of normal health. Factor 2, *SE to Assess and Intervene*, consisted of even SEAT questions which not only evaluated the student's SE to assess signs and symptoms, but also SE to make initial nursing interventions. It is of interest to note that Item 2, *Respiratory: SE to assess, intervene, and make initial interventions*, cross-loaded on both Factor 1 and Factor 2 in the post-SEAT. However, Item two loaded much more strongly with Factor 2 and was deemed more theoretically appropriate with SEAT construct. In contrast, Item 10 presented with almost equal

cross loading on Factors 1 and 2 for both the pre- and post-SEAT assessments. Item 10 of SEAT asked students about their SE in assessing, intervening, and making initial interventions to a basic life support (BLS) standard until advanced life support arrived. This item identified the appropriate intervention as cardiopulmonary resuscitation (CPR)<sup>(4)</sup>. Considering that all sophomore nursing students at the institution in which the instrument assessment took place are required to be certified in BLS, it is not surprising that students were equally confident in their ability to assess cardiovascular and respiratory compromise requiring CPR as in their ability to assess and initiate CPR.

### LIMITATIONS

Our study has several limitations. To begin, this study lacks construct validity. It is the first study to examine the psychometric properties of the SEAT; therefore, replications of these results are needed in other institutions. Secondly, this study was conducted solely in sophomore nursing students, using nursing evidence-based structured simulation scenarios. Future studies should test SEAT in healthcare provider student populations other than nursing. Thirdly, SEAT was evaluated in nursing students who had not received didactic instruction on all of the systems included in the simulations. However, this study had many strengths including a multiyear sample of over 800 students and the development of a framework based tool.

### CONCLUSION

This study provides initial support for use of SEAT to assess improvement in SE of undergraduate nursing students following traditional clinical instruction and participation in evidence-based practice, simulation scenarios.

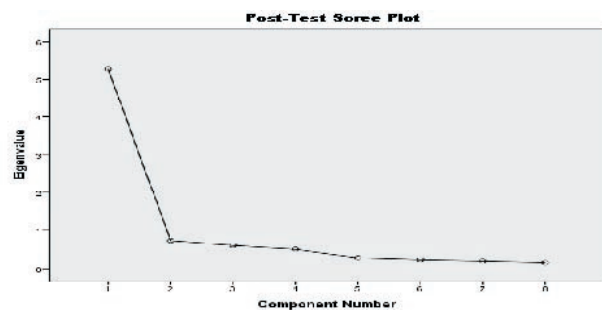


Figure 1 Scree Plots pre and post-test PCA extraction; these plots exclude questions 5 and 6 and therefore the plots only depict 8 components.

**Table 1. Descriptive statistics for survey items**

Item	Pre-SEAT survey n=823			Post-SEAT survey n=826		
	Mean	SD	95% CI	Mean	SD	95% CI
1	3.87	.713	3.82-3.92	4.21	.613	4.17-4.25
2	3.42	.742	3.33-3.47	3.98	.651	3.94-4.03
3	3.76	.713	3.71-3.81	4.14	.643	4.10-4.19
4	3.24	.736	3.19-3.29	3.87	.665	3.82-3.91
5	3.12	.898	3.06-3.18	3.62	.857	3.56-3.67
6	2.83	.825	2.77-2.89	3.40	.840	3.34-3.45
7	3.81	.700	3.76-3.85	4.11	.681	4.06-4.16
8	3.23	.789	3.18-3.28	3.76	.734	3.71-3.81
9	3.82	.720	3.77-3.89	4.20	.626	4.15-4.24
10	3.47	.763	3.42-3.52	4.02	.678	3.97-4.06

**Table 2. Pre and Post simulation Varimax rotation PCA factor loadings and rotated total variance explained. (only factors >.400 are shown)**

Item	Pre-SEAT survey n=823		Post-SEAT survey n=826	
	Factor 1	Factor 2	Factor 1	Factor 2
1	.800		.828	
2		.806	.404	.781
3	.801		.807	
4		.831		.824
7	.739		.737	
8	.818			.810
9	.817		.836	
10	.466	.589	.511	.597

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The study had Institutional Review Board (IRB) approval.

All IRB procedures were followed.

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# Biochemical Value among Suicide Attempted Individual

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## ABSTRACT

Suicide is the act of death and people are not interested to commit suicide. Biochemical value threatens the severity of illness and diverts the health care members attention towards patients. With this aim a study was organized to identify the biochemical value among suicide attempted individual before and after information, education and communication package. Pre-experimental research design was conducted with one hundred suicide attempted individual. Biochemical value were assessed by using observational rating scale. Results showed that during pretest majority of suicide attempted individual showed decreased mean oxygen saturation, hyperglycemia, increased blood urea and creatinine and increased total count. F test showed that there were significant effectiveness on Po<sub>2</sub>, bicarbonate, blood glucose, urea, creatinine and white blood cell count among suicide attempted individual. The concluded that psycho-education is needed to suicide attempted individual to maintain adequate physiological function.

**Keywords :** *Biochemical value, suicide attempted individual, Information, education and communication package.*

## INTRODUCTION

Suicide is the act of death and the people is not interested to commit. Suicidal person asked for help from others and their problems are not resolved they attempted to die. Most people who commit suicide don't want to die but they give indication to others that they find difficult to survive with existing problem.

People prior to attempt suicide, have thoughts of death. Plan for suicide plays an important role in committing suicide. Most people see suicide is the solution for a problem. People feel hopeless, helpless and worthless seriously consider suicide. Personal or family history of suicide attempts, anxiety, depression, manic depressive illness, schizophrenia and substance abuse disorder are the risk factors for suicide. People who attempt suicide gives cues or warning, verbalizes that I cant see any way out, grief-stricken and has mixed feeling about death and wavering until they attempt. Suicide patient will not attempt suddenly but they seek for medical help for six months prior to commit. Suicide prevention is possible when an individual is getting an opportunity to express their feelings.

Suicide is the third leading cause of death for people ages 15 to 24 and the second leading cause for people ages 25 to 34. Men are less common to try for suicide, but they are more likely to die from a suicide attempt. Suicide is twice often when compared to murder. Suicide prevention goal is to recognize the warning signs and take remedial action against problem.

Biochemical value among suicide attempted threatens the severity of illness and diverts the health care members attention towards patients. Bio-psychosocial model proposes that biological, psychological and social factors play a role in causing suicide. Genes in neurotransmitter have altered function in suicide and attempted suicide. The neurotransmitters include serotonin, nor-adrenalin and dopamine and the hypothalamic-pituitary-adrenal axis. The goal of understanding the role of biology of suicide is to improve treatment<sup>1</sup>.

## BODY OF ARTICLE

### Statement of problem

Biochemical value among suicide attempted individual before and after information, education

and communication package.

## **OBJECTIVES**

To assess the level of biochemical value among suicide attempted individual

To assess the effectiveness of information, education and communication package on biochemical value among suicide attempted individual.

## **HYPOTHESIS**

The information, education and communication package will result in significant improvement in the biochemical value among suicide attempted individual in the experimental group.

## **METHODS & MATERIALS**

Quantitative approach was used to assess the effectiveness of Information, Education and Communication package on biochemical values among suicide attempted individual. The research design used for the present study was based on Pre Experimental Research Design.

The population was suicide attempted individual. The data were collected from suicide attempted individual who were admitted in Dhanvantri critical care center, Erode and Sree Abirami Hospital Coimbatore. The total sample size was 100 and the samples were selected using purposive sampling technique. Suicide attempted individual with age 15 years and above, both sex, transfer from ICU to medical ward, willing to participate in the study and present during the period of data collection were the inclusion criteria and suicide attempted individual who were uncooperative, neurological deficit and mentally ill were exclusion criteria.

Immediately after the second day of transferring ICU to ward, the data collection was done by using demographic variables, Observational rating scale on biochemical values. Information, Education and Communication (IEC) package implemented to patients for the first four days. From 5<sup>th</sup> day till discharge follow up care will be given to patients. After discharge follow-up care given to patients over telephone and oral discussions during their follow up visit to hospital. The total intervention given to

patients for the period of one month. It was conducted during first follow-up(15 days after discharge) and second follow-up(30 days after discharge).

Descriptive and Inferential statistics were used to analyze the collected data. The demographic variables were coded and analyzed. The data analysis and interpretation consists of the following sections.

Section-A : Distribution of the samples according to the demographic variables.

Section-B : Distribution of biochemical values among suicide attempted individual before and after Information, Education and Communication (IEC) package.

Section-C: Effectiveness of Information, Education and Communication (IEC) package on biochemical values among suicide attempted individual.

## **RESULTS**

According to age, majority (46%) of suicide attempted individual were in the age group of 26-40 years and 17% of them were in the age group of above 40 years in experimental group. In control group majority (52.8%) suicide attempted individual were in the age group above 40 and 16% of suicide attempted individual were in the age group of 15-25 years.

According to sex, majority (53%) of suicide attempted individual were male and 47% of them were female. In control group majority of subjects were both male (49.2) and female(51.8). This showed that among normally distributed subjects male are prone to attempt suicide.

According to education majority (36%) of suicide attempted individual were graduate and 3% of them were illiterate, primary school and post graduate. In control group majority of samples were studied schooling. Suicide is common among sample studied upto schooling and graduate. Suicide is less common among illiterates and post graduates both experimental and control group.

According to occupational status, majority(27%) of suicide attempted individual were private employee, 19% of them were student and 5% of them were unemployed. In control group majority

of samples were in private employee and 9.2% of samples were student. This showed that in general population private employee were common and suicide is also common among private employee. Suicide is not common among government employee. Among student and house wife suicide rate is equally present between experimental and control group.

According to type of family, majority(78%) of suicide attempted individual were coming from nuclear family and 22% of them were from joint family. In control group majority(74.8%) of sample were in nuclear family. This showed that nuclear family are common in general population and the suicide rate is also common among nuclear family. There was no difference in suicide rate among joint family both in experimental and control group.

According past history of suicide, majority(76%) of suicide attempted individual were had a past history of suicide when compared to general population(24%). Among suicide attempted individual majority(42%) of them were not having past history of suicide which is less compared to control group(58%). This result showed that majority of suicidal attempted individual had a past history of suicide when compared to control group.

According to family history of suicide, majority (75%) of suicide attempted individual were had a family history of suicide and 25% of control group had family history of suicide. Among suicide attempted individual 42% of them had no family history of suicide and 58% of control group had no family history of suicide. The result indicated that majority of general population had family history of suicide.

According to marital status, 63% of suicide attempted individual were married: time of suicide and 72% of sample were married but no attempt for suicide. Among unmarried people 36% were attempted suicide and 19.2% of sample were not attempted suicide. It is interesting that 1% of suicide attempted were divorcee and 8.2% divorcee but not attempted suicide.

According to time of suicide, 59% of suicide attempted individual tried to kill themselves during day time and 41% of people tried during night time. Individual attempted suicide when they were alone

and this indicated that they were planned for suicide and suicide was not a immediate response to stress.

According to mode of suicide, majority of suicide attempted individual consumed Generic drugs(33%), Pesticide substances(30%) and cow dung(28%). According to reason for poisoning, majority (35%) of patients were committed suicide due to marital conflict, 17% were due to financial difficulties and others were committed suicide due to love failure(7%), parental conflict(8%), occupational difficulties(10%), alcoholism(9%), failure in exam(7%) and like.

**SECTION-B :** Mean Distribution of biopsychosocial variables before and after Information, Education and Communication (IEC) package.

Majority of suicide attempted individual showed decreased mean oxygen saturation during pretest and mean oxygen saturation were increased during posttest-1 and posttest-2. There were no change in mean carbon-dioxide saturation and bicarbonate during pretest, posttest-1 and posttest-2.

Mean value of suicide attempted individual showed hyperglycemia during pretest and mean blood glucose were normal during posttest-1 and posttest-2. There were no change in mean hemoglobin level during pretest, posttest-1 and posttest-2.

Mean blood urea and creatinine level were increased during pretest among suicide attempted individual and during posttest-1 and posttest-2 blood urea and creatinine level came to normal.

Mean platelet level were normal during pretest, posttest-1 and posttest-2 among suicide attempted individual. Mean total count were increased during pretest and during posttest-1 and posttest-2 total count came to normal.

**Section C:** Effectiveness of information, education and communication package on biochemical value among suicide attempted individual.

F test were calculated to identify the effectiveness of information, education and communication package on biochemical value among suicide attempted individual. The result showed that Information, education and communication package was highly effective among Po<sub>2</sub> (F=159.2), bicarbonate (F=6.9),

blood glucose (F=16.8), blood urea (F=13), creatinine (F=22.4), total count (F=27.1).

F test showed that there was no significant effectiveness identified with Pco2 (F=0.7), hemoglobin (F=0.3) and platelet (F=0.6) among suicide attempted individual.

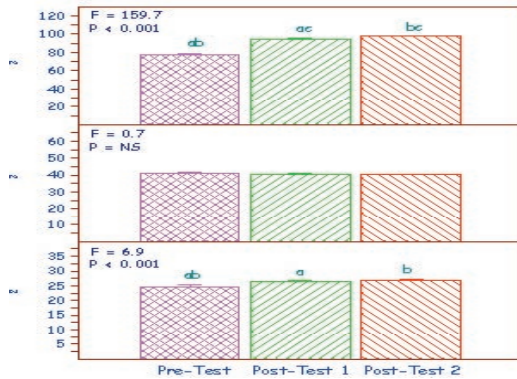


Figure 1 : Po2,Pco2 and Hco3 values in pretest, posttest 1 and posttest 2 of the participants. Values are mean+SE (n=100)

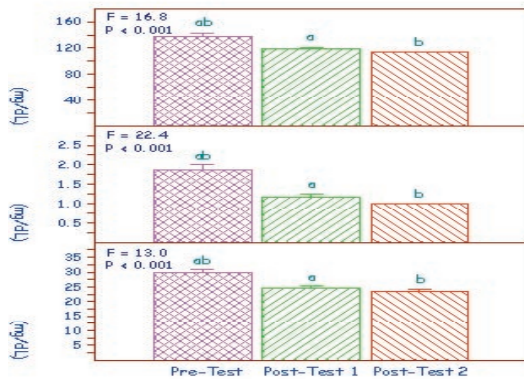


Figure 2 : Blood glucose, serum creatinine and serum urea values in pre-test, post-test 1 and post-test 2 of the participants

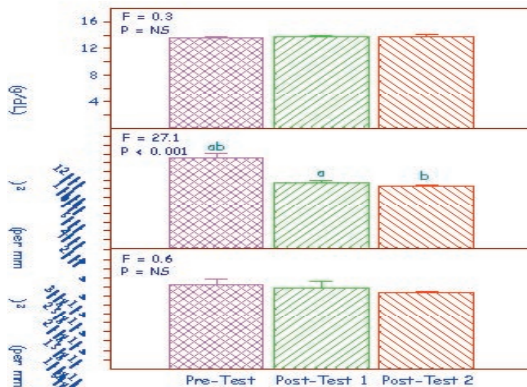


Figure 3 : Haemoglobin, White Blood Cells and platelets in pre-test, post-test 1 and post-test 2 of the participants. (n = 100).

## DISCUSSION

Suicide causes severe biological disturbance to patients that cause self care deficit among suicide attempted individual. Participants were not able to maintain self care, diet, rest and sleep.

Individual attempted suicide by any methods like, cow dung, natural chemical, chemical, tablets or hanging, have identified changes in biochemical values. They were decreased Po2 level, increased bicarbonate, blood glucose, urea, creatinine and total count. There were no disturbance in other biochemical values like, Pco2, hemoglobin and platelet count.

Suicide attempted individual have multiple organic failure due to reaction of chemical substances. This causes renal failure, liver failure, respiratory failure and circulatory failure. Health care team should prioritize care in these related organs to prevent complications.

Information, education and communication package were highly helpful in motivating the patient to co-operate with treatment, takes balanced diet, maintain comfortable sleep and rest, increases self concept and self confidence, actively communicate with health care team and family members. No evidence were found Pco2, hemoglobin and platelet among suicide attempted individual .

Middle aged and late aged adults were taken more time to come back the normal biochemical value when compared to adolescent and early adults. Other demographic variables among suicide attempted individual did not show any significant difference in biochemical value.

Among suicide attempted individual white blood cells were increased and red blood cells decreased during pretest. This finding was supported by Zohreh Aminzadeh<sup>5</sup> 2011. He reported that white blood cells increased in response to infection and white blood cells slightly decrease in elderly.

The same finding were supported by Pia Natalya Reyes<sup>4</sup>, 2007 with depressed patient with suicide. Emel Kocert<sup>2</sup>, 2013 found that white blood cells were negatively correlated with platelet among suicide attempted individual. Huan M<sup>3</sup> et.al, 2004 found that red blood cells were decreased among patient with

suicidal attempt.

### CONCLUSION

Based on the findings of the study the following conclusions were drawn

1. Majority of suicide attempted individual were in the age group of 26-40 years, male, married. graduate, private employee, coming from nuclear family, don't have the family and previous history of suicide, consumed poison during night time, consumed Generic drugs to commit suicide and marital conflict is the reason for suicide.

2. Information, education and communication package was highly effective on Po<sub>2</sub>, bicarbonate, blood glucose, urea, creatinine and total count among suicide attempted individual.

3. There were no disturbance found on Pco<sub>2</sub>, hemoglobin and platelet among suicide attempted individual.

**Acknowledgement:** Nil

**Ethical Clearance:** Obtained from Institutional human ethical committee at Saveetha university, Chennai, India.

**Source of Funding:** Nil

**Conflict of Interest:** Nil

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# Knowledge and Practices Regarding Prevention of Anaemia in Pregnant Women

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## ABSTRACT

Anaemia is the most frequent maternal complication during of pregnancy which is associated with maternal morbidity, mortality, perinatal morbidity and mortality. Antenatal mothers should equip themselves to prevent anaemia during pregnancy. Cross sectional survey was undertaken to assess the knowledge and practices regarding prevention of Anemia in registered pregnant women at Government Maternity Hospital, Koti Hyderabad. Data was collected from 100 antenatal mothers who were attending antenatal clinic of GMH, koti, Hyderabad, India. The tool used for data collection was interview schedule Reliability and validity of the tool was established. Findings are majority (60%) were in the age group of 20-24 years. Three fourth(77%) are educated. Sixty nine percent of mothers registered during 2<sup>nd</sup> trimester. Most of sample are primigravida(63%). 63% of mothers had mild anaemia(9.1 to 11mg/dl). Nearly half of the mothers (53%) had moderate knowledge regarding anaemia. Most of mothers (65%) are not aware of prevention of Anaemia. 48% of mothers are following diet practices about prevention of anaemia, almost all practicing hygiene, 73% are following treatment practices. Significant association was found between education, occupation of subjects and knowledge regarding anaemia. Significant relationship was found with occupation and practices about prevention of anaemia. Improvement in the knowledge level and dietary practices among the most vulnerable group is very important to decrease the prevalence of anaemia. Awareness programmes should be conducted among the pregnant women for their promotion of health. Anaemia being major contributor to the maternal mortality and morbidity due to its complications in pregnancy, it is the need of the hour to disseminate basic knowledge on prevention of anaemia which can have an impact on our health system.

*Keywords-* Anaemia, pregnant women. knowledge, practice

## INTRODUCTION

The World Health Organisation defines anaemia in pregnancy as a haemoglobin (Hb) concentration of less than 10 g/dl. Iron deficiency anaemia is the most common type of anaemia in pregnancy. Anaemia has significant impact on the health of the fetus as well as that of mother. It impairs the oxygen delivery through placenta to the fetus and interferes with the normal intrauterine growth leading to fetal loss and perinatal deaths. Anaemia is associated with increased preterm labour(28.2%), pre-eclampsia (31.2%) and maternal sepsis<sup>(1)</sup>

WHO Global data base on Anemia for 1993-

2005, covering almost half the World's population, estimated the prevalence of anaemia worldwide at 25%<sup>(2)</sup> Although the prevalence of anaemia estimated at 9 percent in countries with high development, in countries with low development the prevalence is 43%<sup>(3)</sup>. In absolute numbers anaemia affects 1.62 billion people globally with about 293 million children of preschool age, 56 million pregnant women and 468 million non pregnant women estimated to be anaemic (2) Africa and Asia account for more than 85% of the absolute anemia burden in high risk groups and India is worst hit<sup>(2)</sup>. Anemia is estimated to contribute to more than 1,15,000 maternal deaths and 5,91,000 perinatal deaths globally per year<sup>(4)</sup>

India is one of the countries with very high prevalence of anaemia in the world. Almost 58 per cent of pregnant women in India are anaemic and it is estimated that anemia is the underlying cause for 20-40 percent of maternal deaths. India contributes to about 80 per cent of deaths due to anaemia in South East Asia<sup>(5)</sup> Anaemia is the major problem affecting 58% of pregnant women (NFHS -3,2005-2006). Knowledge of different causes of anaemia and its prevention in pregnant women is essential for control of anaemia. The outcome of the study helped to plan various health educational programmes to promote health of women.

## MATERIALS & METHODS

Cross sectional survey approach was used to conduct the study. The setting of the study was antenatal OPD, GMH, Koti, Hyderabad, AP. It is a speciality hospital in Obstetrics and Gynaecology an educational and research centre. Sample size was 100. Purposive sampling technique was used to select the sample. The structured Interview schedule was used to collect the data. It consists of section one on demographic data, section two consist of questions on knowledge on various aspects of anaemia. Section three consisted of questions on self reported practices of pregnant mothers regarding prevention of anaemia. Reliability of the tool was  $r=0.957$ . Pilot study was conducted and it was found feasible to carry out the study. The study was approved by research committee college of nursing, formal permission was obtained from Medical superintendent Koti, Government Maternity Hospital, Hyderabad,, India. Oral consent was taken from the respondents.

**Objectives:** To determine the knowledge regarding anaemia among pregnant women.

To assess the practices about various aspects of anaemia

To find out the association between knowledge practice with selected demographic variables

## FINDINGS

Demographic and baseline variables

Majority (60%) of the mothers were in the age group of 20-24 years. Most of them were

(73%).educated.63% are primigravida, 37% are multigravida.63% had mild anaemia, 18 % had moderate anemia, 7% had severe anaemia.

Knowledge regarding anaemia and various aspects

**Table 1. Knowledge of women regarding anemia (percentages)**

Variable	Inade-quate	Mode-rate	Ade-quate
Cocept of Anaemia	80	18	2
Signs and symptoms Of Anaemia	11	14	75
Effects of anaemia	24	10	66
Prevention of anaemia	65	31	4
Overall knowledge regarding Anaemia	14	53	33

Table one reveals majority (53%) were having moderate knowledge ,33 % had adequate knowledge, 14% had inadequate knowledge regarding anaemia. Most of the women (75%, 66%) have adequate knowledge on signs and symptoms, effects of anaemia. Inadequate knowledge present in concept of anaemia (80%), and prevention of anaemia (65%).

**Table 2. Knowledge on signs and symptoms of Anaemia**

S.NO	Signs and symptoms	Percentage
1	tiredness	88
2	weakness	86
3	headache	72
4	giddiness	86
5	Pallor of eyes	81
6	Pallor of lips and tongue	88
7	Pallor of face	89
8	Pallor of nails	88
9	palpitations	74
10	Breathing difficulty	79
11	Oedema of legs	79

Table two shows most of them are aware of signs and symptoms of anaemia.

**Table 3. Knowledge on Effects of Anaemia on mother and fetus**

S.No	Variable	Percentage
1	Low birth weight	91
2	Preterm labour	72
3	Intrauterine growth retardation	72
4	Heart failure	83
5	Post partum haemorrhage	66
6	Abruption placenta	72

Table three illustrates 91 percent were aware that anaemia may result in birth of low birth weight babies. 83 percent are aware of this may result in heart failure.

### PRACTICES ON PREVENTION OF ANAEMIA

**Table 4. Dietary practices regarding prevention of anaemia**

S.No	Diet	Percentage
1	Pregnancy needs extra energy and nutrients	100
2	Change in dietary pattern during pregnancy	52
3	Strict meal schedule during pregnancy	59
4	Habit of taking food which is left over after consumption of all family members	28
5	Fasting during pregnancy	32
6	Special food preparations taking during fasting	89
7	Avoid food items which are considered hot foods like mango, egg, jaggery, during pregnancy	37
8	Habit of eating ash, mud and charcoal	7
9	Include meat, fish, eggs, in diet regularly	90
10	Including green leafy vegetables and sprouted grams in diet regularly	97
11	Washing vegetables before cutting	100
12	Include seasonal fruits like apple, Orange, grapes, and dry fruits	98
13	Drinking atleast six to eight glasses of water per day	95
14	Including fibre rich diet drumsticks, carrots and radish in the diet	82
15	Use of Ragi and Jaggery in diet	25

All the mothers agreed pregnancy needs extra energy and nutrients. More than half of subjects reported change in dietary pattern and strict meal schedule is essential during pregnancy. More than

90 percent stated green leafy vegetables, fruits, meat, fish eggs are essential to take during pregnancy. 25 percent only stated use of jaggery and ragi in the diet.



**Table 5: Hygienic Practices regarding prevention of Anaemia**

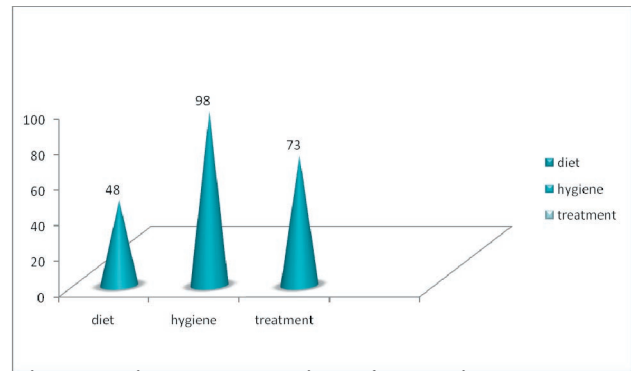
S.No	Hygiene	%
1	Practicing open air defecation	8
2	Wearing chapels for open air defecation	98
3	Washing hands with soap and water after defecation	97
4	Cutting nails once a week	96
5	Bathing every day regularly	99

Table five reveals only eight percent are practicing open field defecation. Almost all practicing washing hands, bathing regularly, cutting nails once a week. This indicates improved facilities provided by the Government and socioeconomic development.

**Table 6: Treatment Practices in prevention of anaemia**

S.No	Treatment practices	Percentage
1	Seeks medical help during pregnancy	99
2	Takes Iron and Folic acid tablets daily	94
3	Know the purpose of iron tablets	99
4	Regular intake of iron tablets leads healthy babies	99
5	Forget taking Iron tablets any day	30
6	Keeps time schedule to take iron tablets	96
7	Stops iron tablet due to dark stools	8
8	Skips Iron tablets wontedly	4
9	Knows that Iron tablets to be continued after delivery	34

Almost all taking medical help and also taking Iron tablets. But 30 percent forget to take iron regularly. 34 percent only are aware Iron tablets have to be continued even after delivery.



**Fig 1. Practices on Prevention of Anaemia**

Fig –one reveals 98 percent are taking hygienic measures to prevent anaemia. 78 percent are following treatment practices to prevent anaemia. 48 percent are observing dietary practices to prevent anaemia.

Association between knowledge, practices about prevention of anaemia with selected demographic variables.

Significant association was found between knowledge and education of mothers (chi-square-22.119), occupation (chi-square-20.131) at 1%, 5% level. This is in line with the findings of Ghimire N, Pandey N study (p=0.002) at (p<0.05). Significant association was found between occupation of pregnant women with practices (chi-square 13.962) at 1% level.

**Development of Information booklet**

As the pregnant women have moderate knowledge on anaemia, less than half are following necessary dietary practices, information booklet was prepared in local language (Telugu) And explained it to the mothers.

**DISCUSSION**

Anaemia during pregnancy is a global public health problem facing world today, especially in the developing countries. It is an important contributor to maternal mortality/morbidity as well as to the low birth weight which in turn might contribute to increased percentage for Infant mortality. (8) The present study showed majority (77%) of the mothers are literates that indicates increase in female literacy in urban areas. As there is rise in age at marriage majority of mothers (60%) of mothers were married between 20-24 years of age. Majority (69%) registered

during second trimester in spite of government conducting educational programmes.

Overall majority (53%) Of mothers had moderate knowledge regarding anaemia The study findings are co related with the findings of <sup>(9)</sup>, 2014 where all mothers reported moderate knowledge Anita(2005) also reported 72.3% had moderate knowledge.The study findings of Thressiamma <sup>(11)</sup> revealed pre test mean score of 23.79%. Abiselvi et al <sup>(12)</sup> also reported 57.7% mothers had moderate knowledge about anaemia. Ghlimire et al<sup>(13)</sup> also reported 51.3% of mothers had inadequate knowledge about anaemia, 66% of mothers had poor practice on prevention of anaemia .Kalimbira AA et al study found a large majority of the rural women in Malwai (96.8%) knew about anaemia and most of them correctly indicated its signs, causes, prevention, and treatment. This study also identified 80% of mothers had inadequate knowledge on meaning and concept of anaemia,it is corelating with the results of Abiselvi et al where only 19.3% knew about meaning of anaemia. 65% of mothers have inadequate knowledge on prevention of anaemia. Anita study also showed 49.1% of mothers had knowledge regarding disease aspect of anaemia, 56.27% showed Knowledge regarding prevention of anaemia .With regard to practices 48% are following dietary practices, 73% are following treatment practices, almost all practicing hygiene. 30 percent mothers reported forgetting to take tab iron in between so necessary methods have to be informed to the mothers so that they will not forget to take iron tablets .only 33 percent are aware of tab Iron has to be continued even after delivery so there is a need to impart knowledge that tab Iron has to be continued even after delivery. Almost all told fruits,vegetables are essential. These results are supported by Maj Sivapriya S and Lt Col Laxmipriya Parida<sup>(14)</sup> where 98% are including green leafy vegetables in the diet. The present study highlighted the importance of providing information to all the antenatal women in the clinics. There should be mandatory preconception and antenatal counselling sessions on prevention of anaemia.

**Conflict of Interest:** Nil

**Acknowledgement:** Authors acknowledges the pregnant mothers who co operated in data collection.

**Financial Support:** Nil

**Ethical Clearance:** Research committee, College of Nursing approved the research topic, permission was obtained from Medical Superintendent, Govt. Maternity Hospital, Koti, Hyderabad. Oral consent was taken from participants

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# Effect of an Instructional Module Regarding Knowledge and Attitude on Childrearing Practices among Mothers of Infants in Tribal Areas of Kannavam, Kannur, Kerala

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## ABSTRACT

The present study was aimed to assess the effect of instructional module regarding knowledge and attitude of mothers of infants on childrearing practices.

### Objectives

1. Assess the existing level of knowledge on childrearing practices among mothers.
2. Identify the existing level of attitude on childrearing practices among mothers.
3. Determine the effect of instructional module on knowledge and attitude of mothers on childrearing practices.
4. Find out the association between the level of knowledge and attitude with selected sociopersonal variables.
5. Identify the relationship between knowledge and attitude on childrearing practices among mothers.

The conceptual framework used in the present study is Rosenstock and Becker's Health Belief Model. A quantitative research approach with one group pre test post test design was used in the study. The population under study were mothers of infants at tribal areas. Sixty tribal mothers of infants at Kannavam within the age group of 18-38 years were the samples selected through simple random sampling. Structured questionnaire and attitude assessment scale were the tool used to collect data by self report technique. The data was collected for a period of 6 weeks in 6, 9 and 13 wards of Kannavam, Kannur district. The findings of the study revealed that, 46.6% and 50% samples were having average and below average knowledge and 28% were having positive attitude on childrearing practices during pre test. After the administration of instructional module 51.6% and 10% were having average and below average knowledge respectively and 68.4% were having positive attitude during post test. The calculated 't' value for level of knowledge ( $t=31.16$ ) and level of attitude ( $t=23.789$ ) was greater than the table value (2.00) at  $P < 0.05$  level. The present study revealed that there is a significant positive correlation with knowledge and attitude in pre test and post test.

**Keywords:** *Childrearing practices; knowledge; attitude.*

## INTRODUCTION

India touched the 1.2 billion population mark in 2011<sup>1</sup>. The 2011 Indian census revealed some shocking data about our child population. The child population in India has declined, whereas overall population has increased about 17.64% in the last 10 years<sup>2</sup>. India is home to 158.8 million children. Kerala made a remarkable demographic transition within a short period of time, where child population is only 9.5% of its total population<sup>2</sup>.

It goes without saying that enabling all children to realize their full creative potential is critical for sustaining India's economic growth and accelerating human development. Not all children have benefited equitably from the remarkable progress and transformation that the country has witnessed in recent years. Tens of millions still face basic challenges of survival and healthy development<sup>3</sup>.

The tribal population of India is 8,43,26,240 and of Kerala is 3,64,189, which works out to 1.14 percent

of the state population<sup>4</sup>. The tribes are concentrated on the hill regions of Kerala<sup>5</sup>. The child mortality rate among the tribal group is high. The per capita health expenditure of the tribes is higher than that of the general population<sup>6</sup>. Reports on daily shows that tribal groups allege more infant deaths in Melekandiyoor tribal hamlet in Agali grama Panchayat limits in Palakkad district of Kerala, where 42 infants have had died in the Attappady hills during the past 16 months<sup>7</sup>.

A child's first line of protection and care should be the family<sup>8</sup>. Childrearing is the biggest and most important business parents are engaged in, all over the world. Human babies are most vulnerable compared to babies of all other animal species<sup>9</sup>. There is considerable individual variation in practice from family to family, depending on the psychological make-up of parents, including their own personality, the experiences they had as children and the conditions under which they are living<sup>10</sup>.

While childrearing practices may be different across cultures, scientific knowledge would suggest that there are basic needs that all children have and a predictable pattern of development during the early years is universal. Studies from different parts of world reveal that all young children need adequate nutrition, health and care from birth onwards. The lack of these supports during early years has permanent negative effects on later development<sup>11</sup>.

In India, Ayurveda was the first document to describe childrearing rituals mainly as preventive measures. In short, childrearing practices are conducive to positive mental health<sup>12</sup>.

Tribal communities are isolated and are geographically distinct from general population by their own physical, socioeconomic environment, with each tribe having its own unique customs, traditions, beliefs and practices. Though science and technology have brought about advancement in life situations, still tribal families are unaware of it. They hold on to the traditions and practices even though it has no scientific footing. The family rituals and symbols are extremely significant and are valued very highly and are continued even when members do not see them as important<sup>13</sup>.

Tribals are one of the most exploited and deprived sections of the population in the Indian society. In all indicators of development, they remain the most excluded despite the fact that various kinds of policies and programmes have been pursued for their upliftment in the post-Independence India. Needless to say that exclusion from fruits of development has adversely affected the quality of life of the tribal people. Tribal children are no exception<sup>3</sup>.

Childrearing is probably the most challenging responsibility for a mother during her child's infancy. Successful childrearing is essential for the child's overall development and realization of self esteem. As a primary care giver for infant, mother is responsible for attending to all the needs of infant<sup>14</sup>.

The important aspects of childrearing practices are maternal activities that promote the child's physical, physiological, psychological, social, economical and spiritual well being so that they may grow up to express their full potential<sup>15-17</sup>. Mother is an important primary care provider and, therefore, it is her education and access to information that will help her, about care of her infant and to develop positive attitude towards childrearing practices<sup>18</sup>. Thus, there is gap in knowledge and attitude about childrearing practices among the tribal mothers of infants due to their social isolation.

The researcher experienced that, by systematically evaluating the childrearing knowledge and attitudes of tribal mothers, it is possible to identify areas of inadequacy and institute remedial programs, and thereby ensure proper growth and development of the babies. With the help of an instructional module on childrearing practices, researcher is trying to educate the tribal mothers of infants and to develop most positive attitude towards childrearing and to create an awareness that childrearing is a changing, dynamic behavioural process that need to be modified to adjust to the child's continued growth and development.

## MATERIAL & METHOD

**Research approach:** Quantitative

**Research design:** One group pre-test-post-test design

**Setting of the study:** ward 6, 9 and 13 of tribal

areas of Kannavam

**Population:** mothers of infants at tribal areas

**Sample and Sampling technique:** 60 mothers of infants at tribal areas of Kannavam. Simple random sampling (lottery method) and self report was the technique.

### **Description of tool**

Structured questionnaire and attitude scale was the tool.

Tool I: Structured Questionnaire on knowledge regarding childrearing practices.

Tool II: Attitude assessment scale (rating scale) on childrearing practices.

The tool consists of four sections.

SECTION I- Sociopersonal variables; which include age in years, religion, subcaste of tribals, educational status, occupation, type of marriage, type of family, number of children, period of residency, income of the family per month and source of information regarding childrearing practices.

SECTION II- Knowledge questionnaire on childrearing practices

It consists of 30 self reporting type of structured multiple choice questionnaire related to knowledge on child rearing practices. Questions (1-11) are based on physical aspects, (12-20) are based on physiological aspects, (21-29) are based on psychosocial aspects and question number 30 is based on the economical aspect of child rearing practices. The score were interpreted as below average knowledge (<50%), average knowledge (51-75%) and above average knowledge (76-100%).

Tool II- 5 point Attitude assessment scale (Rating scale) on childrearing practices.

SECTION III- It consisted of attitude assessment scale consisting of 25 attitude statements. There were 16 positive and 9 negative statements. Statements (1-8) were based on physical aspects, (9-12) based on physiological aspects, (13-17) are based on psychological aspects, (18-22) were based on social aspects, 23 were based on economical aspect and (24-

25) were based on spiritual aspects of childrearing practices. The score interpretation was done as very poor attitude (1-25), poor attitude (26-50), positive attitude (51-75), more positive attitude (76-100), and most positive attitude (101-125). In regard to positive statement scoring was done 5, 4, 3, 2, 1 as interpreted as strongly agree, agree, uncertain, disagree, strongly disagree respectively. With regard to negative statement, scoring was done 1, 2, 3, 4, 5 as interpreted as strongly agree, agree, uncertain, disagree, strongly disagree respectively.

SECTION IV- Instructional module on childrearing practices, which included physical, physiological, psychological, social, economical and spiritual aspects of childrearing.

### **Content validity**

Research tool and instructional module was sent to subject experts for content validity. Their valuable suggestions and opinion was collected on relevancy, appropriateness and accuracy of the tool.

### **Reliability of tool**

To establish the reliability of the tool, Karl Pearson formula was used. Correlation coefficient, was found to be 0.84. Thus the tool was found reliable.

### **Pilot study**

The pilot study was conducted in Peruva tribal area (ward 13) of Kolayadu Panchayat, Kannur to assess the feasibility of the study. The investigator obtained the written permission from the Integrated Tribal Development Project office, Kannur prior to the pilot study. The purpose of the study was explained to the sample and confidentiality was assured. Written informed consent were obtained from mothers of infants. Tool was administered to 6 mothers of infants, who fulfilled the inclusion of the study. The instructional module was given to mothers on the same day of pre-test. Lecture class taken regarding child rearing practices on physical, physiological, psychological, social, economical and spiritual aspects of child rearing for the duration of 45 minutes and distributed the instructional module to them. On the seventh day, the post-test was conducted with the same tool to assess the knowledge and attitude regarding childrearing practices. Analysis of the data was done and study report was presented. The study

was found feasible and practicable.

#### Data collection process

The investigator obtained written permission from Integrated Tribal Development Project office, Kannur and 6, 9 and 13 wards of Kannavam tribal areas, of Pattayam Panchayat, Kannur were selected for the study. The sample were selected by simple random sampling technique through lottery method. Mothers information was collected from immunization and postnatal registers maintained by the Primary Health Center, Kannavam. By lottery method 60 samples were selected as per the inclusion of the study. Before administering the tool, the investigator self introduced to mothers of infants and the purpose of the study was explained and an informed written consent was obtained from the subjects. On the first day, pre-test was conducted by using the structured knowledge questionnaire to assess knowledge level of mothers on childrearing practices and attitude assessment scale was used to assess the attitude of mothers of infants on child rearing practices. Instructional module was administered to the mothers of infants by lecture method which include lecture on various aspects of child rearing practices which includes physical, physiological, psychological, social, economical and spiritual aspects of child rearing practices for the duration of 45 minutes and distribution of instructional module to mothers. Post-tests were conducted on the 7th day by administering the same tool used in pre test to assess the knowledge and attitude score of mothers of infants regarding childrearing practices. The data collection period was 6 weeks.

#### Analysis of data

The data obtained was analysed in terms of achieving the objectives of the study, by the descriptive and inferential statistics. Effectiveness of instructional module on knowledge and attitude of mothers on childrearing practices was determined with the help of paired 't' test. The association between the level of knowledge and attitude with selected sociopersonal variables was found out by using Chi square test. The relationship between knowledge and attitude on childrearing practices among mothers was calculated with the help of Spearman's correlation coefficient.

## FINDINGS

Assessment of existing level of knowledge of mothers on childrearing practices

Among 60 samples, only 3.4% were having above average knowledge, 46.6% were having average knowledge, whereas 50% were having below average knowledge regarding childrearing practices.

Assessment of existing level of attitude of mothers on childrearing practices

Among 60 samples, 8.3% were having poor attitude, 46.7% were having positive attitude and only 45% were having more positive attitude and none of the samples were having most positive attitude on childrearing practices.

Assessment of level of knowledge of mothers on childrearing practices after administration of instructional module

Among 60 samples, 51.6% were having average knowledge, 38.4% were having above average knowledge, but only 10% were having below average knowledge regarding child rearing practices.

Assessment of level of attitude of mothers on childrearing practices after administration of instructional module

Among 60 samples, 68.4% were having more positive attitude, 25% were having positive attitude and 6.6% were having most positive attitude on childrearing practices.

Assessment of effectiveness of instructional module on childrearing practices

The mean level of post test knowledge score (21.38) and post test attitude score (86.53) was significantly higher than their mean pre test level of knowledge (15.17) and attitude score (72.57). The calculated 't' value ( $t=31.16$ ) for level of knowledge and 't' value ( $t=23.789$ ) for level of attitude was greater than the table value (2.00) at  $P < .05$  level.

The findings revealed that there is a highly significant gain in knowledge and change of attitude of mothers of infants on childrearing practices after the administration of instructional module. Hence it is revealed that there is a highly significant gain

in knowledge and change of attitude through instructional module.

Association between level of knowledge and socio personal variables

The Chi square value calculated between knowledge and selected socio personal variables revealed that there was a significant association between knowledge on childrearing practices and type of marriage, type of family and number of children.

Association between level of attitude and socio personal variables

The Chi square value calculated between level of attitude and selected socio personal variables revealed that there is a significant association with type of marriage. Therefore,  $H_2$  is accepted.

Correlation between pre test knowledge and attitude scores

Spearman's Correlation coefficient for knowledge and attitude among 60 samples showed a significant positive correlation,  $r_s = 0.0878$  indicating that those with a higher level of knowledge had a conservative high attitude toward childrearing practices.

**Correlation between post test knowledge and attitude scores**

Spearman's Correlation coefficient for knowledge and attitude among 60 samples showed a significant positive correlation,  $r_s = 0.134$  indicating that those with a higher level of knowledge had a conservative high attitude toward childrearing practices.

This finding shows that there is a positive correlation between level of knowledge and attitude on childrearing practices among mothers of infants. Hence, it is revealed that as knowledge level increases attitude is also changing to positive, more positive and most positive levels. Therefore  $H_3$  was accepted.

## CONCLUSION

In the light of the findings of the study, it is clearly highlighted that instructional module was effective in improving knowledge and changing attitude of mothers of infants regarding child rearing practices. Thus, health education and IEC materials are simple

and cost effective tool for bringing about a change in knowledge and attitude of mothers on childrearing practices and thus improving infant survival. Therefore, educative programmes can be used as an effective nursing initiative in helping mothers to rear their children into a responsible citizen.

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**Conflict of Interest** - Nil

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# A Pre Experimental Study to Assess the Effect of Emotional Intelligence Skill Training on Emotional Intelligence of Undergraduate Nursing Students

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## ABSTRACT

As a part of nursing curriculum students have both academic and clinical working hours. Nursing students works in various conditions and come across various stressors during their professional training. There is evidence of increased level of stress in nursing students and the positive impact of Emotional intelligence on performance of nursing students both academically and in patient care. The study was conducted on students of B.Sc. Nursing students. A protocol of Emotional intelligence skill training was made based on Goleman's model of Emotional Intelligence and seven sessions were planned. Total 325 subjects were enrolled for study but data analysis was done only for 224 subjects who attended all the seven sessions of Emotional Intelligence skill training. Pre test score at baseline before the intervention was assessed and post test score was assessed one month after the intervention. The outcomes were assessed on pre and post test score using statistical methods. In distribution of subjects according to Emotional Intelligence test score in high, average and below average level in pretest and post test, significant improvement after intervention was found in Emotional Intelligence (p value < 0.001). In comparison of pretest and post test scores of Emotional Intelligence, the results of the study showed a significant improvement in the score of Emotional Intelligence (p value = 0.007).

**Keywords:** Emotional Intelligence, Emotional Intelligence Skill Training.

## INTRODUCTION OR BACK GROUND

Emotional Intelligence is a cluster of traits or abilities relating to the emotional side of the life. Daniel Goleman was the one who termed this kind of intelligence as Emotional Intelligence and defined it as a cluster of traits or traits or abilities relating to emotional side of life.<sup>1</sup>

Earlier the focus of Emotional Intelligence was on emotions and rationality which has now shifted to the intellectual component of Emotional

Intelligence.<sup>2</sup> Emotions are connected to intelligence as in our day to day life we meet a variety of people whom we label as emotional geniuses, emotional idiots and people with moderate emotional competency.<sup>3</sup>

## CONCEPT OF INTELLIGENCE

From one of the pioneer theories of intelligence was the faculty theory of intelligence in 18<sup>th</sup> and 19<sup>th</sup> century which believed in the presence of different and independent faculties which can be developed by training. Followed by this was the single factor theory of intelligence which believed in single general intelligence uniting all the different abilities and capacities of mind which was supported by psychologists like Binet and Terman. Next came the two factor theory by Charles Spearman in 1904 according to which intelligence has two factors namely General or 'g' factor which is inborn and

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Specific or 's' factor which is acquired from one's environment.

This was followed by the concept of system theories of Intelligence. First was the theory of multiple intelligences by Howard Earl Gardner (1983) in which he said that the traditional notion of intelligence based on I.Q. testing, is far too limited.<sup>4,5</sup>

### THE CONCEPT OF EMOTIONAL INTELLIGENCE

Emotional Intelligence is not a new concept. It is present from the Vedic times. A numbers of texts are available in these about it.<sup>6</sup>

In modern concept Alfred Binet who was one of the pioneers of intelligence test believed that general intelligence might not be the only factor important for social intelligence and emotional intelligence can be viewed as a subset of social intelligence as explained by many psychologists. Emotional intelligence has been discussed in work of various psychologists and other workers in this field like in Howard Gardener's theory of multiple intelligences (1983) the association can be seen between emotional intelligence and interpersonal intelligence and intrapersonal intelligence.<sup>3</sup>

The word 'Emotional Quotient' was first used by Dutch fiction author Carl Lans in her two novels published in 1960's. But in scientific psychology the first use was by German psychoanalyst Barbara Leuner in 1966 in her writing in which she suggested that the hallucinogenic drug LSD might help women with low emotional intelligence.<sup>4</sup> The first use of term Emotional Intelligence is attributed to Wayne Payne in 1985.<sup>3,7</sup> Daniel Goleman in 1995 further elaborated this concept of Emotional Intelligence and divided Emotional Intelligence into five basic emotional and social competencies-self-awareness, self-regulation, motivation, empathy and social skills.<sup>8</sup>

Cooper(1997) divided Emotional Intelligence into five attributes namely current environment (life pressures and situations), emotional literacy (self awareness, emotional awareness, emotional expression and emotional awareness of others), EQ competencies (intentionality, creativity, resilience, interpersonal connections and constructive discontent), EQ values and attitudes (outlook, compassion, intuition, trust radius, personal power

and integrated self) and EQ outcomes (general health, quality of life, relationship quotient and optimal performance). Baron (1997) called emotional intelligence as "an array of non cognitive capabilities, competencies and skills that influence one's ability to succeed in coping with environmental demands and pressures," it can be improved by training and lack of which can lead to emotional problems and failure.<sup>9</sup>

Emotionally intelligent people are having lower stress in their lives. This is because they handle themselves and their environmental events in such a way that there are fewer stressful events in their lives. They handle their mistakes more effectively and they know adaptive strategies so they cope up with the failures and mistakes. They regulate and repair the negative and destructive thoughts and emotions and they have more constructive thought pattern.<sup>4</sup>

Emotional Intelligence is not fixed at birth. It can be improved and it is learned throughout life with experiences. This growth of Emotional Intelligence is called 'maturity'. It can be upgraded by a person by knowing its elements and then upgrading them but in a group it's managing the relationships with the group and at organizational level. Emotional Intelligence does not mean merely nice but its handling oneself and others effectively.<sup>10,8</sup>

### REVIEW OF LITERATURE

According to a study conducted by Kumar R and Nancy on 180 students showed 34% of nursing students in nursing colleges in Punjab have moderate stress and 33% have mild and severe stress and majority tend to use healthy coping strategies as compared to negative and unhealthy.<sup>11</sup> Another study conducted by Sharma S, Singh C and Sharma RK on 44 nursing interns showed the same results in which majority of the nursing interns had moderate level of stress related to their clinical work for which they use coping strategies like avoidance, transference, problem solving and optimism.<sup>12</sup> Similar results were also replicated by another research study conducted by Dhar R, Walia I, Das K which was done on 43 B.Sc. Nursing first year students in which majority of the subjects showed to have stress and along with this factors leading to this is due to long college hours and shortage of time of self study and more academic work load nursing students which was found to have difficulty in participation in social life.<sup>13</sup> Kaur S, Das

K, Amrinder, Neha, Kanika, Sukhjot et al further reported in a research study that the major stressors in nursing students are academic in nature.<sup>14</sup> Even the substantial suicidal risk was reported in 14% of nursing students in a research study done by Aradilla-Herrero A, Tomas-Sabado J, Gomez-Benito J. along with negative association with self esteem with emotional clarity and repair<sup>15</sup>

Importance of Emotional Intelligence for nursing students:

According to Shanta LL, Connolly M. in an article Emotional Intelligence is a crucial component in the nurses' ability to provide care to the patient, peers and themselves and maintaining interpersonal relationships.<sup>16</sup> In a study done by Carmona-Navarro MC, Pichachardo-Martinez MC on 81 nursing professionals from which 52 were working at emergency services and 29 were working at mental health services it was seen that high level of Emotional Intelligence is associated with positive attitude of nursing professionals towards patients with suicidal behavior.<sup>17</sup> And in a study by Fernandez R, Salamonson Y, Griffith on 81 subjects has shown that in academics higher level of understanding their own emotions have a positive impact on students' academic achievement and Emotional Intelligence is a significant predictor of academic achievement and in terms of critical thinking, help seeking and peer learning.<sup>18</sup> In a study done on 243 nursing students by Aradilla-Herrero A, Tomas-Sabado J, Gomez-Benito J has shown a co-relation between self compassion and Emotional, which includes the individual perceiving one's emotions and using the knowledge one gained from them to function while directing thoughts, actions and professional applications, has positive contribution to the features of nurses with developed self compassion.<sup>19</sup> and according to study conducted by Beauvias AM, Stewart JG, Denisco S, Beauvais JE there is a significant relationship between psychological empowerment, resilience, spiritual well-being and academic success and between total emotional intelligence and with academic success, resilience with academic success and psychological empowerment with academic success<sup>20</sup>. In a study by Chan JC, Sit EN, Lau WM. showed that higher the Emotional Intelligence, the more students used integrating, obliging, compromising and dominating. The lower the Emotional Intelligence,

the more students used avoiding<sup>21</sup> and a study on 571 undergraduate nursing students by Senyuva E, Kaya H, Isik B, Bodur G has shown a co relation between self compassion and Emotional Intelligence which includes the individual perceiving one's emotions and using the knowledge one gained from them to function while directing thoughts, actions and professional applications has positive contribution to the features with developed self compassion.<sup>22</sup> Another study by Ruiz-Aranda D, Extremera N, Pineda-Galan C has shown a between Emotional Intelligence and person's wellbeing which is indicated by life satisfaction and happiness and an underlying process by which high Emotional Intelligence may increase well being in female students in nursing and allied health sciences by reducing the experience of stress.<sup>23</sup>

## MATERIAL & METHODS

A pre experimental study was designed to assess the effect of Emotional Intelligence skill training on Emotional intelligence of nursing students. The study was conducted on B.Sc. Nursing students of PGIMER, Chandigarh. All the students of B.Sc. Nursing four years studying during year 2014 were enrolled as study samples. The conceptual framework of the study was based on Roy's adaptation model and Goleman's model of Emotional Intelligence.

A protocol was made based on Goleman's model of Emotional Intelligence and training was planned in total seven sessions which were on Introduction and need of Emotional Intelligence, self awareness, self management, social awareness, relationship management and termination session respectively. Each session was of one hour which included teaching, activities and discussion which was validated by the experts from the fields of Nursing, Psychiatry and Psychology.

The data was collected at baseline in first sessions and one month after the completion of all the seven sessions of Emotional Intelligence skill training. Total 325 subjects were enrolled in the research study but data analysis was done only for 224 subjects who attended all the seven sessions of Emotional Intelligence skill training. Descriptive and inferential statistics were used for data analysis.

## FINDINGS

Socio demographic profile of subjects:

The subjects were in the range of 17 years to 23 years of age with mean age  $19.33 \pm 1.235$ . Among the subjects majority are aged 17 years (30%) followed by subjects of age 20 years (26.8%). There were 120 (53.6%) subjects from urban and 104 (46.4%) from rural background. Majority i.e. 167 (74.6%) of the subjects belonged to the nuclear and 34 (59.8%) of the subjects were eldest in their birth order.

Academic Profile of subjects:

The subjects were enrolled from all the four years of B.Sc. Nursing with maximum number of subjects were from B.Sc. Nursing First year 77 (34.4%) followed by second and third year with equal number of subjects 61 (27.2%) from each year. Majority of the subjects which were more than half 133 (59.4%) opted for nursing profession due to their own interest.

Distribution of subjects according to scores of Emotional Intelligence Test (EIT):

In Table 1 McNemar chi square test was applied on the distribution of the subjects in various levels i.e. below average, average and high as given in Emotional Intelligence Test (EIT) to test the difference after the intervention. According to results statistical significant improvement after the intervention was found in Emotional Intelligence ( $p$  value  $< 0.001$ ).

**Table 1: Distribution of subjects according to scores of Emotional Intelligence Test (EIT)**

N=224

Level	Pre Test n(%)	Post Test n(%)	$\chi^2$ df p <sup>#</sup> value
Emotional Quotient			
Below Average(60-140)	-	-	12.071
Average(141-220)	193(86.2)	179(79.9)	1
High(221-300)	31(13.8)	45(20.1)	$< 0.001^*$

\* $p < 0.01$

<sup>#</sup>p = McNemar p value

## Comparison of Pre-test and Post-test values of Emotional Intelligence:

Table 2 compares pre and post intervention assessment of the Emotional Quotient of the subjects. The comparison of the pre test and post test scores was done using paired t test and the results showed that in Emotional Quotient the mean score in pre test was  $208.68 \pm 10.67$  and after intervention it was  $210.56 \pm 11.61$ . So there was a significant improvement in the Emotional Quotient of the subjects after intervention ( $p$  value = 0.007).

**Table 2: Comparison of Pre test and Post test values of Emotional Intelligence: N=224**

Variables	Pre test Mean $\pm$ SD Range	Post Test Mean $\pm$ SD range	Paired t df p value
Emotional Quotient	$208.68 \pm 10.67$ 180-237	$210.56 \pm 11.61$ 175-238	-2.70 223 0.007*

**Minimum and Maximum attainable score:** ,  
Emotional Quotient = 60-300 \* $p < 0.01$

## CONCLUSION

Total 224 subjects were included in the study from all the four years of B.Sc. Nursing and the results have shown that after Emotional Intelligence skill training there was significant improvement in the Emotional Intelligence (EQ) of the undergraduate nursing students.

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**Conflict of Interest:** Nil

**Source of Funding:** Self

**Ethical Clearance:** Taken from Institute Ethics Committee, PGIMER, Chandigarh.

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# Assessment of Adjustment Problems among Adolescents Residing in Orphanage

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## ABSTRACT

A descriptive study was undertaken to assess the adjustment problems among adolescents residing in selected orphanage at Kerala, India. This study was aimed to identify adjustment problems of adolescents residing in orphanage as well as to find out the association between adjustment problems of adolescents residing at orphanage with their socio - demographic variables. An information booklet was also developed on adjustment problems of adolescents residing in the orphanage and it's coping strategies. A quantitative research approach has been used. The data was collected using socio demographic profile and self administered rating scale on adjustment problems among adolescents residing in the orphanage. The data was analyzed using descriptive (frequency, percentage) and inferential (chi - square test and fisher exact probability test) statistics. Among 100 adolescents in the orphanage, 71% of subjects had good adjustment and the remaining 29% had moderate adjustment. None of them had poor level of adjustment. There were significant association between three demographic variables, education level of the adolescents ( $\chi^2 = 3.918$ ,  $df = 1$ ,  $p < 0.05$ ), parents living ( $\chi^2 = 8.114$ ,  $df = 3$ ,  $p < 0.05$ ) and visit by parents ( $p = 0.035$ ). The investigation of adolescent adjustment problems among those residing in the orphanage is warranted to facilitate the development and implementation of established support system that prevents and decrease emotional and behavioural problems among institutionalized adolescents.

**Keywords:** adjustment problems, adolescents and orphanage.

## INTRODUCTION

Adolescence is the second decade of life, marking the period of transition from childhood to adulthood.<sup>1</sup> According to WHO, it is said to be a crucial period of one's life, which covers roughly from 10-19 years.<sup>2</sup> It is also a time of new challenges and new opportunities.

Some adolescents do not negotiate these challenges positively and develop personal and social problems which lead towards their maladjustment.<sup>3</sup> An orphanage plays a pivotal role, to care for children whose parents are deceased or otherwise unable or unwilling to care for them. Researches reveal that adolescents who live in an institutional setting as a

result of their family problems or life events may have increased adjustment problems.<sup>4</sup>

A study by *Shrivastava* in 2007 reports that approximately 18 million children who live or work on the streets of India, are involved in *crime, prostitution, gang related violence and drug trafficking* of which majority are orphans.<sup>5</sup>

Therefore considering the above background it was felt that, researches on adjustment problems among adolescents residing in the orphanage are limited and thus identifying their adjustment levels at the earliest would warrant to facilitate the development and implementation of established systems that prevent and decrease violent behaviours among adolescents, who are the future treasurers of our society.

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## MATERIALS & METHODS

The present study was aimed at identifying the adjustment problems among adolescents residing in selected orphanage, the quantitative research approach was found to be more appropriate. Descriptive design was used to accomplish the aim of the study. The study was conducted in Janaseva boys home, Aluva (Kerala).

A convenience sampling technique was used to recruit the sample. Hence, 100 subjects residing in the orphanage were recruited for the study. The reliability was analyzed by means of Cronbach's alpha, and yielded, reliability coefficients of as 0.939 which was reliable and content validity index of 0.9. The tools used for the study were socio demographic profile that deals with demographic variables such as age, education, hobbies, favourite subject, admirable person, parents alive, visit by parents, siblings stay, age of first admission to the institution, reason for admission and duration of stay in the institution. A 50 item rating scale consisting of 20 positive and 30 negative statements developed by the researcher on

areas covering emotional, social, health and institution were also used to identify the adjustment problems. Higher the score indicates good adjustment. With the total score of 150, data was interpreted as 50 – 79 indicating poor adjustment, 80 – 109 moderate and 110 – 150 with good adjustment.

Data collection was done, after obtaining ethical clearance from the Thesis review committee of AIMS. Formal permission from the authority of the orphanage was also obtained. Then, the investigator visited the orphanage on the given date and introduced to them and the purpose of the study was also explained. Assurance was given to the subjects that confidentiality would be maintained and then assent was obtained before conduction of the study. The tools were administered, from two groups in two sessions on a single day by the researcher and with the help of care takers to maintain discipline. It took about one hour to collect the data from a group. Sample selection criteria were that those adolescents between 10 to 18 years of age who are living in the orphanage for about 3 months and those who were available at the time of data collection.

## RESULTS

In this section, statistical analysis and interpretation of collected data were organized under four sections.

### Section I : Sample Characteristics

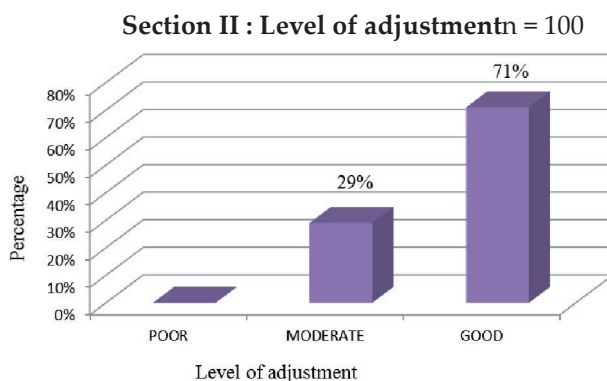
**Table 1: Distribution of subjects based on socio demographic characteristics n = 100**

Sl.No	Demographic Variables	Frequency (f)	Percentage (%)
<b>1. Age</b>			
	(a) 10-12years	58	58
	(b) 13-15years	30	30
	(c) 16-18years	12	12
<b>2. Education</b>			
	(a) Primary school	40	40
	(b) High school	51	51
	(c) Higher secondary	9	9
<b>3. Hobbies</b>			
	(a) Listening music	16	16
	(b) Playing with friends	65	65
	(c) Reading books	19	19
<b>4. Favourite subject</b>			
	(a) English	42	42
	(b) Maths	30	30
	(c) Science	8	8
	(d) Malayalam	20	20

Continued...

n = 100

Sl.No	Demographic Variables	Frequency (f)	Percentage (%)
5.	<b>Admired person</b>		
	(a) Parents	40	40
	(b) Guardian	50	50
	(c) Friends	10	10
6.	<b>Parents alive</b>		
	(a) Father	6	6
	(b) Mother	21	21
	(c) Both	65	65
	(d) None	8	8
7.	<b>Visit by parents</b>		
	(a) Father	9	9
	(b) Mother	32	32
	(c) Both	38	38
	(d) None	21	21
8.	<b>Siblings stay</b>		
	(a) Home	64	64
	(b) Same orphanage	17	17
	(c) Other orphanage	13	13
	(d) No siblings	6	6
9.	<b>Age of first admission</b>		
	(a) Up to 5years	34	34
	(b) 6-10 years	52	52
	(c) 11-15 years	14	14
10.	<b>Reason for admission</b>		
	(a) Family conflicts	36	36
	(b) Financial crisis	47	47
	(c) No house	12	12
	(d) Death of parents	5	5
11.	<b>Duration of stay</b>		
	(a)Up to 5years	54	54
	(b) 6-10 years	41	41
	(c) 11-15years	4	4
	(d) Above 15years	1	1



**Figure 1: Distribution of subjects based on level of adjustment**

Among the subjects, 71 (71%) had good adjustment and the remaining 29(29%) had moderate adjustment. None of them had poor level of adjustment. The mean adjustment score was 115.49, mean percentage 76.99% , standard deviation 10.11 and the median value was 116.

### Section III: Area wise analysis of the adjustment score

**Table 2: Area wise analysis of the adjustment score with respect to components of self administered rating scale  
n = 100**

Sl.No	Area of Maximum possible	Mean Standard	Mean score
	Adjustment score	deviation	percentage(%)
1.	Emotional	51	36.56 3.95 71.68
2.	Social	30	22.83 3.24 76.10
3.	Health	36	28.16 3.49 78.22
4.	Institution	33	27.94 3.44 84.66

The subject's mean score and mean percentage in relation to various components of the self administered rating scale on level of adjustment. It is evident from the table that, the subjects had emotional adjustment with a mean of 36.56 (71.68%) where the maximum possible score was 51 and standard deviation 3.95. Adjustment in social area and health area were, with a mean score of 22.83 (76.10%) and 28.16(78.22%) as well as the standard deviation of 3.24 and 3.49 respectively. The subjects have adjustment to the institution with mean of 27.94 (84.66%) which was comparatively good.

### OTHER RELEVANT FINDINGS

- Among the 100 subjects, 34 (34%) had only felt confident in doing all activities and 15 (15%) felt they get upset easily.
- Twenty nine percentage reported that, they

were able to deal well with problems but 7 (7%) always felt that they are a failure in life. Still, 44 (44%) felt that their dreams can be accomplished in future.

- In the social domain, about 70 (70%) enjoy making friendship with others, 51(51%) felt being cohesive in a group and also 50 (50%) found it easy in asking help from others.

- Within the subjects, 85(85%) had their meals in time and about 78(78%) could sleep well at night which indicates the satisfaction in meeting their basic needs in life.

- Most of the subjects, i.e 80 (80%) felt that they are protected, 68(68%) were comfortable and about 82 (82%) agree that there is love and affection within the institution. Whereas only 4 (4%) and 3(3%) had felt like running away and ashamed of being in the institution.

- More than half of the subjects i.e 79 (79%) and 64 (64%) felt that that their guardians are much kind and understanding them respectively. (69%) of the subjects always felt the need for the presence of their parents.
- So, of all the significant factor is that majority of the adolescents residing in the institution i.e 69

Section IV: Association between level of adjustment and selected demographic variables.

**Table 3: Association between adjustment problems of adolescents residing at orphanage with their socio - demographic variables**

**n=100**

Sl.No	Demographic Variables	Level of adjustment		Chi square	df	p - value
		Moderate(f)	Good(f)			
<b>1. Age in years</b>						
	Up to 12	21	37			
	Above 12	8	34	3.484 <sup>ns</sup>	1	0.06
<b>2. Education</b>						
	Up to primary school	16	24			
	High school and above	13	47	3.918*	1	0.04
<b>3. Hobbies #</b>						
	Listening Music	5	11			
	Playing with friends	19	46			1
	Reading	5	14			
<b>4. Favourite Subject #</b>						
	English	10	32			
	Maths	9	21			0.193
	Science	5	3			
	Malayalam	5	15			
<b>5. Most admired person #</b>						
	Parents	9	31			
	Guardian	16	34			0.449
	Friends	4	6			
<b>6. Parents living</b>						
	Father	4	2			
	Mother	8	13	8.114*	3	0.033
	Both	17	48			
	None	0	8			
<b>7. Visit by parents #</b>						
	Father	5	4			
	Mother	12	20			0.035*
	Both	10	28			
	None	2	19			

Continued...

n=100

Sl.No	Demographic Variables	Level of adjustment		Chi-square	df	p - value
		Moderate(f)	Good(f)			
<b>8. Siblings stay #</b>						
	Home	23	41			
	Same Orphanage	2	15			0.224
	Other Orphanage	3	10			
	None	1	5			
<b>9. Age of first admission</b>						
	Up to 5 years	13	21			
	Above 5 years	16	50	2.134 <sup>ns</sup>	1	0.144
<b>10. Reason for admission #</b>						
	Family Conflicts	12	24			
	Financial Crisis	12	35			0.358
	No house	5	7			
	Death of parents	0	5			
<b>11. Duration of stay</b>						
	Up to 5 years	13	41			
	Above 5 years	16	30	1.383 <sup>ns</sup>	1	0.240

$\chi^2_{(1)} = 3.84$ ,  $\chi^2_{(2)} = 5.99$ ,  $\chi^2_{(3)} = 7.82$ , \* =  $p < 0.05$ , # = using Fisher exact test, ns = not significant

The calculated chi square value in case of education level of the adolescents ( $\chi^2 = 3.918$ ,  $df = 1$ ,  $p < 0.05$ ), parents living ( $\chi^2 = 8.114$ ,  $df = 3$ ,  $p < 0.05$ ) and visit by parents ( $p = 0.035$ ) were less than p value 0.05. So, there is significant association between these socio demographic variables and level of adjustment. No statistical association found between other socio demographic variables of the subjects to the level of adjustment.

## CONCLUSION

About 29% of adolescents had moderate adjustment may be because of their poor peer group relationships and accepting guidance from guardians and also teachers. They may be expecting their parental guidance and support, love and affection from them. Some adolescents not accepting guidance in problematic situations may demonstrate harmful behavioural problems. Adolescents showed good adjustment in the overall score i.e. 71% may be accepting guidance from guardians and maintains good peer group relationship.

The significant factor is that, majority i.e 69 (69%) of the subjects always felt the need for the presence of their parents. As a health care provider giving psychological support at the earliest by establishing support systems, community awareness programs, providing information and voluntary support may help the adolescents to overcome the crisis. However

the support that is rendered to the adolescents in the orphanage cannot be compared to the parental love, care and support.

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**Conflict of Interest :** Nil

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# Assessment of Psychosocial Problems among Parents of Dyslexic Children Attending Child Guidance Clinic

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## ABSTRACT

A descriptive study was undertaken to assess the psychosocial problems among parents of children attending child guidance clinic in a tertiary care hospital at Ernakulum. This study was aimed to identify the psychosocial problems of parents of dyslexic children as well as to find out the association between problems faced by parents of dyslexic children and selected demographic variables. An information booklet was also developed on care of children with dyslexia. A quantitative research approach has been used. The data was collected using socio demographic profile and self administered rating scale on psychosocial problems among parents of dyslexic children attending the Child Guidance Clinic. The data was analysed using descriptive (frequency, percentage) and inferential (Fishers exact probability test) statistics. Among 70 parents, 11.4% had mild psychosocial problem, 75.7% had moderate psychosocial problem and the remaining 12.9% had severe psychosocial problem. There were significant association between two demographic variables, duration of disability (p value=0.011) and number of therapy sessions attended (p value=0.039). The investigation of psychosocial problems among parents of dyslexic children attending Child Guidance Clinic is warranted to facilitate the implementation of established adaptive system that prevents and decrease emotional, social, physical, cognitive and spiritual problems among the parents by providing awareness about their child's condition.

**Keywords:** psychosocial problems, parents, dyslexic children.

## INTRODUCTION

Early care and education is what many professionals are calling child care. All children can succeed with the right support. There is a need to understand the root of all difficulties. According to American Dyslexia Association- approximately 70-80% of children with poor academic skills are likely to be dyslexic. One in five students (approximately 15-20%) of the population has a language based learning disability and dyslexia is the most common of these disabilities<sup>1</sup>.

Parents especially mothers can often be affected quite profoundly and emotionally by the fact that their child has dyslexia. Parents may feel more concern about what the future will hold for their son or daughter. Parents may have anxiety when they see their child's distress and frustration over events that have happened to them. Researches reveal that there arise psychosocial problems among parents of children with learning disability<sup>2</sup>.

A study by Abasiubong F and Obembe A in 2002 reports that parents of children diagnosed as dyslexia undergo psychosocial problems. Studies reveal that parents of children with learning disability are prone for emotional and psychological disorders. In order to improve the well being of the children with learning disability, there is need to look into the mental and physical health of mothers<sup>3</sup> caring adults must understand the cognitive and affective problems caused by dyslexia. Then they must design strategies

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that will help the dyslexic, like every other child, to find joy and success in academics and personal relationships<sup>4</sup>.

## MATERIALS & METHODS

The present study was aimed at identifying the psychosocial problems among parents of children with learning disability attending Child Guidance Clinic, quantitative research approach was found to be most appropriate. Descriptive design was used to accomplish the aim of the study. The study was conducted in Child Guidance Clinic of a tertiary care hospital, Kochi.

A convenience sampling technique was used to recruit the sample. 70 samples were used. The reliability was analyzed by means of Cronbach's alpha and yielded reliability coefficients of as 0.939 and content validity index of 0.9.. The tools used for the study were socio demographic profile of parents, sociodemographic variable of children that deals with demographic variables such as Age, sex, occupation, family income, duration of disability, number of therapy sessions, type of syllabus, number of siblings, Medium of instruction of the child, learning disability in parents. A 42 item rating scale developed by the researcher consisting of emotional (16), physical (6), cognitive (7), spiritual (6) and social (7) areas were used to identify the psychosocial problems. Higher the score indicates severe psychosocial problem. With a total score of 126, data was interrupted as 42-70 indicating mild psychosocial problem, 71-98 moderate and 99-126 with severe.

Data collection was done, after obtaining ethical clearance from the Thesis review committee of AIMS. Formal permission from the Head of Child Guidance Clinic. Then, the investigator visited the Child Guidance Clinic on the given date and the purpose

**Table 1: Item wise analysis of the psychosocial problem score with respect to components of semi-structured questionnaire n = 70**

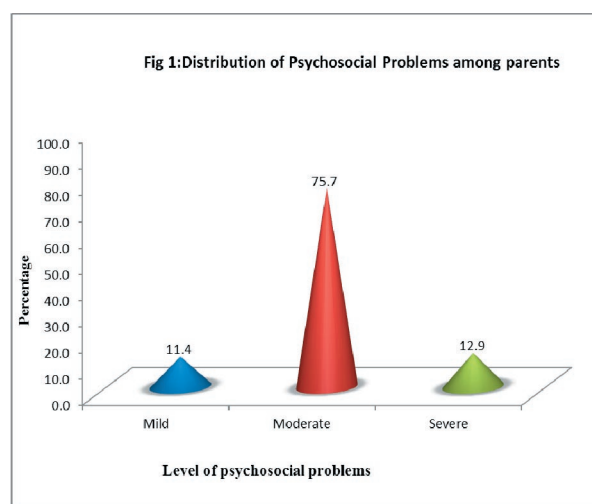
Sl.No	Domains/Areas	Total score	Mean	SD	Mean%
1	Emotional	48	32.89	5.989	68.5
2	Physical	18	11.44	3.352	63.6
3	Cognitive	21	14.11	2.423	67.2
4	Spiritual	18	14.70	1.697	81.7
5	Social	21	13.80	2.164	65.7

of the study was explained to the subjects. Assurance was given to the subjects that confidentiality would be maintained and then assent was obtained before conduction of the study. The tools were administered and it took about twenty minutes to collect the data from a sample. Sample selection criteria were those parents of children with dyslexia between 8 to 18 years of age who are attending the Child Guidance Clinic and those who were available at the time of data collection.

## RESULTS

In this section, statistical analysis and interpretation of collected data were organized under three sections.

### Section I : Level of psychosocial problems n=70



**Figure 1: Level of psychosocial problems among parents.**

The graph shows that 75.7% of subjects had moderate psychosocial problems, 11.4% had mild and the remaining 12.9% had severe psychosocial problem

### Section II: Area wise analysis of the psychosocial problem score

The subjects mean scores and mean percentages of scores in relation to various components of the semi structured questionnaire on level of psychosocial problems. It is evident from the table that the subjects have limited psychosocial problems in physical and social area with a mean of 11.44(63.6%) and 13.80(65.7%) respectively. Problems in Cognitive and emotional area are in

almost the same level of psychosocial problem with a mean percentage 67.2% and 68.5% respectively, Where as highest psychosocial problem is evident in the spiritual area (81.7%).

### Section III: Association between level of psychosocial problem and selected demographic variables

**Table 2: Association between level of psychosocial problems among the parents and selected demographic variables of children.**

Sl.No	Demographic Variable	Psychosocial problems			Total	P-value
		Mild	Moderate	Severe		
<b>1)</b>	<b>Duration of disability</b>					
	1-6 months	0%	8(61.5%)	5(38.5%)	13	
	7-12months	0%	4(66.7%)	2(33.3%)	6	0.011*
	13-24 months	1(7.1%)	12(85.7%)	1(7.1%)	14	
	Above 24 months	7(18.9%)	29(78.4%)	1(2.7%)	37	
<b>2)</b>	<b>Number of therapy Sessions</b>					
	None	0%	10(71.4%)	4(28.6%)	14	0.039*
	One	0%	5(62.5%)	3(37.5%)	8	
	Two	1(33.3%)	2(66.7%)	0%	3	
	Three	1(10.0%)	8(80.0%)	1(10.0%)	10	
	Four and Above	6(17.1%)	28(80%)	1(2.9%)	35	
<b>3)</b>	<b>Medium of instructions</b>					
	State Board	1(3.6%)	25(89.3%)	2(7.1%)	28	
	CBSE	7(18.9%)	24(64.9%)	6(16.2%)	37	0.146 <sup>ns</sup>
	ICSE	0%	4(80.0%)	1(20.0%)	5	

ns= not significant      \*= p <0.05 , using Fisher exact test      \*\*= p<0.01

The calculated fishers exact test value in case of duration disability(p=0.011,p<0.05),number of therapy sessions(p=0.039,p<0.05) were less than p value 0.05. So, there is significant association between

these socio demographic variables and level of psychosocial problems. No statistical association found between other socio demographic variables of the subjects to the level of psychosocial problems.



## CONCLUSION

About 75.7% of parents are with moderate psychosocial problems may be because of learning disability in their children. The psychosocial well being of the parents play a vital role in the prognosis of the child's academic level performance. The reason for psychosocial problem is lack of knowledge regarding dyslexia and its management. The researcher ruled out the need for booklet regarding care of children with dyslexia.

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# A Case Report on Childhood Dysthymia- Low Mood Triggers The End

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## ABSTRACT

Dysthymia is a chronic form of depression that lasts for at least two years (one year for children), but often lasts for many years. Although the symptoms that are associated with this type of depression are fewer and less severe than those that are associated with major depression, they can still seriously reduce the quality of life for anyone who suffers from it. In some cases it will lead to end of life also. Over the long term, these symptoms can negatively impact normal functioning as much as major depression.

**Keywords:** M D- Mood disorder, REM- Random Eye movement, MDD- Major Depressive Disorder, DD- Dysthymic disorder, NIMH- National Institute of Mental Health, CBT- Cognitive Behaviour Therapy, IPT- Inter Personal Therapy, CWD- Coping With Depression, TADS- Treatment for Adolescents with Depression

## INTRODUCTION

Dysthymia is a type of low-grade depression that lasts for at least two years. Dysthymia is less severe than major depression, but the chronic symptoms often have negative effects on work, relationships, and family and social interactions. Though dysthymia may result in an intense, short-term depressive episode, the symptoms are more constant and long term. People with dysthymia may even believe their depressive symptoms are their normal state of being.

Dysthymia is a MD in which the symptoms are less severe than MDD, but more chronic and persistent<sup>1, 2</sup>. The disorder occurs when youth experience a persistent depressed mood for most of the day, for more days than not, for at least one year (compared to two years for adults), when symptom-free intervals last no longer than two consecutive months.

Between 1 and 2 percent of people experience dysthymia (or DD) at some time during their lives. By the age of 18, it is estimated that between 15 to 20 percent of all youth experience depression<sup>3</sup>. According to research compiled by the NIMH, during childhood (pre-puberty), both males and females are equally at risk for mood disorders. During adolescence and continuing through adulthood, however, females are

twice as likely as males to experience depression.<sup>4</sup>

## ETIOLOGY

- Research with adults with and without depression has also revealed differences in production levels of the hormone cortisol, which is often associated with stress. This finding has been only partially supported in children and adolescents.<sup>3</sup>

- Depressed children and adolescents, however, are similar to depressed adults in that, like adults, they have an abnormal production of growth hormone.<sup>3</sup>

- Genetics contributes to the child's vulnerability to a M D. School-aged children and adolescents having family members who are depressed are more likely to experience depression themselves, although this does not appear to be the case for preschoolers.<sup>3</sup>

- Adrenal and thyroid axes have been studied in cases of DD. More patients with DD show abnormalities on thyroid axis as compared to controls, and these abnormalities probably represent a trait variable that is associated with chronic illness.<sup>5</sup>

- Sleep studies show decreased REM latency and increased REM density in the first part of sleep.<sup>5</sup>

- Psycho dynamic theories posit that the disorder results from faulty personality and ego development, culminating in difficulty in adapting to adolescence and young adulthood.<sup>6</sup>

- According to Freud, depression can be caused by an interpersonal disappointment early in life that leads to threatened losses in adult life that trigger depression.<sup>6</sup>

- Research on adults has pointed to a link between depression and serotonin and norepinephrine neurotransmitters, but this research has not been fully supported in children and adolescents.<sup>3</sup>

### CASE REPORT

A 14 year old boy predominantly slow to warm temperament presented with complaints of poor scholastic performance since 9 years, poor social interaction since 3 years, and having low mood since 2 years. He also has suicidal ideations and had history of two attempts. Parents noticed that he is not having any concentration in his studies and is not interested to go to school. He was having an irritable mood and had episodes of aggression. The client was not interested to do any activities and is complaining of fatigue.

Past history reveals that he was not able to concentrate in his studies. The client said that others used to make fun of him as he did not have the big body size of other boys in his class.

Teachers used to punish him frequently as he got poor marks in the exams. Then he was shifted to hostel as his parents had moved to different place for job and was found to have crying spells frequently in order to bring him home. The warden was too strict in the hostel and used to punish him for not doing work properly. Gradually he was found to have minimal interaction with others and was alone in his own world. When coming home he had frequent arguments with sister and mother. After few months on refusing to bring him home on weekend he called

up all his friends and attempted for suicide. Following this he was taken to the hospital and was treated with anti-depressants.

Symptoms of dysthymia often overlap with symptoms of other depressive disorders, but they tend to be less intense. Symptoms include

- Feelings of hopelessness, sadness, or pessimism
- Excessive sleeping or having difficulty sleeping
- Extreme fatigue, which causes the person to feel too physically drained to complete even small tasks
- Feelings of worthlessness, guilt, or constant self-criticism
- Inability to concentrate or focus
- Irritability and frustration
- Indecisiveness
- Altered appetite (eating too much or too little)
- Risk for suicide.

### INTERVENTION

The NIMH asserts that treating depressive disorders in children and adolescents often involves short-term psychotherapy and/or medication and targeted interventions addressing the home or school environment.<sup>4</sup>

The evidence-based psychological treatments for depressive disorders are CBT and IPT. In their review of treatments for youth with depression, David-Ferdon and Kaslow reported that standardized treatments which adhered to a treatment manual and were standardized led to greater gains than treatments that were not standardized. The research also has indicated that treatment gains were realized, regardless where the treatment was provided (school, community clinics, primary care clinics, hospitals, or research settings). It should be noted that the youth reported greater treatment gains than did their parents and clinicians.<sup>7</sup>

## Psychosocial Interventions for Adolescents with Depression

What Works	Description
Cognitive Behaviour Therapy (CBT) provided in a group setting	CBT for depression focuses on identifying thought and behavioural patterns that lead to or maintain the problematic symptoms. (negative thoughts, feelings of helplessness, hopelessness, suicidal ideations )
Interpersonal Therapy (IPT) provided individually	In IPT, the therapist and patient address the adolescent's interpersonal communication skills, interpersonal conflicts, and family relationship problems. (family problems, expressed emotions in family )
What Seems to Work	Description
CBT in a group or individual setting with a parent/family component	CBT for depression focuses on identifying thought and behavioural patterns that lead to or maintain the problematic symptoms.
Adolescent Coping with Depression (CWD-A)	CWD-A includes practicing relaxation and addressing maladaptive patterns in thinking, as well as scheduling pleasant activities, and learning communication and conflict resolution skills. (activity schedule which includes entertainment, play activities, diversion techniques )
Interpersonal Psychotherapy for Depressed Adolescents (IPT-A)	IPT-A addresses the adolescent's specific interpersonal relationships and conflicts, and helps the adolescent be more effective in their relationships with others. (relationship with peers, family members, and his surroundings)

Source: David-Ferdon & Kaslow, 2008.

### PHARMACOLOGICAL TREATMENTS

Currently, only one pharmacological treatment for depression has been approved for use with youth by the Food and Drug Administration. This medication, fluoxetine (a selective serotonin reuptake inhibitor [SSRI]), has been approved by the FDA for treating children eight years of age or older<sup>2</sup>.

A large, multisite study with important implications, TADS examined the effectiveness of fluoxetine alone, CBT alone, a combined treatment of fluoxetine and CBT, and a placebo. Study results indicated that a combined SSRI and CBT treatment approach is superior to SSRI or CBT treatment alone and better than the placebo. Additionally, the SSRI treatment and the CBT treatment were equally

effective in reducing depressive symptoms and both were better than the placebo. This study further indicated that the use of tricyclic antidepressants for the treatment of youth with MDD is not supported (TADS).<sup>8</sup>

### CONCLUSION

Dysthymia is not just the typical feelings of sadness or withdrawal from other people; instead it is more pervasive and sensitive in nature. If untreated it may lead to a state of major depression and even ends up in suicide. But in most cases it remains unnoticed. So it is necessary to identify dysthymia in its earlier stage and there by the future problems can be prevented.

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