# International Journal of Nursing Education

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Study to Assess Knowledge of Mothers Regarding Importance of Play for Children

Anushi Singh
Asst. Prof, Child Health Nursing, SNSR, Sharda University, Greater Noida

ABSTRACT

Play is “work” for young children and is understood to build necessary cognitive, physical, social, language and emotional well-being of children. Play also offers an ideal opportunity for mothers to engage fully with their children. This thesis project, explores the subject of play within the early childhood considering both cognitive and social constructivism. The multiple purpose of the project was to gain a more complete understanding of the importance of play in the early childhood, emphasizing on children’s intellectual, physical, emotional and social growth, pertaining to play and in order to establish guidelines regarding the importance of play, role of mothers in their play & type of play material for children in early childhood.

Keywords: Play, cognitive, physical, social, language, emotional, role of mothers and play material

INTRODUCTION

“ You can discover more about a person in an hour of play than in a year of Conversation ”
Plato, Greek Philosopher

Play is considered a key facilitator for learning and development across domain, and reflects the social and cultural contexts in which children live. Through play children learn about themselves and the world in which they live. Play is essential to the child’s development and it is the way that youngsters learn the skills they will need for a happy and capable childhood.

Play is important in early childhood because it helps to prepare child for school. Engaging in play activities helps to nurture social and language skills. When a child engages himself in a play activities, it helps to refine his learning and reasoning skills. There are many multisensory play activities that teach a child to understand and learn through touch, sight and sound. There are strong association among learning skills, classroom behaviour and play.

Play is so important to optimal child development that it has been recognised by the United Nations High Commissions for Human Rights as a right of every child. It is through play that children at an early age engage and interact in the world around them. it allows children to learn how to work in groups, to share, to negotiate, to resolve conflicts, and to learn self-advocacy skills. Perhaps above all, play is a simple joy that is cherished part of childhood.

Statement of Problem

An Exploratory study to Assess the knowledge of Mothers regarding Importance of Play for Children in Child Health Care Area in Selected Hospital, Ludhiana, Punjab.

Objectives of the study

To assess the knowledge of mothers regarding importance of play for children.

To ascertain the relationship of mothers knowledge regarding importance of play for children with selected variables like age of mother, education, number of children, religion, type of family, family income and source of information.

To identify the deficit areas in knowledge and to prepare guidelines to improve knowledge of mothers.
Assumption

Mothers of children in age group 1-3 years have knowledge regarding importance of play in growth and development of child.

Delimitation

The study is limited to mothers of children between age 1-3 years.

Operational definitions-

Play – Play is an activity that enhances learning, growth and development of child.

Knowledge – It refers to mothers’ range of factual information of specific questionnaire regarding importance of play which include physical development, cognitive development, sensory development, psychosocial development and mothers role in play and selecting play materials for children between age 1-3 years.

Children – Boy or girl, especially in the age group of 1-3 years.

Child Health Care Area – Area related to health care facilities to children. i.e. paediatric out patient department, paediatric medicine ward, paediatric surgery ward and well baby clinic.

Conceptual Framework

The conceptual framework of the present study was based on a “Three Phase Theory” described by Fitts and Posner (1967).

Fitts and Posner (1967) suggested when we learn something new we go through a process moving through specific phases the more we improve. There are three phases:

Cognitive phase – Identification and development of the component parts of the skill – involves formation of a mental picture of the skill
Associative phase – Linking the component parts into a smooth action – involves practicing the skill and using feedback to perfect the skill
Autonomous phase – Developing the learned skill so that it becomes automatic – involves little or no conscious thought or attention whilst performing the skill.

In this research project, Cognitive Phase was taken by the Investigator, collecting data from mothers of children age 1-3 yrs regarding importance of play, knowledge of mothers regarding their role and toys in Indian market in order to develop Guidelines for creating awareness in mothers.

RESEARCH METHODOLOGY

Research approach

An exploratory research approach was used to assess the knowledge of mothers regarding importance of play for children.

Research design

For present study non-experimental research design was utilized to achieve the objectives of the study.

Independent variable – age of mother, education, number of children, religion, type of family, family income and source of information.

Dependent variable – Knowledge of mothers regarding importance of play.

Population

The target population of study was the mothers in child health care area of selected hospital, Ludhiana, Punjab.

Description of setting

The present study was conducted in child health care area of Christian Medical College and Hospital, Ludhiana. The bed strength of the hospital was 667.

Sample and Sampling technique

Total sample was 100 mothers of children in the age group 1-3 years selected by using purposive sampling technique.

Description of tool

Section I – Sample Characteristics

This part consists of 7 items for obtaining personal information i.e age of mother, education, number of children, religion, type of family, family income and source of information.
Section II – Structured Questionnaire

This part consists of 30 multiple choice questions regarding different aspects of mothers’ knowledge regarding the importance of play. Each correct answer among the four choices carries one mark. The total possible score is 30.

The questions were related to the following aspects:

- Introduction and Importance of Play (5 items)
- Physical Development (2 items)
- Cognitive Development (4 items)
- Sensory Development (2 items)
- Psycho-social Development (4 items)

Knowledge of mothers regarding their role and play material for children:

Total item: 30
Maximum score: 30
Minimum score: 0

Criterion Measures

The knowledge score refers to the total score on knowledge items in the structured multiple-choice questionnaire by mothers.

Level of knowledge: Percentage

<table>
<thead>
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<th>Level of Knowledge</th>
<th>Percentage</th>
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<tr>
<td>Excellent</td>
<td>&gt; 66.66%</td>
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<tr>
<td>Good</td>
<td>50 – 66.66%</td>
</tr>
<tr>
<td>Average</td>
<td>43.33 – 26.67%</td>
</tr>
<tr>
<td>Below average</td>
<td>&lt; 26.67%</td>
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Data Collection Procedure –

For collecting data, the following steps were taken. Informed consent from the participants of the study was taken. The objectives were explained to each subject and a self-structured questionnaire was used to collect data. The confidentiality of data was assured.

RESULT

Table – 1: Frequency and Percentage Distribution of Mothers According to Level of Knowledge Regarding Importance of Play for Children

<table>
<thead>
<tr>
<th>Level of Knowledge</th>
<th>Mothers Score</th>
<th>n</th>
<th>%</th>
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<tr>
<td>Excellent</td>
<td>&gt; 20</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Good</td>
<td>14 – 20</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Average</td>
<td>8 – 13</td>
<td>54</td>
<td>54</td>
</tr>
<tr>
<td>Below Average</td>
<td>&lt; 8</td>
<td>24</td>
<td>2</td>
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Table – 1 depicts that the majority of mothers had average knowledge regarding the importance of play for children.

Table – 2: Mean, Mean Percentage and Rank Order of Knowledge Score of Mothers According to Areas of Knowledge

<table>
<thead>
<tr>
<th>Areas of Knowledge</th>
<th>Mean Knowledge Score</th>
<th>Max. Score</th>
<th>Mean</th>
<th>Mean % Score</th>
<th>Rank</th>
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<tr>
<td>Introduction and Importance of Play</td>
<td>1.82</td>
<td>5</td>
<td>36.55</td>
<td>5</td>
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<tr>
<td>Physical Development</td>
<td>0.76</td>
<td>2</td>
<td>38.12</td>
<td>4</td>
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<td>Cognitive Development</td>
<td>1.66</td>
<td>4</td>
<td>41.58</td>
<td>1</td>
<td></td>
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<tr>
<td>Sensory Development</td>
<td>0.88</td>
<td>2</td>
<td>41.09</td>
<td>2</td>
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<tr>
<td>Psycho-social Development</td>
<td>1.45</td>
<td>4</td>
<td>36.14</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Knowledge of mothers regarding their role &amp; play material for children</td>
<td>5.06</td>
<td>13</td>
<td>38.14</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
Table -2 conclude that mothers had highest knowledge in the area of cognitive development and least knowledge in psycho – social development.

Major findings

SECTION A: Distribution of subjects according to their demographic variables

Maximum mothers were in the age group 26 – 30 years, graduate and above , had one child, Hindu belong to joint family, having family income Rs. 10,000 – 15,000 and source of information was mass media ( television, Newspaper , Magazines).

SECTION B : Distribution of subjects according to level of knowledge of mothers regarding importance of play

Out of 100 mothers 54% have average knowledge score , followed by 24% below average knowledge score, 12% good knowledge and 10% excellent knowledge score.

SECTION C : Find association between demographic variables and level of knowledge regarding importance of play for children among mothers

Education of mother, religion, and number of children had significant relationship with knowledge of mothers regarding importance of play for children in age group 1- 3 years.

Implication for nursing

The finding of this study have certain important implications for nursing profession i.e nursing practice, nursing education and nursing research. In all these areas the role of nurse is to improve the knowledge of mothers regarding importance of play for children in age group 1-3 years. Mass awareness is very essential regarding the importance of play for children. Nurses act as an educator, organiser, leader, counsellor and motivator.

NURSING PRACTICE :

To enhance the knowledge level on importance of play for children among mothers is an important aspect of basic education programmes in nursing. The primary task of nursing education would be to intervene in Paediatric Outpatient department and immunization clinic.

NURSING EDUCATION :

An implication for nursing practise derived from the study was increased incidence where children are being exposed to violence and bad language in their early childhood period and lack healthy social, emotional and cognitive development in addition to bonding with mothers. Therefore, nurses should have knowledge on importance of play in child development.

NURSING RESEARCH :

Research should be continued on newer practices and methods of teaching focussing on effective child physical, social, language, cognitive and emotional development by play and importance of play in different age groups during hospitalization.

Recommendations

The study needs to be replicated on a large sample to validate and generalise the findings.

More studies should be done on play needs of children in school going age.

More studies can be done on toxics present in toys and their harmful effects on children.

Research on importance of play for hospitalised children and how it minimises the stress related to hospitalisation in children.

CONCLUSION

The study revealed 54% (majority) of mothers having below average knowledge regarding importance of play in children and education of mothers, religion and number of mothers had association with knowledge of mothers.

Ethical Clearance- Taken from CMC ethical committee.

Source of Funding- Self
Conflict of Interest - Nil

REFERENCES

Effectiveness of Distraction Techniques on Pain Intensity during Immunization among Infants

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ABSTRACT

Background: One of the most dramatic advances in pediatric nursing is the atraumatic care. Pain associated with some investigation, treatment or procedures is known as procedural pain. Distraction is a non-pharmacological method which is used for diverting attention from noxious stimulus by passively redirecting the attention or by actively performed by the subject in the performance of diversion technique.

Material and method: A true experimental multiple intervention post test control design was used. There were 100 infants selected using simple random sampling technique and were randomly allocated in various groups such as electronic toy group, key toy group, simple toy group and control group using lottery method. During immunization, distraction techniques were shown to experimental groups and routine care was given to control group. Research tool was submitted to 7 experts from various specialists for validity. Reliability was calculated by Kappa method and it was 0.83 of FLACC pain scale to assess pain intensity during immunization among infants. Data collection was done in January 2017. The obtained data was analyzed and interpreted in terms of objectives and research hypotheses. Analysis was done by using descriptive and inferential statistics.

Results: The results revealed that mean pain score of control group was higher (7.16±0.16) as compared to that of electronic toy group (2.60±0.16), key toy group (4.80±0.22) and simple toy group (5.44±0.18). The difference between mean pain score of infants in electronic toy group, key toy group, simple toy group with control group was found to be statistically significant at p<0.01 level of significance.

Conclusion: Based on the study findings, it is concluded that distraction technique was effective in reducing the pain intensity during immunization among infants.

Keywords: Immunization, Pain, Distraction techniques, Multiple intervention post test design.

INTRODUCTION

Atraumatic care is the provision of therapeutic care by health personnel and through the use of interventions that eliminate or minimize psychological and physical distresses experienced by children and their families in health care system.\textsuperscript{1} Parents want their child to be safe from diseases and immunization act as a preventive measure; routine immunization is an almost universal experience for children. Immunization is a proven tool for controlling and eliminating life threatening diseases.\textsuperscript{2} Immunization is a process of protecting an individual from a disease through introduction of live, or killed or attenuated organisms in the individual system.\textsuperscript{3} Distraction is non-pharmacological method which is used for diverting attention from noxious stimulus by passively redirecting the attention or by actively performed by the subject in the performance of diversion technique.\textsuperscript{4}

Pain is sensory and emotional feeling with actual or potential tissue damage or described in terms of such damage and major source of distress in infants and their family members as well as health care providers-International Association for the study of pain (IASP)\textsuperscript{5}. The painful experiences may have negative effect on their life because of pain so distraction technique can be reduced pain during immunization. This can be used just prior to the immunization so infant can felt less pain. The
complaint of pain is often neglected. Thus the researcher felt the need to assess the effectiveness of distraction techniques i.e toys used during immunization in terms of pain reduction among infants attending immunization clinic. So in the present study the researcher assessed the effect of different types of toy i.e apple dancing toy, doraemon playing drum and rattle on pain intensity among infants during immunization. The aim of present study was to compare the effectiveness of distraction techniques on pain intensity during immunization among infants.

**METHOD**

Simple Random sampling technique was used to select the sample size of 100 infants. Infants were randomly allocated in four groups such as electronic toy group, key toy group, simple toy group and control group using lottery method in each group. Informed consent was obtained from caregiver. Infants who were visiting immunization clinic and having 10 and 14 weeks of age and receiving pentavalent vaccine. The study excluded infants who had undergone any painful procedure 2 hour prior to immunization and visually or hearing disabled and had history of seizures, use of topical anesthetics at immunization site, use of sedatives, analgesics or opioids in the preceding 24 hours.

**PROCEDURE**

The procedure of data collection was carried out in the month of December and January 2017. A formal administrative approval was obtained from the Civil Surgeon of Civil hospital, Ambala. Keeping in mind inclusion and exclusion criteria, sample was identified and details of the study were explained to caregiver.

Infants were randomly allocated to one of the four groups using lottery method. Introduction to the nature of study was given to the parents/care givers of infants. Consent was taken from the parents /care giver. **Preparation phase:** Under this phase, explanation of procedure was given to parents/care givers present during the procedure. **Performance phase:** The infant along with caregiver was taken to immunization room. During the immunization procedure, the parents and caregiver in all groups were allowed to calm their babies by touching and talking to them, but not do anything that would distract the infant’s attention. Infants in experimental groups were distracted by toys during immunization procedure and infants in the control group received immunization without any distraction and only routine care was maintained for infants in control group. The distraction technique given by researcher started 30 seconds before immunization and it lasted until 15 seconds after the immunization of each infant. Immunization was done by same health care worker. During immunization the researcher assessed the parameters of pain by using FLACC pain scale

**Post performance phase:** Under this phase, the scoring was done after video recording of the performance phase by the investigator. Pain was measured by FLACC pain scale and quantifying pain perception with scores ranging from 0 to 10 (0- no pain, 1-3 mild pain, 4-7 moderate pain, 8-10 Severe pain).

**RESULTS**

The analysis of data was done in accordance with the objectives of study. The findings have been organized and presented under following sections:

**TABLE 1: Frequency and Percentage Distribution of Infants in terms of level of pain in Electronic toy group, Key toy group, Simple toy group and Control group**

<table>
<thead>
<tr>
<th>Pain score</th>
<th>Electronic toy group (n=25) f (%)</th>
<th>key toy group (n=25) f (%)</th>
<th>Simple toy group (n=25) f (%)</th>
<th>Control group (n=25) f (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No pain/distress (0)</td>
<td>_</td>
<td>_</td>
<td>_</td>
<td>_</td>
</tr>
<tr>
<td>Mild pain/distress (1-3)</td>
<td>22(88)</td>
<td>_</td>
<td>_</td>
<td>_</td>
</tr>
</tbody>
</table>
Cont... TABLE 1: Frequency and Percentage Distribution of Infants in terms of level of pain in Electronic toy group, Key toy group, Simple toy group and Control group 

<table>
<thead>
<tr>
<th>Level of Pain</th>
<th>Electronic toy group (n=25)</th>
<th>Key toy group (n=25)</th>
<th>Simple toy group (n=25)</th>
<th>Control group (n=25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderate pain/distress (4-7)</td>
<td>03(12)</td>
<td>25(100)</td>
<td>25(100)</td>
<td>17(68)</td>
</tr>
<tr>
<td>Severe pain distress (8-10)</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>8(32)</td>
</tr>
</tbody>
</table>

Maximum score=10 Minimum score=0

Table 2 shows frequency and percentage distribution of infants in terms of level of pain in electronic toy group, key toy group, simple toy group and control group. In electronic toy group majority of the infants had mild pain (88%) and few (12%) of the infants had moderate pain. In key toy group and simple toy group all of the infants had moderate pain (100%). In control group more than half of the infants had moderate pain (68%) and one third of the infants had severe pain.

TABLE 2: ANOVA Showing Comparison of Mean Pain Scores during Immunization among Infants in Electronic toy group, Key toy group, Simple toy group and Control group N=100

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
<th>F</th>
<th>Df</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic toy group (n=25)</td>
<td>2.60</td>
<td>0.16</td>
<td>104.60</td>
<td>3/96</td>
<td>0.01*</td>
</tr>
<tr>
<td>Key toy group (n=25)</td>
<td>4.80</td>
<td>0.22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Simple toy group (n=25)</td>
<td>5.44</td>
<td>0.18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control group (n=25)</td>
<td>7.16</td>
<td>0.16</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant (p≤0.05) NS Not significant (p> 0.05)

The data in the table 3 depicts that the mean pain score of electronic toy group was 2.60± 0.81, key toy group was 4.80±1.11, simple toy group was 5.44±0.91 and in control group was 7.16± 0.80. The computed “F” value 104.60 was found to be statistically significant at 0.01level of significance which showed that there was significant difference between four groups in terms of pain intensity. Mean pain score of electronic toy group (2.60±0.81) was significantly lower than mean pain score in key toy group (4.80±1.11), simple toy group (5.44±0.91) and in control group (7.16± 0.80) respectively.

DISCUSSION

The aim of the study is to evaluate the effectiveness of distraction techniques on pain intensity among infants receiving immunization in selected immunization clinic of Ambala, Haryana. The findings of the study have been
discussed in terms of objectives, theoretical base and hypotheses formulated.

In the present study in electronic toy group majority of the infants had mild pain (88%) and 3(12%) of the infants had moderate pain. In key toy group and simple toy group all of the infants had moderate pain (100%). In control group more than half of the infants had moderate pain (68%) and one third of the infants had severe pain (32%). The findings of the study was also consistent with the findings of Subramani G et al study who conducted a study to assess the effectiveness of distraction techniques upon pain among children receiving immunization in Mangalore where 90% children had moderate pain and 10% had severe pain in experimental group I. In experimental group II, 80% children had moderate pain and 20 % had severe pain whereas in Group III (control group) nearly half of children (46.7%) had moderate pain and 53.3% had severe pain.7

Effectiveness of distraction techniques during immunization in reduction of pain intensity among infants

In the present study clearly established that the distraction was effective during immunization in reduction of pain intensity among infants attending immunization clinic. Mean pain score of electronic toy group was 2.60± 0.81, key toy group was 4.80±1.11, simple toy group was 5.44±0.91 and in control group was 7.16± 0.80. The computed “F” value 104.60 was found to be statistically significant at 0.01 level of significance which showed that there was significant difference between four groups in terms of pain intensity.

Association of pain intensity during immunization among infants with selected variables.

In the present study, ANOVA and “t” value for association of pain intensity during immunization with selected variables. The findings revealed that association of age with FLACC pain scores was assessed using independent “t” test. There was significant difference found in FLACC pain scores among male and female infants (t= 2.06, p= 0.05) at 0.05 level of significance. Association of past history of illness with FLACC pain scores was assessed using independent “t” test. There was significant difference found in FLACC pain scores among infants (t= 0.13, p= 0.02) at 0.05 level of significance. Therefore, this elucidates that the FLACC pain score was dependent of selected sample demographic and clinical variables in key toy group. There was association of FLACC pain score with age and past history of illness among infants in key toy group.8

In the present study there was no significant association found in electronic toy group and control group with selected variables at 0.05 level of significance. The findings of the study was also consistent with the findings of Umarani J. who conducted a study to assess the effectiveness of diversion therapy on pain among infants receiving injections at selected clinics. Chi – square test was used to calculate the association between pain score and selected demographic variables.6

CONCLUSION

On the basis of the findings of the present study, the following conclusions can be drawn: The mean pain scores of infants receiving distraction technique during immunization was significantly less as compared to mean pain score of infants in control group. The mean
pain score of electronic toy group lower as compared to key toy group and control group.

Therefore, Distraction technique while immunizing was effective in reducing pain intensity. The study concludes that Distraction technique was an effective technique in reducing the pain intensity during immunization among infants. Toys can be used as a distractor among infants during immunization.

Ethical Clearance: Ethical clearance has been taken from M.M. college of nursing(Maharishi markandeswara University).

Source of Funding: Self

Conflict of Interest: Nil

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6. Jose Jiny, Umarani J. Effect of ice application in reducing pain perception of toddlers during immunization. IJRSR. May 2013; 4(5); 630-633
Practice of Home Remedies among the Mothers of Under Five Children with Upper Respiratory Tract Infection

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ABSTRACT

Background of the Study:- In recent years, epidemiologist and community researchers have directed their attention to explore the health seeking behavior associated with the causes of child mortality and morbidity due to acute respiratory tract infection. According to the WHO estimates, an appropriate health seeking behavior of the family members would reduce the rate of child mortality and morbidity caused by acute respiratory tract infection.¹

Statement:– Practice of home remedies among the mothers of under five children with upper respiratory tract infection.

Objective: To assess the practicing of home remedies among the mothers of under five children with upper respiratory tract infection.

Keywords: upper respiratory tract infection, under five children, home remedies.

INTRODUCTION

One of the most significant health problems among children and the common reason for their medical visit is Upper respiratory tract infections (URTI). The daily routines and functioning in the family can be disturbed for long period of time when the child in the family suffers from URTI. Some of the URTI among children may lead to severe complications such as otitis media, tonsillitis and sinusitis.²

In India acute respiratory tract infections is one of the leading causes of morbidity and mortality in young children. In acute respiratory tract infection, (ARTI) children usually have symptoms like loss of appetite, difficulty in breathing, nasal blockage and also sucking difficulty in breastfed babies.³

In Karnataka in 2011, children affected with ARTI were above 6.11 million in which 31% were under five children. According to registrar generals published figures of Karnataka, mortality and morbidity rate is higher in severe acute lower respiratory tract infections (LRTI). Mothers are usually the primary care providers for their children and they should have ability to recognize the symptoms of respiratory tract infections and especially upper and lower respiratory tract infections.⁴

MATERIAL AND METHOD

Research approach:-

Quantitative Research approach was selected for this study.

Research Design:-

The research design selected for the study was a Non-experimental Cross-sectional descriptive research design was adopted for the study.

Research Variables: - Practices of home remedies, Upper respiratory tract vision.
Demographic Variables: - Age of the mother, Educational status of the mother, Monthly family income, Area of Living.

Setting Of the study:- The study setting is pediatric outpatient departments in selected secondary care hospitals of Udupi district, Karnataka. The descriptive cross sectional survey design was used for this study.

Population: - Mothers of under five children with upper respiratory tract infections who are attending Pediatric OPDs of Dr.TMA Pai hospital, Udupi district.

Sample and sampling technique: Total 154 mothers of under five were selected by using convenience sampling technique.

RESULTS

Frequency and Percentage distribution of mothers based on usage of home remedies. (n=154)

Table 1: A: What home remedy you will use to manage your child’s cough

<table>
<thead>
<tr>
<th>Home remedies</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not responded</td>
<td>19</td>
<td>12.3</td>
</tr>
<tr>
<td>Ginger and turmeric mixture</td>
<td>67</td>
<td>43.5</td>
</tr>
<tr>
<td>Warm salt water with ginger</td>
<td>61</td>
<td>39.6</td>
</tr>
<tr>
<td>Tulsi kashaya</td>
<td>7</td>
<td>4.5</td>
</tr>
</tbody>
</table>

Table 1: B: What home remedy will you use when your child is having running nose

<table>
<thead>
<tr>
<th>Home remedies</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not responded</td>
<td>8</td>
<td>5.1</td>
</tr>
<tr>
<td>Steam inhalation</td>
<td>18</td>
<td>11.6</td>
</tr>
<tr>
<td>Ginger with turmeric powder</td>
<td>71</td>
<td>46.1</td>
</tr>
<tr>
<td>Not practicing</td>
<td>57</td>
<td>37.0</td>
</tr>
</tbody>
</table>

Table 1:C What home remedy you will follow to treat your child’s nasal congestion

<table>
<thead>
<tr>
<th>Home remedies</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not responded</td>
<td>9</td>
<td>5.8</td>
</tr>
<tr>
<td>Apply Vicks</td>
<td>38</td>
<td>24.6</td>
</tr>
<tr>
<td>Steam inhalation</td>
<td>51</td>
<td>33.1</td>
</tr>
<tr>
<td>Not practicing</td>
<td>56</td>
<td>36.3</td>
</tr>
</tbody>
</table>

Table 1: D : What home remedy you will prefer to manage your child’s Sore throat

<table>
<thead>
<tr>
<th>Home remedies</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not responded</td>
<td>10</td>
<td>6.4</td>
</tr>
<tr>
<td>Ginger with warm salt water</td>
<td>33</td>
<td>21.4</td>
</tr>
<tr>
<td>Warm salt water gargle</td>
<td>62</td>
<td>40.2</td>
</tr>
<tr>
<td>Not practicing</td>
<td>49</td>
<td>31.8</td>
</tr>
</tbody>
</table>

Table 1: E: What measures you will use when your child is having fever

<table>
<thead>
<tr>
<th>Home remedies</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not responded</td>
<td>8</td>
<td>5.1</td>
</tr>
<tr>
<td>Take syrup from medical store</td>
<td>3</td>
<td>1.9</td>
</tr>
<tr>
<td>Consult the doctor</td>
<td>133</td>
<td>86.3</td>
</tr>
<tr>
<td>Tepid sponge</td>
<td>10</td>
<td>6.4</td>
</tr>
</tbody>
</table>

The data presented in the table 1 revealed that majority 67 (43.5%) of the sample were using ginger and turmeric mixture to manage cough of the child at home and 71 (46.1) sample were using ginger with the turmeric powder to manage child’s running nose. Majority of the 56(36.6%) sample were not practicing any type of home remedies during their child was have nasal congestion. Most of the 62 (40.2%) sample were using Warm salt water gargle to manage their child sore throat, Most 133 (86.3%) of the sample were consulting the doctor when child had fever.

DISCUSSION

Majority 67 (43.5%) of the sample were using ginger and turmeric mixture to manage cough of the child at home and 71 (46.1) sample were using ginger with the turmeric powder to manage child’s running nose. Majority of the 56(36.6%) sample were not practicing any type of home remedies during their child was have nasal congestion. Most of the 62 (40.2%) sample were using Warm salt water gargle to manage their child sore throat, Most 133 (86.3%) of the sample were consulting the doctor when child had fever.
A study was done by Karkada, (2005) in Belgaum district Karnataka, among 185 mothers on their knowledge, attitude and practices on home remedies of acute respiratory tract infections in under-five children. Findings of the study revealed that majority (58%) of mothers had knowledge regarding home remedies and 46% mothers had positive attitude and 47% mothers had negative attitude towards ARI. This study concluded that most of the mothers (68.6%) followed home remedies in children with ARI before seeking medical help during episodes of ARI.\(^5\)

**CONCLUSION**

Mothers with graduation and above, middle class officials and those who were subscribing to newspaper had better health seeking behavior than other mothers. The findings highlight that, the nurses and health care providers can play a significant role to educate the mothers’ regarding importance of seeking medical care and mode of transmission, early identification, management and prevention of URTI in under five children.

**Conflict of Interest:** There is no conflict.

**Source of Funding:** Self

**Ethical Clearance:** Taken

**REFERENCES**


Breastfeeding Techniques among Primiparous Women

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ABSTRACT

Introduction: Breast milk is the best milk for the babies. It enhances the bonding between the mother and child. The study was undertaken to assess the breast feeding technique among the primi mothers.

Methodology: A descriptive study was conducted at tertiary care hospital of North Karnataka. Seventy five primiparous women after 24 hours of delivery were the samples. Bristol breast feeding assessment tool was used to collect the data.

Results: Results of the present study revealed that 53% of women were following incorrect position, 61% were not following good attachment. Whereas 67% of babies were sucking correctly and 60% of babies were swallowing correctly. The total score was 59% of mothers follow incorrect technique of breast feeding and only 41% of mothers follow correct technique of breast feeding.

Summary: There is a need of support to the primi women in breast feeding.

Keywords: Breast feeding, Breast feeding technique, Attachment to breast, Breast milk

INTRODUCTION

Breast feeding is a unique bonding experience for mother and her newborn. It stimulates all the senses and close body contact allows the newborn to recognize its mothers smell. The newborn can feel and hear the sound of her heart beats which is similar to the intrauterine environment1.

Breast milk is specific and complete food for newborn. It is easily digested and well absorbed by the newborn. Protection against infection and facilitate mother infant bonding and promotes better brain growth. For the mother breast feeding helps in involution of uterus, delays pregnancy and lower risk of breast and ovarian cancer. The newborn should be put to the breast within half an hour of birth. There is no restriction of the number of feeds and duration of sucking time2.

For hundreds of thousands of years humans like all other mammals fed their young milk. Before the twentieth century alternatives to breast feeding were rare. In 18th century flour or cereal mixed with broth were introduced as substitute for breast feeding. But this did not have a favorable outcome. Breast feeding is the feeding of an infant or young child with breast milk directly from female human breast i.e. (via lactation) rather than from a baby bottle or other containers3.

Attention to technique in the early stage may prevent many later problems. The principles are i) the mother should be comfortable ii) the newborn is brought to the breast rather than vice versa iii) help with repositioning in the second breast. The mother adopts a position of comfort wither sitting up in bed with her back supported lying on her side or sitting on a chair. The baby is held securely, close to the mother’s body and facing her. The baby’s back, neck and head should be straight and well

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supported. The baby’s mouth should be open. It may be necessary to stroke the corner of the mouth with the nipple to elicit rooting reflex in which the baby opens the mouth. The baby is brought to the breast and attaches adequately by taking a good amount of the breast including the nipple and much of the areola in to the mouth. Failure to do this will mean that the nipple will be sucked up on directly causing nipple pain and trauma. When attached correctly the gums will then lie over the lactiferous sinuses, lower lip is turned outward and the baby’s chin touches the breast. Milk is then obtained from the breast mainly by the action of the whole mouth of the baby in compressing the lactiferous sinuses and less so by direct suction.

Most of the mothers don’t know the correct technique of breast feeding. This leads to many unnoticed and biased problems in babies and lactating mothers. These include improper nutrition to baby, altered growth, Oral thrush, low secretion of milk, inadequate feeds, nipple problems etc. There are few simple ways to practice the art of breast feeding techniques like starting breast feeding immediately after birth, proper positions, latching up and burping up the baby. Minor problems may occur during breast-feeding. But with proper planning, knowledge, and support, mothers can overcome these challenges and continue breast-feeding. Before the baby is born, attending classes, reading books, and watching videos that demonstrate breast-feeding techniques will help the mothers in promoting breast feeding practices.

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

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

According to NIS (National Immunization Survey) results, 23 states have greater than 75% of women breastfeeding at hospital discharge. 10 states have greater than 50% of their infants being breastfed at 6 months of age. 12 states have greater than 25% of their infants being breastfed at 1 year of age. 10 states have greater than 40% of their infants being exclusively breastfed through 3 months of age. 8 states have greater than 17% of their infants being exclusively breastfed through 6 months of age. The 8 states of Alaska, California, Hawaii, Idaho, Oregon, Utah, Vermont, and Washington have achieved the three Healthy People 2010 objectives above. More than 60% of mothers of all racial/ethnic groups and of all education levels are initiating breastfeeding. Only teenagers with 51% initiating breastfeeding are less than the 60% initiation rate.

A study conducted aimed at investigating the effectiveness of the computer assisted instruction about breast feeding technique during early stages of labour on knowledge and breast feeding technique among early primigravida mothers. The sample size comprises of 50 primiparous mothers who delivered and received care at Siriraj Hospital. The findings showed that the mean post test knowledge of breast feeding scores in the experimental group after computer assisted instruction was higher than the pre test scores before computer assisted instruction at a statistically significant less (P<0.001). The result suggest that the nurses in the labour room who are involved in breast feeding promotion should apply this computer assisted instruction to continuously promote successful breast feeding in adolescent mothers during early labour and through the post partum period.

Breastfeeding technique is a learned skill for both mother and newborn. Breast feeding techniques comprises of commencement of breast feeding, breastfeeding positions, latching on, taking your baby off the breast and burping. From the observation in the post natal ward, the researcher found that the mothers especially primipara mothers were not aware of the facts regarding breast feeding techniques of their babies. They were often complaining of problems like baby is not sucking well, less milk, flat nipple, pain at the surgical site or at the episiotomy wound site, pain in the breast, breast engorgement etc. thus this study was undertaken to assess the technique of breast feeding and find the association between breast feeding techniques and selected demographic variables.
MATERIALS AND METHOD

Present study was done by descriptive design at postnatal wards of the tertiary care hospital of north Karnataka. Seventy five primiparous women after 24 hours of delivery were the samples. Bristol breast feeding assessment tool and researcher prepared questionnaire for socio demographic information was used. The data was collected after obtaining the consent from the subjects.

RESULTS

The present study results revealed that 63% of women in the age group of 23 to 26, 28% were 18 to 22 years and 9% were 27 years and above. Regarding education status 37% were completed PUC, 28% were of secondary education, 20% were graduates, 10% were had primary education, 4% were completed professional courses and 3% were illiterate.

With regard to mode of delivery 55% had full term normal delivery and 45% underwent LSCS. 44% delivered in between 36 to 38 weeks of gestation and 56% delivered at 39 to 41 weeks of gestation. 57% of babies born were male and 43% were females. With regard to weight of the newborn 47% were in between 2.51 to 3.0 kgs, 28% were 3.01 to 3.5 kgs, 23% were 2.00 to 2.5 kgs and 3% were 3.51 and above.

Regarding to maternal medical illness 76% were normal, 7% had GDM, 7% were having HDP and 11% had other maternal medical illness. 53% did not had formal information and 47% had formal education about breast feeding techniques.

Table 1: Distribution of mothers according breast feeding technique followed N=75

<table>
<thead>
<tr>
<th></th>
<th>Incorrect</th>
<th>Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(f)</td>
<td>(%)</td>
</tr>
<tr>
<td>POSITION</td>
<td>40</td>
<td>53</td>
</tr>
<tr>
<td>ATTACHMENT</td>
<td>46</td>
<td>61</td>
</tr>
<tr>
<td>SUCKING</td>
<td>25</td>
<td>33</td>
</tr>
<tr>
<td>SWALLOWING</td>
<td>30</td>
<td>40</td>
</tr>
<tr>
<td>Overall</td>
<td>44</td>
<td>59</td>
</tr>
</tbody>
</table>

The table 1 shows that 53% of women were following incorrect position, 61% were not following good attachment. Whereas 67% of babies were sucking correctly and 60% of babies were swallowing correctly. The total score was 59% of mothers follow incorrect technique of breast feeding and only 41% of mothers follow correct technique of breast feeding.

DISCUSSION

Proper positioning and attachment of the baby during breastfeeding prevents sore nipples, engorgement and mastitis and also facilitates the milk production and release. The IMNCI strategy recommends systemic assessment of breast feeding. It emphasizes on proper position and attachment of the infant to the breast. The present study shows that 63% of women in the age group of 23 to 26 years. A similar study conducted at Kocchi, Kerala reveals that majority women were from the age group of 21 to 25 years is significant with present study. A study by Padmashri et al, E Premila et. al does have significance with education, mode of delivery and gestation age at delivery. In present study 53% of women were following incorrect position, 61% were not following good attachment. Whereas 67% of babies were sucking correctly and 60% of babies were swallowing correctly. The total score was 59% of mothers follow incorrect technique of breast feeding and only 41% of mothers follow correct technique of breast feeding. This was similar to the study done by Dongre et al.
CONCLUSION

The present study result shows that there is a need of support system which helps the mother to feed following correct technique.

Conflict of Interest: Nil

Source of Funding: None

Ethical Clearance – Obtained from institutional ethical committee

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1. BT B. Midwifery and Reproductive health Nursing. 1st ed. New Delhi: Jaypee Publisher; 2006.
9. [Internet]. Rguhs.ac.in [cited 17 November 2017]. Available from: http://www.rguhs.ac.in/cdc/onlinecdc/uploads/05N31016324.doc
Perceived Maternal Role Competence among Mothers of Infant Residing in Pokhara, Nepal

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1Lecturer, Manipal College of medical Sciences, Nursing Program, Pokhara,
2Prof., Tribhuwan Universit, Kirtipur, Nepal

ABSTRACT

Introduction: Childbirth is a phase of transition for a woman. Mothers who have high perceived maternal role competence are able to make a successful transition to motherhood and gain mastery in their maternal role performance.

Objective: This study aims to measure the perceived maternal role competence among mothers of infant.

Methodology: This study used a descriptive cross sectional design. Simple random sampling was used to select 185 mothers of infants residing in Pokhara Sub- metropolitan City, Kaski, Nepal.

Result: The mean score for perceived maternal role competence of respondents was 72.48±8.33. More than one quarter (26.5%) of respondents had a good level of perceived maternal role competence. There was a significant association between level of perceived maternal role competence and age of the mother (p<0.022), educational status (p=0.011), employment status (p=0.019) and readiness for pregnancy (p=0.022). There was a statistically significant correlation (p=<0.001) between satisfaction and self-efficacy subscale of parent sense of competence scale.

Conclusion: The study concluded that influencing factors for perceived maternal role competence are mothers’ age, educational status, employment status and readiness for pregnancy. So health care professionals should focus on family planning counseling and community awareness programs to raise women’s educational status and empowerment so that every pregnancy is planned and help mother to adapt successfully in transition to motherhood.

Keywords: Maternal role competence, mothers, infant and Pokhara, Nepal.

INTRODUCTION

Motherhood is a rewarding and challenging phase of a women’s life. It is potentially a time of joy as well as stress. It involves a number of challenges which revolve around learning infant care tasks, getting to know the infant and confronting one’s self expectation as a mother.1 Motherhood represents a major transition in a woman’s life that involves examining one’s capacity to provide care for another human being. The transition to motherhood is often an opportunity for self-evaluation.2

Mothers do not naturally adapt to the maternal role during the early postpartum period. Instead, they learn and adjust continuously. Achieving competence and satisfaction in the maternal role are critical components of maternal role adaptation during the transition to motherhood which has a huge impact on the quality of parenting behaviors and ultimately, the child’s psychological development.3 How mothers adjust is influenced by their confidence in their role. A mother’s confidence in her ability to care for her infant is necessary for healthy transition to motherhood and a positive mother-infant relationship.4

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It is difficult to achieve competence if a mother is not satisfied with role and maternal satisfaction is unlikely if women feel incompetent in mastering in maternal role. In the context of Nepal, much emphasis has been placed on improving maternal and child health. However, there are very few published studies about mothers’ perceptions of their maternal competence. The author was interested in identifying the level of perceived maternal role competence and determining the factors affecting that competence during the transition to motherhood.

**METHODOLOGY**

This descriptive cross sectional study was carried out in Pokhara Sub-metropolitan City, Kaski, Nepal. For calculating sample size, the mean score (64.34) and standard deviation (7.9) was taken from the study by Shah, Shrestha, Pokherel, Shrestha and Baral in Dharan. A probability sampling technique was used to select 185 women from the total population of mothers of infants residing in Pokhara Sub-metropolitan City. Three representative wards out of 29 total wards of Pokhara Sub-metropolitan City were chosen by lottery. From the 3 wards, 782 infants between 1 and 12 months in these 3 wards were identified using information provided by ward office and Female Community Health Volunteers from which 185 mothers of infant were randomly selected for this study.

The sample size was calculated by following formula:

\[ n = \left(\frac{Z_\alpha + Z_\beta}{S/\delta}\right)^2 \]

The author choose a confidence interval of 95%, power 90%, tolerance 2 and S.D. 8, which yielded a sample size of 185.

And standard tool “Parenting sense of competence” was used to measure the primary outcome of perceived maternal role competence. Reported α coefficient for total PSOC scores range from .82 to .87. The tool consisted to 17 items which included three subscales satisfaction, self-efficacy and interest each consisting 9, 7 and 1 items respectively. Respondents indicated the degree of their agreement or disagreement with each statement on a 6 point Likert-type scale from 1 (strongly agree) to 6 (strongly disagree) for a possible range of 17-102. Items in self-efficacy and interest subscales were reverse scored for analysis so that higher scores indicate a higher perceived level of maternal competence. For categorization of the obtained competence score quartile were used. Poor means score below Q₁ (3.88) average competence Q₁-Q₃ (3.88-4.6) and good competence above Q₃.

Two stage back translation of the research instrument was done. A pretest of the research instrument’s reliability was carried out using 18 mothers of infants who were not part of the larger study. Cronbach’s alpha was : 0.79 and determined to be satisfactory for use in the study.

The author collected these data during face-to-face interviews with mothers of infants in their homes. The average time spent with a respondent was 20-25 minutes and on an average 9-12 respondents were interviewed per day. The data were coded and entered in MS Excel 2007 and exported into the IBM SPSS version 20.0 for analysis.

**RESULT**

Of the 185 respondents, 40.5% were between the ages of 25-29 while 8.1% were under 20 years. The mean age was 25.5 years. More than half (56.8%) of the respondents were living in a nuclear family.

**Table 1: Socio-demographic Characteristics of Respondents**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (in Years)</strong> (n=185)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-19</td>
<td>15</td>
<td>8.1</td>
</tr>
<tr>
<td>20-24</td>
<td>62</td>
<td>33.5</td>
</tr>
<tr>
<td>25-29</td>
<td>75</td>
<td>40.5</td>
</tr>
<tr>
<td>≥ 30</td>
<td>33</td>
<td>17.8</td>
</tr>
<tr>
<td><strong>Mean±SD</strong></td>
<td>25.50 ±4.23</td>
<td>Min.:16 Max.: 35</td>
</tr>
<tr>
<td><strong>Religion</strong> (n=185)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hinduism</td>
<td>150</td>
<td>81.1</td>
</tr>
<tr>
<td>Buddhism</td>
<td>28</td>
<td>15.1</td>
</tr>
<tr>
<td>Christianity</td>
<td>7</td>
<td>3.8</td>
</tr>
<tr>
<td><strong>Ethnic group</strong> (n=185)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dalit</td>
<td>28</td>
<td>15.1</td>
</tr>
<tr>
<td>Disadvantaged janajati*</td>
<td>35</td>
<td>18.9</td>
</tr>
<tr>
<td>Relatively advantaged janajaties**</td>
<td>39</td>
<td>21.1</td>
</tr>
<tr>
<td>Ungrouped caste/ethnicity</td>
<td>83</td>
<td>44.9</td>
</tr>
</tbody>
</table>
Table 1: Socio-demographic Characteristics of Respondents

<table>
<thead>
<tr>
<th>Education status (n=185)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Illiterate</td>
<td>16</td>
<td>8.6</td>
</tr>
<tr>
<td>Literate</td>
<td>169</td>
<td>91.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Educational level (n=169)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>47</td>
<td>27.9</td>
</tr>
<tr>
<td>Secondary</td>
<td>49</td>
<td>28.9</td>
</tr>
<tr>
<td>Intermediate</td>
<td>41</td>
<td>24.3</td>
</tr>
<tr>
<td>University</td>
<td>32</td>
<td>18.9</td>
</tr>
</tbody>
</table>

Table 2: Social Support of Respondents

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social support (n=185)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimal social support (&lt;3.89)</td>
<td>106</td>
<td>57.3</td>
</tr>
<tr>
<td>Maximum social support (≥3.89)</td>
<td>79</td>
<td>42.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Support person* (n=184)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Husband</td>
<td>147</td>
<td>79.4</td>
</tr>
<tr>
<td>Mother</td>
<td>109</td>
<td>58.9</td>
</tr>
<tr>
<td>Mother in law</td>
<td>102</td>
<td>55.1</td>
</tr>
<tr>
<td>Sister</td>
<td>82</td>
<td>44.3</td>
</tr>
<tr>
<td>Sister in law</td>
<td>28</td>
<td>15.1</td>
</tr>
<tr>
<td>Neighbour</td>
<td>50</td>
<td>27.0</td>
</tr>
<tr>
<td>Maid</td>
<td>29</td>
<td>10.0</td>
</tr>
</tbody>
</table>

*Multiple response question

Table 2 shows that 57.3% had minimal social support while 42.7% had maximum social support. Regarding the availability of a support person for caring for the infant, 99.45% had a support person whereas 0.54% had no one to support them in caring their infant as she was living in rented house and her husband was working in abroad. Most (79.45%) respondents acknowledged their spouse as the support person.

Table 3: Level of Perceived Maternal Role Competence of the Respondents

<table>
<thead>
<tr>
<th>Level of Perceived Maternal Role Competence</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor competence (&lt;3.88)</td>
<td>42</td>
<td>22.7</td>
</tr>
<tr>
<td>Average competence(3.88 -4.6)</td>
<td>94</td>
<td>50.8</td>
</tr>
<tr>
<td>Good competence (&gt;4.6)</td>
<td>49</td>
<td>26.5</td>
</tr>
</tbody>
</table>

Mean±SD = 4.26±0.49

Table 3 shows that 50.8% respondents had average perceived maternal role competence whereas 22.7% had poor level of perceived maternal role competence. Among 185 respondents 26.5% had good level of perceived maternal role competence. The mean (SD) of the competence score was 4.26(0.49)

Table 4 shows that there is significant association between perceived level of maternal role competence among respondents and age (p=0.022), education status (p=0.011), employment status (p=0.019), age at marriage (p=0.019), and readiness for pregnancy (p=0.004) whereas there was no significant association between level of perceived maternal role competence and type of family and parity.
### Table 4: Association between Respondents’ Perceived Level of Maternal Role Competence and Maternal Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Level of Perceived Maternal Role Competence</th>
<th>$\chi^2$</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Poor</td>
<td>Average</td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td>Age (In Years)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤19</td>
<td>9(42.9)</td>
<td>9(42.9)</td>
<td>3(14.3)</td>
</tr>
<tr>
<td>20-29</td>
<td>27(20)</td>
<td>73(55.7)</td>
<td>31(23.7)</td>
</tr>
<tr>
<td>≥30</td>
<td>6(18.2)</td>
<td>12(36.4)</td>
<td>15(45.5)</td>
</tr>
<tr>
<td>Education status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>6(37.5)</td>
<td>8(50.0)</td>
<td>2(12.5)</td>
</tr>
<tr>
<td>Literate</td>
<td>36(21.3)</td>
<td>50(29.6)</td>
<td>83(49.1)</td>
</tr>
<tr>
<td>Employment status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>27(19.7)</td>
<td>78(56.9)</td>
<td>32(23.4)</td>
</tr>
<tr>
<td>Employed</td>
<td>15(13.2)</td>
<td>16(33.3)</td>
<td>17(35.4)</td>
</tr>
<tr>
<td>Type of family</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nuclear family</td>
<td>27(25.7)</td>
<td>48(45.7)</td>
<td>30(28.6)</td>
</tr>
<tr>
<td>Joint family</td>
<td>15(18.8)</td>
<td>46(57.5)</td>
<td>19(23.8)</td>
</tr>
<tr>
<td>Age at marriage (in Years)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤19</td>
<td>30(30.3)</td>
<td>21(48.5)</td>
<td>21(21.2)</td>
</tr>
<tr>
<td>&gt;20</td>
<td>12(7.13)</td>
<td>46(53.5)</td>
<td>28(32.6)</td>
</tr>
<tr>
<td>Parity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primiparous</td>
<td>23(24.2)</td>
<td>51(53.7)</td>
<td>21(22.1)</td>
</tr>
<tr>
<td>Multiparous</td>
<td>19(21.1)</td>
<td>43(47.8)</td>
<td>28(31.1)</td>
</tr>
<tr>
<td>Readiness for pregnancy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planned</td>
<td>22(16.5)</td>
<td>71(53.4)</td>
<td>40(30.1)</td>
</tr>
<tr>
<td>Unplanned</td>
<td>20(38.5)</td>
<td>23(44.2)</td>
<td>9(17.3)</td>
</tr>
</tbody>
</table>

Significance level at 0.05

* $\chi^2$ Pearson’s chi square

** Likelihood ratio

The present study shows that there is no significant association between perceived maternal role competence and age of the infant or sex of the infant.
Table 5: Relationship between Subscales of Parent Sense of Competence

<table>
<thead>
<tr>
<th>Variable</th>
<th>Correlation</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction &amp; Self Efficacy</td>
<td>0.316</td>
<td>&lt;0.001*</td>
</tr>
</tbody>
</table>

*Calculated value obtained by spearman rank correlation

Result shows that there is statistically significant correlation (p=0.001) between satisfaction and self-efficacy subscale of parent sense of competence scale. This indicates that respondent having high self-efficacy is more satisfied with their maternal role performance.

**DISCUSSION**

The study was conducted to find out perceived maternal role competence among mothers of infants residing in Pokhara Sub-metropolitan City. This study revealed that the mean score of perceived maternal role competence was 72.48±8.33 and the mean score of satisfaction, efficacy and interest domain were 32.61±5.76, 34.34±4.45 and 5.53±0.77 respectively. The mean score of competence is slightly more than that of study of Ngai et al. conducted in China in which 17 item Parent Sense of Competence Scale was used and mean score was 69.1 (10.5) and Shah et al. in which mean score was 64.34±7.91.6,7

A positive correlation between perceived maternal role competence and age (r=0.202, p=.006) was seen in this study. Similar results were shown by Ngai, Chan & Ip and Shah et al. Literate mothers perceived themselves significantly more competent in their maternal role (p=0.011).6,8 The result was consistent with study of Gilmore and Cuskelly and Shah et al.6,9 Contradictory to this finding, the study by Mercer did not show a relationship between education and maternal competence.4

There was significant difference in perceived maternal role competence with employment status (p=0.019). Mothers who were job holders perceived themselves more competent in comparison to housewives which is supported by Shah et al study whereas results from study by Ngai, Chan, Ip revealed employment status was not associated with maternal role competence.6,8

There was significant difference in perceived maternal role competence with readiness for pregnancy (p=0.004). The mothers who had planned their pregnancy perceived themselves as more competent. This might be because mothers who had an unplanned pregnancy were not ready to take up the new role as mother.

Perceived maternal role competence was not significantly different with infant’s age. This finding was consistent with study results of Elek, Hudson, Bouffard.10 In contradictory to this finding, study by Secco et al. reported significant increase in perceptions of infant care competence over time.11 Whereas study by Ngai, Chan and Ip revealed maternal role competence declined at 6 weeks post-partum, followed by improvement at 6 months.8 Thus, inconsistent results shows need of further study to find out association of perceived maternal role competence with infant’s age.

The study finding showed that there was no significant difference of perceived maternal role competence with infant sex. The finding was in accordance with findings of Elek, Hudson & Bouffard and Coleman & Karraker.10,12 In contrary, study by Ohan, Leung, Johnston found significantly higher efficacy scores for mother with girls than boys.13

**CONCLUSION**

Based on the discussion of findings of the study, conclusion has been drawn. The study findings revealed that more than one quarter respondents had good perceived maternal role competence. Adolescent mothers perceived themselves less competent in their maternal role. So, there is need to support young mothers to adjust and enhance their development in the new role of mother. Similarly, the study result found literate and employed mothers were more competent. Thus educating mothers would help in increasing their competence. Those respondents who were married at after 20 years perceived themselves more competent as compared to their counterpart who married at younger age. Those mothers who had planned their pregnancy perceived themselves more competent. So, women
should be aware regarding family planning methods so every child birth is wanted and planned, thus, they would be ready to take up their role as mother.

**Acknowledgement:** The author would like to thank UGC Nepal for providing funding for conducting the study and all the respondents for their participation and co-operation. Researcher would also like to express her gratitude to all the FCHVs of who helped in preparing sampling frame and data collection procedure by locating he samples.

**Conflict of Interest:** None

**Ethical Clearance:** Taken from Chitwan Medical College-Institutional Review Committe

**REFERENCES**


The Effectiveness of Planned Teaching Program on Knowledge Regarding Identification and Emergency Management of Cardiac Dysrhythmias among Staff Nurses

Gaurav Singhal¹, Satish Salvi²
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ABSTRACT

These states aggravate those heart pump lesquerella successfully. Thus that no enough blood achieves the mind Furthermore other crucial organs. At the body’s blood stream may be over inadequate, those could swoon alternately endure midsection pain, considerably sudden baby passing syndrome could happen.

Objectives: To assess existing knowledge regarding cardiac dysrhythmias among staff nurses.
To evaluate the effect of planned teaching program on knowledge regarding cardiac dysrhythmias among staff nurses.
iii To find out association of pretest knowledge score with selected demographic variables

Material and Method: A Quantitative research approach and Quasi Experimental one group pre test post test research design was used. The sample size was 110 staff nurses using simple random sampling technique. By following sampling criteria the tool was developed as questionnaire. Semi structures questionnaire was used to evaluate the effect of planned teaching program on knowledge regarding cardiac dysrhythmias among staff nurses. To find out the study finding inferential test was used.

Result and Conclusion: Semi structured questionnaire was used to evaluate the effect of planned teaching program on knowledge regarding cardiac dysrhythmias. 62.7% having average knowledge and 37.3% having good knowledge regarding cardiac dysrhythmias.

Keywords: planned teaching programme knowledge regarding cardiac dysrhythmias, ICU staff nurses.

INTRODUCTION

According to American heart Association, those A large portion existence debilitating effect for cardiovascular arrhythmias may be sudden demise cardiovascular passing. Appraisal What’s more prompt sufficient nursing consideration toward early stage canwood keep difficulties considerably demise. Those attendants attempting over ICU Also chose wards ought further bolstering a chance to be acquainted with ID number about such arrhythmias moment distinction of at general sorts including disappointment arrhythmias and prompt revival recoveries those exists of the patients.¹

About 330 to 350 global deaths occur per year are due to cardiac arrhythmias. Deaths due to arrhythmias are 53 per 1,000 cardiac deaths. Incidence and prognosis of sustained arrhythmias in ICU population was studied France reported that in a total of 1,341 patients. Where in-hospital death rate was 17 percentage in-patients without arrhythmia and 29 percentage in-patients with supraventricular arrhythmias, 73 percentage in-patients with ventricular arrhythmias and 60 percentage in-patients with other conduction abnormalities.²

REVIEW OF LITERATURE

Literature related to incidence and prevalence of dysrhythmias
Literature related to knowledge regarding cardiac dysrhythmias

Literature related to effect of planned teaching program

Literature related to incidence and prevalence of dysrhythmias.

Sri Jayewardenepura (1994) conducted a study about Cardiac dysrhythmias during anesthesia. Factors that may influence the incidence of dysrhythmias such as age, pre-existing heart disease, hypertension and anesthetic technique were noted. Cardiac monitoring was commenced on each patient before the induction of anesthesia and continued up to the recovery period. Any dysrhythmia that occurred was noted and a tracing obtained. 42 patients developed dysrhythmia of whom 21 were nodal rhythms. These occurred during maintenance of anesthesia and needed no treatment. Fourteen patients developed ventricular ectopics commonly triggered by intubation. Only one patient needed treatment with lignocaine. Sinus bradycardia occurred in 6 patients who were treated with intravenous atropine.3

Literature related to knowledge regarding cardiac dysrhythmias

Nidhi Rjaput, Institute of Nursing Education and Research, Tilak Maharashtra Vidyapeeth Pune, 2016. A non beginning analysis abstraction to appraise the ability apropos identification and administration of cardiac dysrhythmias amid agents nurses in Vidharva Region. In this abstraction 100 agents nurses called by application non anticipation advised sampling address and abstracts was calm by structured questionnaire. Agents nurses were accepting acceptable akin of all-embracing ability account apropos identification and administration of cardiac dysrhythmias 5% accepting average, 39% good, 36% actual acceptable and 10% accomplished ability apropos identification and administration of cardiac dysrhythmias.4

Literature related to effect of planned teaching program

Ahmad Tubaishat (2014) et al., A Quasi test examine might have been directed with assess those impact of simulation-based educating on the procurement Furthermore maintenance of arrhythmia related information “around nursing people. An randomized regulated outline directing, including a pretest–post-test might have been utilized. Nursing scholars were allocated haphazardly whichever of the test gathering (n = 47), who went to reproduction situations for cardiovascular arrhythmia, or of the control aggregation (n = 44) who accepted an accepted address on the same theme. An matched t test demonstrated that those intend learning score In those posttest might have been fundamentally higher over during the pretest to both aggregations. However, members in the test gathering exhibited essentially expanded learning of heart arrhythmia in the principal and the second post-test compared with the individuals in the control one assembly. Thus, Recreation will be predominant Also essentially enhances students’ arrhythmia learning.5

RESEARCH METHODOLOGY

RESEARCH APPROACH: The research method adopted for the study was quantitative approach.
RESEARCH DESIGN: Quasi Experimental one group pre testpost test research design.
SETTING OF THE STUDY: The present study was conducted in selected hospitals.

POPULATION: In this study the population consists of staff nurses. SAMPLES: Sample refers to subset of a population selected to participate in a study. The sample selected for the present study comprised staff nurses working in ICU in selected hospitals.SAMPLE SIZE: As per the power analysis study consists of 110 staff nurses working in ICU. SAMPLING TECHNIQUE: Sampling technique used in this study simple random sampling technique Sample was selected according to criteria after obtaining permission from the authority of the selected hospitals. RELIABILITY: The reliability coefficient ‘r’ of the questionnaire was 0.751, which is more than 0.7, hence it was found to be reliable. PILOT STUDY: The pilot study was conducted in high school and junior college, sangli to assess the feasibility of the study. After the pilot study, tool was found feasible, and gave better insight to the investigator.

PROCEDURE OF DATA COLLECTION

Informed consent was taken before filling the questionnaire. The investigator approached the each staff, introduced themselves to the staffs and explained the nature and purpose of the study. Staff’s doubts were clarified and their consent was obtained. The tool was
given to each staff and asked to fill it.

**DISCUSSION AND RESULTS**

The study is quantitative and quasi experimental one group pre- test post- test research design was used. The study was carried out in selected hospitals among staff nurses with the sample size of 110. The research proposal was approved by the Ethical committee. The tool was corrected by 22 experts and then final tool was prepared. The tool was found reliable by using Karl Pearson’s correlation coefficient formula. After the approval of the ethical committee pilot study and final study were conducted. The pilot study was carried out using 11 samples and final study with 110.

Mean of pre- test was found 9.59 with $v_{\text{calc}}$ 0.618, so it was found that $t_{\text{calc}}$ value was greater than $t_{\text{table}}$ value $P < 0.000$. Mean of post- test was found 14.96 with $v_{\text{calc}}$ -20.618, so it was found that $t_{\text{calc}}$ value was greater than $t_{\text{table}}$ value $P < 0.000$.

Semi structured questionnaire was used to collect the data. There were total 20 questions and divided as 0-7 poor, 8-14 average and above 15 as good knowledge. There are 68.2% having poor and 31.8% having average knowledge score in pretest regarding cardiac dysrhythmias and 62.7% having average knowledge and 37.3% having good knowledge regarding cardiac dysrhythmias in post test. This figure shows that the level of knowledge increases in the post test.

It was found that found that 36% nurses having qualification G.N.M, 49.1% having B.SC Nursing and 14.5% having P.B. B sc. nursing qualification. - It was found that 50.9 % having experience below 1 year, 42.7% having experience 1 to 2 year and 6.4% nurses having experience 2 to 5 year and no one having experience more than 5 years. It was found that 54.5% having previous knowledge regarding cardiac dysrhythmia.

**CONCLUSION**

This study was aimed at the finding out the effectiveness of planned teaching program on knowledge regarding identification and emergency management of cardiac dysrhythmias among staff nurses working in selected hospitals. A quantitative research approach was used for the study. The study was conducted on 110 staff nurses working in selected hospitals.

**Conflict of Interest:** Nil

**Source of Funding:** Self Funding

**Ethical Considerations:** Ethical committee letter were submitted to the Bharati Vidyapeeth (to be Deemed) University, Pune and obtained permission from university to conduct the research. Permission from concerned authority and parent of each sample were obtained before data collection.

**REFERENCES**


A Study to Assess the Effectiveness of Impact of Hot Water Foot Immersion Therapy on Regulation of Body Temperature among Patients with Fever Admitted in Sharda Hospital, Greater Noida

Kiran Sharma¹, Rekha Kumari²
¹Professor cum HOD, Medical Surgical Nursing, ²PG Student, SNSR, Sharda University, Greater Noida

ABSTRACT

Background: A fever is a body temperature that is higher than normal. It is not an illness. It is part of our body’s defence against infection. Most bacteria and viruses that cause infections do well at the body’s normal temperature (98.6 F). A slight fever can make it harder for them to survive. Fever also activates your body’s immune system. You have a fever when your temperature rises above its normal range. Fever is a natural response of the body that helps in fighting off foreign substances such as microorganisms and toxins. Hot water foot bath therapy causes blood vessels to dilate and improves blood circulation, which releases heat in the form of sweat and supplies oxygen to brain cells which aids in the elimination of toxins. The immersion of the body or part of the body in a water bath stimulates circulation and reduces body temperature.

Material and method: A quasi-experimental pre-test and post-test control group design was used. There were 60 Patients admitted with fever selected using simple random sampling technique and were randomly allocated in experimental and control group using lottery method. Control group was received standard treatment. Experimental group was received hot water foot bath therapy along with standard treatment. Content validity of the tool was established by giving it to 11 experts 5 from Medical Surgical Nursing, 3 from physicians, 2 from Psychiatric Nursing and 1 from community health nursing. Reliability of the tool was assessed by using the Cronbach’s Alpha method. The correlation coefficient was 0.86. Data collection was done in March 2018. The obtained data was analyzed and interpreted in terms of objectives and research hypotheses. Analysis was done by using descriptive and inferential statistics.

Results: The results revealed that there was significance difference in reduction of temperature after application of hot water foot immersion therapy at p<0.05 level of significance. The mean difference between pre-test & post-test was 2.03°F. It was effective in patients with all type of fever. Participants were highly satisfied with hot water foot immersion therapy.

Conclusion: Based on the study findings it is found that there is a significance association between experimental group (i.e after intervention) and control group only on second day morning and third day morning and evening in the temperature of the patient’s, so i conclude that hot water foot immersion therapy is effective from the third day.

Keywords: Body temperature; effectiveness; fever; hot water foot immersion therapy

INTRODUCTION

A fever is a body temperature that is higher than normal. It is not an illness. It is part of your body’s defence against infection. Most bacteria and viruses
that cause infections do well at the body’s normal temperature (98.6 F). A slight fever can make it harder for them to survive. Fever also activates your body’s immune system. You have a fever when your temperature rises above its normal range. What’s normal for you may be a little higher or lower than the average normal temperature of 98.6 F (37 C).[1]

A fever is a temporary increase in your body temperature, often due to an illness. Having a fever is a sign that something out of the ordinary is going on in your body. For an adult, a fever may be uncomfortable, but usually isn’t a cause for concern unless it reaches 103 F (39.4 C) or higher. For infants and toddlers, a slightly elevated temperature may indicate a serious infection.[2]

Fevers generally go away within a few days. A number of over-the-counter medications lower a fever, but sometimes it’s better left untreated. Fever seems to play a key role in helping your body fight off a number of infections.[3]

A hot water foot bath therapy increases nourishment to tissues, calms and relaxes tension. It important for the nurse to consider the treatment modality, that is effective for the client, considering all the factors affecting thermoregulation. Hot water foot bath therapy is considered as a non-pharmacological, safe and side effect free, cost effective, easy to administer. As pharmacological measures have reported side effects, it is always better to use non-pharmacological measures to reduce fever. There are very few studies that are conducted to test and compare the effectiveness of different non-pharmacological measures to reduce the fever.[4]

Warm application to the foot causes the congested blood to flow towards distant parts of the body and is brought to the dilated vessels of the foot and leg. When hot water foot bath therapy applied for 15-20 minutes the vessels in the feet starts expanding and gets improved circulation, neutralizing acid and killing bacteria, and relieving aches, tiredness and fever. The improved blood circulation resets the hypothalamic set points by heat transfer from higher heat area to lower heat area.[6]

**METHOD**

Simple Random sampling technique was used to select the sample size 60 Patients admitted with fever randomly allocated in experimental and control group by using lottery method. Control group was received standard treatment. Experimental group was received hot water foot bath therapy along with standard treatment. Informed consent was obtained from caregiver. The study excluded the patients who can’t assume sitting position, loss of sensation in the leg, Unconsciousness, Ulcer, lesion or allergy in the feet and Patient who are not willing to participate.

**DATA COLLECTION PROCEDURE**

The research investigator met the head of the institution in order to establish support and cooperation to conduct the study successfully. The formal permission was taken from The Dean of the School of Nursing Science and Research, Sharda University, Greater Noida, U.P and The Medical Superintendent of Sharda Hospital, Greater Noida, and U.P to collect data for main study. The main Study was conducted from 5th March 2018 to 7th April 2018 in Sharda Hospital Greater Noida.

The method used for data collection was as follows:

The research investigator introduced him to the subjects and establish the good rapport with them.

The written consent was obtained from each patient.

Warm the water.

The temperature of water should be 103 & 104°F or 39 °C – 40 °C.

Use such a bucket which helps in foot immersion easily.

Before intervention I will check the body temperature and record in temperature record table.

Steps of check the body temperature:

Wash the hands to prevent the spread of infection. Prepare all required equipments to facilitate accurate skill performance. Check the client’s identification and coding to confirm the necessity. Explain the purpose and the procedure to the client to providing information fasters cooperation and understanding. Close doors and/or use a screen to maintain client’s privacy and minimize embarrassment. Take the thermometer and wipe it with cotton swab from bulb towards the tube to limit spread of infection. Assist the client to a supine or
sitting position to provide easy access to axilla. Move clothing away from shoulder and arm to expose axilla for correct thermometer bulb placement. Be sure the client’s axilla is dry. If it is moist, pat it dry gently before inserting the thermometer because moisture will alter the reading. Under the condition moistening, temperature is generally measured lower than the real. Place the thermometer in hollow of axilla at anterior inferior with 45 degree or horizontally to maintain proper position of bulb against blood vessels in axilla. Keep the arm flexed across the chest, close to the side of the body because close contact of the thermometer with the superficial blood vessels in the axilla ensures a more accurate temperature registration. Hold the thermometer in place for 3 minutes to ensure an accurate reading. Remove and read the level of the temperature to ensure an accurate reading. Explain the result and instruct him/her if he/she has fever or hypothermia to share his/her data and provide care needed immediately. Dispose of the equipment properly, wash the hands to prevent the spread of infection. Replace all equipments in proper place to prepare for the next procedure. Record in the client’s chart for documentation provides ongoing data collection. If a report is abnormal reading to the senior staff because documentation provides ongoing data collection.

**RESEARCH**

Table no.:1: Post- test scores of body temperature experimental and control group in day 2 morning.

<table>
<thead>
<tr>
<th>Group type</th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
<th>t value</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>30</td>
<td>3.47</td>
<td>.68</td>
<td>2.038</td>
<td>0.046*</td>
</tr>
<tr>
<td>Control</td>
<td>30</td>
<td>3.10</td>
<td>.71</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* denotes significant at 5% level.

**INTERPRETATION:**

Since the P value of the above analysis between experimental group and control group in day two morning session is less than 0.05 so the H0 is rejected at 5% level of significance which means there is an association between experimental (i.e. after intervention) group and control group patients with respect to the temperature.

Table no.:2: Post- test scores of body temperature experimental and control group in day 2 evening

<table>
<thead>
<tr>
<th>Group type</th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
<th>t value</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>30</td>
<td>3.07</td>
<td>.69</td>
<td>-2.038</td>
<td>0.046*</td>
</tr>
<tr>
<td>Control</td>
<td>30</td>
<td>3.00</td>
<td>.87</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* denotes significant at 5% level.

**INTERPRETATION:**

Since the P value of the above analysis between experimental group and control group in day two evening session is more than 0.05 so the H0 is accepted at 5% significance which means there is no association between experimental group (i.e. after intervention) and control group patients with respect to the temperature.

Table no.:3: Post- test scores of body temperature experimental and control group in day 3 morning

<table>
<thead>
<tr>
<th>Group type</th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
<th>t value</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>30</td>
<td>2.47</td>
<td>.57</td>
<td>-2.579</td>
<td>0.012*</td>
</tr>
<tr>
<td>Control</td>
<td>30</td>
<td>2.87</td>
<td>.63</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* denotes significant at 5% level.

**INTERPRETATION:**

Since the P value of the above analysis between experimental group and control group in day three morning session is less than 0.05 so the H0 is rejected at 5% significance which means there is an association between experimental group (i.e. after intervention) and control group patients with respect to the temperature.

Table no.:4: Post- test scores of body temperature experimental and control group in day 3 evening

<table>
<thead>
<tr>
<th>Group type</th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
<th>t value</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>30</td>
<td>1.77</td>
<td>.50</td>
<td>-5.914</td>
<td>.000*</td>
</tr>
<tr>
<td>Control</td>
<td>30</td>
<td>2.70</td>
<td>.70</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* denotes significant at 5% level.

**INTERPRETATION:**

Since the P value of the above analysis between
experimental group and control group in day three evening session is less than 0.05 so the $H_0$ is rejected at 5% significance which means there is an association between experimental group (i.e. after intervention) and control group patients with respect to the temperature.

**Table no. 5: Mean difference of post-test scores of body temperature among experimental and control group**

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean day 1</th>
<th>Mean day 3</th>
<th>Mean difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exp. Group</td>
<td>3.80</td>
<td>1.77</td>
<td>2.03</td>
</tr>
<tr>
<td>Control group</td>
<td>3.83</td>
<td>2.70</td>
<td>1.13</td>
</tr>
</tbody>
</table>

**INTERPRETATION:**

From the above table I found that the mean difference of experimental group is greater than the control group.

**DISCUSSION**

In this study the data was obtained from patients admitted with fever in Sharda Hospital, Greater Noida regarding on thermoregulation in order to achieve the objectives of the study a Quasiexperimental pre-test & post-test control group design was adapted and 60 patients were selected by using simple random sampling technique, fulfilling the inclusion and exclusion criteria. The subjects were evaluated by using structured participation information sheet, inform consent, demographic variables, temperature record table and rating scale on level of satisfaction on hot water foot immersion therapy among patient with fever.

**CONCLUSION**

The findings of the study revealed that the hot water foot bath therapy was effective in thermoregulation among patients with fever. Thus study suggest that hot water foot bath therapy is a complimentary alternative therapy that helps the parents, family members and nurses in the management of fever, in an easy, cost effective way without shivering and complication. We can use footbath as a non-pharmacological, easy and safe technique to maintain the body temperature. As this method can be performed for the elderly by themselves or other people, it can be recommended in health programs for them. The hot water is cheap and simple way to thermoregulation by increasing the foot vessel expansion and blood volume is increased and timely ought to brain of oxygen & nutrients needed to fight against microorganism.

**Conflict of Interest:** Nil

**Source of Funding:** Self

**Ethical Clearance:** Taken

**REFERENCES**

Digoege Syndrome – Chromosome 22q11 Deletion Syndrome: An Update and Review

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¹Asst. Prof, Chn Department, ²Asst. Prof, OBG Department,
School of Nursing Science and Research, Sharda University

ABSTRACT

The DiGeorge Syndrome was first described in 1968 as a primary immunodeficiency resulting from the abnormal development of the third and fourth pharyngeal pouches during embryonic life. It is characterized by hypocalcemia due to hypoparathyroidism, heart defects, and thymic hypoplasia or aplasia. Its incidence is 1:3000 live births and, despite its high frequency, little is known about its natural history and progression. This is probably due to diagnostic difficulties and the great variety of names used to describe it, such as velocardiofacial, DiGeorge, and CATCH 22 Syndromes, as well as conotruncal facial anomaly. All represent the same genetic condition, chromosome 22q11.2 deletion, which might have several clinical expressions. To describe clinical and laboratorial data and phenotypic characteristics of patients with DiGeorge Syndrome. Patients underwent standard clinical and epidemiological protocol and tests to detect heart diseases, facial abnormalities, dimorphisms, neurological or behavioral disorders, recurrent infections and other comorbidities.

Keywords - DiGeorge Syndrome, velocardiofacial, CATCH 22 Syndromes, conotruncal facial anomaly

INTRODUCTION

DiGeorge syndrome (DGS) is one of a group of phenotypically similar disorders—including velocardiofacial syndrome (VCFS, or Shprintzen syndrome) and conotruncal anomaly face (CTAF) syndrome—that share a microdeletion of chromosome 22q11.2, a region known as the DGS critical region⁴. Cytogenetic and molecular studies have contributed greatly to our understanding of the genetic basis of these disorders. These studies suggest that one or more genes in this region of chromosome 22 play a major role in cardiac and craniofacial development and other derivatives of the third and fourth pharyngeal pouches, including the thymus and parathyroid glands. During the past several years there has been a tremendous effort by several groups of investigators to construct physical and transcription maps of this region to identify candidate genes. Within the next several years, we can expect that additional genes within 22q11 will be identified and that we will have a better understanding of their function and role in the development of the complex and variable phenotype of the 22q11 deletion syndrome.²

HISTORY

Genes are made up of a chemical called DNA and are housed on larger structures called chromosomes. Most people have 23 pairs of chromosomes (46 total), with one of each pair coming from the mother and the other from the father. Chromosomes are number 1 through 22; the 23rd pair are called sex chromosomes because they determine a person’s sex (male or female). The chromosomes are found in every cell in the body.³

In 1981, Dr. de la Chapelle in France, and in 1982, Richard Kelley, M.D., along with Elaine Zackai, M.D. and Beverly Emanuel, Ph.D. at the Children’s Hospital of Philadelphia in the U.S.A., found that
patients with DiGeorge syndrome had a rearrangement of chromosome 22 which caused them to be missing a very small piece of chromosomal material on the long arm (q11.2) of chromosome 22. This rearrangement was able to be seen under the microscope. This piece of information is important, as you will see when you read on, because most 22q11.2 deletions are not seen under the microscope because they are too small.3

Over the years, Dr. Emanuel’s group at the Children’s Hospital of Philadelphia worked very hard to establish the fact that 25% of patients with DiGeorge syndrome had a visible deletion of material on chromosome 22 when they looked under the microscope. But they were still puzzled about the other 75% of patients with DiGeorge syndrome who did not have a visible deletion. In 1991, Deborah Driscoll, M.D., a member of Dr. Emanuel’s laboratory group, detected a submicroscopic deletion of chromosome 22q11.2 in the majority of patients with DiGeorge syndrome using special “molecular” tests. This meant that although you could not see the material under the microscope, you could prove that the piece was absent by using a special DNA test called FISH (fluorescence in situ hybridization). This test works like a lock and key. The person in the laboratory has the key which lights up (fluoresces) if it finds its matching lock in the chromosomes. If the lock is missing from one of the pair of chromosomes 22s, only one chromosome 22 will light up in the area in question (q11.2), confirming that the patient is missing material on chromosome 22.5

The majority of patients who had a 22q11.2 deletion, which caused their DiGeorge syndrome, did not have an affected parent, therefore, the change in their chromosome 22 was a “new mutation” in them. This was and still is important information for families, because, if the parents’ chromosomes are normal, then the chance of recurrence in a future pregnancy is quite low. About 10% of the time, a parent is also affected with some medical problem like a heart defect and also has the 22q11.2 deletion. If the deletion is present, then that individual has a 50% chance of passing on the chromosome 22 with the deletion to his or her children. The chance of having more than one child affected when the parent has the deletion is random (like the chance of flipping a coin twice in a row and finding “heads” twice in a row). When a child receives the chromosome 22 with the deletion, the medical problems can be quite variable. For example, from a very mild heart problem to a very severe heart problem, or no heart problem at all.2

DEFINITION OF DI GEORGE SYNDROME

DiGeorge Syndrome (DGS) is a primary immunodeficiency, often but not always, characterized by cellular (T-cell) deficiency, characteristic facies, congenital heart disease and hypocalcemia. DGS is caused by abnormal formation of certain tissues during fetal development. During fetal development, various tissues and organs often arise from a single group of embryonic cells. Although the tissues and organs that ultimately develop from this group of embryonic cells may appear to be unrelated in the fully formed child, they do have a similar origin.3

Approximately 90% of patients with DGS have a small deletion in chromosome number 22 at position 22q11.2. Thus another name for this syndrome is the 22q11.2 deletion syndrome. Other names include velocardiofacial syndrome and conotruncal anomaly face syndrome.5

EPIDEMIOLOGY

22q11DS is the most common microdeletion syndrome in humans. However, population-based estimates of the incidence and prevalence of 22q11DS differ. Most studies reported a prevalence of one in every 4,000 newborns; however, reports range from one in 2,000 to one in 6,395.3,12 Nevertheless, many researchers believe that this number is artificially low due to under-diagnosis. Consistent with this, familial occurrence is the most frequent cause of diagnosis in adults at some genetic centers.10

Male and female sexes are affected equally by 22q11DS. In addition, the deletion of 22q11.2 is more prevalent within certain ethnic groups. Specifically, 22q11DS occurs more frequently among Hispanics compared with Whites, African Americans, and Asians.9

Generally, >90% of DGS cases are de novo or novel deletions caused by a random occurrence during fetal development. An unaffected parent might then carry the deletion in his or her eggs or sperm, and the risk of recurrence is ~1%. However, it can also be inherited, and familial autosomal dominant recurrence is reported in ~8%–28% of patients in various series.2 Some cases appear to have a vigorous diagnosis but no deletion; 35%–90% of patients with DGS and 80%–100%
of velocardiofacial syndrome patients have the 22q deletion.\textsuperscript{12}

**CLINICAL FEATURES**

The variability in the clinical expression of del22 syndrome is extremely wide.\textsuperscript{9} Classical features of del22 syndrome include CHD, velopharyngeal insufficiency or cleft palate, facial anomalies, speech and learning disabilities, neonatal hypocalcemia, and T-cell immune deficit. Nevertheless, the spectrum of anomalies associated with del22 is becoming wider and wider.\textsuperscript{2} Inter-individual variability in del22 phenotype is characteristic, since subjects with full-blown clinical expression of the syndrome as well as mildly affected individuals can be found. The main clinical features of Del22 syndrome and their occurrence in series of 165 patients are listed in\textsuperscript{6}

**Table 1- Main clinical features of Del22 syndrome and their occurrence in this series**

<table>
<thead>
<tr>
<th>Clinical finding</th>
<th>Affected individuals</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facial anomalies</td>
<td>165/165</td>
<td>100%</td>
</tr>
<tr>
<td>Congenital heart defect</td>
<td>136/165</td>
<td>82%</td>
</tr>
<tr>
<td>Speech/Learning difficulties</td>
<td>132/165</td>
<td>80%</td>
</tr>
<tr>
<td>Neonatal hypocalcemia</td>
<td>121/165</td>
<td>73%</td>
</tr>
<tr>
<td>T-cell deficiency</td>
<td>97/141</td>
<td>69%</td>
</tr>
<tr>
<td>Skeletal anomalies</td>
<td>52/165</td>
<td>32%</td>
</tr>
<tr>
<td>Palatal anomalies</td>
<td>51/165</td>
<td>31%</td>
</tr>
<tr>
<td>Asymmetric crying face</td>
<td>35/165</td>
<td>21%</td>
</tr>
<tr>
<td>Renal malformations</td>
<td>25/165</td>
<td>15%</td>
</tr>
<tr>
<td>Genital anomalies</td>
<td>19/165</td>
<td>11%</td>
</tr>
</tbody>
</table>

**DIAGNOSIS OF DI GEORGE SYNDROME**

Patients

The cohort was composed of 109 patients with clinical suspicion of 22q11.2 DS prospectively selected as part of a multicenter study, the Brazil’s Craniofacial Project (CFBP). Before data collection, a standardized clinical protocol was established by all clinical geneticists, involved in this study. The protocol included physical examination, clinical and image investigation for palatal abnormalities (including data of nasopharyngoscopy), and cardiologic assessment (including echocardiogram). Also, included in the protocol was the collection of each patient’s history of hypocalcemia and immunologic alterations/recurrent infections, growth and development, behavioral and neuropsychiatric disorders, and sensorineural and/or conductive hearing loss; as well as conducting neurologic, ophthalmologic, gastroenterologic, genitourinary, and skeletal evaluation.\textsuperscript{7}

22q11.2 deletion syndrome is diagnosed in individuals with a submicroscopic deletion of chromosome 22 detected by fluorescence in situ hybridization (FISH), multiplex ligation-dependent probe amplification (MLPA), or chromosomal microarray (CMA). At present, fewer than 5% of individuals with clinical findings of the 22q11.2 deletion syndrome have normal routine cytogenetic studies and normal results on FISH testing; however, this figure may change as individuals with atypical or nested deletions within the DGCR (DiGeorge chromosome region) but not including the area encompassing the N25 or TUPLE FISH probes are identified using array-based or MLPA technologies.\textsuperscript{8}

**MANAGEMENT OF DI GEORGE SYNDROME**

22q11DS is a multisystem syndrome with remarkable variability and expression among individuals. Moreover, the presence of one feature does not predict the presence of any other feature. As such, the management of 22q11DS patients is highly dependent on age and phenotype; therefore, treatment is individualized according to the underlying lesion and severity.\textsuperscript{10,11}

In infants and young children with feeding problems, recurrent infections, hypocalcemia, and structural cardiac and palatal anomalies might be accompanied by speech, learning, and/or developmental difficulties. The combination of poor suck reflexes, palatal weakness, and dysfunctional swallowing often means that formula rests in abnormal anatomic locations or regurgitates into the Eustachian tube or sinuses. Gastroesophageal reflux is also common in these patients. The management of feeding difficulties includes thickeners, anti-reflux medications, and nasogastric or gastrostomy feeding tubes when necessary.\textsuperscript{2,3,10,11}

Hypocalcemia due to hypoparathyroidism is a
common problem during the neonatal period, but it could occur at any age, including adulthood. The standard treatment for hypoparathyroidism is to correct hypocalcemia using oral vitamin D analogs and calcium. However, physicians should be careful to avoid overtreatment, which results in hypercalciuria, hypercalcemia, nephrolithiasis, nephrocalcinosis, and renal failure. Teriparatide recombinant human parathyroid hormone (1–34) is a promising novel treatment for chronic hypocalcemia in hypoparathyroid syndromic children, and it might solve this problem in the future. A recent study demonstrated the efficacy of parental parathyroid transplantation combined with allogeneic thymus transplantation in a patient. Daily vitamin D is advised for 22q11DS patients of all ages with hypocalcemia; the dose should be the recommended daily allowance or as indicated therapeutically.

Recrurent infections, particularly otitis media, might be an important problem during this period, and hearing loss might occur. Children should be treated appropriately for infections and followed carefully for potential hearing problems. Unrecognized hearing loss might contribute to delayed speech and cognitive development.

Reconstituting the immune system is essential for patients with complete DGS, which can be accomplished by two methods: thymus tissue transplantation and a fully matched peripheral blood T-cell transplantation. Patients with complete DGS need to be protected from infections and blood products. Antifungal, antiviral, and antipneumocystis prophylaxis, and immunoglobulin replacement therapy should be commenced in these patients. Blood products could induce graft-versus-host disease when T-cells are absent. If necessary, patients should receive cytomegalovirus-negative and irradiated blood products. In addition, live viral vaccines should be avoided in patients with severe immunodeficiency. Adverse events following live immunizations are typically minor and self-limited, suggesting that live vaccines could be considered in patients with mild-to-moderate immunosuppression. As mentioned above, hypogammaglobulinemia might develop in patients with 22q11DS. For example, severe antibody deficiencies that are associated with lower respiratory tract infections and autoimmune conditions might occur. Therefore, patients should be screened for potential antibody deficiency. Importantly, the degree of immunodeficiency cannot be predicted based on other phenotypic features and must be assessed individually in each patient with 22q11DS.

Patients with 22q11DS have high death rates. Most deaths occur during the first year of life, and are associated with the presence of congenital heart diseases, particularly severe cardiac defects. Right-sided heart failure, which is related to pulmonary vascular resistance, is a common complication of these anomalies, and was proposed to be an important contributor to mortality. Surgical treatment is necessary for many of the cardiac problems in patients with 22q11DS. Nevertheless, individualized surgical approaches are needed according to the underlying cardiac lesion in each patient. Laryngeal abnormalities are not rare and are important to recognize, particularly if cardiac surgery is planned. Therefore, complete ear, nose, and throat examinations and airway evaluations should be performed before any surgical procedure.

As mentioned above, 22q11DS might affect many systems, and urinary ultrasonography should be performed after diagnosis. Children with 22q11DS should be screened for scoliosis, and surgical treatment might be necessary to correct this condition. Symmetric leg pain is seen frequently in 22q11DS patients during childhood, whereas asymmetric leg pain suggests other pathologies. Patients should also be screened for thyroid function and if necessary, thyroid morphology. Vomiting is common with 22q11DS, and can indicate a problem in the gastrointestinal system such as reflux or malrotation. If indicated clinically, patients should also be screened for autoimmune disorders such as Celiac disease. Subjects should also be screened for strabismus and refractive errors at 2 years or 3 years of age.

The optimal management of patients with 22q11DS requires a comprehensive team approach, including specialists in genetics, pediatrics, endocrinology, plastic surgeons, immunologists, otolaryngologists, and speech therapists. 22q11DS is not a rare syndrome, and there is a need to form a local specialist team to ensure optimal management of affected patients. Appropriate guidelines for the management of patients are available in the literature, which contain useful information for physicians interested in 22q11DS syndrome. 22q11DS might be difficult to recognize and diagnose in some patients, although the clinical findings for early diagnosis are known. Early diagnosis provides the best opportunity for modifying the course of the illness and optimizing patient outcome.
CONCLUSION

Symptoms of DiGeorge syndrome can be detected soon after the birth, especially that concerning congenital hearth disease. A prompt diagnosis and surgical intervention can save the child’s life. Because of many other symptoms, many diagnostic procedures focused on this syndrome are to be performed, followed by long lasting stimulative treatment and treatment of seizures and psychiatric disorders.

Ethical Clearance - None

Source of Funding - Self

Conflict of Interest – Nil

REFERENCES


Effect of an Awareness Program on Knowledge about Junk Food Related Neurocysticercosis among College Students in a Selected College, West Bengal

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Clinical Nurse, Chittaranjan Seva Sadan and Sishu Sadan Hospital, Kolkata

ABSTRACT

Introduction: Neurocysticercosis, a severe form of cysticercosis affecting the central nervous system, is a potentially dangerous systemic infection caused by Cysticercuscellulosae, the larval stage of T. solium.

Aims: To effect of an awareness program on knowledge about junk food related neurocysticercosis among college students in a selected college, W.B.

Setting and Design: Pre experimental one group pre-test post-test research design was adopted for the study to collect the data from the student in a selected Asutosh college of West Bengal.

Results: Result show that the mean and standard deviation post-test students behaviour score 583.25±37.98 (Q1-20) and 174.69±3.39 (Q21-26) was significantly higher than the mean Pre-test students behaviour score 489.25±24.97 (Q1-21) 111.23±2.44 (Q21-26). The obtained mean difference was found to be statistically significant as evident from ‘t’ value of 3.46 (for Q1-20) and 3.09 (for Q21-26) for df 65 at 0.05 level. It means that the obtained mean difference between mean score of both control group students behaviour during the study was a true difference and not by chance.

Conclusion: From this study it is revealed that awareness program on knowledge about junk food related neurocysticercosis among college students is necessary to educate them regarding NCC and preventive From this study it is revealed that awareness program on knowledge about junk food related neurocysticercosis among measures.

Keyword:- Junk food, Neurocysticercosis, Awareness programme, knowledge, students

INTRODUCTION

Neurocysticercosis (NCC), a severe form of cysticercosis affecting the central nervous system, is a potentially dangerous systemic infection caused by Cysticercuscellulosae, the larval stage of T. solium. Humans acquire this infection by ingestion of T. solium eggs from fecal contaminated soil, water or improperly cleaned, raw or undercooked vegetables.

Neurocysticercosis is a well recognized global and common parasitic disease during these days. The common symptoms associated with NC are epilepsy, loss of consciousness, headache, abnormal behavior etc. Patients with these symptoms are often referred to the imaging centre for diagnosis for NC through CT scan/ MRI of the brain, as NC is an abnormality which is better diagnosed by the introduction of CT scan and MRI than any previous recognized radiological procedures in the brain.

In the developing world, NCC, infection of the central nervous system with the T. solium larvae, is the most common cause of acquired epilepsy. Because of globalization, many clinicians in industrialized countries who are unfamiliar with NCC are now faced with managing this disease. Adult tapeworms shed proglottids, and each proglottid contains approximately 1000 to 2000 eggs. Once the hexacanth embryo reaches the parenchyma it forms cysticerci which undergo four stages of involutions.

Prevalence rates in the United States have shown immigrants from Mexico, Central and South America, and
Southeast Asia account for most of the domestic cases of cysticercosis. The disease is world-wide in distribution, though major endemic regions are the world’s poorer countries where families raise free-roaming pigs that are able to ingest human faeces. The world-wide prevalence of NCC still remains to be known, though, initiatives are underway to determine the burden in endemic countries as well as in developed nations like USA. The estimated numbers of people suffering from epilepsy due to NCC are as high as 0.31-4.6 million in sub-Saharan Africa, 0.45-1.35 million in Latin America, 1 million in India and 0.3-0.7 million in China.

T. solium cysticercosis was added by WHO to the list of major Neglected Tropical Diseases with NTD roadmap goals of making available a validated strategy for control and elimination of T. solium taeniasis/ cysticercosis and those interventions to be scaled up in selected countries by 2020.

In India, it is prevalent in all states, with WHO estimating NCC to be the cause of epilepsy in up to 50% of Indian patients who present with partial seizures. In a community survey in Vellore in southern India, among those suffering from active epilepsy, NCC was found in 28% by CT scan and 13% by the enzyme-linked immunoelectron transferblot. Overall, 34% of patients were diagnosed with NCC. Moreover, there was no significant difference in prevalence of NCC in urban and rural areas. In Puducherry in south India, seroprevalence was observed to be 16% in patients with epileptic seizures and 6% in blood donors when tested for both antibodies and antigens. In Chandigarh in northern India, overall seroprevalence in the general population was found to be 17%, with 24% in slum areas, 20% in rural and 8% in organized urban sectors, with only 8% of the seropositive individuals having history suggestive of NCC.

WHO programmes for the control of neglected tropical diseases and of mental health are also steering the development of evidence based standard guidelines for diagnosis and treatment of T. solium neurocysticercosis to support clinical management and inform national policies and programmes.

**OBJECTIVES**

Most of college student are having out side food. They love to have first food then home made food. Some are escape breakfast because of having fast food, some habituated to have only fast food.

**OBJECTIVES :**

1. To identify the knowledge about junk food related neurocysticercosis before and after exposure to awareness programme among college students.

2. To identify the effect of an awareness programme in term of changes of knowledge.

3. To determine the association between knowledge about junk food related neurocysticercosis with selected socio demographic variables.

**OPERATIONAL DEFINITION:**

**Neurocysticercosis:**-It is form of cysticercosis and is the most worm infection of the central nervous system.

**Junk food:** junk food is food lacking in nutritional value and frequently high calories, sugar or fat. Junk food consumption alters brain activity in a manner similar to addictive. Junk food included soft drinks, roll, noodles, burgers, pizzas, French fries, fried fast food.

**Junk food related neurocysticercosis:** junk food is food lacking in nutritional value and frequently high calories, sugar or fat. Junk food consumption alters brain activity in a manner similar to addictive drugs like cocaine and heroin. Due to junk food form of cysticercosis and is the most worm infection of the central nervous system.

**Awareness programme:** A planned programme designed to increase awareness of junk food related neurocysticercosis and it will be delivered with the help of PPT.

**Knowledge:** It refers to the written response on knowledge regarding junk food related neurocysticercosis and it will be measured Questionnaire on knowledge of junk food related neurocysticercosis.

**College students:** It include the students of both sex study in 1st year.

**HYPOTHESIS :**

H1-The mean post test knowledge score of adolescents about junk food related neurocysticercosis is significantly higher than the mean pre test knowledge score of college students at 0.05 level of
significant.

H2-There is association between pretest knowledge about junk food related neurocysticercosis and selected socio-demographic variables of college students.

REVIEW OF LITERATURE

1. To assess the knowledge of college student about junk food related problem

RESEARCH METHODOLOGY

Research approach: A quantitative research approach was adopted for the study.

Research design: Pre experimental one group pre-test post-test research design was adopted for the study to collect the data from the student in a selected college, W.B.

Table 1: One group pre and post-test research design

<table>
<thead>
<tr>
<th>GROUP</th>
<th>PRE-TEST</th>
<th>TREATMENT</th>
<th>POST TEST</th>
</tr>
</thead>
<tbody>
<tr>
<td>RE</td>
<td>O1 (Dependent variable)</td>
<td>X (Independent variable)</td>
<td>O2 (Dependent variable)</td>
</tr>
<tr>
<td>RE</td>
<td>Knowledge of college student</td>
<td>Planned teaching programme about junk food related neurocysticercosis</td>
<td>Knowledge of college student</td>
</tr>
</tbody>
</table>

SETTING: The study was conducted in a Asutosh college, West Bengal

POPULATION: The population included both sex for the study includes students who are studying in a selected college, W.B.

SAMPLE SIZE: Total sample size of the study was 114 students.

SAMPLE TECHNIQUE: Purposive sampling technique was used for selecting sample.

INCLUSION CRITERIA:

Only college students

1st year students (both sex).

Willing to participate in the study.

Available during the study period.

EXCLUSIVE CRITERIA:

who are not willing to participate in the study.

who are not available during the study period.

Students who are taken food from home

CONTENT VALIDITY OF KNOWLEDGE QUESTIONNAIRE

The knowledge questionnaire with the blueprint, list of questions and answer key, criteria checklist was given to five experts for establishment of content validity. Among five experts one is General medicine, two are paediatricians & two are nursing experts. Suggestions were given to change the options of the knowledge questionnaire.

RELIABILITY:

Inter Rater

METHODS OF DATA COLLECTION

Table 2 Data Collection tools & technique

<table>
<thead>
<tr>
<th>SL NO</th>
<th>Data collection tool</th>
<th>Variable to be measure</th>
<th>Techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Questionnaire on junk food related neurocysticercosis</td>
<td>Part-A, Part-B, Knowledge</td>
<td>Questioning</td>
</tr>
</tbody>
</table>
RESULT

SECTION-1

This section described the characteristics of students in terms of their age, sex, religion, place of residence, education, occupation, income, diet history. Frequency and percentage distribution of sample subjects are given in fig.

1. Age in a year

The mean age (mean ± s.d.) of the respondents was 18.92±1.29 years with range 18 – 20 years and the median age was 18.7 years.

FIG 1: Most of the respondents (91.2%) were in the age group between 18 – 19 years which was significantly higher than other age group (Z=11.59; p<0.001).

2. Distribution of the respondents according to their place of residence

FIG 2: Proportion of respondent from urban area (85.1%) were significantly higher than rural area (14.9%) (Z=9.89; p<0.001).

3. Distribution of dietary habit of the respondents

FIG 3: 92.11% of the respondents were non-vegetarian which was significantly higher than that of vegetarian (7.89%) (Z=11.87; p<0.0001).

SECTION III

Table 3: Comparison of pre-test and post-test marks obtained by the participants

<table>
<thead>
<tr>
<th>Question</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>t-test</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1-20 (mean±s.d.)</td>
<td>489.25±24.97</td>
<td>583.25±37.98</td>
<td>3.46</td>
<td>&lt;0.01*</td>
</tr>
<tr>
<td>Q21-26 (mean±s.d.)</td>
<td>111.23±2.44</td>
<td>174.69±3.39</td>
<td>3.09</td>
<td>&lt;0.01*</td>
</tr>
</tbody>
</table>

*Statistically Significant

t-test showed that the mean marks of the participants improved significantly at post-test as compared to pre-test for all answers (p<0.01).

CONCLUSION

The present study is aimed to effect of an awareness program on knowledge about junk food related neurocysticercosis among college students in a selected college of West Bengal. Neurocysticercosis is form of cysticercosis and is the most worm infection of the central nervous system. 114 students were selected for this study by using simple random sampling technique. Questionnaire tool used on junk food related neurocysticercosis for the study was Comparison of pre-test and post-test marks obtained by the participants.
This chapter deals with the following conclusions drawn from the study.

Comparison of pre-test and post-test marks obtained by the participants

Data given in result show that the mean and standard deviation post-test students behaviour score 583.25±37.98 (Q1-20) and 174.69±3.39 (Q21-26) was significantly higher than the mean Pre-test students behaviour score 489.25±24.97 (Q1-21) 111.23±2.44 (Q21-26). The obtained mean difference was found to be statistically significant as evident from ‘t’ value of 3.46 (for Q1-20) and 3.09 (for Q21-26) for df 65 at 0.05 level. It means that the obtained mean difference between mean score of both control group students behaviour during the study was a true difference and not by chance.

Relation to the other study

Hospital-based case-control study was conducted at a tertiary referral hospital in northwest India. Total sample size of the study was of 214. Patients with NCC were more close to water source ($P = 0.01$), eat nonvegetarian food ($P < 0.001$), and often eat in restaurants ($P < 0.001$). Pigs were seen more in and around the NCC patient’s houses than the control subjects residential areas ($P = 0.001$). Total 15% of the NCC close to slaughter houses, while only 2.7% of the control group stayed near a slaughter house ($P = 0.002$). Unhygienic practices, nonvegetarian food, and eating in restaurants were the risk factors for NCC in this study. There is an opportunity for prevention of NCC using public education.

NURSING IMPLICATIONS

The result of the study shows that the effect of an awareness program on knowledge about junk food related neurocysticercosis among college students is altered. So, the study has several implications for nursing education, nursing practice, nursing administration and nursing research.

NURSING PRACTICE

Nurses are the key persons of the health team, who play a major role in health promotion and maintenance. Nursing care is an art and science in providing a quality care.

NURSING ADMINISTRATION:

Nurse administrators can plan and conduct a short term educational programme for students as well as nurses to improve their knowledge on NCC aspects.

NURSING EDUCATION:

Maximum college students are eat out. It is the urgent need to educate the blooming upcoming nurse in regards to prevention of junk food related NCC.

NURSING RESEARCH:

Professions growth is determined only through the research activities. Nursing is an evolving and independent profession. From this study it is revealed that awareness program on knowledge about junk food related neurocysticercosis among college students is necessary to educate them regarding NCC and preventive measures.

Conflict of Interest- Nil

Statement of informed consent :- Patients have a right to privacy that should not be infringed without informed consent. Given the information is essential for scientific purposes and the students gives written informed consent for publication.

Ethical Clearance- Taken from Members of Hospital Ethical Committee

PROTECTION OF HUMAN RIGHTS:

-Ethical Clearance is obtained from the institutional ethical committee.

-Permission will be obtained from principal of a selected college, West Bengal.

-Consent will be obtained from the college student who are willing to participate in the study.

Source of Funding- Self

REFERENCES


Effectiveness of Helfer’s Skin Tap Technique Versus Routine Technique on Pain Reduction among Patient’s Receiving Intramuscular Injections

Elisha Mahato¹, Ina Thakur²
¹PG Student, ²Assistant Professor, SNSR, Sharda, University.

ABSTRACT

Background: Pain is an affliction feeling often caused by exaggerated or injurious stimuli because it is a complex and subjective phenomenon. Pain is a horrible sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.” Pain motivates the individual to withdraw from injuriously situations, to protect a damaged body part while it heals, and to avoid similar experiences in the future. Most of the time pain resolves once the noxious stimulus is removed and the body has healed, but it may persist despite removal of the stimulus and apparent healing of the body. Sometimes pain arises in the absence of any detectable stimulus, damage or disease.

Material and method: A true experimental pre-test and post-test control group design was used. The sample was consisted of 60 patients receiving IM injection selected using simple random sampling technique. Reliability of the tool was assessed by using the Cronbach’s Alpha method. The correlation coefficient was 0.800.

Conclusion: Based on the analysis of the findings of the study, the following inferences were drawn. There was a significant reduction in pain among patients after administration of Helfer’s skin tap technique. Thus it proved to be an effective treatment for pain. Therefore, this intervention should be promoted as an institutional policy and implemented as a routine care for all patients following IM injection for effective management of pain.

Keywords- Helfer’s skin tap technique, pain, IM injection.

INTRODUCTION

Pain is an affliction feeling often caused by exaggerated or injurious stimuli because it is a complex and subjective phenomenon. Pain is a horrible sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.” Pain motivates the individual to withdraw from injuriously situations, to protect a damaged body part while it heals, and to avoid similar experiences in the future. Most of the time pain resolves once the noxious stimulus is removed and the body has healed, but it may persist despite removal of the stimulus and apparent healing of the body. Sometimes pain arises in the absence of any detectable stimulus, damage or disease.¹

Pain is the most habitual for physician consultation in most developed countries. It is a major symptom in many medical conditions, and can interfere with a person’s quality of life and general functioning. Simple pain medications are useful in 20% to 70% of cases.²

Intra muscular injection is common yet a complex technique used to deliver medication deep into the large muscles of the body. Intra muscular injection route provides faster drug absorption than the subcutaneous route because the muscles have greater vascularity.

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There are several factors which influence person experiences of pain during Intra muscular injection for example anxiety, culture, age, gender, and expectation of pain relief. These factors may increase or decrease the experience of pain during Intra muscular injection.\(^3\)

A pain-producing stimulus sends an impulse across a peripheral nerve fiber. The pain fiber enters the spinal cord and travels one of several routes until ending within the gray matter of the spinal cord. There the pain message interacts with inhibitory nerve cells and preventing the pain stimulus from reaching the brain to the cerebral cortex. Once a pain stimulus reaches the cerebral cortex the brain interprets the quality of pain and processes information about past experience, knowledge and cultural associations in the perception of pain.\(^4\)

Comfort is an important need, and ensuring a patient’s comfort is a major nursing responsibility. Health care interventions can be undertaken on the basis of customs and habits that practitioner no longer critically question. The term ‘custom and practice’ is commonly used to describe this phenomenon of practicing health care interventions based on customs and habits. In the medical practice, intramuscular (IM) injection is one of the most frequent procedures done almost every day. It is a fact that any intra muscular injection will cause pain at the site of injection.\(^5\)

A fundamental principle of responsible medical care is do not hurt’ but ‘do not harm’ since pain is harmful, the caregivers are committed in preventing harm to their patients. The nurse can minimize the discomfort and pain during Intra muscular injection by helping the client assume a position that will help to reduce the muscle strain.\(^6\)

Pain management is one of the main facets of nursing care, where nurses need to be competent. Pain management during invasive procedure is a challenge to the direct care providers. If there is a technique, by which the nurses can provide painless injections that will be a great relief for those clients who are afraid of needles.\(^7\)

Helfer’s skin tap technique offers a painless/ less painful injection experience. In this technique, rhythmic tapping before and during injection over the skin at the site of injection keeps the muscle relaxed and stimulates large diameter fibers. It provides a mechanical stimulation and distraction during intramuscular injection and thus helps to reduce pain as described in gate control theory by Roger Metzack and PastWall in 1965.\(^8\)

**METHOD**

A true experimental pre-test and post-test control group design was used. The sample consisted of 60 patients receiving intramuscular injection selected using simple random sampling technique and was randomly allocated in experimental and control group using lottery method. Control group received standard treatment where as Experimental group received helfer’s tap technique along with standard treatment. Informed consent was obtained from caregiver. The study excluded the patients with chronic pain associated with other disease condition, sedated, critically ill and unconscious patients, patients have impaired circulation, peripheral vascular disease, patients who had undergone any painful procedure within one hour before the intervention.

**DATA COLLECTION PROCEDURE:**

Data collection methods:

1. Prior permission was obtained from authorities of college and the hospital for conducting the research study.

2. The Investigator introduces himself to the patients receiving intramuscular injection and notifies about his aims objectives and steps of the study.

3. Consent was taken from the subject included in the study.

4. Demographic data was obtained using a structured interview technique.

5. The experimental group was subjected to Helfer’s skin tap technique before and after the procedure of intramuscular injection.

**Helfer’s skin tap technique:** It’s a method in which the researcher taps the muscle which is intended to use with the palmar side of fingers sixteen times before insertion and while removing the needle continuously tap during intra muscular injection which reduces the pain.

**Routine technique:** It is the method in which the researcher makes V shape with thumb and forefinger and
cleans the site of injection with alcohol swabs before administering intramuscular injection.

6. The level of pain of the control and experimental group was assessed after the procedure of intramuscular injection administration using comparative pain scale to determine the effectiveness of Helfer’s skin tap.

7. Data analysis was done by using the descriptive and inferential statistic.

RESEARCH

Table: Comparison of level of pain scores between the experimental and control by using independent ‘t’ test

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>‘t’ value</th>
<th>d.f</th>
<th>‘p’ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helfer’s skin tap</td>
<td>1.7</td>
<td>0.6</td>
<td>11.031</td>
<td>d.f=58</td>
<td>&lt;0.001**</td>
</tr>
<tr>
<td>Routine care</td>
<td>3.7</td>
<td>0.7</td>
<td></td>
<td>d.f=56.887</td>
<td>&lt;0.001**</td>
</tr>
</tbody>
</table>

** Denotes significant at 1% level

INTERPRETATION:

Revealed that comparison of the scores of pain between experimental and control groups obtained were p<0.001. This suggests that there was highly significant difference observed, i.e. reduction in pain among patient who all are receiving IM injection in the experimental group observed, is not by chance and is because of the intervention (helfer’s skin tap) provided to the experimental group.

DISCUSSION

A comparative study on helfer’s skin tap versus routine care patient receiving IM injection was conducted in sharda hospital Greater Noida with the objectives to assess the level of pain among patients receiving IM injection by using standardized comparative pain scale and demographic data Performa. The study was conducted through signing consent form and filling demographic variables, then IM injection given to control and experimental group respectively. A true experimental design and probability sampling technique.

CONCLUSION

Based on the analysis of the findings of the study, the following inferences were drawn. There was a significant reduction in pain among patients after administration of Helfer’s skin tap technique. Thus it proved to be an effective treatment for pain. Therefore, this intervention should be promoted as an institutional policy and implemented as a routine care for all patients following IM injection for effective management of pain.

Conflict of Interest: Nil

Source of Funding: Self

Ethical Clearance: Taken from the committee.

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8. Nivedha, Nidhisha. Effectiveness of Heifer Skin Tap Technique Vs Usual

Non Nutritive Sucking of Breast on Physiological Stability and Nutritional Status among Preterm Babies on RT Feeding

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ABSTRACT

In the neonates, sucking behavior is one of the first coordinated muscular activities. Girls have more sucking than boys. The sucking and swallowing are coordinated together, through which over all development occurs in preterm babies. Once the preterm babies will take the non nutritive sucking with breast it would improve the physiological and nutritional health along with a good bond between the mother and baby. Objectives: 1. To assesses the physiological stability and nutritional status among preterm babies in control group and experimental group. 2. To assess the physiological stability and nutritional status among preterm babies between the control and experimental group. Material & Method: An experimental case control design was used for the study. Study was conducted in selected NICUs. 40 preterm infants between 30-36 weeks weighing 1-2.4 on RT feeding were selected with non probability purposive sampling technique. Preterm babies who are on ventilator, hemodynamically unstable, with cleft lip and palate were excluded. Samples were divided in to experimental & control group. NNS of breast was given to experimental group. Both groups were assessed by using observation check list which includes physiological parameters that is HR, RR, SPO2 and temperature, nutritional parameters that are hemoglobin, weight and amount of feed and parameters like transition of feed from RT to wati spoon feeding, length of hospital stay and day on full feed. RT feeding was given immediately after the procedure. Result & Conclusion The study result prove that the use of non nutritive sucking of the breast among preterm babies on RT feeding improve the physiological stability and nutritional status along with early transition to wati spoon feeding, decreased length of the hospital stay and earlier intake of full feed.

Keywords: Non nutritive sucking, Physiological stability & nutritional status.

INTRODUCTION

Preterm birth is a significant public health problem across the world because of associated neonatal mortality. Common problems associated with preterm babies are feeding because of improper sucking and swallowing coordination, less immunity and long term admission in NICU causes infection and hypothermia. 1

According to WHO, Every year 15 million babies are born prematurely around the world and that is more than 1 in 10 of all babies born globally. Almost 1 million babies die each year due to complications of preterm with across 184 countries the rate of preterm birth ranges from 5% to 18% of babies born. In India, out of 27 million babies born every year, 3.5 million babies are premature 2

From the clinical perspective, the ability to feed depends upon a coordinated sucking, swallowing and breathing pattern. In preterm infants less than 32 weeks gestation, this ability is not usually effective enough to sustain full oral feed. Preterm infants are fed by RT feeding and then transition from RT to breast. Non-nutritive sucking is the process of allowing a baby to suck breast after expressing the milk. 3

In the neonates, sucking behavior is one of the first coordinated muscular activities. It is under the control of the brainstem. Girls have more sucking activity and than boys. A study was conducted by centre for reproductive health, they found that non nutritive sucking of a breast reduces the experience of pain, encourage sucking as the child learns to associate the breast with food whenever
the baby is held from skin to skin. In preterm neonates the sucking reflex is very poor; some studies show that non nutritive sucking can improve the sucking reflex in preterm babies.4

The sucking and swallowing are coordinated together, so once sucking reflex increase in preterm babies, it increases the swallowing reflex, through which overall development occurs in preterm babies. In preterm babies all the organ and all the systems are immature so the overall development will not be accomplished. Once the preterm babies will take the non nutritive sucking with breast it would improve the physiological stability and nutritional status along with a good bond between the mother and baby.5

REVIEW OF LITERATURE

1. Literature related to problems of preterm babies

An article written by Carla Lucchi Pagliaro & KarinaElenaqa1 Bernardis Buhler, objectives for this study was analyze the scientific literature on dietary changes in preterm children during the first year of life. The PubMed data were used for the article selection. Analysis was done according to their objectives. They selected the publications from 1996 to 2014. They were identified 282 studies and they conclude that low birth weight preterm newborns are more likely to have feeding problems in their early neonatal period. Premature baby development says, in late preterm babies organs are fully developed, but there are lots of changes happen in their brain. In extreme preterm babies have high risk of long term developmental problems like Feeding problems, disability in social and emotional development, learning, language, mathematical and physiological skill. He also explains if special attention is not given specially to extreme Preterms can lead to lifelong disabilities.6

2. Literature related to non nutritive sucking of preterm babies

A comparative study conducted by the Fazeh Asad Sollapour and Fariba Yadegri for assessing the effect of non nutritive sucking and pre feeding oral stimulation on time to achieve independent oral feeding for preterm infants.32 preterm infants were taken for study and assigned randomly in to3 groups. One intervention group receives the pre feeding oral stimulation program and other receive the non nutritive sucking while the control group received feeding as per hospital routine. The infant’s weights were measured weekly from birth and at discharge times. Study result shows, Weight gaining at discharge time in non nutritive sucking group was significantly (p<0.05) higher than control group and pre feeding and oral stimulation groups. This study revealed that non nutritive program were effective in increasing the weight preterm babies.7

3. Literature related to non nutritive sucking of breast in preterm babies

A quasi experimental study done by Flaviya Eristina and Clea Rodriguez Leone for assessing the effect of non nutritive sucking of breast to describe the development of sucking pattern in preterm babies. 95 preterm newborns were taken for the study. The group was divided into 3. Group 1 was control group, they did not receive non nutritive sucking stimulation, group 2 was with stimulation by gloved fingers and group 3 underwent the stimulation of sucking reflex by empty breast. Samples were with gestational age less or equal to 33 weeks. Study result showed that the sucking pattern and coordination between sucking and swallowing improve with stimulation of gloved finger and empty breast. It was more evident in group with stimulation of empty breast. So the study conclude that sucking of a empty breast is an effective method to improving the coordination between sucking, swallowing and breathing were by it helps in the early recovery of newborns.8

MATERIAL AND METHOD

An experimental case control design was used for the study. This study was conducted in selected Neonatal intensive care units. 40 preterm infants on RT feeding were selected with non probability purposive sampling technique. Samples were divided in to experimental group and in control group equally. Data collection tool had two sections, .Section I demographic variables of samples section II had observational checklist with 3 parts, which included, physiological parameters, nutritional parameters and day on full feed, transition from RT to wati spoon feeding and length of hospital stay. Ethical consideration of research study included like getting permission from institutional ethical committee, university permission and consent from the parents of the samples were achieved before starting the study. Preliminary assessment of physiological stability
and nutritional status assessed in both experimental and control group. After the Expression of breast milk, non nutritive sucking of breast given for 5 minutes in experimental group before RT feeding. This was repeated for three times in a day for seven days. In control group only the observation for seven days were done.

RESULT AND DISCUSSION

Analysis of data organized under following headings

Section I: Frequency and percentage distribution of demographic variable

Section II: Analysis of selected parameters in experimental group

Section III: Analysis of selected parameters in control group

Section IV: Distribution of selected parameters in experimental and control group

SECTION: Frequency and percentage distribution of Demographic Variables

All the samples belongs to age group of 1-5 days both in experimental an control group. In experimental group 55% were males, in control group 60% were males. In case of weight 70%in experimental group belongs to 1.2 – 2 kg. 70% of samples in experimental group were in between 30 – 34 weeks of gestation. In experimental group 65% were belongs normal delivery whereas In control 75%

SECTION: II

Table No: 1: Physiological parameters in experimental group n =20

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Pre assessment (Day 1)</th>
<th>Post Assessment (Day 7)</th>
<th>t value</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Respiratory rate (b/mts)</td>
<td>51.20</td>
<td>7.61</td>
<td>41.30</td>
<td>5.32</td>
</tr>
<tr>
<td>Heart rate (b/mts)</td>
<td>150.50</td>
<td>5.65</td>
<td>142.00</td>
<td>4.54</td>
</tr>
<tr>
<td>Oxygen saturation (%)</td>
<td>98.40</td>
<td>1.35</td>
<td>100.0</td>
<td>0.00</td>
</tr>
<tr>
<td>Temperature (F)</td>
<td>97.77</td>
<td>0.43</td>
<td>98.22</td>
<td>0.28</td>
</tr>
</tbody>
</table>

Above table shows that there is significant difference in the physiological parameters in pre assessment and post day assessment as the p value is less than 0.05.

Table No: 2: Nutritional parameters in experiment n = 20

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Pre assessment (Day1)</th>
<th>Post day (Day7)</th>
<th>t value</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Hemoglobin (gm/dl)</td>
<td>18.95</td>
<td>1.60</td>
<td>20.315</td>
<td>1.69</td>
</tr>
<tr>
<td>Weight (in kg)</td>
<td>1.63</td>
<td>0.25</td>
<td>1.67</td>
<td>0.23</td>
</tr>
<tr>
<td>Feed (in ml)</td>
<td>86.4</td>
<td>69.38</td>
<td>266.5</td>
<td>69.15</td>
</tr>
</tbody>
</table>
Above table shows that there is significant difference in the nutritional parameters in pre assessment and post day assessment as the p value is less than 0.05. In weight mean shows the slight difference but statistically there is no significant difference in pre assessment and post assessment of as the p value is greater than 0.05.

**SECTION: III**

**Table No: 3: Physiological parameters in control group**

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Pre assessment (Day1)</th>
<th>Post day (Day7)</th>
<th>t value</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre mean</td>
<td>SD</td>
<td>Post mean</td>
<td>SD</td>
</tr>
<tr>
<td>Respiratory rate (b/mt)</td>
<td>52.40</td>
<td>5.79</td>
<td>53.80</td>
<td>5.87</td>
</tr>
<tr>
<td>Heart rate (b/mt)</td>
<td>153.80</td>
<td>33.67</td>
<td>154.10</td>
<td>8.22</td>
</tr>
<tr>
<td>Oxygen saturation (%)</td>
<td>97.55</td>
<td>1.79</td>
<td>97.35</td>
<td>1.39</td>
</tr>
<tr>
<td>Temperature (F)</td>
<td>97.41</td>
<td>0.65</td>
<td>97.26</td>
<td>0.56</td>
</tr>
</tbody>
</table>

Above table shows that there is no significant difference in the physiological parameters in pre assessment and post day assessment of as the p value is less than 0.05.

**Table No: 4: Nutritional parameters in control group**

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Pre assessment (Day1)</th>
<th>Post day (Day7)</th>
<th>t value</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Hemoglobin (gm/dl)</td>
<td>18.02</td>
<td>1.588</td>
<td>17.325</td>
<td>1.527</td>
</tr>
<tr>
<td>Weight (Kg)</td>
<td>1.748</td>
<td>0.240</td>
<td>1.61</td>
<td>0.213</td>
</tr>
<tr>
<td>Feed (ml)</td>
<td>60.9</td>
<td>53.1119</td>
<td>128.61</td>
<td>67.062</td>
</tr>
</tbody>
</table>

Above table shows that there is significant reduction in the nutritional parameters that is hemoglobin, weight between pre assessment and post day assessment of as the p value is less than 0.05. There is significant increase in feed it may because of the variations in the age in days and birth weight of the baby.

**Table No: 5: Distribution of Physiological parameters in experimental and control group**

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Experimental group</th>
<th>Control group</th>
<th>t value</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Day 1</td>
<td>Respiratory rate (b/mt)</td>
<td>51.20</td>
<td>7.61</td>
<td>52.40</td>
</tr>
<tr>
<td>Heart rate (b/mt)</td>
<td>150.50</td>
<td>5.65</td>
<td>153.80</td>
<td>33.67</td>
</tr>
<tr>
<td>Oxygen saturation (%)</td>
<td>98.40</td>
<td>1.35</td>
<td>97.55</td>
<td>1.79</td>
</tr>
<tr>
<td>Temperature (F)</td>
<td>97.77</td>
<td>0.43</td>
<td>97.41</td>
<td>0.65</td>
</tr>
<tr>
<td>Day 7</td>
<td>Respiratory rate</td>
<td>41.30</td>
<td>2.32</td>
<td>53.80</td>
</tr>
<tr>
<td>Heart rate</td>
<td>142</td>
<td>4.54</td>
<td>154.10</td>
<td>8.22</td>
</tr>
<tr>
<td>Oxygen saturation</td>
<td>99.75</td>
<td>0.00</td>
<td>97.35</td>
<td>1.39</td>
</tr>
<tr>
<td>Temperature</td>
<td>98.12</td>
<td>0.28</td>
<td>97.26</td>
<td>0.56</td>
</tr>
</tbody>
</table>
Table no 9 shows that the significant difference in the physiological parameters between the pre assessment and post day assessment of as the p value is less than 0.05

**Table no: 6: Distribution of nutritional parameters in experimental and control group  n= 40**

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Experimental group</th>
<th>Control group</th>
<th>t value</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td>Day 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hemoglobin(gm/dl)</td>
<td>18.95</td>
<td>18.02</td>
<td>1.85</td>
<td>0.07</td>
</tr>
<tr>
<td>Weight(Kg)</td>
<td>1.63</td>
<td>1.748</td>
<td>-1.488</td>
<td>0.145</td>
</tr>
<tr>
<td>Feed(ml)</td>
<td>86.4</td>
<td>60.9</td>
<td>1.305</td>
<td>0.200</td>
</tr>
<tr>
<td>Day 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hemoglobin(gm/dl)</td>
<td>20.315</td>
<td>17.325</td>
<td>5.86</td>
<td>0.000</td>
</tr>
<tr>
<td>Weight(Kg)</td>
<td>1.67</td>
<td>1.61</td>
<td>1.857</td>
<td>0.397</td>
</tr>
<tr>
<td>Feed(ml)</td>
<td>266.5</td>
<td>128.61</td>
<td>6.402</td>
<td>0.000</td>
</tr>
</tbody>
</table>

**Analysis of parameters in experimental and control group**

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Experimental group</th>
<th>Control group</th>
<th>t value</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td>Transition of RT feed to wati spoon feeding</td>
<td>4.75</td>
<td>10.2</td>
<td>-9.812</td>
<td>0.000</td>
</tr>
<tr>
<td>Length of hospital stay</td>
<td>10.35</td>
<td>17.9</td>
<td>-8.549</td>
<td>0.000</td>
</tr>
<tr>
<td>Day on full feed</td>
<td>6.35</td>
<td>11.75</td>
<td>-7.329</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Above table shows that there is a significant difference in nutritional parameters such as haemoglobin, feed in experimental group in the postday assessment as the p value is less than 0.05. But in weight no significant difference as the p value is more than 0.05, there is a significant difference in the parameters such as the transition of RT feed to wati spoon feeding, length of the hospital stay, and day on full feed as the p value is less than 0.05.

**DISCUSSION**

Non nutritive sucking of breast in preterm babies suggests that, it may increase the sucking, swallowing reflexes. Because sucking and swallowing is a coordinated activity. In preterm babies sucking reflex is very poor, through a non nutritive sucking of breast can increases the sucking along with swallowing reflexes.

In experimental group, the analysis of physiological parameters that is, respiratory rate, heart rate, oxygen saturation and temperature showed the significant difference in the first day (pre assessment) and 7th day of assessment as the p value is less than 0.05. In respiratory rate and heart rate shows the significant reduction and oxygen saturation and temperature shows the significant increase. Nutritional parameters in experimental group shows the significant increase in the hemoglobin and feed, but in weight the mean shows a slight difference but statistically there is no difference in weight it is may be because of normal weight loss in newborns during the first 3 to 5 days.

In control group the analysis of physiological parameters like, respiratory rate, heart rate, oxygen saturation and temperature shows there is no significant difference in the first day (pre assessment) and 7th day of assessment as the p value is more than 0.05. But in the nutritional parameters that is hemoglobin and weight there is significant reduction from first day to 7th day which shows in the physiological parameters of a neonate settle down early when they receive non nutritive sucking than the control group.

When the effect of the non nutritive sucking in physiological stability and nutritional status by using
control and experimental group, it showed that there is no much significant difference in physiological stability. It may be because of the normal phenomena of any newborn in adaptation to the extra uterine life. But even though there was no statistical difference but mean score showed that the babies in experimental group reached physiological stability faster than the newborns of control group.

In nutrition parameter that is, haemoglobin showed significant difference in the experimental and control group. In weight there is a no significant difference in the experimental and control group as the p value is more than 0.05. In feeding amount there is statistical difference in control and experimental group, means the newborns who received non nutritive sucking of breast were able to tolerate the feed early than the new born in control group.

Assessment of other parameters that is, day on full feed, transition to wati spoon feed and days of hospital stay had significant difference in control and experiment group. Above all parameters were achieved early in experimental group.

**CONCLUSION**

In the present study conclude with the purpose of finding out the effect of non nutritive sucking of breast on physiological stability and nutritional status among preterm babies on RT feeding. Findings of the study clearly indicated that there are changes in physiological stability and nutritional status, more importantly in tolerance of feeding amount and transition of feed from Ryle’s tube to wati spoon. For a premature baby the feeding is an important issue especially if it is associated with low birth weight. The researcher tried to limit the age to 1-5 days so that some uniformity can be maintained. It was difficult for the researcher to convince the mothers about the importance of the study.

**Conflict of Interest** – Nil

**Source of Funding** – Self Funding

**Ethical Consideration** : Ethical committee letter were submitted to university for getting permission to conduct the study. Permission was obtained from the concerned authority of the settings. Consent was taken from the parent of the each sample after explaining the procedure and they were allowed to withdraw from the study at any time without any compensation.

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Knowledge and Attitude Regarding Children’s Pain and Perceived Barriers to Optimal Pain Management among Staff Nurses

Jannet Maria Elias, Prashanth P.V, Sheela Shenai N.A, Rev. Sr. Mony K, Soney M Varghese

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ABSTRACT

Pain is one of most common adverse stimuli experienced by children, occurring as a result of injury, illness and necessary medical procedure. So assessment of pain in children is very important. The objectives of the study were to assess the knowledge and attitude of staff nurses regarding children’s pain management and the perceived barriers to optimal pain management in children. Also to find out the association of knowledge and attitude with the selected demographic variables. This observational analytical survey study was conducted among 120 staff nurses working in pediatric care units. Subjects were selected by using convenience sampling. Knowledge and attitude was assessed by using a semi structured questionnaire and the perceived barriers were identified by using a structured checklist. Research showed that among 120 study participants more than half of subjects had average knowledge (58.3%) and (41.7%) had poor knowledge whereas majority of the subjects had a neutral attitude (95.8%) and only (4.2%) had negative attitude regarding children’s pain management. Among 21 barriers, most frequently reported 5 barriers were identified. Majority of the study participants reported delay in orders being processed by the pharmacy as barrier (89.2%). Rest of the barriers reported were my concern about children becoming tolerant to analgesics (76.7%), delay in orders being processed by the pharmacy (62.5%), my concern about side effects of medications (53.3%) and patient’s reluctance to report or rate pain (48.3%). There was no significant association between the knowledge knowledge scores and attitude scores with socio personal and professional variables. A nurse’s knowledge and attitude can affect his or her ability to adequately provide pediatric pain management. Hence there is an exigent need for assessing the knowledge and attitude towards children’s pain management.

Keywords: Children; pain management; nurse’s knowledge; attitude; perceived barriers.

BACKGROUND

Pain is defined as an “unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage”1. It is one of the most common reasons for seeking health care. According to definition by McCaffery “Pain is subjective and that the patient’s pain is whatever the patient indicates”2.

Pain is one of most common adverse stimuli experienced by children, occurring as a result of injury, illness and necessary medical procedure. It is associated with increased anxiety, avoidance, somatic symptoms and increased parent distress. The paediatric acute pain experiences involve the interaction of physiological, psychological, behavioural, developmental and situational factors. An important responsibility of nurses who care for children is eliminating pain and suffering when possible however it has been documented that children are often under treated for pain3.

Pain management is a very important aspect of nursing care of the paediatric patient. A nurse’s knowledge and attitude can affect his or her ability...
to adequately provide paediatric pain management. According to the International Association for the Study of Pain (IASP), Special Interest Group on Pain in Childhood (2005), pain relief is a human right. Pain in children is a subjective experience that “has sensory, emotional, cognitive, and behavioural components that are interrelated with environmental, developmental, socio-cultural, and contextual factors,” and is often considered inadequately assessed and undertreated. The role of the nurse in pain management encompasses the entire nursing process. The nurse assesses for the presence of pain, plans pharmacological and non-pharmacological pain management strategies with the medical team, implements the plan, and evaluate the effectiveness of the interventions (American Nurses Association [ANA], 2001).

Today, pain in children is not adequately addressed, and there is a deficiency of knowledge in the treatment of pain in people of different areas of health, such as physicians, nurses, psychologists, and dentists. Medical staff often exhibit widespread and inappropriate attitude towards pain management in children despite the efficacy of a variety of psychological and pharmacological interventions for reductions the pain. A statistically significant proportion (49–64%) of hospitalized children receives inadequate pain management despite the increase in knowledge and available treatments.

OBJECTIVES

To assess the knowledge among staff nurses regarding children’s pain management, to assess the attitude of staff nurses regarding children’s pain management, to assess the perceived barriers to optimal pain management in children, to determine the association of knowledge and attitude with the selected demographic variables.

MATERIALS AND METHOD

Design and Setting

The research design adopted for the study was observational analytical design. The study was conducted at paediatric care units of Malankara Orthodox Syrian Church Medical College Hospital, Kolenchery in Ernakulam district of Kerala state.

Sampling

Sampling is based on non probability convenience sampling. Researcher selected all the staff nurses who met inclusion criteria, during the 4 weeks period of data collection. In this study, sample size consists of 120 staff nurses.

\[
\text{Sample size } n = \frac{Z^2(\frac{\alpha}{2}) \sigma^2}{\mu d^2}
\]

Where, \(Z(\frac{\alpha}{2}) = 1.96\), \(\sigma^2\) (SD of previous study) = 4.31, \(\mu\) (population mean of previous study) = 13, \(d\) (precision) = 0.06

Research Instrument

Semi structured questionnaire consists socio demographic data consisted of 6 items including age, sex, religion, professional education, years of experience, previous knowledge regarding children’s pain management. Standardized questionnaire on Nurses knowledge attitude regarding relieving children’s pain (KASRP) (revised on 2014) developed by Betty Ferrell and, RN, PhD, FAAN and Margo McCaffery, RN, MS, FAAN) was the instrument used in this survey to collect data. The KASRP is a self-administered test with 39 items. Of these, 22 are true and false, 17 multiple-choice items. The questionnaire was modified by the researcher according to scenario of the present study and validated with the experts which included 23 knowledge questions and 16 attitude questions. The questionnaire was designed to test nurse’s knowledge and attitude regarding relieving children’s pain and attitudes regarding characteristics of pain management, pharmacology, tolerance, and principles of assessment and management. A checklist was developed by the researcher based on the review to identify the nurse’s perceived barriers to optimal pain management. It consisted of 21 components related to clinical experience, doctor’s orders, barriers related to self.

Data collection technique

Subjects were identified based on inclusion criteria informed consent forms and the patient information sheet was distributed and consent taken from the staff nurses. The staff nurses were assured the anonymity and confidentiality of the information provided by them.
Ethical Aspects

After obtaining ethical clearance from the Institutional Review Board of Malankara Orthodox Syrian Church Medical College Hospital, formal permission was obtained from medical superintendent and the head of the departments of paediatrics.

Statistical Analyses

Both descriptive and inferential statistics were used to analyze the data. Frequency and percentage were calculated to present socio demographic data, professional data, knowledge, attitude and perceived barriers.

RESULTS

Table 1 – Frequency and percentage of level of knowledge of staff nurses n=120

<table>
<thead>
<tr>
<th>Level of knowledge</th>
<th>Frequency (f)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor (0-7)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Average (8-15)</td>
<td>70</td>
<td>58.3</td>
</tr>
<tr>
<td>Good (16-23)</td>
<td>50</td>
<td>41.7</td>
</tr>
</tbody>
</table>

Table 1 shows the frequency and percentage of knowledge of staff nurses on children’s pain management. The study findings were estimated that among 120 study participants more than half of subjects had average knowledge (58.3%) and (41.7%) had poor knowledge regarding children’s pain management with mean 14.2 and SD 1.6.

Table 2 - Frequency and percentage of attitude of staff nurses regarding children’s pain management. n= 120

<table>
<thead>
<tr>
<th>Attitude</th>
<th>Frequency (f)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative (0-5)</td>
<td>5</td>
<td>4.2</td>
</tr>
<tr>
<td>Neutral (6-10)</td>
<td>115</td>
<td>95.8</td>
</tr>
<tr>
<td>Positive (11-16)</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 2 shows the frequency and percentage of attitude of staff nurses on children’s pain management. The study revealed that among 120 study participants majority of the subjects had neutral attitude (95.8%) and only (4.2%) had negative attitude regarding children’s pain management with mean 8 and SD 2.8.

DISCUSSION

In the present study the knowledge and attitude of staff nurses assessed using ‘Nurse’s knowledge attitude survey regarding children’s pain management showed that more than half of subjects had average knowledge (58.3%) and (41.7%) had poor knowledge regarding children’s pain management. And majority of the subjects had neutral attitude (95.8%) and only (4.2%) had negative attitude regarding children’s pain management.

A descriptive survey approach was used to assess the knowledge and attitude of staff nurses regarding the assessment and management of pain in children in selected hospital Mangalore. The study results showed that the majority (53%) of the sample had inadequate knowledge regarding assessment and management of pain in children. Majority (77%) of the sample showed
favourable attitude towards assessment and management of pain in children. This study supports the present research project, due to the fact that subjects were staff nurses and setting was clinical setting.

Whereas a contradictory study was done as institution based cross-sectional study among 261 nurses in Public Hospitals of Mekelle City from March 15 to April 15, 2015. Out of 251 participants more than half (58.6%) of nurses had adequate knowledge and had good practice (55.8%).

Many studies conducted at various settings showed that staff nurses have inadequate knowledge and positive attitude towards children’s pain management.

In the present study, study participants were asked to identify barriers that prevent them from performing adequate pain management during their clinical practice in hospitals. Among 21 barriers, most frequently reported 5 barriers were identified. Majority of the study participants reported delay in orders being processed by the pharmacy as barrier (89.2%). Rest of the barriers reported were my concern about children becoming tolerant to analgesics (76.7%), delay in orders being processed by the pharmacy (62.5%), my concern about side effects of medications (53.3%) and patient’s reluctance to report or rate pain (48.3%).

In a similar study, describes strategies used by the Joint Clinical Practice Council of Children’s Hospital of Wisconsin to identify barriers perceived as interfering with nurses’ ability to provide optimal pain management. The five most significant barriers identified were insufficient physician (MD) orders, insufficient MD orders before procedures, insufficient time to premedicate patients before procedures, the perception of a low priority given to pain management by medical staff, and parents’ reluctance to have children receive pain medication.

Present study revealed that there was no significant association between the knowledge scores and attitude scores with socio personal and professional variables like age gender, professional education, years of experience, previous knowledge and source of information.

A study measured the knowledge and attitude of Finnish paediatric nurses to children in pain and the connection between nurses’ attitudes, nurses’ attributes and nurses’ own view of their knowledge and ability to take care of children in pain. The findings showed that such attributes as nurses’ age, education, and experience, place of work and field of expertise do not have a significant effect on nurses’ knowledge and attitudes.

Whereas a descriptive survey approach was used to assess the knowledge and attitude of staff nurses regarding the assessment and management of pain in children in selected hospital Mangalore. The study results showed that there was a significant association between knowledge with the selected demographic variables and the attitude with the selected variables. There was also a significant correlation between the knowledge and attitude of the staff nurses regarding assessment and management of pain in children.

CONCLUSION

Pain management is a very important aspect of nursing care of the paediatric patient. A nurse’s knowledge and attitude can affect his or her ability to adequately provide paediatric pain management. The findings of the research study showed that the nurse’s have inadequate knowledge regarding children’s pain management but have a neutral attitude towards it. The study signifies the need of continuing education. Hence there is an necessitous need for assessing the knowledge and attitude of staff nurses regarding children’s pain management.

Conflict of Interest - Nil

Statement of informed consent – Informed consent was obtained from all the samples for being included in the study.

Source of Funding – Self

REFERENCES

Engaging Nursing Students with Small Group Learning in Midwifery Education

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ABSTRACT

Teaching has become very much learner oriented in the past few decades, and educators use a number of teaching learning strategies to engage and motivate the learner. The study aimed to assess the feasibility and experience of SGL in undergraduate nursing students. SGL was implemented for final year undergraduate nursing students (n=92) to teach obstetric skills and immediate management of sick newborn using standard treatment protocols (STPs) in a nursing institution with total students’ strength of 450, attached to a 3000 bedded tertiary level teaching hospital in India. Students were assessed using objective structured clinical examination (OSCE) after the teaching. A self-developed structured feedback on their experience of SGL was taken from the students, along with open-ended questions for additional comments if any. Majority of the students scored above 75% in the OSCE stations. Students also gave positive feedback about the teaching-learning experience. This study suggests that SGL is a highly acceptable method of teaching among nursing students. Educators need to use methods of teaching like SGL that will result in meaningful learning.

Keywords- small group learning, teaching, feedback, Objective structured clinical examination

INTRODUCTION

Teaching has become very much learner oriented in the past few decades, and educators use a number of teaching learning strategies to engage and motivate the learner. Small group learning (SGL) is one of the strategies that have been shown to facilitate active learning,¹ better retention²,³ and higher satisfaction with learning.⁴,⁵ Students also prefer SGL as compared to didactic teaching methods.⁶ Educators too enjoy facilitating SGL and have positive experience towards SGL.⁶ However, with increasing intake of students in a batch it is challenging for educators to implement SGL in routine teaching, especially in places where faculty strength is less. Studies show that students’ engagement and faculty involvement play vital role in successful implementation of SGL⁷–¹⁰. To the best of researchers’ knowledge, reports on implementation of SGL in nursing education in India are scarce, although there are a number of studies on medical students. The use of strategies like SGL for teaching, and objective structured clinical evaluation (OSCE) for assessments are exceptions and not the norm. In this paper we report an implementation of SGL for final year undergraduate nursing students (n=92) followed by OSCE, in a nursing institution with total students’ strength of 450, attached to a 3000 bedded tertiary level teaching hospital in India. A structured feedback on their experience of SGL was taken using a Likert scale from the students.

METHOD AND MATERIALS

All students promoted to final year undergraduate nursing participated in the teaching-learning activity. Administrative approval was taken for the program. The students had just entered into their final year and had no prior teachings on the topic that were being taught to them using SGL. We assumed that pre knowledge assessment would not yield any significant findings. Students were divided into small groups (n=9). Obstetric
skills and immediate management of sick newborn using standard treatment protocols (STPs) were taught to the students over 2 days. Obstetric skills were demonstrated on manikins using checklist, namely, active management of third stage of labour (AMTSL), postpartum Insertion of intrauterine device (PPIUD), and insertion of interval intrauterine device. Each student practiced under supervision of the facilitator and in the presence of her group members. Group members were encouraged to give constructive feedback during practice. Students were taught about management of sick newborn at small hospitals using standard treatment protocols (STPs) developed by department of paediatrics, World Health Organisation Collaborating Centre (WHO CC) All India Institute of Medical Sciences, New Delhi, using job aids, case scenarios, and manikins which can elicit vital signs like heart rate and respiration (Neonatalie-Laerdal). They were informed to download and refer the app on sick newborn (WHO CC STPs), available for free on Google play, a day prior to the teaching session for self-directed learning. Students were assessed using OSCE on the third day. The OSCE consisted of 4 stations- insertion of PPIUD, performing AMTSL, Recognising shock in a newborn, recognition of neonatal hypothermia and its management. Checklists for OSCE were developed from latest relevant literature available in public domain on the topic. Each station was timed for two minutes and four students were assessed at a time. Performance of students in OSCE were classified as “good” if scoring is above 75 percent, “average “for scoring between 50 to 75 percent, and “poor” for scoring below 50 percent. Feedback on their experience of SGL was taken using 5 point likert scale ranging from “strongly agree” to “strongly disagree”. The instrument had ten items and two open ended questions asking them about which elements of the session contributed most to their learning, and additional comments if any. The feedback form was developed by the researchers and validated by 3 nursing experts. Feedback was taken a day after the SGL session.

RESULTS

Most of the students had good performance in the OSCE. Majority of them (96.7%) scored above 75% at the station on recognition and management of neonatal hypothermia [Table.1]. Students also gave positive feedback about the teaching-learning experience. They strongly agreed that SGL helped them understand the subject (67.4%). Majority of them strongly agreed that the sessions were engaging (57.6%) and they could actively involve themselves in learning (58.7%). Most of them were able to interact with group members during the learning sessions (63%). They clearly prefer SGL over traditional methods (80%) and felt that SGL helped them appreciate the importance of the topic being taught (66.3%). The students also reported that SGL stimulated them for self learning in the future (63%). They strongly agreed that SGL should become a regular feature of routine teaching (63%). The open ended questions were analysed and major themes were extracted. Majority of the students mentioned that they learnt most from one to one interaction with the teacher and group members. Hands on practice were also reported to be a major contributing factor for learning. Many of them suggested that SGL should become a regular feature in routine teaching [Box.1].

<table>
<thead>
<tr>
<th>Skill observed</th>
<th>Maximum Score</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Good (&gt; 75%) f(%)</td>
</tr>
<tr>
<td>Performing AMTSL</td>
<td>8</td>
<td>57 (61.9)</td>
</tr>
<tr>
<td>Insertion of PPIUD</td>
<td>7</td>
<td>59 (64.1)</td>
</tr>
<tr>
<td>Recognition and management of neonatal Hypothermia</td>
<td>10</td>
<td>89 (96.7)</td>
</tr>
<tr>
<td>Recognition and management of shock in newborns</td>
<td>10</td>
<td>43 (46.7)</td>
</tr>
</tbody>
</table>

Table 1: Students’ performance in OSCE stations (n=92)
Table 2: Students’ self reported experience of Small Group Learning (n=92)

<table>
<thead>
<tr>
<th>S.No</th>
<th>Statements</th>
<th>Strongly Agree f(%)</th>
<th>Agree f(%)</th>
<th>Uncertain f(%)</th>
<th>Disagree f(%)</th>
<th>Strongly Disagree f(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The teaching method helped my understanding of the subject</td>
<td>62 (67.4)</td>
<td>28 (30.4)</td>
<td>2 (2.2)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>The teaching sessions were engaging, with use of multiple resources</td>
<td>53 (57.6)</td>
<td>36 (39.1)</td>
<td>3 (3.3)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>I was able to involve myself actively in learning</td>
<td>54 (58.7)</td>
<td>37 (40.2)</td>
<td>1 (1.1)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>I felt comfortable asking questions in this course</td>
<td>51 (55.4)</td>
<td>37 (40.2)</td>
<td>4 (4.3)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>I was able to interact with my group members during learning</td>
<td>58 (63)</td>
<td>29 (31.5)</td>
<td>3 (3.3)</td>
<td>2 (2.2)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>I prefer small group learning (SGL) over traditional methods like lecture</td>
<td>74 (80.4)</td>
<td>14 (15.2)</td>
<td>2 (2.2)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>This course helped me to appreciate the importance of the subject matter</td>
<td>61 (66.3)</td>
<td>31 (33.7)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>The sessions have stimulated me for self learning in the future</td>
<td>58 (63)</td>
<td>31 (33.7)</td>
<td>3 (3.3)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>The practice sessions have built my confidence to perform the skills in actual clinical setting</td>
<td>60 (65.2)</td>
<td>30 (32.6)</td>
<td>1 (1.1)</td>
<td>1 (1.1)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>SGL should become a regular feature of routine teaching</td>
<td>67 (72.8)</td>
<td>24 (26.1)</td>
<td>1 (1.1)</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Box.1: Factors contributing to students’ learning

1. One to one interaction with teacher
2. Hands on skill practice
3. Interaction with group members
4. Use of multiple resources- apps, manikins, checklists, jobjaids
5. Opportunity to clarify doubts from teacher
6. Teachers’ effort to make them learn

DISCUSSION

The use of SGL seems to have helped the students perform well in OSCE though no conclusions can be made due to lack of comparative data. The findings of this study support previous literature on advantages of SGL like better comprehension and retention, active learning, group interaction and students ‘engagement in learning’. Students also preferred SGL over didactic teaching methods, which is similar to previous findings but the preference of students may be context dependent. The open ended comments of the students convey that they heavily rely on teacher’s involvement and validation in teaching, which is supported by previous literature. Hands on practice was also reported as a major contributor to learning, and most of them strongly agreed that it made them feel confident to perform skills in actual clinical setting (65.2%). The relationship between skill practice and confidence have been studied and well documented.
Most of them also suggested that SGL be used for regular teaching. Though we cannot completely do away with traditional teaching methods but educators can incorporate elements of SGL even in large groups in order to actively engage the students and make the lectures enjoyable.\(^{(18,19)}\)

Many educators tend to hesitate from using teaching methods that are not conventional, perhaps in fear of the sheer size of the classroom or perceived lack of adequate manpower and time. But the facilitators in this study found the exercise to be highly satisfying and enjoyable, in spite these shortcomings. The findings of other studies are similar, even where infrastructure was not satisfactory. \(^{(6,17)}\)

This study is limited by its post test only methodology and cannot be generalised. We could assess only limited number of skills in OSCE because of factors like time and human resource. However, we found the implementation of SGL feasible, while creating a positive learning experience for the students. Future experimental study is recommended to determine the effectiveness of SGL as a teaching strategy in similar settings.

CONCLUSION

This study suggests that SGL is a highly acceptable method of teaching among nursing students. Every teacher aims to make the students learn, and enjoy the learning process too. Educators need to use methods of teaching that result in meaningful learning. We conclude that SGL is a feasible method of teaching for skills as well as theoretical learning, even in resource limited settings.

To whom it may concern

The authors declare that there is no Conflict of Interest whatsoever from any person or organisation pertaining to this paper titled “engaging nursing students with small group learning in midwifery education”. We further declare that no grant was received for conducting this study from funding agencies in the public, commercial, or not-for-profit sectors. Administrative approval was taken from the head of department for implementing the program. Ethical approval is not applicable for implementation of educational strategies, as per institutional protocol.

REFERENCES


Effectiveness of Acupressure on Quality of Sleep of Hemodialysis Patients

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²Assistant Professor, AIIMS College of Nursing, Bhubaneswar, Odisha, India

ABSTRACT

Introduction: Poor quality of sleep is most commonly reported problem among patients undergoing Hemodialysis. Acupressure is a traditional treatment in which pressure is applied to specific points by fingers on the body to reestablish a healthy status by engaging the body’s natural healing abilities. Material & Method: A quantitative Quasi-experimental study design was used to measure the level of quality of sleep and to study the effectiveness of acupressure on quality of sleep of Hemodialysis patients. Thirty Chronic renal failure patients undergoing Hemodialysis (HD) were selected through simple random sampling technique to study the variables. Before and after the acupressure Intervention quality of sleep was measured using Pittsburg Sleep Quality Index (PSQI). Acupressure intervention was given over shenmen points for 9 cycles. Results: Every second (50%) of the patient undergoing Hemodialysis reported ‘fairly bad’ sleep quality and One third (33.3%) of them were reported ‘very bad’ sleep quality. Thirty days of acupressure intervention among the Hemodialysis patients significantly (p≤0.05) improved their level of sleep from pre intervention (10.9±2.7) to post intervention (3.0±1.0) and the mean difference was 7.9. Conclusion: The study results shows that majority of the dialysis patients reported ‘Bad’ sleep quality also, none of them had ‘very good’ sleep quality. Acupressure therapy significantly improved the quality of sleep of dialysis patients.

Keywords: Acupressure Therapy, Chronic Kidney Disease, Dialysis Patients, Quality of Sleep.

INTRODUCTION

Kidneys are a pair of bean-shaped organ which removes waste products from the body and regulates water, electrolyte and blood pressure. Deterioration of kidney function leads to accumulation of urea, toxins and other waste products build up over the period of months to years and affect the body homeostasis which leads to a state of Chronic Kidney Disease (CKD).

World health organization states that 10% of the population worldwide is affected by Chronic Kidney Disease.(¹) It was highlighted that Asian countries like India and China have increasing in incidence of Kidney Failure cases every year.(²)

There is no cure for Chronic Kidney Disease, but treatment can slow or halt the progression of the disease and can prevent development of other serious complications.(¹) The primary management for renal failure is dietary management and lifestyle changes and secondary line of management is Dialysis. In Hemodialysis, blood is pumped in to the dialysis machine to remove the excess water and nitrogenous waste products from our body. (³)

Over 2 million people worldwide currently receive treatment with dialysis or a kidney transplant to stay alive.(²) In India Only 10-15% Patients receive proper treatment for CKD. Out of it only 6000 undergo renal transplantation. Rest 60000 undergo Hemodialysis and 6000 undergo peritoneal dialysis in a year.(⁴)
Sleep disturbances are extremely common among dialysis patients. Most (80%) of patients who undergo dialysis report subjective sleep complaints.\(^5\) Apart from that restless leg syndrome, sleep apnea syndrome, muscle cramps, poor sleep quality, prolonged sleep latency, and daytime sleepiness were reported.\(^6\)

These sleep abnormalities disrupt basic sleep regulatory mechanisms adversely effects the quality of life and functional health status.\(^6\)

Quality sleep is crucial for good health. To overcome all the sleep problems the Complementary and alternative therapies were used worldwide practices, that are not part of mainstream medicine. Acupressure recognizes that there are certain points in the human body that are linked to critical systems and organs. Our human body consists of 12 meridians that supplies ‘chi’ called the fundamental life energy. Disease is viewed as an energy imbalances. According to acupressure philosophy, Insomnia is energy imbalances of the Heart and blockage of the energy flow.\(^7\)

Considering prevalence of Sleeping problems and burden on quality of life of dialysis patients, investigator conducted a pre-experimental study to test the effect of acupressure on quality of sleep of dialysis patients.

**Objectives of the Study**

1. To assess the level of quality of sleep among patients undergoing Hemodialysis.
2. To measure the effectiveness of acupressure on quality of sleep among patients undergoing Hemodialysis.

**MATERIALS AND METHOD**

A Quantitative Quasi-experimental study design was carried to study the prevalence of sleeping problems among patients undergoing Hemodialysis also, measure the effectiveness of acupressure on quality of sleep of patients undergoing Hemodialysis. Thirty Hemodialysis patients were selected through simple random technique from the study population. Patients with age between 40-70 years, patient with chronic renal failure, patients undergoing Hemodialysis for more than 3 months were considered to be the study population. Acupressure were given over ear shenmen(HT7), arm shenmen(HT7) and foot/ankle shenmen(KD1) points over the duration of 1-3 minute for 9 cycles for the period of 4 weeks during Hemodialysis. Demographic and clinical variable information were collected from the study participants. The Pittsburgh Sleep Quality Index (PSQI) was used to measure the quality of sleep before and after the intervention. Written informed consent was obtained from the study samples. Ethical committee permission was obtained from the concerned authority.

**RESULTS**

**Table No 1: Frequency and percentagewise distribution of demographic variables among patients undergoing Hemodialysis**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Demographic Variables</th>
<th>Frequency</th>
<th>Percentage%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Age</td>
<td>40-50 years</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>51 – 60 years</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 60 years</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Gender</td>
<td>Male</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>Educational status</td>
<td>No formal Education</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Primary education</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Secondary education</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Graduates</td>
<td>12</td>
</tr>
</tbody>
</table>
Cont... Table No 1: Frequency and percentagewise distribution of demographic variables among patients undergoing Hemodialysis 

<table>
<thead>
<tr>
<th>S.No</th>
<th>Occupational Status</th>
<th>Frequency</th>
<th>Percentage%</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Unemployed</td>
<td>13</td>
<td>43.3%</td>
</tr>
<tr>
<td></td>
<td>Coolie</td>
<td>4</td>
<td>13.3%</td>
</tr>
<tr>
<td></td>
<td>Professionals</td>
<td>9</td>
<td>30.3%</td>
</tr>
<tr>
<td></td>
<td>Self employed</td>
<td>4</td>
<td>13.3%</td>
</tr>
<tr>
<td>5</td>
<td>Marital Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Married</td>
<td>29</td>
<td>96.7%</td>
</tr>
<tr>
<td></td>
<td>Unmarried</td>
<td>1</td>
<td>3.3%</td>
</tr>
</tbody>
</table>

Table No 1 shows that majority (83.3%) of the study participants were in the age group between 40-60 years and almost three fourth (73.3%) of the study participants were Male. Most (83.3%) of the study participants were formally educated. More than half (56.7%) of the study participants were employed i.e. Coolie, professional employment, self employment and most (96.7%) of the study participants were married.

Table No 2: Frequency and percentagewise distribution of clinical variables among patients undergoing Hemodialysis.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Demographic Variables</th>
<th>Frequency</th>
<th>Percentage%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Duration of Chronic renal failure</td>
<td>&lt; 1 year</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;1 year</td>
<td>21</td>
</tr>
<tr>
<td>2</td>
<td>Number of Hemodialysis cycles per week</td>
<td>Three times</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Two times</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>History of dyspnea</td>
<td>During</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>After</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No dyspnea</td>
<td>17</td>
</tr>
<tr>
<td>4</td>
<td>Presence of edema before dialysis</td>
<td>On lower</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>extremities</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Whole body</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No edema</td>
<td>7</td>
</tr>
<tr>
<td>5</td>
<td>Blood urea level before Hemodialysis</td>
<td>&lt; 60 mg/dl</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60-100 mg/dl</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100-150 mg/dl</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>More than 150 mg/dl</td>
<td>13</td>
</tr>
<tr>
<td>6</td>
<td>Serum creatinine level before Hemodialysis</td>
<td>3-4 mg/dl</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;4mg/dl</td>
<td>28</td>
</tr>
</tbody>
</table>

Table No 2: Depicts that majority (70%) of the study participants were suffered with Chronic Renal Failure more than a year. Almost three fourth (73.3%) of the study participants were undergone Hemodialysis more than two times per week. More than half (56.7%) of the study participants not had any history of dyspnea related symptoms. Two third (66.7%) of the study participants had the history of edema on their lower extremities. Majority (80.1%) of the study participants had blood urea level more than 100mg/dl before Hemodialysis. Also, most (93.3%) of the study participants had serum creatinine level more than 4mg/dl before Hemodialysis.
Table No 3: Level of quality of sleep among patients undergoing Hemodialysis.  N=30

<table>
<thead>
<tr>
<th>S. No</th>
<th>Level of quality of sleep</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fairly Good</td>
<td>16.7%</td>
</tr>
<tr>
<td>2</td>
<td>Fairly bad</td>
<td>50%</td>
</tr>
<tr>
<td>3</td>
<td>Very bad</td>
<td>33.3%</td>
</tr>
</tbody>
</table>

Table No 3: Shows that every second (50%) of the patient undergoing Hemodialysis reported ‘fairly bad’ sleep quality. In addition one third (33.3%) patients undergoing Hemodialysis reported ‘very bad’ sleep quality and least (16.7%) number of patients undergoing Hemodialysis reported ‘fairly good’ sleep quality. Besides, none of the patients undergoing Hemodialysis reported ‘very good’ sleep quality.

Table No 4: Effectiveness of acupressure on quality of sleep among patients undergoing Hemodialysis.  N=30

<table>
<thead>
<tr>
<th>S. No</th>
<th>Level</th>
<th>Mean± S.D</th>
<th>Mean difference</th>
<th>‘t’ value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pre test</td>
<td>10.9±2.7</td>
<td>7.9</td>
<td>19.10</td>
<td>.001</td>
</tr>
<tr>
<td>2</td>
<td>Post Test</td>
<td>3.0±1.0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Df(29) =2.05,  level of significance p≤ 0.05

Table No 4: depicts that, thirty days of acupressure intervention on quality of sleep of Hemodialysis patients significantly (p≤0.05) improved their level of sleep from pre intervention (10.9±2.7) to post intervention (3.0±1.0) and the mean difference was 7.9.

Table 5: Domain wise quality of sleep of patients undergoing Hemodialysis before and after Acupressure.  N=30

<table>
<thead>
<tr>
<th>S.No</th>
<th>PSQI Components</th>
<th>Mean ± SD</th>
<th>‘t’ value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Subjective sleep quality</td>
<td>Pre Test</td>
<td>2.17 ± 0.69</td>
<td>13.17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post test</td>
<td>0.30 ± 0.46</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Sleep Latency</td>
<td>Pre Test</td>
<td>2.77 ±0.43</td>
<td>13.08</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post test</td>
<td>0.73 ±0.86</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Sleep Duration</td>
<td>Pre Test</td>
<td>1.93 ±0.74</td>
<td>10.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post test</td>
<td>0.33 ±0.47</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Habitual Sleep Efficiency</td>
<td>Pre Test</td>
<td>1.27 ± 1.25</td>
<td>5.51</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post test</td>
<td>0.00 ± 0.00</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Sleep Disturbances</td>
<td>Pre Test</td>
<td>1.73 ± 0.58</td>
<td>5.83</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post test</td>
<td>1.13 ± 0.34</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Use of Sleep-Promoting medications</td>
<td>Pre Test</td>
<td>0.13 ± 0.43</td>
<td>.701</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post test</td>
<td>0.07 ± 0.25</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Daytime dysfunction</td>
<td>Pre Test</td>
<td>0.93 ± 0.58</td>
<td>3.76</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post test</td>
<td>0.40 ± 0.49</td>
<td></td>
</tr>
</tbody>
</table>

Df(29) =2.05,  level of significance p≤ 0.05
Table No 5: shows domain wise quality of sleep of patients undergoing Hemodialysis before and after acupressure therapy. All the domains of quality of sleep i.e. Subjective sleep quality (.0001), Sleep Latency (.0001), Sleep Duration (.0001), Habitual Sleep Efficiency (.0001), Sleep Disturbances (.0001), Daytime dysfunction (.001) significantly improved after the acupressure therapy at the level of significance p≤0.05 except use of Sleep-Promoting medications (.489).

**DISCUSSION**

Every second of the patient undergoing Hemodialysis reported ‘fairly bad’ sleep quality. One third patients undergoing Hemodialysis reported ‘very bad’ sleep quality and least number of patients undergoing Hemodialysis reported ‘fairly good’ sleep quality. Also, none of the patients undergoing Hemodialysis reported ‘very good’ sleep quality. All the domains of quality of sleep i.e. Subjective sleep quality, Sleep Latency, Sleep Duration, Habitual Sleep Efficiency, Sleep Disturbances, Daytime dysfunction significantly improved after the acupressure therapy except use of Sleep-Promoting medications. These findings were supported by cross sectional study conducted by Sabet R (2012) & his team also reported that almost three fourth (73.8%) dialysis patients are poor sleepers where as PSQI score were >5. Sleep quality problems had a significant at level of p = 0.025. (8)

End-stage renal disease undergoing dialysis therapy patients showed majority (69.1%) high presence of sleep disruption during dialysis. Risk factors for sleep disturbances were identified which was increased by age, alcohol intake, cigeratte smoking, polyneuropathy & dialysis shift in morning. (9)

Iliescu EA, Yeates KE, Holland DC. (2004) Quality of sleep in patients with chronic kidney disease. Half of them reported global PSQI score > 5 which states ‘poor’ sleepers. The depression was identified as a predictor for sleep disturbances among chronic renal disease (10).

Majority (90.87%) patients undergoing long-term Hemodialysis had a poor quality of sleep with a PSQI mean score of 9.51 ± 3.51. Also, stated that Low sleep quality and quantity impact the persons’ quality of life (11). Most 78.7% Hemodialysis patients reported poor sleep quality (12).

Masoumi M, Naini AE, Aghaghaevini R, Amra B, Gholamrezaei A. (2013) Conducted a study on Sleep Quality in Patients on Maintenance Hemodialysis and Peritoneal Dialysis. Both Hemodialysis and peritoneal dialysis patients reported Poor quality sleep. Patients on Hemodialysis had poorer sleep quality in terms of total PSQI scores and two dimensions of sleep latency and sleep efficiency (P < 0.05). (13) Majority (72.6%) of Hemodialysis patients had poor quality of sleep and rest 27.4% of them had good sleep quality. (14)

Thirty days of acupressure intervention on quality of sleep of Hemodialysis patients significantly improved their level of sleep from pre intervention to post intervention. These results were consistant with randomized clinical trial that significant differences found after the acupressure intervention in PSQI global scores (p<0.001) and all sleep quality indices: subjective sleep quality (p<0.001), sleep latency (p<0.001), sleep duration (p<0.001), sleep efficiency (p=0.006), sleep disturbance (p<0.001), the use of sleeping medication (p=0.028), and daytime dysfunction (p<0.001). (15)

Arab Z, Shariati AR, Bahrami HR, Asayesh H, Vakili MA. (2012) in their double blinded randomized control trail reported that global score of PSQI (p=0.001) which indicates acupressure has a positive effect on sleep quality of the patients undergoing Hemodialysis. (16) The acupressure intervention group overall sleep quality score significantly (p = 0.001) different from the non intervention group. (17)

Tsay SL. (2004) study findings revealed that acupressure was significant in the perceived fatigue (p<0.001) and also significant differences between the acupressure group and the control group (p<0.001). (18) Tsay SL, Chen ML. (2003) in his randomized control trail the findings indicated that PSQI scores of the acupressure group have a significantly greater improvement (p < 0.01) than the control group. (19) Eglence R, Karataş N, Tascı S. (2013) in their experimental study found that acupressure was effective in decreasing fatigue in Hemodialysis patients. (20)

**CONCLUSION**

The study result shows that majority of the dialysis patients reported ‘Bad’ sleep quality also, none of them had ‘very good’ sleep quality. Acupressure therapy significantly improved the quality of sleep of dialysis
patients. Especially acupressure intervention positively shown effect on different domains of quality of sleep i.e. subjective sleep quality, Sleep Latency, Sleep Duration, Habitual Sleep Efficiency, Sleep Disturbances & Daytime dysfunction except use of sleep promoting medications.

Conflict of Interest: No

Source of Funding: Self

Ethical Clearance: Ethical committee permission was obtained from the concerned authority.

REFERENCES


Competency in Informatics for Nursing Professional in India: Imbibing the Tech-culture among Nursing Professionals

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ABSTRACT

Nameless nursing informaticians have been part of the tech-culture for more than two decades imbibing it like a sponge and have muddled through the successful and not so successful initiatives in healthcare. With the changing times and recognition of efforts that nurses continue to put in digital patient care, universally nursing informatics has grown as a separate field. In India, Health Information Technology (HIT) has made the nursing fraternity to adopt digital healthcare, however the extent of percolation remains questionable until we measure it as objectively as possible. The only way to do so is educate and check the skill competencies of nursing students and practicing nursing professional including researchers, educators, administrators and clinical nurses. The article explores the nursing informatics curriculum taught to student nurses in India. The basic and advance competencies in computer application, information literacy and management have been proposed for nursing students and nursing professionals in Indian setting.

Keywords: Nursing Informatics, Informatics Competency, Digital Health, Nurse Informaticians, Informatics curriculum

INTRODUCTION

Nursing informatics is the knowledge, behavior, and skills required for nurses to collect, store, retrieve, and process information. Nurses are learning on the job with practice the various application of Health Information Technology (HIT) in the clinical setting. Assessing and enhancing knowledge of professionals would encourage the adoption of informatics with open purview for practice. From simple mobile devices to e-ICU nursing informatics has influenced the practice undoubtedly.

Studies have demonstrated that nurses have the right attitude to take informatics seriously. Courses exclusively teaching nursing informatics do not exist in India but institutes offer real time and online courses with the dilemma whether such professionals are accepted as ‘Health IT professionals’ and their role definition in various settings. Competency development still remains issue of concern to be explored by experts owing to large population and defining educational requirements for the task force.

Blue print to Competency Development

The steps to develop informatics competency would require series of steps with the evolution of field dramatically every passing moment.

Informatics Working Group- Nurse leaders have pivotal role in competency development process. Experts must work and update themselves by literature review, educational programs and interaction with professional organizations to refine the concept and implement informatics in nursing practice.

Assessment of knowledge and skills- Literature suggests use of self-assessment scales for testing informatics knowledge and competency among students and practicing nurses. In addition to the competency assessment, it is critical to study knowledge and attitude.
of nurses towards informatics. Informatics Competency Development—Defining the competency per the role of nurses need attention as technology continues to percolate in all aspects of patient care. Competency assessment must exist at all levels to ensure in sync progress with HIT. Students and nurses must be prepared to enter clinical areas to facilitate practice with lesser glitches.

Pilot Projects—The exchange of learning from pilot projects would be utilized for adoption in larger population to avoid bigger blunders, recognize lacunae and to understand technology applications rather than blind adoption. The advent of technological advances can ease the overall adoption or may create chaos.

Annual Review—Amendments based on feedbacks for reflection on the current practices and for the future would be warranted. Extensive adoption has ensured organizations to emanate the progress and monitor the professional growth in the field.

Competency Development and Adoption

Studies indicate continued interest in competency development process in different settings across countries. The literature supports imbibing informatics in all aspects of nursing actively as it is influencing patient care with wide use of patient care information systems and communication technology.

In India nursing education includes computer education as part of undergraduate nursing program which is positive and encouraging but pragmatic implication are still questionable. The undergraduate nursing courses in India includes exposure to informatics education in B.Sc. nursing (45 hours) as well as General nursing and Midwifery (15 hours) courses. However restricted access to practical resources to both students and teachers affect their confidence when exposed to digital practice.

The Technology Informatics Guiding Educational Reform (TIGER) model was proposed to define the nursing informatics competencies for nursing students and nurses expected to provide quality patient care in a digital environment after the felt need with introduction of Electronic Health Records.

TIGER model was the first to define nursing informatics competency for nurses. The proposed categories included basic computer competencies, information literacy and management.

Indian nursing informatics curriculum comprises of basic computer concepts and introduction to hospital management systems lacking the competency assessment process. Students are familiar with technology but they need opportunities to understand and acquire broader applications of informatics such as clinical and public health informatics.

Informatics Competency for Nurses in India

Health professionals are expected to be oriented to computer skills, informatics skills/knowledge and information management which essentially targets the efficient use of Electronic Health Records (EHRs) with an understanding about data capture as well as other concepts of digitalization. With vast digitalization the world is now shrinking with telemedicine, e-ICUs and e-learning to reach places for quality patient care. The nursing informatics competencies in India must focus on the following domains.

1. Basic Computer and Information technology Skills
   - Basic computer skills applied to patient care, nursing education and research
     - Desktop operating skills
     - File management
     - Software programs
   - Able to use software as applied to nursing practice
     - Presentations
     - Word processing
     - Spreadsheets
     - Media player
   - Able to use hardware devices as applied to nursing informatics
     - Printout
     - Scanner
     - Microphone
     - Digital camera
     - Pen drive
2. Advance Computer and Informatics Skills
   • Utilizes advance computer and information skills as defined by bloom’s taxonomy to the level of ‘analyzing’, ‘evaluating’ and ‘creating’ level.
   • Able to use software as applied to nursing practice
     ▪ Advance Presentations
     ▪ Advance Word processing
     ▪ Advance Spreadsheets
     ▪ Advance database
   • Able to edit and use multimedia elements including text, image, audio, video, computer aided design and animation as applied to nursing education, research, administration and practice
   • Utilize internet to collaborate with professionals in nursing education, research and practice
   • Understand and participate in software development process (EHR, patient care devices, telenursing) and testing
   • Participates in software selection and use of nursing standardized language such as NANDA
   • Trains professional to use informatics in patient care and tracks the competency of others nursing professionals
   • Use statistical packages applied to nursing research
   • Understands and demonstrate use of standardized clinical terminology including SNOMED CT, ICD classification as applied to clinical practice
     ▪ Utilize computer aided teaching techniques
       ▪ Simulation
       ▪ Standardized patients
   • Synchronous/asynchronous e-learning, ICT in health

3. Basic Information Literacy Skills
   • Information identification applied to nursing practice
     ▪ Able to retrieve information from the system
     ▪ Able to locate and retrieve relevant information through system navigation
   • Evaluate information and act per patient requirement
     ▪ Understands the function of digital information stored in the system
     ▪ Utilizes the information available in nursing practice and patient care
   • Understands concept of data security and authentication at organizational level
   • Ethical and Legal Implications
     ▪ Aware of ethical and legal implications of sharing patient information via digital platforms e.g. EHR, email, mobile applications, social websites
4. Advance Information Literacy Skills
- Information identification applied to nursing practice
  - Defines the role of nursing professionals in digital health at organizational level
  - Able to analyze and evaluate the information from the system
  - Evaluate information and act per patient requirement
  - Utilizes digital information stored in the system available in nursing practice and patient care
  - Checks and updates data security and authentication procedure as applied to nursing at organizational level
- Ethical and Legal Implications
  - Educates others about ethical and legal implications of sharing patient information via digital platforms e.g. EHR, email, mobile applications, social websites
  - Participation in issues related to ethical and legal problems related to digital care

5. Basic Information Application Skills
- Understands and demonstrates use of devices related to nursing care
  - Cardiac monitor
  - Glucometer
  - Mechanical ventilator
  - Mobile devices
  - Simulation devices
  - Other devices as per setting e.g. dialysis machines, RFID devices, Telehealth, e-ICU, public health informatics, Artificial intelligence and automation technology
- Use Electronic Health Record
- Understands role of nurse in software development and contributes in digital health initiatives
  - Understands and able to use EHR
  - Able to manage EHR information
  a. Nursing documentation-
     i. Assess, inform and digitally document patient progress
  ii. Nursing care plan
  iii. Vital signs and clinical parameters entry
  iv. Documentation as per Standard operating procedures (SOP) / Clinical decision support system (CSSD)
  v. Consent and procedural information
  vi. Patient discharge, transfers and referral
  vii. Medication administration, reaction, allergic reaction
  viii. Adverse event documentation
  ix. Lab and diagnostic tests
  b. Understands the relevance of interoperability of system and its limitation.
    - Big Data Analytics
    - Understands the impact of data for efficient nursing care
    - Telehealth
    - Understands use of various telecommunication technologies in patient care
    - Able to explain the benefits and limitations of Telehealth
    - Cloud Computing in Health
    - Understands the concepts of cloud computing
    - Able to demonstrate cloud computing applications at organizational level
    - Understands and explains ethical and legal aspects of digital health

6. Advance Information Application Skills
- Educates professionals and updates self about patient care devices
  - Cardiac monitor
  - Glucometer
  - Mechanical ventilator
  - Mobile devices
  - Simulation devices
  - Other devices as per setting e.g. dialysis machines, RFID devices, Telehealth, e-ICU, public health informatics, Artificial intelligence and automation technology
• Use Electronic Health Record
  ▪ Participates in software development and contributes in digital health initiatives
  ▪ Updates and educates to new features of EHR
    Able to manage EHR information
    a. Nursing documentation-
      i. Analyze and utilizes digital patient progress contributing to quality improvements
      ii. Evaluates and improves the documentation process related to nursing care plan
      iii. Utilizes patient information and clinical parameters in improving nursing care
    iv. Updates and pilots Standard operating procedures (SOP)/ Clinical decision support system (CSSD)
  v. Updates consent and procedural information on digital platform
  vi. Works in collaboration with quality team to focus on events documented digitally
  ▪ Demonstrate use of standardized clinical terminology including SNOMED CT, ICD classification as applied to clinical practice
  ▪ Collaborates at national level about interoperability of system
  ▪ Big Data Analytics
  ▪ Interpret and utilize data for efficient nursing care
  ▪ Analyze and interpret data; collaborates with health professionals for enhancing quality patient care
    ▪ Telehealth
    ▪ Updates, contribute and educates about the use of telecommunication technologies in patient care
    ▪ Explores and participates in development of Telehealth technologies in quality care
    ▪ Cloud Computing in Health
    ▪ Updates self and educates about concept of cloud computing
    ▪ Demonstrate use of cloud computing applications at organizational level
    ▪ Updates and educates about ethical and legal aspects of digital health

The categories define the competency skills that would be necessary for nursing professionals to deliver patient care effortlessly and also empower nursing students to enter in clinical environment glyph by glyph without feeling flustered. Students and nurses are at present practicing many of the skills set learnt on their own or trained by professionals as and when need arises. It is time that nurses stood up and worked towards adding standardized nursing language such as North American Nursing Diagnosis Association (NANDA) in EHR which had been proposed and continued to be emphasized in the revised EHR standards for India which are acceptable but no further steps have been taken to incorporate it in the system yet.\textsuperscript{22,23}

CONCLUSION

Radical changes in healthcare in India is driving health professionals towards prompt adoption of Information and Communication Technology (ICT) as it is bound to enhance practice, reach to far-out places and ease the ways to provide healthcare to the second largest populated country of the world. Nurses can choose to swim with the tide or against it but the option to adopt ICT would be inevitable in future. Nurses would have to work with ICT applications unceasingly in any setting\textsuperscript{24}. The scope of informatics competency skills for nursing professionals needs to remain flexible as it will keep intensifying with information technology dynamically presenting the novel face of healthcare day by day\textsuperscript{5}.

Conflict of Interest Statement: The corresponding author confirms on behalf of all authors that there have been no involvements that might raise the question of bias in the work reported or in the conclusions, implications, or opinions stated.

Source of Funding- Not Applicable

Ethical Clearance- Not Applicable

REFERENCES


Effect of Early Ambulation Versus Late Ambulation on Patients’ Outcome among Patients Underwent Transfemoral Coronary Procedures

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ABSTRACT

Background: Cardiac Catheterization is a gold standard diagnostic test for coronary heart diseases. In order to minimize the post procedure complications, patients were restricted to prolonged bed rest that is always accompanied by back pain, urinary discomfort and vascular complications.

Objectives: The objective of this study was to assess the effect of early ambulation on the level of back pain, urinary discomfort and vascular complications after transfemoral coronary procedures and to find out the association between the effect of early ambulation with selected demographic variables.

Method & Materials: Seventy patients who had undergone a transfemoral coronary procedures were selected as sample by using Simple Random Sampling and structured questionnaire was used to identify the demographic variable and standardized scale was used to measure the level of back pain, urinary discomfort and vascular complications among experimental and control group. Patients in the experimental group was ambulated after 8 hours of the sheath removal and patients in the control group were received an usual routine where they restricted to 24 hours bed rest in supine position with the affected leg straight and immobilized. The collected data was tabulated and analyzed by using SPSS 21Developer.

Conclusion: The patients in the experimental group had significant reduction in the level of back pain, urinary discomfort and vascular complications than the control group at p<0.05. The study results revealed that the early ambulation is having an effect in reducing the level of back pain, urinary discomfort and vascular complications after the cardiac catheterization.

Keywords: Effect, Early ambulation, Late ambulation, cardiac catheterization.

INTRODUCTION

Cardiac Catheterization is considered as the gold standard for the diagnosis, evaluation, and treatment of cardiac diseases. Although it can be performed through brachial, radial, or femoral arteries, the transfemoral puncture is the most common approach. Cardiac catheterization is usually performed in a specially designed cardiac catheterization suite in a hospital. The nurses must have an advanced knowledge and understanding of cardiac catheterization so that any procedural complications may be handled rapidly and effectively in intensive care units. Cardiac interventions have become a commonly accepted treatment option for patients with coronary heart disease. Coronary and peripheral angiography is associated with low but significant risk of the access site complications. The patient’s outcomes after removing of sheaths include vascular complications, such as bleeding, hematoma, distal embolization, pseudoaneurysm and arterial thrombosis and they are the most important vascular complications of coronary angiography. Because of possible vascular events at the groin site, all patients are prescribed strict immobilisation and bed rest in the supine position.

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without increasing the risk of vascular complications including haematoma and bleeding. Chair states that back pain after cardiac catheterization causes of the complaints of pain in 35.8% patients. It has been argued that prolonged bed rest may be associated with more discomfort, dissatisfaction, back pain, voiding problems and groin site pain. If the sandbag is removed from the insertion site and patients are given permission to change their position in bed, they experience significantly less fatigue and back pain, and their satisfaction and comfort increase. In addition, early ambulation may reduce length of the hospital stay and the cost of nursing care. So the researchers were motivated to determine the effect of early ambulation on the complications after coronary angiography and to examine possibility and safety of these interventions after angiography.

**OBJECTIVES**

The objective of this study was to assess the effect of early ambulation on the level of back pain, urinary discomfort and vascular complications after transfemoral coronary procedures and to find out the association between the effect of early ambulation with selected demographic variables.

**METHOD AND MATERIALS**

The study was conducted in Intensive Coronary Care Unit after the written permission from the higher authorities. 70 Samples were selected using simple random sampling technique i.e 35 in control group and 35 in experimental group who was undergone transfemoral coronary procedure. The objective of the study was explained and informed consent was obtained from the study samples. **Criteria For Sample Selection.**

**Inclusion Criteria:** Age between 35 to 65 years, Both male and female gender, Elective cardiovascular angiography and interventions via the femoral artery, Patients can communicate and cooperate well with the sedation score 1 and hemodynamically stable, Patients who are willing to participate in the study. **Exclusion criteria:** Being an emergency case for cardiovascular angiography and interventions, Patient having a history of bleeding disorders or the International normalized ratio (INR) > 2, having a history of back pain disorders and active bleeding and hematoma at the femoral access site immediately after the procedure.

Demographic data and bio-physiological parameters in both pretest and post test was collected by using structured questionnaire and the level of back pain, urinary discomfort and vascular complications were measured by using standardized scales. The early ambulation was given after 8 hours of sheath removal for the experimental group and the control group received an usual routine where they restricted to 24 hours bed rest in supine position with the affected leg straight and immobilized. The Post test level of level of back pain, urinary discomfort and vascular complications were measured by the investigator followed by ambulation and in next day morning. The nurse investigator thanked the participants for their cooperation throughout the data collection period.

**RESULT**

**Demographic and Bio-physiological variables**

- That the majority of the Sample belongs to the age group of 46-55 in both control (46%) and experimental group (48%).
- The majority of population were male (80%) in experimental (78%) in control group.
- The findings shows only 20% of the samples having the past history of cardiac catheterization in experimental and (9%) in control.
- The findings shows only 37% were having the previous knowledge of cardiac catheterization in experimental group and 26% in control group.
- The majority of Samples 91% were in the category of normal weight and 9% of them obese in experimental and 87% of them had normal weight and 13% of them obese in control group.

In post test, majority 66% of the patients had the Mean Arterial Pressure between 70-79 and 34% were with 80-89 in experimental group. In control group 68% of them had the Mean Arterial Pressure between 70-79 and 32% were with 80-89.

In post test, 54% of the patients had pulse rate at catheterized leg between 70-79, 28% were with 80-89, 9% between 60-69 and 9% between 90-99 in experimental group. In control group majority 48% of them had pulse rate at catheterized leg between 70-79, 34% were with 80-89, 12% were with 90-99 and 6% of them between
Effect of ambulation on Back pain

The level of back pain measured at 8 hours after sheath removal, 12 Hours and in the next day morning by using Visual Analog Scale. The mean back pain level at eight hours in the experimental group who mobilized at eight hours was 1.83, whereas the control group who remained in bed rest was 1.91. At Twelve hours, the experimental group were mobilized and control group still remains in bed, the Mean back pain level were 1.98 Vs. 3.26 respectively. In the morning, both experimental and control group were mobilized and the results were 1.03 in experimental group and 2.09 in control group. The results between the group in all the three time series were statistically significant at p<0.05 level, and supporting the experimental group.

Effect of ambulation on Urinary discomfort

The level of Urinary discomfort measured at 8 hours and in the next day morning by using 5 point likert scale. The mean urinary discomfort at eight hours in the experimental group was 2.46, whereas the control group who remained in bed rest was 4.46. In the morning, both experimental and control group were mobilized and the results were 1.40 in experimental group and 2.49 in control group. The results between the group in all the two time series were statistically significant at p<0.05 level, and supporting the experimental group.

Effect of ambulation on Bleeding

The Bleeding was measured at 8 hours and in the next day morning by using standardized scale. The mean Bleeding in the experimental group who mobilized at eight hours was 1.14, whereas the control group who remained in bed rest was 1.26. In the morning, both experimental and control group were mobilized and the results were 1.00 in experimental group and 1.17 in control group. The results between the group in all the two time series were statistically significant at p<0.05 level.

Effect of ambulation on Hematoma formation

The Hematoma formation was measured at 8 hours after sheath removal and in the next day morning by using standardized scale. The mean Hematoma formation in the experimental group who mobilized at eight hours was 1.17, whereas the control group was 1.31. In the morning, both experimental and control group were mobilized and the results were 1.00 in experimental group and 1.26 in control group. The results between the group in all the two time series were statistically significant at p<0.05 level, and supporting the experimental group.

DISCUSSION

Assess the pretest level of back pain, urinary discomfort and vascular complications in experimental and control group.

The level of back pain, urinary discomfort and vascular complications among the patients underwent transfemoral coronary procedures was assessed by structured questionnaire and using standardized scales, i.e. Visual Analog Scale for back pain and five point Likert scale for urinary discomfort and standardized scales for vascular complications and analyzed using descriptive statistics. The results reveals that in experimental group, the mean pre test level of back pain was 1.83 with standard deviation 0.382 and urinary discomfort mean was 4.74 with standard deviation 0.50 and vascular complication such as hematoma formation mean was 1.17 with standard deviation 0.38 and for bleeding mean was 1.14 with standard deviation 0.35. In control group the mean of back pain was 1.91 with standard deviation 0.28, mean of urinary discomfort was 4.66 with standard deviation 0.48 and vascular complication such as hematoma formation mean was 1.31 with standard deviation 0.41 and for bleeding mean was 1.26 with standard deviation 0.44 respectively. The results between the experimental and control group were statistically significant at p<0.05 level, and supporting the experimental group.

Effect of Early Ambulation in reducing the back pain, urinary discomfort and vascular complications among the patients underwent transfemoral coronary procedure in experimental group.

The study results had shown a difference in the level of back pain, urinary discomfort and after receiving early ambulation in experimental group. Data depicts that the mean post test level of back pain, urinary discomfort was lower than the pre test level of back pain and urinary discomfort. There is no major change in vascular complications. The calculated ‘t’ value for post
The test of back pain was 11.662 and for urinary discomfort was 8.623 which is greater than the table value. The computed ‘t’ value shows that there was a significant difference between the pre and post test level of back pain, urinary discomfort after early ambulation. Based on these results the null hypothesis was rejected and the research hypothesis was accepted. This indicates that Early ambulation is effective in reducing the level of back pain, urinary discomfort but no changes in vascular complications.

A randomized controlled trial was conducted to investigate the impact of early ambulation on post transfemoral coronary procedures on back pain, urinary discomfort and vascular complications among non-emergency scheduled patients. The method of the study were patients in the study group were ambulated after four hours bed rest post transfemoral PCI and 2 hours after Coronary Angiography, whereas patients in the control group were ambulated after 12–24 hours post transfemoral PCI and 6-8 hours after CA (usual care). The result of the study revealed that a significant statistical difference was existed between both studied groups in relation to back pain and urinary discomfort for PCI and CA. As regards to vascular complication, non-significant statistical differences were put into evidence between both studied groups. The study concluded as early ambulation is safe and feasible for patients undergoing PCI and CA. Both the studies concluded as early ambulation is safe and feasible for patients undergoing PCI and CA.

**CONCLUSION**

Based on the findings of the study the conclusion was drawn. The findings of the study revealed that there was a significant reduction in the level of back pain, urinary discomfort among patients underwent transfemoral coronary procedures in experimental group after early ambulation and minimal changes in back pain, urinary discomfort in the control group who was on usual routine. Early ambulation after diagnostic transfemoral catheterisation had no significant effect on the incidence of vascular complications including bleeding, haematoma in both experimental and control group. The results suggest that patients can be early ambulated after transfemoral catheterisation, and that early ambulation had no effect on the risk of vascular complications and may reduce back pain intensity and urinary discomfort.

**Ethical Clearance:** The ethical clearance obtained from “Institutional Human Ethics Committee” Chettinad Academy of Research and Education on 5.6.2017, Proposal No.250/IHEC/5-17.

**Source of Funding:** Self

**Conflict of Interest:** Nil

**REFERENCES**


Study to Assess the Effectiveness of Foot and Hand Massage on Reducing Pain among Post Natal Mothers Who Had Undergone Caesarean Section

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ABSTRACT

“An experimental study to assess the effectiveness of foot and hand massage on reducing pain among postnatal mothers who had undergone caesarean section at postnatal ward of Sharda Hospital, Greater Noida, U.P”

Purpose of the study: The purpose of the study was to determine the effectiveness of Foot and Hand Massage on reducing post caesarean pain among the postnatal mother.

Methodology: The study has adopted a Quasi Experimental with Randomized pre-test post-test control group design was used and then sample were assigned randomly to experimental group and control group respectively. Sixty postnatal mothers, thirty in experimental group and thirty in control group were selected as the subject of the study. Both group were selected consecutively and randomly assigned to either experimental or control group. Socio-demographic Profile, Numeric Pain scale were used as tool for data collection.

Results: Majority of (70%) mothers was having obstetrical score in the experimental group and (60%) in the control group had obstetrical score as multigravida. Most of the mothers (63.3%) were having 1st postnatal in experimental group and (53.3%) in control group had 2nd postnatal day. The homogeneity was checked in both the group and it was found that there was no homogeneity in term of Age, Obstetrical score, Postnatal day, Type of Anesthesia, History of previous Caesarean, Family income, Education status, Type of family, Previous information regarding massage only postnatal day found to be associated. The Analysis of effectiveness of Foot and Hand Massage for reducing pain was checked by independent “t” test. It showed that from baseline to after 20 minutes of Foot and Hand Massage mean pain score in Experimental group were (3.4) and mean pain score in Control group were (5.46). On Comparison of mean difference pain score in experimental group were (4.68) and in Control group were (2.46) at 0.05% level of significance. This indicates that the reduction in pain score was not by chance but because of the intervention. On Comparison of mean pain score difference in experimental group is relatively high compare to control group at 0.05% level of significance.

Conclusion: This study showed that Foot and Hand Massage are more effective along with hospital routine treatment than among the postnatal mothers. Foot and Hand Massage can be used in reducing post Caesarean pain. The Foot and Hand Massage can be offered to every mother who had undergone caesarean section as treatment until and unless they have not any postpartum complications.

Keywords: Post Caesarean Pain, Foot and Hand Massage, postnatal mother

INTRODUCTION

“Man endures pain as an undeserved punishment; woman accepts it as a natural heritage”¹

Women can be considered mothers by given birth, by raising their children. Pregnancy is the period of
time when a human being grows from the combination of genetic material from a single egg and sperm. Typically, conception occurs naturally through sexual intercourse. Over the course of about forty weeks, the baby grows and matures from those two cells to a fully developed baby and is born.²

There are many different methods for childbirth. Vaginal delivery is the most common and safest type of childbirth. Although vaginal delivery is the most common and safest type of delivery, sometimes caesarean is necessary for the safety of mother and baby.³

A Caesarean section is a surgical procedure in which incisions are made through a mother’s abdomen and uterus to deliver one or more babies, or rarely to remove a dead foetus. A Caesarean section is usually performed when a vaginal delivery would put the baby’s or mother’s life at risk, although in recent times it has been also performed upon request for childbirths that could otherwise have been natural.⁴

STATEMENT PROBLEM

“An experimental study to assess the effectiveness of foot and hand massage on reducing pain among postnatal mothers who had undergone caesarean section at postnatal ward of Sharda Hospital, Greater Noida, U.P”

OBJECTIVE OF THE STUDY

To assess the effectiveness of foot and hand massage on post-caesarean pain level.

To find the association between foot and hand massage with demographic variables.

ASSUMPTION

After caesarean section mothers ought to get pain.

Foot and Hand massage will reduce post caesarean pain.

DELIMITATION

Females undergone caesarean section and having moderate to severe level of pain

OPERATIONAL DEFINITION

Effectiveness: Refers to the extent to which the Foot and Hand Massage will help in reducing post caesarean pain of mothers.

Hand and foot Massage: It is the procedure to which the steps (Effleurage, Friction, Pettrissage) applies squeezes and strokes to hands from the wrist to the tip of the figure, and to foot starting from the toes and up to above the ankle. Each hand and foot is massaged for five minutes, adding to a total of 20 minutes for a client. The massage is given 2 times a day for continuous 3 days.

Post caesarean mothers: Refers to mothers (Primi and Multigravida) who had under gone planned/emergency Caesarean Section to deliver one or more babies and mother are in recovery room after 24 hours of caesarean section.

Post caesarean pain: Pain experienced by the mothers in whole body and in abdominal area from day of caesarean section and having moderate and severe level pain assessed by numeric rating pain scale.

CONCEPTUAL FRAMEWORK

The theoretical framework for the present study was developed from Modified Wiedenbach’s “Prescriptive Theory” (1970)

In the present study the concept from Prescriptive Model is utilized. The central purpose is the application of Foot and Hand Massage on reducing post Caesarean pain among the postnatal mother where the researcher act as an agent and postnatal mothers with post Caesarean pain acts as a Recipient. The goal of the study is to reduce level of pain score by giving Foot and Hand Massage. The Means refers to the Foot and Hand Massage application as devices used by the researcher to achieve the goal.

The investigator assessed pain after obtaining consent from the participants by using numeric rating pain scale. The action is validated by collecting the evidence of post treatment that shows the goal has been met as pain is reduced.

RESEARCH METHODOLOGY

Research approach

Quantitative Research approach was used in this
Research design

Design used in the study was Quasi-experimental (Randomised Control group Pre-Test Post-Test design).

Independent variables:

Independent variable in this study was “Foot and Hand Massage”

Dependent variables:

Dependent variable in this study was “Pain” after caesarean section.

Study population

The population in this study was included the postnatal mothers who had undergone caesarean section admitted in selected hospital of Greater Noida.

Sample and Sampling technique

60 Postnatal mothers (30 Experimental and 30 Control Group) who had undergone caesarean section and met the inclusion criteria are the samples in this study. Simple random sampling technique was used in this study

Description of the tool

Tool consist of 2 section

Section A (Extraneous variables):- It consists of Age, Obstetrical score, Post natal day, Type of anaesthesia, History of previous caesarean section, Educational status, Family income, Type of family, Previous information regarding massage.

Section B (Numeric Rating Pain Scale):-

Data Collection Procedure

For collecting data following steps were taken. Informed consent from the participants of the study was taken. Then the samples were randomly allocated into two groups, experimental and control group by lottery method. Foot and hand massage was given in experimental group for 20 min (5min in both upper and lower extremities) after 4 hours of the analgesic. The pain was assessed by using numeric rating pain scale before and after intervention.

RESULT

Table-1: Analysis of effectiveness of Foot and Hand on reducing pain among Experimental and control group.

<table>
<thead>
<tr>
<th>Pain score (Mean±SD)</th>
<th>EXPERIMENTAL</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline Pretest</td>
<td></td>
<td>1&lt;sup&gt;st&lt;/sup&gt; day Post-test</td>
<td></td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; day Post-test</td>
<td></td>
<td>3&lt;sup&gt;rd&lt;/sup&gt; day Post-test</td>
</tr>
<tr>
<td>M</td>
<td>E</td>
<td>M</td>
<td>E</td>
<td>M</td>
<td>E</td>
<td></td>
</tr>
<tr>
<td>8.06 ± 0.827</td>
<td>6.70 ± 0.95</td>
<td>6.03 ± 0.71</td>
<td>5.33 ± 0.66</td>
<td>4.80 ± 0.66</td>
<td>4.20 ± 0.61</td>
<td>3.40 ± 0.56</td>
</tr>
</tbody>
</table>
Table -1 Conclude that First day pre-test mean is 8.06 and last day posttest mean is 3.40. Hence the p value in experimental group is <0.001.

Table No 2: Analysis of effectiveness of foot and hand massage on reducing pain postnatal mothers in Control group

<table>
<thead>
<tr>
<th>Pain score (Mean±SD)</th>
<th>Control</th>
<th>Experimental</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline pretest</td>
<td>M=7.93±0.739</td>
<td>E=7.40±0.67</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>1st day Post-test</td>
<td>M=7.13±0.86</td>
<td>E=6.66±0.60</td>
<td></td>
</tr>
<tr>
<td>2nd day Post-test</td>
<td>M=6.06±0.63</td>
<td>E=5.46±0.62</td>
<td></td>
</tr>
<tr>
<td>3rd day Post-test</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table -2 Conclude that First day pre-test mean is 7.93 and last day posttest mean is 5.46. Hence the p value in control group is <0.001.

Table No 3: Analysis of pre-pain score and post pain score reading of Experimental and Control group.

<table>
<thead>
<tr>
<th>Pain score</th>
<th>Experimental group (Mean and Standard deviation)</th>
<th>Control group (Mean and Standard deviation)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-pain score 1st day</td>
<td>8.08±0.827</td>
<td>7.93±0.739</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Post pain score 3rd day</td>
<td>3.40±0.56</td>
<td>5.46±0.62</td>
<td></td>
</tr>
<tr>
<td>Mean difference</td>
<td>4.68±0.267</td>
<td>2.47±0.119</td>
<td></td>
</tr>
</tbody>
</table>

Table -3 Conclude that the mean difference is high in experimental group as compare to control group. This means foot and hand massage is effective.

MAJOR FINDINGS

SECTION A: Analysis of demographic characteristics of the respondents (subjects)

Maximum mothers were in the age group 21 – 25 years, 1st Postnatal day and multigravida had given spinal anaesthesia, education up to secondary level belong to joint family, having family income Rs.>15,000 and no source of information regarding massage.

SECTION B: Analysis of effectiveness of foot and hand massage on reducing pain post caesarean pain on Experimental Group and control Group.

In the experimental group the pre pain score mean on the 1st day was 8.08 and standard deviation was 0.827 whereas on the 3rd day the post pain score mean was 3.40 and the standard deviation was 0.56 and mean difference from 1st to 3rd day was 4.68 which shows there was gradual reduction in pain .Thus within p value came out to be <0.001.

In control group the pre pain score mean on the 1st day was 7.93 and standard deviation was 0.739 whereas on the 3rd day the post pain score mean was 5.46 and the standard deviation was 0.62 and mean difference from 1st to 3rd day was 2.47.
The mean difference between the 1st and 3rd day pain score was high in Experimental group (4.68) compare to Control group (2.47). This shows that there was gradual reduction in pain score after giving foot and hand massage as an intervention to the experimental group.

**IMPLICATION FOR NURSING**

The present study has implications for nursing practice, community health nursing practice, nursing education and nursing administration

**Nursing practice**

An in service education program can be organized to teach nurses about the assessment of pain level and effectiveness of foot and hand massage. Moreover, obstetrician, nursing supervisors and practicing nurses can ensure more comforts to the patients, enhance early recovery and improve the quality of care by adopting practices of foot and hand massage for mothers with caesarean section.

**Nursing education**

Student should be taught about the holistic care. In order to provide evidence based nursing, the nurse educator should teach and provide learning experience to student nurses regarding types of foot and hand massage.

**Nursing Research**

The health care environment today is dynamic and more demanding. There is a need to promote research based practices as nursing moves towards as an independent professional practice mode. The researcher found that no enough studies have been conducted in these aspects to improve the quality of life of mothers with post caesarean pain.

**Recommendations**

This study can be replicated on a large sample of patients so that findings can be generalized.

Comparative study can be conducted to assess the foot and hand massage among caesarean postnatal mothers and normal vaginal delivery mother also.

This study can be done at community level to assess the knowledge of people on reducing post caesarean pain.

A similar study can be conducted to evaluate the effectiveness of foot hand massage in terms of knowledge and practices among staff nurse.

**CONCLUSION**

The study reviles that Foot and hand massage was effective in reducing the post caesarean pain among postnatal mothers in experimental group as compare to the control group. Whereas there was less reduction in Control Group as they were getting hospital routine treatment.

**Ethical Clearance**: Taken from Sharda ethical committee.

**Source of Funding**: Self.

**Conflict of Interest** - Nil.

**REFERENCES**

7. Fritz S. Chaitow, L. and Synder, R. Mosby’s


A Descriptive Survey to Assess the Knowledge of Multi Purpose Health Workers and Problems Encountered by them in the Management of Cold Chain System for Vaccines in Universal Immunization Programme in Selected Health Centres of NCR (U.P.)

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ABSTRACT

A descriptive survey to assess the knowledge of Multi Purpose Health Workers and problems encountered by them in the management of cold chain system for vaccines in Universal Immunization Programme in selected Health centres of NCR (UP). Objectives: 1) To assess the knowledge of MPHW in management of cold chain system for vaccines in Universal Immunization Programme. 2) To find out problems encountered by MPHW in management of cold chain system for vaccine in Universal Immunization Programme. 3) To determine the association between knowledge about management of cold chain system with selected demographic factors. The conceptual framework developed for the study was based on the “Ludwig Open System Model”. The research approach for the study was descriptive survey approach; the study design was descriptive design. Non-Probability Purposive sampling Technique was used to obtain an adequate size of sample. The sample consisted of 100 MPHW’s working in Loni and Bisrakh Health Centres. Findings showed that: Majority of MPHW’s had the average knowledge 55(55%), 42(42%) had good knowledge and 1(1%) had poor knowledge regarding maintenance of Cold Chain system. Major Problems encountered by the MPHW’s were 72(72%) faced electricity problem, 71(71%) lack of availability of thermometer in recording the temperature of ILR, and 67(67%) faced difficulties in transporting the vaccines. Chi square value computed between knowledge score and selected demographic factors showed that the association of knowledge score of the MPHW’s with the Work Experience and In-Service training was found to be statically significant at 0.05 level of significance. It can be inferred that the knowledge of MPHW’s were dependent on their Work Experience and In-Service training. The study also discussed the implications of findings in the field of nursing education, practice, administration, research and for the society. The study concluded that the MPHW’s were having average knowledge regarding maintenance of cold chain system.

Keywords: MPHW, UIP, Problems. Cold Chain, Immunization, Management, Knowledge.

INTRODUCTION

“Vaccines are a billion dollar industry and there are at least a billion good reasons there, why it’s continued” (Dr Peter Baratosy).

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Vaccine is an immune-biological substance designed to produce specific protection against a given disease. It stimulates the production of protective antibody and other immune mechanisms. “Cold chain maintenance” is the system of storage and transport of vaccines at a low temperature from the manufacturer to the actual vaccine site. In general all vaccines must be stored under the conditions recommended by the manufacturer in the literature accompanying the vaccines otherwise they become denatured and totally ineffective. Immunization
is an important means of controlling infectious diseases. Careful attention to vaccine storage is essential to ensure optimal vaccine effectiveness. The system used for keeping and distributing vaccines in good condition is called the cold chain. This consists of a series of storage and transport links, designed to keep the vaccine at the correct temperature until it reaches the user. Maintaining the vaccine cold chain is an essential part of a successful immunization program, but in developed countries faulty procedures may occur more commonly than is generally believed.2

Immunization is an important means of controlling infectious diseases. Careful attention to vaccine storage is essential to ensure optimal vaccine effectiveness. The system used for keeping and distributing vaccines in good condition is called the cold chain. This consists of a series of storage and transport links, designed to keep the vaccine at the correct temperature until it reaches the user. Maintaining the vaccine cold chain is an essential part of a successful immunization program, but in developed countries faulty procedures may occur more commonly than is generally believed.3

The vaccines play a major role in preventing mainly major communicable diseases which the people die because of these communicable diseases. It is necessary to provide vaccines against these diseases but the maintenance of the vaccine potentiality is most important because if we give non potentiality vaccines will not protect people from killer diseases in order to maintain potentiality of vaccines the maintenance of the cold chain system is Cold chain system is necessary because the vaccines are sensitive to heat, if the vaccines are exposed to heat they will have shortened life. Some vaccines are more sensitive than others. Polio is the most sensitive to heat. When the vaccines lose their potency they can no longer protect individuals from diseases. Vaccines potency cannot be regained once it is lost. Returning vaccines to the refrigerators will not restore its potency, all vaccines retain their potency at temperature between 2-8 C, so the vaccines must stay cold or maintain optimum temperature to the actual vaccination site of expectant mother and child all the way from manufacture storage and transportation.3

The cold chain in other words the manufacturing company and storing the vaccines at a temperature suggested by it, right from manufacture of the vaccine to the health workers at grass route level contribute significantly in cold chain of vaccines.4

**STATEMENT OF THE PROBLEM:**

A descriptive survey to assess the knowledge of Multi Purpose Health Workers and problems encountered by them in the management of cold chain system for vaccines in Universal Immunization Programme in selected Health centres of NCR (UP).

**OBJECTIVES**

- To assess the knowledge of MPHW in management of cold chain system for vaccines in Universal Immunization Programme.
- To find out problems encountered by MPHW in management of cold chain system for vaccine in Universal Immunization Programme.
- To determine the association between knowledge about management of cold chain system with selected demographic factors.

**MATERIAL AND METHOD**

**Research approach**

The study aimed at determining the relationship of MPHW’s knowledge with selected background factors and hence a Descriptive Survey was considered appropriate.

**Research design**

The research design selected for the study was a Non-experimental descriptive survey design was adopted for the study.

**Research Design**

**Research Variables:** Two types of variables were identified in this study. They were as follows

**Attribute Variables:** Academic Qualification, Vocational Qualification, Working Experience, In Service Training.

**Dependent Variables:** Knowledge Score of MPHW’s and Problem Description were regarding management of Cold Chain System for vaccine in Universal Immunization Programme.
Setting of the study: The present study was conducted in CHC LONI (U.P) and CHC BISRAKH (GREATER NOIDA, NCR).

Population: The population of the present study comprises of Multipurpose health workers female working in selected health centres of Ghaziabad and Bisrakh Greater Noida.

Sample and sampling technique: In the present study samples were Multipurpose health workers working in selected health centres of Ghaziabad and Bisrakh Greater Noida and For the present study, Purposive Sampling Technique was adopted to select the Multipurpose health workers for data collection.

Sample size: For the present study, 100 MPHW’s were selected for the final study working in selected health centres of Ghaziabad and Bisrakh Greater Noida.

Criteria for sample selection:

Inclusion Criteria for Selection of Sample:-

MPHW’s who can understand English or Hindi properly.

MPHW’s available during data collection procedure.

MPHW’s willing to participate in the study.

Exclusion Criteria for Selection of Sample:-

MPHW’s who will not be available during the study.

MPHW’s who were not willing to participate in the study.

Description of the tool:

<table>
<thead>
<tr>
<th>Tool</th>
<th>Purpose</th>
<th>Data collection technique</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section-I: Demographic data</td>
<td>To know the demographic data of MPHW’s.</td>
<td>Printed questionnaire by using paper pencil approach.</td>
</tr>
<tr>
<td>Section-II: Structured knowledge questionnaire related to maintenance of cold chain system.</td>
<td>To assess the knowledge of MPHW’s on maintenance of cold chain system.</td>
<td>Printed questionnaire by using paper pencil approach.</td>
</tr>
<tr>
<td>Section-III: Structured questionnaire on problem encountered.</td>
<td>To assess the problem encountered by MPHW’s during cold chain management.</td>
<td>Printed questionnaire by using paper pencil approach.</td>
</tr>
</tbody>
</table>

FINDINGS

Results: This section present the analysis and interpretation of the data collected from 100 MPHW’s, in order to assess the knowledge and problem encountered by them in the management of cold chain system for vaccines in Universal Immunization Programme. The data was collected through structured questionnaire, which was prepared, based on the objectives of the study. The collected data was organized, analyzed and interpreted by using descriptive and inferential statistics.

Interpretation and conclusion

The study revealed that majority of MPHW’s had average knowledge regarding cold chain system and its maintenance and problem encountered by them during the maintenance of cold chain system was electricity. In the present study, MPHW’s have adequate knowledge can be improved to excellent knowledge by providing in-service education, conducting workshops and conferences on this area for the provision of awareness for a better future.10

DISCUSSION

This chapter includes the discussion of the findings of the study interpreted from statistical analysis. The findings are discussed in relation to the objectives, need for the study, related literature of the study and conceptual frame work. It is presented in line with the objectives of the study.

Characteristics of the demographic variables:

As represented by Table:-The majority of the MPHW’s 31 (31%) belonged to the age group of 51-60 years, 22 (22%) belonged to the age group 31-40 year,
26 (26%) belonged to the age group of 41-50 years and only 21 (21%) were between 21-30 years of age group. The majority of the MPHW’s 89 (89%) were married, 6 (6%) were unmarried, and 5 (5%) were widow.

The majority 32 (32%) had the work experience between 21-30 years, 30 (30%) MPHW’s had the work experience between 11-20 years, 22 (22%) had the work experience between 1-10 years and only 16 (16%) had the work experience of 31 years and above. The majority 66 (66%) worked in sub centre and 17(17%) MPHW’s worked respectively each in Primary and Community Health Centre. The majority 64 (64%) have attained higher secondary qualification and 34 (34%) have attained graduation and 2 (2%) have attained post graduation qualification. The Majority findings regarding vocational qualifications of MPHW’s showed that 96 (96%) had taken A.N.M course and 4 (4%) had taken MPHW course. The maximum of the MPHW’s 75 (75%) had undergone in service and 25 (25%) did not undergo in service training.

**The first objective was to assess the knowledge of MPHW in management of cold chain system for vaccines in Universal Immunization Programme.**

Out of 100 MPHW’s, Knowledge assessment the majority of the 55 (55%) of MPHW’s had average knowledge, 42 (42%) had good knowledge, 2 (2%) had very good knowledge and 1(1%) MPHW’s had poor knowledge regarding maintenance of cold chain.

The present study represents the Range, Mean, Standard Deviation (SD), mean percentage of knowledge of the MPHW’s. The maximum score was 25. Data in the mean and median of the knowledge score were 18.87 and 18 respectively. The mean, median are close to each other which indicated that the distribution was normal. The mean knowledge score (18.87) was <30 which signifies that the subject is having average knowledge regarding maintenance of cold chain and the standard deviation is 2.81. The range of score obtained by MPHW’s was between 10-25.

The study revealed that the MPHW’s had an average knowledge regarding cold chain maintenance for vaccines in Universal Immunization Programme. This finding is consistent with the findings of the study conducted by Joao, Carlos (2007) in Mozambique a descriptive study to know about cold chain and the result were that the knowledge of health workers need to be improved and integrate knowledge by providing them adequate training and supervision.

To find out problems encountered by MPHW in management of cold chain system for vaccine in Universal Immunization Programme.

The problem’s encountered by MPHW’s shows that majority 72 (72%) faced electricity problem, 71 (71%) shows that no thermometer available to record the temperature and 67 (67%) shows that MPHW’s faced difficulties in transporting.

The above findings in the study were similar with the findings of the study conducted by Shamala Pillay, 2014 South Africa A Descriptive Study into the Cold Chain Management of Childhood Vaccines by Nurses in Primary Health Care Clinics in the uMgungundlovu District where the findings showed no contingency plans to deal with equipment and electricity issues, no monitoring and evaluation systems, poor recording keeping, poor management of the cold box, access to stock and the actual management of the cold chain for vaccines.

To determine the association between knowledge about management of cold chain system with selected demographic factors.

Chi-square value computed between knowledge score and selected factors showed that the association of knowledge score of the MPHW’s with Work Experience and In service training is found to be statistically significant at 0.05 level of significance. It can inferred that knowledge of MPHW’s were dependent on Work Experience and In service training. The chi square value between knowledge and selected demographic variables like educational qualification and vocational qualification was found to be statistically non significant at 0.005 significance level. This signifies knowledge scores of MPHW’s were independent on educational qualification, vocational qualification.

Assessing the demographic data of the MPHW’s revealed that, there is a significant association of In-Service training with the knowledge level of the MPHW’s. This finding was consistence with the findings of the study conducted by Avinash N. 2008 on a study to assess the knowledge, attitude & practices regarding
maintenance of cold chain among health workers in selected sub centres of Bangalore urban district and the findings were the health workers had a fair knowledge regarding the cold chain maintenance.

CONCLUSION

The conclusion drawn from the study was that the majority 64% of MPHW’s had primary education. The MPHW’s had average knowledge regarding cold chain system maintenance for vaccines. The problems encountered by the MPHW’s can be corrected through proper measures and actions as they are not a major problem. There was a significant association between the knowledge score of the MPHW’s with their work experience and In Service training. There was no significant relationship between the knowledge score of the MPHW’s with their educational and vocational qualifications.

Conflict of Interest: There is no conflict.

Source of Funding: Self

Ethical Clearance:

REFERENCES


Assessing the Student’s Perception on Teacher’s Characteristics for Effective Teaching

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ABSTRACT

Background: Student’s assessment regarding the teacher’s characteristics can be considered as the best evidence about teachers. The most common characteristics which influence the teacher-student learning experience are communication, accessibility and knowledge of the teacher about subject matter.

Materials and Method: The present descriptive cross-sectional survey was conducted at Ved Nursing College, Panipat, Haryana in the month of September, 2017 using self-structured, pre-tested and validated perception rating scale. Total 192 subjects were enrolled in the study.

Results: According to students’ perception in personal area, self-confidence of teacher had maximum effect on teaching (92.7%), followed by speaking style of teacher (86.5%), in professional area clarification of doubts (86.5%) was the most important factor effecting teaching followed by method of teaching (85.5%) and in scientific area experience of the teacher (86.4%) effects teaching highly followed by mastery on scientific concepts and materials (84.4%).

Conclusion: Students perceive personal, professional and scientific characteristics of teachers to be equally efficacious for effective teaching.

Keywords: Student, perception, teacher, characteristics, effective, teaching

INTRODUCTION

Teaching is a highly complex activity. A teacher shapes the student’s career by using various techniques of teaching1. Besides teaching there are many qualities of teacher that can affect the student’s academic performance. The most common characteristics which influence the teacher –student learning experience are communication, accessibility and knowledge of the teacher about subject matter2,3.

However, literature produces evidence that certain teaching behaviours affect the students’ gains, for example - focusing on class time, student choices, game time for students and personal adjustment. These were sufficiently effective to influence the student’s achievements and interest1.

Student and teacher maintains a close relationship and considered as the fundamental elements of teaching learning process. Teacher selects the subject matter, develops lesson plan, incorporates the best suitable teaching learning activity in it and presents to the students. Student’s function is to receive the information, memorize and repeat what has been presented to produce the desired outcome. Academic result of the students not only affects student’s academic achievement but it also reflects the effectiveness of teaching4,5.

As suggested by Biggs’s model, the present study hypothesizes that teachers’ characteristics perceived by the students influence their learning process. Student’s
teacher relationship building is the key for effective transfer of knowledge to students.\textsuperscript{3,6} Good et al. found that teachers who showed an interest in their students and understood students’ need were highest scorer on learning ratings\textsuperscript{7}. Studies have also found that there are many factors other than affective characteristics which are perceived by the students as important to develop healthy teacher – student relationship\textsuperscript{2}.

Nowadays, students from professional institutions are experienced, so they have increased knowledge regarding effective teaching. Therefore, student’s assessment regarding the teachers’ characteristics can be considered as the best evidence about teachers and can be the best to describe the effective method of teaching and the teacher’s quality which influences their learning\textsuperscript{1}. The present study aimed to identify the characteristics of teachers perceived by the students for effective teaching.

**MATERIALS AND METHOD**

The present descriptive cross-sectional survey was conducted at Ved Nursing College, Panipat, Haryana in the month of September, 2017 using self-structured, pre-tested perception rating scale. Total 192 subjects were enrolled in the study including 165 B.Sc nursing students, 20 Post Basic B.Sc nursing students and 7 M.Sc nursing students. Consecutive sampling technique was used. The tool used for data collection consisted of socio-demographic profile of students and self-structured perception rating scale. The rating scale consisted of three domains i.e. personal (18 items), professional (19 items) and scientific (5 items). The rating scale scoring was; 1 for very low effect, 2 for low effect, 3 for moderate effect, 4 for high effect and 5 for very high effect. However, during analysis very low and low effect were clubbed to low effect and very high and high effect were clubbed to high effect. Tools were validated by five experts from the field of nursing. Reliability was tested by split half method and Cronbach’s alpha was found to be 0.838. Ethical permission was taken from ethical committee of the institution and informed consent was taken from all the subjects. Pilot study was conducted on 15 subjects and study was found to be feasible. The subjects were informed to read the instructions carefully and to give their responses accordingly. The data were analysed using SPSS version 20.

### FINDINGS

**Table 1: Socio-demographic profile of students**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Frequency (f)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>17</td>
<td>8.9</td>
</tr>
<tr>
<td>Female</td>
<td>175</td>
<td>91.1</td>
</tr>
<tr>
<td><strong>Course</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B.Sc Nursing</td>
<td>165</td>
<td>85.9</td>
</tr>
<tr>
<td>Post Basic B.Sc Nursing</td>
<td>20</td>
<td>10.4</td>
</tr>
<tr>
<td>M.Sc Nursing</td>
<td>7</td>
<td>3.6</td>
</tr>
<tr>
<td><strong>Locality</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>76</td>
<td>39.6</td>
</tr>
<tr>
<td>Urban</td>
<td>116</td>
<td>60.4</td>
</tr>
<tr>
<td><strong>Residence</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residing in hostel</td>
<td>116</td>
<td>60.4</td>
</tr>
<tr>
<td>Day Scholar</td>
<td>76</td>
<td>39.6</td>
</tr>
<tr>
<td><strong>Family income per month (Rs)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;10,000</td>
<td>26</td>
<td>13.5</td>
</tr>
<tr>
<td>10,001 – 20,000</td>
<td>50</td>
<td>26</td>
</tr>
<tr>
<td>20,001 – 30,000</td>
<td>63</td>
<td>32.8</td>
</tr>
<tr>
<td>&gt;30,001</td>
<td>53</td>
<td>27.6</td>
</tr>
<tr>
<td><strong>Father Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>6</td>
<td>3.1</td>
</tr>
<tr>
<td>Primary</td>
<td>16</td>
<td>8.3</td>
</tr>
<tr>
<td>Secondary</td>
<td>55</td>
<td>28.6</td>
</tr>
<tr>
<td>Senior Secondary</td>
<td>54</td>
<td>28.1</td>
</tr>
<tr>
<td>Graduation and above</td>
<td>61</td>
<td>31.8</td>
</tr>
<tr>
<td><strong>Mother Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>24</td>
<td>12.5</td>
</tr>
<tr>
<td>Primary</td>
<td>32</td>
<td>16.7</td>
</tr>
<tr>
<td>Secondary</td>
<td>51</td>
<td>26.6</td>
</tr>
<tr>
<td>Senior Secondary</td>
<td>38</td>
<td>19.8</td>
</tr>
<tr>
<td>Graduation and above</td>
<td>47</td>
<td>24.5</td>
</tr>
<tr>
<td><strong>Father Occupation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>22</td>
<td>11.5</td>
</tr>
<tr>
<td>Self-employed</td>
<td>65</td>
<td>33.9</td>
</tr>
<tr>
<td>Private Job</td>
<td>40</td>
<td>20.8</td>
</tr>
<tr>
<td>Government Job</td>
<td>55</td>
<td>28.6</td>
</tr>
<tr>
<td>Retired</td>
<td>10</td>
<td>5.2</td>
</tr>
<tr>
<td><strong>Mother Occupation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housewife</td>
<td>153</td>
<td>79.7</td>
</tr>
<tr>
<td>Self-Employed</td>
<td>10</td>
<td>5.2</td>
</tr>
<tr>
<td>Private Job</td>
<td>13</td>
<td>6.8</td>
</tr>
<tr>
<td>Government Job</td>
<td>16</td>
<td>8.3</td>
</tr>
<tr>
<td><strong>Institution last attended</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government</td>
<td>30</td>
<td>15.6</td>
</tr>
<tr>
<td>Private</td>
<td>161</td>
<td>83.9</td>
</tr>
<tr>
<td>Semi-government</td>
<td>1</td>
<td>0.5</td>
</tr>
</tbody>
</table>
Majority of students (91.1%) were females and mean age of students was 20.20 years with a standard deviation of 2.17. Majority of students (85.9%) were doing B.Sc. nursing and most of them (60.4%) were residing in hostel. Almost one-third of students (32.8%) had family monthly income between Rs 20,001 – 30,000, 27.6% had family monthly income > Rs 30,001 and 26% had family monthly income between Rs 10,001 – 20,000. Fathers of 31.8% students were educated up to graduate or above and 3.1% fathers were illiterate. Mothers of 26.6% students had attained secondary education while 12.5% were illiterate. Fathers of 33.9% children were unemployed, 28.6% were in government job and 5.2% were retired. Mothers of majority of students (79.7%) were housewives and 5.2% were self-employed. Majority of students (83.9%) had attained last education from private sector.

Table 2: Student’s perception of teacher’s personal area characteristics

<table>
<thead>
<tr>
<th>Personal area</th>
<th>Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Less Effect f (%)</td>
</tr>
<tr>
<td>Effect of age on teaching</td>
<td>40 (20.9)</td>
</tr>
<tr>
<td>Effect of gender on teaching</td>
<td>112 (58.4)</td>
</tr>
<tr>
<td>Effect of Physical appearance on teaching</td>
<td>89 (46.4)</td>
</tr>
<tr>
<td>Self confidence</td>
<td>2 (1)</td>
</tr>
<tr>
<td>Sense of humor</td>
<td>5 (2.6)</td>
</tr>
<tr>
<td>Speaking style (audible, tone and pitch)</td>
<td>4 (2)</td>
</tr>
<tr>
<td>Language and pronunciation</td>
<td>6 (3.1)</td>
</tr>
<tr>
<td>Gesture and posture</td>
<td>22 (11.5)</td>
</tr>
<tr>
<td>Respect for students</td>
<td>8 (4.2)</td>
</tr>
<tr>
<td>Popularity among students</td>
<td>33 (17.2)</td>
</tr>
<tr>
<td>Flexibility in dealing with students</td>
<td>7 (3.6)</td>
</tr>
<tr>
<td>Intimacy with students</td>
<td>8 (4.2)</td>
</tr>
<tr>
<td>Observing social values</td>
<td>17 (8.9)</td>
</tr>
<tr>
<td>Discipline and timely attendance at classes</td>
<td>4 (2.1)</td>
</tr>
<tr>
<td>Open to criticism/suggestions</td>
<td>14 (7.3)</td>
</tr>
<tr>
<td>Attempts at solving students problems</td>
<td>6 (3.1)</td>
</tr>
<tr>
<td>Trustworthiness</td>
<td>9 (4.7)</td>
</tr>
<tr>
<td>Responsibility and accountability</td>
<td>7 (3.6)</td>
</tr>
</tbody>
</table>

Table 2 shows that majority (92.7%) of students’ perceived self-confidence of teacher as major influencing factor followed by speaking style of teacher (86.5%), attempts at solving student’s problems (81.3%), discipline and timely attendance at classes (80.7%), open to criticism/suggestions (67.2%), trustworthiness (77.1%), and responsibility and accountability (41.8%).
attendance at classes (80.7%) and sense of humour (80.2%). Personal factors which had least effect on teaching according to students’ perception were; gender of teacher (58.4%), physical appearance of teacher (46.4%) and age of teacher (20.9%). Moderately affecting characteristics were popularity among students (46.4%) and gesture and posture (43.2%).

Table 3: Student’s perception of teacher’s professional area characteristics

<table>
<thead>
<tr>
<th>Professional area</th>
<th>Quality</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Less Effect f (%)</td>
<td>Moderate Effect f (%)</td>
<td>High Effect f (%)</td>
<td></td>
</tr>
<tr>
<td>Create and maintain suitable environment</td>
<td>9 (4.6)</td>
<td>59 (30.7)</td>
<td>124 (64.8)</td>
<td></td>
</tr>
<tr>
<td>Motivate the students to learn and study</td>
<td>4 (2.1)</td>
<td>28 (14.6)</td>
<td>160 (83.4)</td>
<td></td>
</tr>
<tr>
<td>Commonality in discipline</td>
<td>10 (5.2)</td>
<td>29 (15.1)</td>
<td>153 (79.7)</td>
<td></td>
</tr>
<tr>
<td>Involving students in debates and discussions</td>
<td>10 (5.2)</td>
<td>38 (19.8)</td>
<td>144 (75)</td>
<td></td>
</tr>
<tr>
<td>Offering course outline template to students</td>
<td>14 (7.3)</td>
<td>79 (41.1)</td>
<td>99 (51.6)</td>
<td></td>
</tr>
<tr>
<td>Content adequacy and organization</td>
<td>11 (5.7)</td>
<td>80 (41.7)</td>
<td>101 (52.6)</td>
<td></td>
</tr>
<tr>
<td>Method of teaching</td>
<td>1 (0.5)</td>
<td>27 (14.1)</td>
<td>164 (85.5)</td>
<td></td>
</tr>
<tr>
<td>Use of appropriate examples</td>
<td>5 (2.6)</td>
<td>27 (14.1)</td>
<td>160 (83.4)</td>
<td></td>
</tr>
<tr>
<td>Use of multiple AV-aids</td>
<td>15 (7.9)</td>
<td>48 (25)</td>
<td>129 (67.2)</td>
<td></td>
</tr>
<tr>
<td>Use of new technology in teaching</td>
<td>9 (4.7)</td>
<td>28 (14.6)</td>
<td>155 (80.7)</td>
<td></td>
</tr>
<tr>
<td>Summarization of topic</td>
<td>7 (3.6)</td>
<td>22 (11.5)</td>
<td>163 (84.9)</td>
<td></td>
</tr>
<tr>
<td>Clarification of doubts</td>
<td>8 (4.1)</td>
<td>18 (9.4)</td>
<td>166 (86.5)</td>
<td></td>
</tr>
<tr>
<td>Timely use of incentive tools</td>
<td>16 (8.4)</td>
<td>57 (29.7)</td>
<td>119 (62)</td>
<td></td>
</tr>
<tr>
<td>Fairness in dealing with students (evaluation, verbal communication etc.)</td>
<td>9 (4.7)</td>
<td>39 (20.3)</td>
<td>144 (75)</td>
<td></td>
</tr>
<tr>
<td>Periodic assessments (assignments, tests) and feedback</td>
<td>14 (7.3)</td>
<td>45 (23.4)</td>
<td>133 (69.3)</td>
<td></td>
</tr>
<tr>
<td>Motivate students outside the class</td>
<td>35 (18.2)</td>
<td>78 (40.6)</td>
<td>79 (41.1)</td>
<td></td>
</tr>
<tr>
<td>Maintains positive relationship with college and colleagues</td>
<td>18 (9.4)</td>
<td>44 (22.9)</td>
<td>130 (67.7)</td>
<td></td>
</tr>
<tr>
<td>Maintains strong working relationships with parents</td>
<td>9 (4.6)</td>
<td>46 (24)</td>
<td>137 (71.4)</td>
<td></td>
</tr>
</tbody>
</table>

Table 3 depicts effect of professional characteristics of teachers on teaching. According to students,’ clarification of doubts (86.5%) was the most important factor affecting teaching followed by method of teaching (85.5%), summarization of topic (84.9%) and motivation to students and use of examples (83.4%). Approachability outside the class (18.2%) and maintaining strong working relationship with parents (11.4%) had least effect on teaching. Moderately influencing factors for teaching were content adequacy and organization (41.7%) and offering course outline template to students (41.1%).
Table 4 shows that majority of students’ perceived, experience of the teachers (86.4%) had high effect on teaching followed by mastery on scientific concepts and materials (84.4%). Academic rank of teacher (7.3%) and correlation of theory with real world setting (5.2%) had least effect on teaching. Moderately effecting factor was up datedness of the teacher (20.3%).

**DISCUSSION**

Present study highlighted important teaching characteristics needed for effective teaching according to students’ perception. In the study by Farahjolah Maleki, Mehri Hossein Talaei the highest score in personal area was attributed to respect for students and fairness in dealing with students in professional area. In the present study self-confidence of teacher in personal area and clarification of doubts in professional area were the most reported influencing factors by students. Present study showed that experience of a teacher was considered most important factor for effective teaching. Findings are in line with the study by Rockstroh, Angela H who showed in their study that experience of a teacher significantly affected pass-out number of students from a school.

**Limitations and recommendations**

The present study had few limitations as it was limited to a single college. Multicentre studies can be conducted. Studies can be conducted on different teaching strategies and styles.

**CONCLUSION**

Students perceive personal, professional and scientific characteristics of teachers to be equally efficacious for effective teaching. Thus, teachers must work on their characteristics which they feel need improvement, so as to deliver effective teaching.

**Conflict of Interest:** None

**Source of Funding:** None

**Ethical Clearance:** Obtained

**REFERENCES**

1. Rockstroh A. Teacher Characteristics on Student Achievement: An Examination of High Schools in Ohio. MPA/MPP Capstone Projects [Internet]. 2013 Jan 1; Available from: https://uknowledge.uky.edu/mpampp_edts/49


A Study on Co-morbidities, Precipitating and Associated Factors of Nocturia among Adults-Pilot Study

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ABSTRACT

Introduction: Night urination is an extremely niggling condition affecting men and women of all ages. Multiple medical conditions are associated with nocturia and negatively impact the quality of life. However people often hesitate to seek the healthcare and consider as an untreatable condition and part of aging process. Understanding the underline illness and its associated factors are vital aspects in the management of Nocturia.

Objectives: The aim of this study was to assess the Co-morbidity, Precipitating and associated factors of Nocturia among adults.

Materials and Method: An exploratory descriptive design was carried out among 54 adult clients of 35-65 years of age. The data was collected using self-assessment tool of Co-morbidity, Precipitating and associated factors of Nocturia and interview technique was adopted. The data was analysed using descriptive and inferential statistics.

Results: The finding of the study showed that the Proportion of Nocturia among adult clients was 54%. More than half 58.6% of the subjects were males and the mean age 55.4±8.8. The highest respondents were with primary education. The Majority of the respondents( 96.6%) were married. The severity of Nocturia assessment shows 48.3% had moderate form of nocturia. The Co-morbidity assessment reveals that the 35% of subjects equally had increased blood pressure and constipation and 21% of subjects equally had Diabetes Mellitus and incontinence of urine. Among 12 females 25% of subjects had uterus related diseases and among 17 males, 35% of subjects had disease related to prostate gland. The results related to Precipitating factors of Nocturia shows that 38 % of subjects were consuming coffee, 28% were smokers, and 69% were taking Afternoon Naps, 97% were consuming more water / fluids before bedtime, 93% were getting anxious easily, 90% were consuming spicy foods, 87% were urinating before going bed. The Associated factors of Nocturia result shows 100% of the subjects had insomnia, 55% had frightening or unpleasant dream during sleep, and 41% were reported that they snore. The study found that there was significant association between the Co-morbidity of Nocturia and the selected demographic variables such as age (p≤0.043), Marital status(p≤0.001), number of children (p≤0.013) , occupation (p≤0.001), Diet (p≤0.001), BMI (p≤0.001), Type of attainment of menopause (p≤0.003) and Type of delivery(p≤0.003).

Conclusion: The study found that numerous factors contribute to the night urination.

Key-words: Co-morbidity; precipitating factors; associated factors; Nocturia

INTRODUCTION

Nocturia is an extremely prevalent, taxing and serious medical condition affecting men and women of all ages, which can negatively impact quality of life and increase morbidity & mortality. The contributing factors are numerous and one or many of these factors may be present in an individual ¹. Though many people awaken during the night to urinate, it is often unreported and largely misunderstood urological disorder. However this condition has seldom received attention in the medical literature. Multiple factors may contribute nocturia, it may ranges from lifestyle choices to medical conditions...
in both gender; these include behavioural patterns, intake of caffeine, chocolates, spicy foods, acidic foods, alcohol, or excessive fluids before bedtime, and pathological conditions, such as stroke, cardiovascular disease, peripheral oedema, prostatic disease, diabetes mellitus or diabetes insipidus, obstruction of the lower urinary tract, anxiety, or sleep disorders and diuretic medications. Moreover contributing factors of nocturia are seldom studied in south India. Raising the awareness of nocturia and its associated factors among the people are required; in order to control and mange the nocturia.

**OBJECTIVES OF THE STUDY**

- To determine the proportion of Nocturia among adults
- To assess the severity of Nocturia
- To describe the co-morbidities and precipitating factors of Nocturia
- To find the association between co-morbidity Nocturia and selected demographic variables

**Assumption**

The study assumes that the adults with nocturia may have co morbidities

The adults with nocturia will honestly respond to the question regarding co morbidities and precipitating factors of nocturia

**Delimitation**

The study is delimited to the adults with age group of 35 to 65

The adults those who are attending the urology and gynaecology OPD of selected hospitals only

**Hypothesis**

H1: There will be significant association between the Co-morbidity of Nocturia and selected Demographic Variables.

**Research Methodology**

An exploratory descriptive design was used in this study to assess the Co-morbidity, Precipitating and Associated factors of Nocturia among adults. The institutional ethical clearance and permission to conduct the study was obtained from the concerned authority. The study sample size consists of 54 adults of 35-65 years of age were recruited using purposive sampling from the departments of Urology and Gynaecology of selected Hospitals at Mangaluru. The subjects were screened for nocturia and out of 54 subjects 29 had nocturia. The subjects who had night urination more than two times and difficulty to get enough sleep only were included for further interview. Then the identified proportion of subjects with nocturia were interviewed for baseline Proforma, self-assessment tool of Co-morbidity, Precipitating & associated factors of Nocturia. The data was analyzed using descriptive and inferential statistics.

**RESULTS**

Section I: The proportion of Nocturia among adults

Out of 54 screened subjects 29 subjects presented the history of having nocturia. Therefore the proportion of Nocturia among adults was 54% in this study.

Section II: Self reported clinical symptoms of Nocturia

All subjects who has screened for nocturia had night urination more than two times and difficulty to get enough sleep. Out of that 97% had moderate and a great deal botheration of sleep.

Section III: Baseline Characteristics of adults with Nocturia

More than half of the subjects (55%) were in the age group of 56-65 years. The mean age was 55.5±8.95. The subjects 10 (34.5%) were illiterate and only 6 (20.7%) subjects had high school education. The majority 28 (96.6%) of them were married. More than half of the subjects 17 (58.6%) were male. About 16 (55.2%) subjects had 4-6 children, More than half of the subjects 17 (58.6%) were unskilled workers, and none of them were professional. The least 5 (17.2%) subjects have income between rupees more than 9000. The majority (89.7%) were consuming mixed diet. The majority subjects 21 (72.4%) have toilet outside the house. All of the 29 (100%) had nocturia. Among 12 female subjects 10 (83%) attained menopause. The majority subjects 10 (83%) had normal delivery.
Section IV: Severity of Nocturia

Table 1: Frequency and Percentage, of Severity of Nocturia among adults  

<table>
<thead>
<tr>
<th>Frequency of voids</th>
<th>Severity</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>Mild Nocturia</td>
<td>3</td>
<td>10.3</td>
</tr>
<tr>
<td>3-4</td>
<td>Moderate Nocturia</td>
<td>14</td>
<td>48.3</td>
</tr>
<tr>
<td>5&amp;&gt;5</td>
<td>Severe Nocturia</td>
<td>12</td>
<td>41.4</td>
</tr>
</tbody>
</table>

The subjects 12 (41.1%) had severe, 14 (48.3%) had moderate and 3 (10.3%) had mild form of nocturia

Section V: Co-morbidities of adults with Nocturia

Table 2: Frequency and percentage of Co-morbidities of Nocturia among adults  

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Items</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Heart diseases</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>2</td>
<td>Hypertension</td>
<td>10</td>
<td>35</td>
</tr>
<tr>
<td>3</td>
<td>Recurrent urinary tract infection</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>4</td>
<td>Any kidney disease</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>Diabetes Mellitus</td>
<td>6</td>
<td>21</td>
</tr>
<tr>
<td>6</td>
<td>Constipation</td>
<td>10</td>
<td>35</td>
</tr>
<tr>
<td>7</td>
<td>Are you on any medications?</td>
<td>9</td>
<td>31</td>
</tr>
</tbody>
</table>

Male  n=17

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Items</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Any disease related to prostate gland</td>
<td>6</td>
<td>35</td>
</tr>
</tbody>
</table>

Female n=12

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Items</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Do you have any uterus related diseases</td>
<td>3</td>
<td>25</td>
</tr>
</tbody>
</table>

The highest observed co morbidities were the subjects 35% of them equally had hypertension and constipation and the least observed symptom was kidney disease (3%)

Section VI: Precipitating factors of Nocturia among adults

Table 3: Frequency, and Percentage of precipitating factors of Nocturia  

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Items</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Intake of coffee</td>
<td>11</td>
<td>38</td>
</tr>
<tr>
<td>2</td>
<td>Alcoholism</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>Smoking</td>
<td>8</td>
<td>28</td>
</tr>
<tr>
<td>4</td>
<td>Medication that excrete more urine</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>5</td>
<td>Nap</td>
<td>20</td>
<td>69</td>
</tr>
<tr>
<td>6</td>
<td>Anxious easily</td>
<td>27</td>
<td>93</td>
</tr>
<tr>
<td>7</td>
<td>Consume spicy foods</td>
<td>26</td>
<td>90</td>
</tr>
<tr>
<td>8</td>
<td>Urinate before you go to bed</td>
<td>29</td>
<td>100</td>
</tr>
</tbody>
</table>

The highest presented Precipitating factors were Urinate before go to bed (100%), anxious easily (93%), Consuming spicy foods (90%), Nap (69%) the least presented Precipitating factor was Alcoholism (7%).

Section VII: Associated factors of Nocturia among adults

Table 4: Frequency and Percentage of Associated factors of Nocturia  

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Items</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Do you have insomnia?</td>
<td>29</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>Do you have periodic leg movement at night?</td>
<td>8</td>
<td>28</td>
</tr>
<tr>
<td>3</td>
<td>Do you walk during sleep?</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>4</td>
<td>Do you have a frightening or unpleasant dream during sleep</td>
<td>16</td>
<td>55</td>
</tr>
<tr>
<td>5</td>
<td>Do you repeatedly stop and start breathing during sleep</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>Is it reported to you that you snore?</td>
<td>12</td>
<td>41</td>
</tr>
</tbody>
</table>
The subjects 100% of them had insomnia, 28% had periodic leg movement, 7% had a habit of walk during sleep, 55% had a frightening or unpleasant dream during sleep, 10% had repeatedly stop and start breathing during sleep and 41% had snoring during sleep.

Section VIII: Table 5: Association between the Co-morbidity of Nocturia and selected Demographic Variables.

H₀₁: There is no significant association between the Co-morbidity of Nocturia and selected Demographic Variables. n=29

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Variable</th>
<th>Co-morbidity</th>
<th>c²(Yates correction)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Median&lt;2</td>
<td>Median&gt;2</td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Age</td>
<td>35-45</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>46-55</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>56-65</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>2.</td>
<td>Education</td>
<td>Illiterate</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Primary</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High school</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3.</td>
<td>Marital status</td>
<td>Single</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Married</td>
<td>11</td>
<td>17</td>
</tr>
<tr>
<td>4.</td>
<td>Number of children</td>
<td>Nil</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-3</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4-6</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>5.</td>
<td>Gender</td>
<td>Male</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>6.</td>
<td>Occupation</td>
<td>Unemployed</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unskilled</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Skilled</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Professional</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>7.</td>
<td>Diet</td>
<td>Vegetarian</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ovo-Vegetarian</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mixed</td>
<td>10</td>
<td>16</td>
</tr>
<tr>
<td>8.</td>
<td>Income</td>
<td>≤3000</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>6001-9000</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;9000</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>9.</td>
<td>BMI</td>
<td>Under Weight</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Normal</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Over weight</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pre-obesity</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>10</td>
<td>Type of attainment of menopause</td>
<td>Yes</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>11</td>
<td>Type of delivery</td>
<td>Vaginal delivery</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Caesarean section</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Foot note: $c²(1) = 3.84, c²(2) = 5.99, c²(3) = 7.81, c²(4) = 9.48$ *significant at 0.05 level
The Data in Table 5 reveals that the chi-square value(Yates correction) computed between Co-morbidity and selected variables, namely, Age (c²(2)= 6.276), education (c²(2)= 2.552), Marital status (c²(1)= 25.138), and Number of children (c²(2)= 8.759), Gender (c²(1)= 0.862), Occupation (c²(4)= 19.966), Diet (c²(2)= 41.448), Income(c²(3)= 5.345), BMI(c²(3)= 25.586), Type of attainment of menopause (c²(1)= 11.655), Type of delivery (c²(1)= 11.655) had significant association at 0.05 level except education, gender and income. Therefore, the null hypothesis was rejected (H₀) and research hypothesis was accepted.

DISCUSSION

The current study 54 subjects were screened for nocturia and out of that 29 (54%) had reported to be having nocturia. The result shows that among the subjects with nocturia 35% of subjects were with hypertension, 21% of subjects had Diabetes Mellitus, 35% of subjects had disease related to prostate gland, 25% of subjects had uterus related diseases, 100% of the subjects had insomnia, study 93% of subjects get anxious easily and 41% subjects were reported snoring.

Co-morbidities of Nocturia related to hypertension and Diabetes Mellitus

The study findings indicate among Asian and European continent also has revealed nocturia as a major complaints among Diabetes Mellitus and hypertension. The study findings revealed the prevalence of nocturia among hypertensive clients were ranged from 25.5 to 54.9%3,4,5,6,7; Diabetes Mellitus was between 18.3% and 60.7%3,4,5,6,7.

The Co-morbidities of Nocturia related to diseases of prostate gland and uterus

The current study findings are congruent with Asian and European continent studies also has shown the prevalence of nocturia among clients with BPH were ranged from 42.8% to 85.9%8,9,10,11. The present study reveals that 35% of subjects had disease related to prostate gland. The present study result shows that 25% of subjects had uterus related diseases. The findings were supported by the study conducted to determine the Bladder Symptoms in the Early Menopausal transition shows that the most common bladder symptoms were nocturia (72%).12 Another study conducted in California revealed, the Nocturia occurred more among women with hysterectomy was 53%.13

The Co-morbidities of Nocturia related to insomnia, snoring and anxiety

In present study associated factors shows 100% of the subjects had insomnia and these findings were consisted with the study conducted to determine the effect of nocturia on sleep quality reveals that there was a significant correlation between nocturia and quality of sleep14. In this study 93% of subjects get anxious easily. The findings supported by the systematic review conducted reveals that nocturia and anxiety is strongly associated.15 In present study 41% subjects were reported snoring. The findings were supported by the study conducted to evaluate the factors associated with Nocturia shows that 35.1% had reported snoring16.

CONCLUSION

In this study the nocturia has been significantly associated with various factors, suggesting that multiple approaches are necessary in the treatment of patients with nocturia. The choice of therapy should be adapted based on the underlying factors of nocturia. Therefore the further detailed studies are required to identify the co morbidities in detail, thus can help the healthcare professionals to provide awareness and appropriate health care to manage such problems.

Limitation of the study: The current study was limited to a small sample size which limits the generalization of the study findings.

Source of Funding:-Self

Conflict of Interest:-Nil

Ethical Clearance - Ethical clearance was obtained from the institutional ethical committee

REFERENCES


Effectiveness of the Comprehensive Intervention Package on the Psychological Variables among Adolescents

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¹Vice Principal, MES College of Nursing, Perinthalmanna, ²Guide, Saveetha University, Chennai, ³Director (Research Department) Saveetha University, Chennai, ⁴Clinical Psychologist, MES Medical College Hospital, Perinthalmanna

ABSTRACT

The study aimed to assess the effectiveness of the comprehensive intervention package on psychological variables of adolescents. The research approach adopted for the study was quantitative evaluative approach and the research design was true experimental design. The adolescents 76 in the control and 76 in the experimental group were selected randomly and included in the study. A significant change was identified in the experimental group between the pre-test and post-test scores of psychological variables (p < 0.001) when compared to the control group. Assertiveness and self-esteem, peer relationship and self-esteem, self-esteem and coping showed a significant correlation (p < 0.001). A significant negative correlation was observed between stress and self-esteem (r = -0.417; p < 0.001). Stress and coping showed a significant correlation at P < 0.05. Thus education and training using comprehensive intervention package was very effective in improving assertiveness, reducing stress, enhancing coping, peer relationship and self-esteem of the adolescents.

Keywords: Adolescence, Assertiveness, Stress, Coping, peer relationship and Self-esteem.

INTRODUCTION

Major challenging issues for the adolescents’ in a rapidly changing Indian society are stress in academics, bullying, violence, easy availability of alcohol and drugs, substance abuse, overcrowding, poor infrastructure and social disparities. Interpersonal stress, particularly stress and conflicts in relationship with the parents and peers are experienced at high levels by the adolescents. Though boys report more stress and conflicts in peer relationships than girls, stress in female adolescents is strongly associated with emotional difficulties, anxiety and depression than that of the boys.

The basic and essential skills and abilities for adaptive and positive behaviour that enables an adolescent to deal effectively with the demands of everyday life are effective communication, assertiveness, social and interpersonal relationships, coping with stress, trauma or loss and maintaining resilience, critical thinking, problem solving, decision making and self awareness.

As adolescents spend much of their time in school and also in order to enhance the productive utilization of their potentials, school based education on basic skills for a healthy life need to be imparted and followed on a regular basis to help them meet the demands and challenges of life in a healthy manner.

Aim

The study aims to assess the effectiveness of the comprehensive intervention package on psychological variables among adolescents to promote physically and psychologically healthy life.

Objectives

To study the effectiveness of the comprehensive intervention package on the psychological variables among adolescents of control and experimental group.
To identify the correlation between the psychological variables.

Hypothesis

H1: The comprehensive intervention package will have a significant effect on psychological variables among adolescents of the experimental group compared to the control group.

MATERIALS & METHOD

Research approach: Quantitative evaluative approach.

Research design: True experimental design with pre-test and post test and a control group.

Setting: A selected English Medium School, Perinthalmanna, Kerala.

Inclusion and Exclusion criteria: Adolescents between the ages of 13-15 years, pursuing studies in the selected school were included in the study. Adolescents who were having any physical disabilities or who were on any psychological treatment, not willing to participate in the study and absent at the time of data collection were excluded.

Sample and sample size: 152 adolescents (76 + 76) between the ages of 13-15 years studying in 8th and 9th standard in the respective school were taken as samples for control and experimental group by randomisation. They were included after obtaining informed consent from parents and assent from the adolescents.

Variables under study: Comprehensive intervention package was the independent variable. The psychological variables such as assertiveness, stress, coping, peer relationship, and self-esteem of the adolescents were the dependent variables.

Tool for data collection: Section A included questionnaire to assess the demographic variables. And section B consisted of items to assess the psychological variables such as assertiveness, stress, coping, peer relationship and self-esteem.

Educational intervention

Training using comprehensive intervention package was carried out in sessions of one hour in a week for the experimental group. In the first week the session included establishment of rapport, pre-testing, introduction of objectives of the comprehensive intervention package and the various concepts included in the package, group formation, mapping the sessions and activities planned. From 2nd week to 7th week education and training using comprehensive intervention package was carried out in sessions as one hour in a week for six consecutive weeks. On the eighth week offered activities to end the training programme with a post-test.

Data collection process

Step 1: Before starting the study, permission for conducting the study was obtained from the principal of the selected school, Perinthalmanna. Collected informed consent from the parents and assent from the adolescents chosen for the study.

Step 2: The 76 participants of the experimental group were divided into groups for the training sessions. Confidentiality of information was assured and the pre-test was conducted through self report. Instructions were provided and clarifications of the doubts were also done. It was followed by implementation of the first session of the training for the experimental group. Similarly the participants of the control group were seated comfortably in a room. After assuring the confidentiality of information pre-test was conducted. The participants were informed regarding the date and time of the post-test.

Step 3: Education and training using comprehensive intervention package as one session per week per group for 1 hour was carried out for the experimental group, so that the participants got enough time to practice the behaviors being taught in the sessions. After each session the date, time and venue of the next session was informed to the participants.

Step 4: Post-test was conducted on the 8th week for both the groups after seating them comfortably in a room. As per institutional ethics committee recommendation, control group and remaining students in the class who were not included in the study were given training after the post-test.

Description of adolescents, according to their demographic characteristics
Table 1. Description of adolescents, according to their demographic characteristics.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Demographic characteristics</th>
<th>Categories</th>
<th>Control group</th>
<th>Experimental group</th>
<th>χ²-value, df, p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>n(76)</td>
<td>%</td>
<td>n (76)</td>
</tr>
<tr>
<td>1.</td>
<td>Age in years</td>
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<td>25</td>
<td>33</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14</td>
<td>40</td>
<td>53</td>
<td>46</td>
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<td></td>
<td></td>
<td>15</td>
<td>11</td>
<td>14</td>
<td>9</td>
</tr>
<tr>
<td>2.</td>
<td>Class studying</td>
<td>8th Standard</td>
<td>34</td>
<td>45</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9th Standard</td>
<td>42</td>
<td>55</td>
<td>44</td>
</tr>
<tr>
<td>3.</td>
<td>Gender</td>
<td>Male</td>
<td>40</td>
<td>53</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>36</td>
<td>47</td>
<td>39</td>
</tr>
<tr>
<td>4.</td>
<td>Religion</td>
<td>Hindu</td>
<td>34</td>
<td>45</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Christian</td>
<td>20</td>
<td>26</td>
<td>24</td>
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<td>Muslim</td>
<td>22</td>
<td>29</td>
<td>21</td>
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<tr>
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<td>Father’s education</td>
<td>Middle school</td>
<td>3</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High school</td>
<td>29</td>
<td>38</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Intermediate/post high diploma</td>
<td>14</td>
<td>18</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Graduate/post graduate</td>
<td>21</td>
<td>28</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td></td>
<td>professional</td>
<td>9</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>6.</td>
<td>Mother’s education</td>
<td>Middle school</td>
<td>2</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High school</td>
<td>30</td>
<td>39</td>
<td>22</td>
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<tr>
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<td>Intermediate/post high diploma</td>
<td>13</td>
<td>17</td>
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<td>Graduate/post graduate</td>
<td>22</td>
<td>29</td>
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<td>12</td>
<td>7</td>
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<tr>
<td>7.</td>
<td>Father’s occupation</td>
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<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Skilled worker</td>
<td>20</td>
<td>26</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clerical/shop owner/farmer</td>
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<td>26</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Semi professional</td>
<td>22</td>
<td>29</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td></td>
<td>professional</td>
<td>14</td>
<td>18</td>
<td>14</td>
</tr>
<tr>
<td>8.</td>
<td>Mother’s occupation</td>
<td>Unemployed</td>
<td>39</td>
<td>51</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Semi-skilled worker</td>
<td>4</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
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<td></td>
<td>Skilled worker</td>
<td>9</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clerical/shopkeeper/farmer</td>
<td>5</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Semi professional</td>
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</tr>
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<td>16020-32049</td>
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<td>33</td>
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<td>&gt;32050</td>
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<td>60</td>
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<tr>
<td></td>
<td></td>
<td>Joint family</td>
<td>27</td>
<td>36</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>extended</td>
<td>3</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>
Table 1 revealed that with regard to the adolescents’ age most of them, 53% in the control group and 61% in the experimental group were 14 years old ($\chi^2 = 0.966$ not significant). The mean age of the adolescents of both control and experimental group was 13.8 years. 55% of the adolescents in the control group, and 58% in the experimental group were studying 9th standard ($\chi^2 = 0.107$ not significant). With relation to the gender, majority of the adolescents’ 53% in the control group were males and 51% in the experimental group were females ($\chi^2 = 0.237$ not significant). Most of the adolescents’ were Hindus, as 45% in the control group and 41% in the experimental group ($\chi^2 = 0.525$ not significant). In relation to the father’s education, it was identified that the majority, in the control group 38% had high school education whereas, 42% in the experimental group were graduate/post graduate ($\chi^2 = 4.195$ not significant). Most of the mothers’ of adolescents had high school education ie 39% in the control group and 47% in the experimental group were graduate/post graduate. ($\chi^2 = 7.027$ not significant).

With regard to the fathers’ occupation majority 29% in the control group and 37% in the experimental group were semi-professionals ($\chi^2 = 7.102$ not significant). Majority of the adolescent’s mother’s 51% in the control group and 61% in the experimental group were unemployed ($\chi^2 = 11.754$ not significant). Family income of most of the adolescents, 33% in the control group and 36% in the experimental group were within the range of 16020 to 32050 rupees ($\chi^2 = 1.854$ not significant). 61% in the control group and 65% in the experimental group belonged to the nuclear family type ($\chi^2 = 0.271$ not significant). Majority 58% in the control group and 62% in the experimental group were residing in the semi urban area ($\chi^2 = 0.264$ not significant).

**Effectiveness of comprehensive intervention package on psychological variables**

Table 2: Assertiveness, stress and coping of control and experimental group in the pre-test and post-test

<table>
<thead>
<tr>
<th>S.No</th>
<th>Parameter</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>±SE</td>
<td>Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Con-Pre-test</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Assertiveness</td>
<td>54.60</td>
<td>±0.9</td>
<td>t=0.763 p=0.447</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Con-Post-test</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>54.60</td>
<td>±0.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Exp-Pre-test</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>55.50</td>
<td>±0.9</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Exp-Post-test</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>64.0</td>
<td>±0.8</td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>2.</td>
<td>Stress</td>
<td>26.0</td>
<td>±0.60</td>
<td>t=10.551 p&lt;0.001</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>25.91</td>
<td>±0.55</td>
<td>t=0.605 p=0.546</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Exp-Pre-test</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>26.50</td>
<td>±0.60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Exp-Post-test</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>18.07</td>
<td>±0.50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Comparison of mean scores of assertiveness, stress and coping before and after the intervention was represented in Table 2. The assertiveness means score was 54.60 in the pre-test as compared to 54.60 in the post-test for the control group and the difference in the mean score was not statistically significant. The corresponding mean scores for the experimental group were 55.50 and 64.0 and were statistically significant (paired t = 19.098; p < 0.001). No statistically significant difference was found in the pre-test mean scores between the control and experimental group. But the post-test mean scores showed a significant difference between the groups (unpaired ‘t’ = 5.386; p < 0.001).

The mean pre-test and post-test scores of stress in the control group were 26.0 and 25.9 respectively, and were not statistically significant. In the experimental group the mean stress pre-test and post-test scores were 26.50 and 18.09 and the difference was statistically significant (paired t = 27.028; p < 0.001). The difference in the pre-test between the control and experimental group showed no significant difference, but the post-test showed a significant difference (unpaired t = 10.551; p < 0.001).

In the control group the mean pre-test coping scores was 12.68 and 12.88 in the post-test. It was not statistically significant. It was statistically significant in the experimental group with the mean scores of 11.65 and 21.26 respectively (p < 0.001). There was no statistically significant difference in the pre-test scores between the control and experimental group, but there was a significant difference in the post-test. This indicated the effectiveness of the intervention package on assertiveness, stress and coping.

Table 3: Peer relationship and self-esteem of control and experimental group in the pre-test and post-test

<table>
<thead>
<tr>
<th>S.No</th>
<th>Parameter</th>
<th>Group</th>
<th>Mean ±SE</th>
<th>( t )</th>
<th>( p )</th>
<th>( t )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Con-Pre-test</td>
<td>2.67 ±0.20</td>
<td>0.539</td>
<td>0.591</td>
<td>4.563</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Con-Post-test</td>
<td>2.25 ±0.15</td>
<td></td>
<td></td>
<td>5.63</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exp-Pre-test</td>
<td>2.53 ±0.18</td>
<td></td>
<td></td>
<td>5.63</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exp- Post-test</td>
<td>1.17 ±0.08</td>
<td></td>
<td></td>
<td>5.63</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Table 2: Assertiveness, stress and coping of control and experimental group in the pre-test and post-test

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Group</th>
<th>mean ±SE</th>
<th>( t )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Con-Pre-test</td>
<td>12.68 ±0.38</td>
<td>1.884</td>
<td>0.067</td>
<td></td>
</tr>
<tr>
<td>Con-Post-test</td>
<td>12.88 ±0.36</td>
<td>14.105</td>
<td>&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>Exp-Pre-test</td>
<td>11.65 ±0.41</td>
<td>1.434</td>
<td>0.156</td>
<td></td>
</tr>
<tr>
<td>Exp- Post-test</td>
<td>21.26 ±0.48</td>
<td>31.970</td>
<td>&lt;0.001</td>
<td></td>
</tr>
</tbody>
</table>

Table 3: Peer relationship and self-esteem of control and experimental group in the pre-test and post-test

<table>
<thead>
<tr>
<th>S.No</th>
<th>Parameter</th>
<th>Group</th>
<th>Mean ±SE</th>
<th>( t )</th>
<th>( p )</th>
<th>( t )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Con-Pre-test</td>
<td>2.67 ±0.20</td>
<td>0.539</td>
<td>0.591</td>
<td>4.563</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Con-Post-test</td>
<td>2.25 ±0.15</td>
<td></td>
<td></td>
<td>5.63</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exp-Pre-test</td>
<td>2.53 ±0.18</td>
<td></td>
<td></td>
<td>5.63</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exp- Post-test</td>
<td>1.17 ±0.08</td>
<td></td>
<td></td>
<td>5.63</td>
<td>0.001</td>
</tr>
</tbody>
</table>
Table 3 reveals the mean scores of peer relationship of the control group in the pre-test and post-test were 2.67 and 2.25, in the experimental group it was 2.53 and 1.17 and were statistically significant at p < 0.001. There was no significant difference between the experimental and control group in the pre-test. But it was statistically significant at p < 0.001 in the post-test.

The mean scores for self-esteem in the control group, in the pre-test were 18.51 as compared to 18.61 in the post-test and the difference was not statistically significant. The corresponding mean scores for the experimental group were 18.00 and 23.22 respectively in the pre-test and post-test. The difference was statistically significant (p < 0.001). The difference in the pre-test between the control and experimental group was not statistically significant. The mean difference in the post-test showed statistically significant difference at p < 0.001. This showed that the application of comprehensive intervention package had a significant effect on peer relationship and self-esteem.

Correlation between psychological variables in the pre-test of control and experimental group

A significant correlation between the assertiveness and self-esteem in the pre-test (r = 0.273) and post-test (r = 0.274) of control group was revealed. The pre-test of the experimental group showed a significant correlation between the same (p < 0.05). The overall data showed a significant correlation between the two variables (p < 0.001).

A negative correlation between the stress and self-esteem in the pre-test (p < 0.001), and post-test (p < 0.05) of the experimental group. The overall correlation also showed a significant negative correlation between the stress and self-esteem (r = -0.417; p < 0.001).

A significant correlation was observed between the peer relationship and self-esteem in the pre-test (p < 0.05) and post-test (p < 0.05) of the experimental group. Overall data also showed a significant correlation between the peer relationship and self-esteem (p < 0.001).

Combining all data of control and experimental group revealed a significant correlation between the coping and self-esteem (p < 0.001). A correlation between stress and coping is observed in the pre-test scores of experimental group (p < 0.05). The results revealed no correlation between other psychological variables of control and experimental group.

DISCUSSION

Psycho social Skills based education for adolescents combining knowledge, values, attitudes and skills with particular emphasis on core life skills improve the qualities such as self-esteem, sociability, peer relationship and tolerance, competencies to manage stressful situations, to take action and generate changes, and capabilities to have the freedom to decide what to do and what not to do. A package with a wide range of Interventions focussing on the basic core life skills for adolescents provided in a naturalistic setting such as school is more beneficial as a health promotion strategy. Short course training programmes involving a series of sessions are more advantageous. The results of a training programme conducted as 8 sessions on life skills for the experimental group showed a significant positive increase in the self-esteem and communication skills than the students of control group not involved in the training programme.

In the present study Paired ‘t’ test showed a significant difference at p<0.001 for all the psychological parameters between the pre-test and post-test in the
experimental group with no significant difference between the pre-test and post-test for the control group. Thus the results revealed that the education and training using comprehensive intervention package had a significant impact on the psychological variables.

CONCLUSION

The comprehensive intervention package was found to be effective in enhancing assertive behaviour, reducing stress, promoting adoption of healthy coping strategies, and maintaining self-esteem and peer relationship.

Conflict of Interest: None

Source of Funding: None

Ethical Clearance: Obtained from Institutional Human Ethical Committee.

REFERENCES


Perception of Educational Environment among BSc Nursing Students

Sheela Shenai N A1, Ann Mary George2, Anp M Mariyam2, Anu P Abraham2, Ardra Balakrishnan2, Ariya Scaria2

1Professor cum Principal, 2Third year BSc Nursing Students, Malankara Orthodox College of Nursing, Kolenchery, Ernakulam, Kerala

ABSTRACT

An observational and analytical study was carried out to assess the perception of educational environment among B.Sc. nursing students at a selected college of nursing, in Ernakulam district. Objectives of the study were, to assess the perception of educational environment among B.Sc. nursing students, to compare the perception of educational environment among first, second, third and fourth year B.Sc. nursing students, to find out the relationship between the measure of educational environment and academic score among B.Sc. nursing students and to identify the weaker and stronger areas of educational environment. Data were collected from 248 undergraduate nursing students of the college by using total enumerative sampling. Dundee Ready Educational Environment Measure (DREEM) inventory was used to get the responses from the students. The total mean score on the 50 item DREEM inventory was 121.48 out of maximum of 200 which showed a more positive perception than negative. No significant difference was seen in the perception score among first, second, third and fourth year B.Sc. nursing students. There was no significant correlation between perception score of educational environment and academic score. Students’ perception of learning and their teachers, their academic self perception, social self perception and the perception of atmosphere were all positive. There were four areas identified as problematic requiring remediation. Implication of the study is to design and maintain a supportive environment in addition to planning strategies to remedy problematic elements in the educational environment.

Keywords- perception, educational environment, academic score, DREEM inventory.

INTRODUCTION

Educational environment is vital in determining the success or failure of any institute1. From the day students enter into the institute they face a change in environment. A positive environment leads to achievements, fun and engagement in learning while a negative one would hinder their accomplishments. Student perception of education environment influenced the different cultural background of students, educational facilities available to them, quality of the faculty, curriculum, and students’ expectation apart from other circumstances of the university2. This highlights the importance of assessing students’ perception of their educational environment with a view to improve education and student learning. There is documented association between educational environment and the students’ performance and their satisfaction2.

Need and significance

Learning is influenced by the way in which the students go about learning and studying as well as conduciveness of the learning environment3. A good learning environment is vital for the delivery of quality training4. Curriculum is considered to be the most holistic, inclusive and comprehensive entity and notion in education5. Curriculums’ most significant manifestation and conceptualization is the environment (educational
and organizational) which embraces everything that is happening in the medical college\(^2\).

Nursing as a profession is currently compelled to address the challenges posed by globalization, and to respond by forming international alliances that will facilitate knowledge sharing in order to improve human health\(^6\),\(^7\). In nursing education nurse educators have paid particular attention to students’ perception of the learning environment\(^8\).

To develop global nursing education standards as a strategy for strengthening nursing and midwifery in order to achieve the Millennium Development goals (MDGs) for health, there is a need to move beyond a focus on local and national health care problems to ensure that all nurses are prepared to address local, national and global health needs. So a planned, structured learning environment will be able to prepare the nursing workforces who are ready to provide care to diverse population in multiple settings in any part of the world.

**Statement of the problem**

A study to assess the perception of educational environment among B.Sc nursing students in a selected college of nursing in Ernakulam district.

**Objectives**

1) To assess the perception of educational environment among B.Sc nursing students.

2) To compare the perception of educational environment among first, second, third and fourth year B.Sc nursing students.

3) To find out the relationship between the perception score and academic score among B.Sc nursing students.

4) To identify the weaker and stronger areas of educational environment.

**Assumptions**

- Students are the best evaluators of the educational environment.

- Evaluation of the educational environment helps to improve the quality of teaching-learning process.

**Hypothesis**

- \(H_1\): There is significant difference in perception among students of first year, second year, third year and fourth year B.Sc nursing students.

- \(H_2\): There is a significant relationship between perception of educational environment by students and their academic performance.

**Conceptual frame work**

The conceptual framework adopted for the study was based on Moos theoretical frame work—Conceptualizations of human environment. According to Moos, each human environment—irrespective of the type of setting (e.g. psychiatric ward, correctional institution, military training, classroom, therapeutic group, work environment or family setting)—can be described by common sets of dimensions.\(^9\) Moos conceptualized these sets of dimensions in three broad domains:

1. Personal development or goal direction dimensions,

2. Relationship dimensions,

3. System maintenance and system change dimensions,

Given that Moos’ theoretical framework has been validated in different contexts, including education, investigators chose to test the applicability of this framework for the nursing educational environment.

**Reviews related to the perception of educational environment**

A descriptive study was done to assess the nursing students’ perception of their educational environment based on DREEM model in an Iran university.. The Dundee Ready Education Environment Measure (DREEM) was used to collect data along with the students demographic characteristics. The overall mean DREEM score for their nursing students was found to be 114.3/200, which indicated a more positive than negative educational environment\(^10\).

A quantitative cross-sectional survey design was done among 107 nursing students to assess learning environment in Kulliyyah (Faculty) of Nursing, International Islamic University Malaysia using
DREEM questionnaire. The overall DREEM score is 120.12 out of a maximum 200, from four groups of nursing. The Year One group had the highest score with a mean of 132.06. The year two, three and four group students overall mean DREEM score were in the range of 105.83 to 112.20. The finding noted reduced scores in the senior years. The students perceptions in Year One could have been high initially, and dissatisfaction may have crept in as the novelty of joining a nursing student body wore off.

A cross sectional study was conducted to assess students perceptions of educational climate in a new dental college using the DREEM tool. The most highly rated items were that teachers were knowledgeable, students were encouraged to participate class, and they have good friends in the course. The problematic area highlighted were emphasise on factual learning, students irritate their teachers and cheating is rampant in this course.

Methods and Procedures

A cross sectional study was undertaken to assess the perception of educational environment using quantitative approach. Convenience sampling was used to select the sample and total enumerative sampling technique was used to select the study subjects. The sample size of the study was 248.

A modified version of Dundee Ready Educational Environment measure (DREEM) developed by Rott and her colleagues was used to measure the educational environment of the present study. The DREEM questionnaire consist of 50 statements. For each statement, a Likert scale is used where 4 = strongly agree, 3 = agree, 2 = uncertain, 1 = disagree, 0 = strongly disagree. The overall possible maximum score on the DREEM was 200 and the minimum possible score was 0.

Accordingly 0-50, 51-100, 101-150 and 151-200 were considered very poor, many problems, more positive than negative and excellent, respectively. Items with a mean score of 3.5 or more are true positive points. Items with a mean of 2.0 or less should be examined more closely, as they indicate problem areas. Items with a mean between 2.0 and 3.0 are aspects of the educational environment that could be enhanced or improved.

In the present study, for the item numbers 11,12,19,23,41,42 the mean score of 2.0 or less indicates positive; score between 2.0 and 3.0 indicates the aspects of educational environment that could be enhanced or improved; the mean score of 3.5 or greater indicates problematic area which should be examined very closely. Academic performance/academic score was calculated from the percentage of total marks secured by the student for the previous university examination or in sessional examinations.

RESULTS

When the perception score was categorized into excellent, more positive than negative, plenty of problems and very poor, 2% of the students reported excellent perception, 91% of the students reported more positive perception and only 7% reported plenty of problems. There were no students in the category of who reported the learning environment as very poor (figure 1).

Figure 1- Pie diagram showing distribution of students as per the perception score
Table 1. Frequency, mean and standard deviation and of percentage perception score of students in each domain

<table>
<thead>
<tr>
<th>Domain</th>
<th>Number of items</th>
<th>Maximum score</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Percentage score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student’s perception of teaching/learning (D1)</td>
<td>12</td>
<td>48</td>
<td>28.08</td>
<td>4.87</td>
<td>58.5</td>
</tr>
<tr>
<td>Student’s perception of teachers (D2)</td>
<td>11</td>
<td>44</td>
<td>27.93</td>
<td>4.96</td>
<td>63.47</td>
</tr>
<tr>
<td>Student’s academic self perception (D3)</td>
<td>8</td>
<td>32</td>
<td>20.69</td>
<td>4.20</td>
<td>64.65</td>
</tr>
<tr>
<td>Student’s perception of atmosphere (D4)</td>
<td>12</td>
<td>48</td>
<td>27.91</td>
<td>5.12</td>
<td>58.14</td>
</tr>
<tr>
<td>Student’s social self perception (D5)</td>
<td>7</td>
<td>28</td>
<td>17.51</td>
<td>2.99</td>
<td>62.53</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>50</strong></td>
<td><strong>200</strong></td>
<td><strong>121.48</strong></td>
<td><strong>14.73</strong></td>
<td><strong>60.74</strong></td>
</tr>
</tbody>
</table>

The above table shows the DREEM domain, total maximum score, mean score, standard deviation and percentage score of all respondents. The student’s perception of learning was 28.08/48 (58.5 %) that is more positive perception, student’s perception of teachers was 27.93/44 (63.47 %) moving in right direction, student’s academic self perception was 20.69/32 (64.65 %) that is feeling more on positive side. The total mean score was 121.48 with SD 14.73 where the educational environment can be interpreted as more positive than negative.

Table 2: One way ANOVA table showing frequency, mean, standard deviation, F value, P value of perception score among 1st year, 2nd year, 3rd year and 4th year BSc Nursing students.

<table>
<thead>
<tr>
<th>Class</th>
<th>n</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>F value</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>70</td>
<td>122.44</td>
<td>16.254</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>60</td>
<td>119.10</td>
<td>13.927</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>58</td>
<td>121.83</td>
<td>11.109</td>
<td>0.711</td>
<td>0.55</td>
</tr>
<tr>
<td>4</td>
<td>60</td>
<td>122.42</td>
<td>16.685</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>248</strong></td>
<td><strong>121.48</strong></td>
<td><strong>14.730</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Results show that there is no statistical significant difference in the score among these groups (p = 0.55). So H₁ was rejected.

To find out the relationship between the measure of educational environment and academic score among nursing students, Pearson’s product moment correlation coefficient was estimated as data follows normality. It is observed that there is a weak positive correlation (r = 0.11) between these two variables (Table 3, Figure 2), which is found to be statistically not significant (p = 0.07). Hence H₂ was rejected.
The fourth objective of the study was to identify the weaker and stronger areas of the educational environment. Based on the mean scores obtained on each item the interpretations were made as positive, to be examined very closely/to be improved and problematic. Thus the positive areas are identified as strengths and problematic areas as weaknesses of the institution.

The strengths of the institution identified were

1. The teaching is not teacher-centered
2. The teaching does not over-emphasizes factual learning.
3. The teachers do not ridicule the students.
4. The students do not irritate the teachers.
5. Students do not find the experience disappointing.
6. Cheating is not a problem in this school.

And all other forty areas need to be enhanced

The weaknesses identified were

1. Long term learning is emphasized over short term.
2. Students are not able to memorize all they need.
3. Students seldom feel lonely.
4. Students are rarely bored on this course.

DISCUSSION

The present study had a mean perception score of 121.48 which was comparable to the results of other studies from medical colleges and nursing institution as reported in the literatures 10, 11. Based on the interpretation suggested the educational environment of this institute is perceived as more positive than negative by the students.

There was no significant difference in mean score among 1st, 2nd, 3rd and 4th Year B.Sc Nursing students because all the students are sharing one common educational environment.

The study also showed no correlation between perceptive score and academic score of the students. The reason may be that the study was done in one setting. If multiple settings were taken for the study, there might have been a correlation between perception score and academic performance since the literature says that the educational environments affect the students’ performance and satisfaction 12.

The students reported six true positive areas and 4 problematic areas. The problematic areas need immediate remediation. The study was an eye opener to the teaching faculty and administrators of the institution.

CONCLUSION

As learning environment affects student motivation and achievement, it is important to get feedback from the students on how they are experiencing their learning environment. Some grey areas were identified that require remedial measures to ensure and to maintain high quality learning environment for the students.

Implication and Recommendations of the study

Based on the results of the present study there is scope for improvement regarding student boredom. Teaching should be conducted in a more creative
manner so that student will not get bored in the class. Teachers should be more approachable and flexible. Critical thinking should be encouraged in the class room. Teachers should correlate the facts in the books with real case scenario and should give students ample opportunities to apply their knowledge in the clinical setting. Teachers should help students in the goal setting during the course. Overall nursing institution should be proactive in providing adequate resources to support students mentally and academically throughout the course.

Conflict of Interest - None

Funding - Self

Ethical Clearance - Approval from the Chief Executive Officer of Malankara Orthodox Medical Mission was obtained for the conduct of the study. Approval from the scientific committee of College of Nursing was also obtained. Informed consent was obtained from the nursing students by explaining the purpose of the study. Subjects were selected using total enumerative sampling technique. Confidentiality of the information was assured to the study subjects.

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Application of the R2D2 Model for Active Learning Strategy in Graduate Midwifery Course

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¹Associate Professor, ²Professor, ³Assistant Professor, Faculty of Nursing, Prince of Songkla University, Hat Yai, Songkla, Thailand

ABSTRACT

Background: Active learning strategy is considered an effective method to improve learning outcomes. The R2D2 model is proposed as a framework to promote student engagement in learning process.

Purpose: This study aimed to examine the application of read, reflect, display and do model (R2D2) to promote active learning in advanced Midwifery on course pathophysiology and pharmacology.

Methodology: A descriptive qualitative research was employed. The study setting was the graduate program of Faculty of Nursing, Prince of Songkla University, Thailand. Six graduate nursing students were approached and recruited as informants. Four steps of teaching and learning activities were implemented: 1) select course contents were assigned as online reading assignment, 2) reflective writing based on the reading assignment, 3) concept mapping to summarize essential ideas, and 4) in-class and online presentation of learned activities. Learning outcomes and students’ responses were evaluated. Data were collected using in-depth interviews. Content analysis was conducted to analyze qualitative data.

Results: Achievement of desired learning outcomes was the results of application of the R2D2 model. Four themes emerged: 1) intending to read, 2) reflecting challenge, 3) displaying creatively, and 4) doing it interestingly.

Conclusion: Findings showed that the students achieved good learning experiences and were satisfied with these learning activities. This teaching model can be used to encourage constructive knowledge among graduate students.

Keywords: Educational innovation, active learning, learning outcome, R2D2 model

INTRODUCTION

Active learning approach enhances academic achievement among graduate students. It is useful to encourage higher order of thinking skill for the 21st century learning and teaching strategy. Research evidences support that participating in active learning activities by presenting and performing in class helps students sustain 70% to 90% of learned contents¹. There are a variety of active learning methods that include class discussion, small group discussion, think-pair-share, student dyad, short writing exercise, collaborative learning group, student debate, reaction to a video and others.

The read, reflect, display, and do (R2D2) model is used to design online active learning activities in order to encourage outcome-based education. The model is developed using constructivism framework. This teaching and learning model is composed of four steps: 1) reading assigned contents and listening to online
lectures, 2) reflecting learned activities and knowledge, 3) displaying demonstration of problem solving strategies, and 4) doing by presenting achieved learning outcomes. These teaching and learning strategies are considered essential activities to obtain a deeper understanding of learned contents.

Prior studies show that active learning methods integrated in nursing graduate education achieve better learning outcomes. Students’ participation in a collaborative learning group as part of end-of-life care class demonstrated desirable abilities in analyzing, evaluating, and creating competency. Problem-solving activities in class effectively engage student in active learning and promote transformation of theory to practice. Application of active learning strategies requires some other important aspects such as class management, class outlines, prepared learning contents, and assignment of students’ roles.

Previous studies also show the effectiveness of active learning application in health science and nursing education. However, most teachers in graduate Midwifery program prefer lecture over active learning method. Therefore, this study aimed at applying the R2D2 model in advanced pathophysiology and pharmacology course in order to promote active learning participation.

**RESEARCH METHODOLOGY**

Descriptive qualitative research was designed to examine students’ learning outcomes and satisfaction after implementing the R2D2 model in advanced pathophysiology and pharmacology course. Institutional Review Boards of Faculty of Nursing, Prince of Songkla University approved this study which was conducted in the first semester of 2017 academic year. Six Midwifery graduate nursing students were invited to participate in this study. Written-informed consent was obtained before the data-collecting interviews. Course orientation provided information about teaching and learning strategies based on the R2D2 model, which would be applied on eight topics about the pathogenesis and case studies. Six of these topics were assigned as individual assignments-1) diabetes and obesity, 2) anemia and thalassemia, 3) abortion and placenta previa, 4) preterm labor and post-term pregnancy, 5) hypovolemic shock, and 6) sexually transmitted disease. Two other topics assigned as group activities include hypertensive disorders and cardiac disease. Data were gathered using in-depth interviews and reflective writing. Content analysis was used to analyze qualitative data following four steps: 1) identify meaning units, 2) comparing with the original data, 3) categorization, and 4) drawing realistic conclusion.

**FINDINGS**

The informants were six graduate nursing students aged 25-29 years old enrolled in Midwifery program. Four students were Buddhists and two were Muslim. Four themes were identified: 1) intending to read, 2) reflecting challenge to, 3) displaying creatively, and 4) doing it interestingly.

**Intending to read**

The student reported that they had full intention to read the course outlines and assigned reading contents both on paper and online through learning management system (LMS). As a result, they could better understand pathogenesis of common reproductive diseases during class time. Example of papers and videos were used to clearly illustrate the development of cellular dysfunction and related system disorders. A participant’s confirming positive experience via statement below.

“I took responsibility to complete my reading assignments. I also did additional research in order to gain better understanding of the topic. In addition, I like to watch some YouTube videos. I intended do my best to learn.” [student 1-M]

**Reflecting challenge**

Reflecting on class activities and learned knowledge were perceived as challenging. The students were asked to give their responses and reactions verbally and in writing during class including at the end of semester. Comprehensive demonstrations of reflective ideas challenged the students’ abilities as indicated in the following statement.

“Sharing my opinions during class was not easy. It took critical thinking to analyze and evaluate what I have learned or can do. It was challenging for me to illustrate essential learning issues.” [student 4-N]

**Displaying creatively**

After reading and reflecting, the students were tasked to demonstrate their knowledge various formats, such as
creating scenarios, concept mapping, role playing, and producing reports. The contents were presented both in class and via online learning management system (LMS). Some of students’ responses are shown below.

“I like to map out my ideas. I was enthusiastic to write a summary of what I have learned. These understandings were helpful for the exams.” [student 1-M]  

Creating the learning outcomes was difficult process requires both sciences and arts.” [student 3-S]

**Doing it interestingly**

Finally, students were to conduct presentation in class and submit reports. They attempted to do it interestingly by showing examples of case study, role playing, and participating in a learning game. Through participation, the students were engaged in active learning activities and motivated continue learning the desirable contents. The students’ experiences are reported below.

“Out our group chose to role play during the presentation to make it fun and interesting. We developed some themes to present and selected interesting issues to demonstrate. Our classmate and teacher appreciated and enjoyed our work.” [student 5-H, student 6-T]

These findings resulted in achievement of desired learning outcomes and satisfaction with learning activities in class (Figure 1).

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**DISCUSSION**

Application of the R2D2 model helped design active learning activities in classroom. This study’s finding showed achievement of student satisfaction express by the student participants. One foundational learning outcome was shown through the students’ intention to read. Prior studies support that students taking responsibility to read the assigned topics and related contents would facilitate their overall comprehension understanding of such topics. However, required contents should also be well planned and organized. The students should be informed to read important papers before class so to allow active participation in a given class activity. For these reasons, reading preparation prior to attending class ensures active learning outcomes.

Second outcome is measured through reflective writing. The students were challenged to reflect what they had learned. The ability to reflect shows a positive learning experience while creates a new learning styles. Reflective writing also encourages critical thinking among students. This study showed that the students could display their knowledge creatively. Thirdly, displaying knowledge in class was considered effective method to help students sustain the learned knowledge. Learning in group was also effective to support the R2D2 application.

Lastly, the students could demonstrate learned knowledge interestingly by presenting in class and online via LMS. In class activities should be well-planned and organized in order to enhance and desires learning outcomes. However, the teaching team and
learning environment must also be well-prepared to facilitate the application of the R2D2 model and other related active learning activities. It can be used to support active learning strategy to promote engagement among graduate students learning processes. Course instructions and time management should be designed and scheduled before start of class.

Conflict of Interest: Nil

Source of Support: Faculty of Nursing, Prince of Songkla University, Hat Yai, Thailand

Ethical Approval: Ethical approval was taken from Ethical Review Committee of Faculty of Nursing, Prince of Songkla University, Hat Yai, Thailand.

REFERENCES


A Study on the Effectiveness of Structured Teaching Programme on the Knowledge of Water Birth

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ABSTRACT

Child birth is always challenging. It is not a small thing to bring a new soul into the world and not a small thing to suffer so that another may have life. Instead of more Natural birth has always allowed for a woman to keep her power and her strength for the birth. Water birth allows less pain and less suffering and nurtures one’s belief in oneself. So, this study aimed at assessing and giving knowledge on water birth among staff nurses. The Research Design selected for the study was Pre-experimental one group pre test and post test design. The study was conducted on 60 staff nurses in maternity wards of selected hospitals using convenience sampling technique. The Pilot study was conducted on 14 staff nurses. Reliability of tool was computed by using Karl Pearson formula. The reliability of the tool was 0.96. On the first day pre-test was taken by using structured knowledge questionnaire followed by structured teaching programme. After one week of structured teaching programme post test was taken. In pre-test majority of staff nurses 58 (97%) had poor knowledge, and 2 (3%) had average knowledge. But in the post test it was observed that most of staff nurses 35 (58.33%) had good knowledge, and 25 (41.66%) staff nurses had average knowledge. From this score it can be clearly concluded that staff nurses had inadequate knowledge regarding water birth before administration of structured teaching programme.

Keywords: Effectiveness, Structured teaching programme, Staff nurses, Water birth

BACKGROUND OF THE STUDY

People never sing… except in the bathroom. Birthing women also make their natural sounds next to running bath water. There is something about the power of water. People are drawn to water, spas, and sacred streams. Women in labor are drawn to water, too.¹

Michel Odent, MD

Water birth is often called as “Gentle birth”. During water birth mother gives birth under water in a birthing tub. She may also spend part of her labor in a tub. Special tub is larger and deeper than a regular bath tub and it allows mother to try a variety of positions during labor and delivery. Baby emerges into warm water before being brought out to take a first breath of air. 80 percent of pregnancies in the world are normal and these mothers can have underwater deliveries. The birth of your baby is one of the most important events of your entire life. It will have for reaching consequences that effects your most intimate family relationships for many years to come. Water birth is a gift that lasts a life time it can optimize your birth & create your own personal miracle of love and empowerment safe, gentle, joyous water birth is available to you now what could be more important.² The death of a woman while pregnant or within 42 days of delivery, miscarriage or termination of pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from the accidental or incidental causes is defined as maternal death.³ India accounts 20% of the world’s maternal deaths. The maternal mortality ratio is incredibly high in India, that is 450 maternal deaths per 100,000 live births.⁴ Every year about 78,000 mothers die in childbirth and from complications of pregnancy in India, according to UNICEF. So the goal given to India is reduce the maternal deaths to 109 per 100,000 live births by the year 2015.⁵ To avoid the complications during delivery,
hydrotherapy is used from the ancient times in western countries. The water birth is a form of hydrotherapy used for the safe and easy labour and delivery. By practicing the water birth we can reduce the maternal morbidity and achieve the goal given by UNICEF. Water birthing was introduced into the United States during the early 1980s, when Erik Sidenbladh’s book pioneered the practice of water birth in the U.S. By the 1990s, many people in the United States were exploring the practices of water births as a gentler alternative to traditional methods. Monadnock Community Hospital in Peterborough, New Hampshire, began offering water births in 1991 and became the first U.S. hospital to develop a protocol for water birthing. By 2005, more than 300 U.S. hospitals had adopted Monadnock’s protocol or developed their own protocols. Already popular in the West, water birth in India is emerging as a promising alternative to painful old delivery methods. It’s relatively painless, needs minimal medical intervention, fewer episiotomies and experienced less discomfort. It is an ideal medium to bring a child into the world. In Delhi, Phoenix Hospital has a facility for water birth. Charlotte Walter, 36, a British woman, was the first to give birth by this method at this hospital. Two months later, Veronica Bertolini, an Italian woman, delivered a baby girl in water. The Beauty of giving birth in water is that it empowers women to take charge. Birth is totally natural. There is no induction, no pain medication of any kind, no IV lines, and no episiotomies. The woman gives birth in zero gravity. A woman should be encouraged to use the labor pool whenever she wants. Some mothers find a bath in early labor useful for its calming effect and to determine if labor has actually started. If contractions are strong and regular, no matter how dilated the cervix is, a bath might be in order to help the mother to relax enough to facilitate dilation. Water should be monitored at a temperature that is comfortable for the mother, usually between 95-100 degrees Fahrenheit. Water temperature should not exceed 101 degrees Fahrenheit, as it could lead to an increase in the mother’s body temperature, which could cause the baby’s heart rate to increase. There are many benefits to giving birth in the water. Water relaxes the pelvic floor muscles. Water minimizes pain so effectively that for most women other pain control methods are no longer needed. All midwives should read, observe, and keep up to date on water births. In India lack of awareness is one of the main factors which affects the promotion of water birth. Researcher concludes that primarily there is a need to assess the knowledge of staff nurses regarding water birth, based on this findings further actions can be taken to improve their existing knowledge and developing skills, so that all midwives will be confident regarding water birth and efficient enough to educate the people which in turn helps to promote water birth successfully.

Statement of Problem

A Pre-experimental study on the effectiveness of structured Teaching Programme on the knowledge of water birth among staff nurses working in maternity wards of selected hospitals in Jalandhar city, Punjab 2012

Objectives

1) To assess the pretest knowledge of Water birth among staff nurses.
2) To plan and implement structured teaching program on knowledge of Water birth among staff nurses.
3) To assess the post test knowledge of water birth among staff nurses.
4) To compare the pre-test and post-test knowledge of water birth among staff nurses.
5) To find out the association between the knowledge of water birth among staff nurses with the selected socio-demographic variables.

Research Hypothesis

H₁ : There will be a significant difference between the mean knowledge score of staff nurses in pre-test and post-test.

Null Hypothesis

H₀ : There will not be any significant difference between the mean knowledge score of staff nurses in pre-test and post-test.

MATERIAL AND METHOD

Conceptual framework for this study was developed on the basis of general systems theory given by Ludwig Von Bertalanffy (1968). The research approach adopted is Quantitative. Pre-experimental one group pre-test and
post test only design was used to assess the effectiveness of structured teaching programme on the knowledge of Water birth among staff nurses working in maternity wards in selected hospitals of Jalandhar city.

One group pre-test post test design was used in present study.

O1 →X→ O2
O1: Pre-test
X: Structured teaching programme
O2: Post test

The Independent variables included in study are: Structured teaching Programme and dependent Variable is knowledge of Water birth among Staff nurses. After extensive review of literature a self structured questionnaire was prepared to assess the knowledge of water birth among staff nurses. The tool was given for validity to experts. As per their guidance amendments were made. Structured teaching programme was prepared for giving teaching on water birth to staff nurses. The tool was framed into two parts:

**Part I:** This part consist of 6 items for obtaining the information about the demographic data of the sample such as Age, educational status, Experience, religion, job setting and mass media exposure.

**Part II-** This part consisted of 30 items in multiple choice question formats to assess the knowledge of water birth among staff nurses. Score 1 (one) was given to correct response and 0 (zero) to incorrect response. So the maximum score was 30 and minimum possible score was 0. Criterion measurement for assessment of knowledge is as follows:

**Sample’s Level of Knowledge**

<table>
<thead>
<tr>
<th>Level of Knowledge</th>
<th>Score Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>26-30</td>
</tr>
<tr>
<td>Average</td>
<td>16-25</td>
</tr>
<tr>
<td>Below Average</td>
<td>0 – 15</td>
</tr>
</tbody>
</table>

The study was conducted in the well reputed selected hospitals (Government & Private) of Jalandhar city. The total of 60 staff nurses working in maternity wards were comprised of the sample of the study. The convenience sampling technique was used for the selection of sample. Study approval was taken from Ethical committee of SGL college of Nursing, Jalandhar. Informed written consent had been taken from the study subjects. Pretest knowledge was assessed by giving structured knowledge questionnaire. After 7 days of teaching post test was taken to assess the effectiveness of the tool.

**FINDINGS OF STUDY**

The analysis of data was done in accordance with objectives of the study. Analysis was done in the following sections:

Section A: Description of Socio demographic variables of study samples.

Section B: Analysis of pre-test knowledge score

Section C: Analysis of post test knowledge score

Section D: Comparison of pre test and post test mean knowledge scores

**Table 1:** Frequency and percentage distribution of pre test knowledge score on water birth among staff nurses N=60

<table>
<thead>
<tr>
<th>Level of knowledge</th>
<th>Percentage</th>
<th>Score</th>
<th>Knowledge Score</th>
</tr>
</thead>
</table>
|                    | (n)        | (%)   | (n)             | (%)
| Good               | >83%       | 26-30 | 0               | 0   |
| Average            | >50 to 83% | 16-25 | 2               | 3%  |
| Below average      | ≤50%       | 0-15  | 58              | 97% |

Maximum=30
Minimum=0

Table 1 depicts that in pre test majority of the staff nurses 58 (97%) had below average knowledge, and 2(3%) had average knowledge. No one had good knowledge of water birth.
Table 2 Frequency and percentage distribution of post test knowledge of water birth among staff nurses.

<table>
<thead>
<tr>
<th>Level of knowledge</th>
<th>Percentage</th>
<th>Score</th>
<th>Knowledge Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>&gt;83%</td>
<td>26-30</td>
<td>35</td>
</tr>
<tr>
<td>Average</td>
<td>&gt;50 to 83%</td>
<td>16-25</td>
<td>25</td>
</tr>
<tr>
<td>Below average</td>
<td>≤50%</td>
<td>0-15</td>
<td>0</td>
</tr>
</tbody>
</table>

Maximum=30
Minimum=0

Table 2 depicts that after the administration of structured teaching programme the mean knowledge score move upward from below average towards good that was 35(88.33%) staff nurses having good knowledge score and 25(41.66%) staff nurse had average knowledge in post test. No one had below average knowledge score.

Table 3 Comparison of pre test and post test mean knowledge score of water birth among staff nurses

<table>
<thead>
<tr>
<th>Pre Test and Post Test mean knowledge score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency(n)</td>
</tr>
<tr>
<td>---------------</td>
</tr>
<tr>
<td>Pre test</td>
</tr>
<tr>
<td>Post test</td>
</tr>
</tbody>
</table>

Maximum=30
Minimum=0

*S-Significant at (p<0.05) level

Table 3 depicts that mean knowledge score of post test was higher i.e. 25.96 than pre test that was 11.65. The mean knowledge score of post test was higher than the pre test. $t_{cal}=36.919$ which was more than the ‘t’ value that was 1.96 at 5% level of significance. This means that after the administration of structured teaching programme there was increase in knowledge of staff nurses of water birth.

$H_0$ rejected as $t_{cal}=36.919 > 1.96$ at 5% level of significance. Thus $H_1$ is accepted. So, it was interpreted that structured teaching programme was quite useful in providing knowledge on water birth among staff nurses in the selected hospitals of Jalandhar.

CONCLUSION

Findings of this study reveal that staff nurses who are going to be responsible for the care of the patients have poor knowledge on water birth and there is a dire need to conduct health education programme, to increase the knowledge of the staff nurses. This study has proved that the staff nurses had a remarkable increase in the knowledge on water birth when compared to the previous knowledge, prior to the administration of the planned teaching programme. Thus for the future there is a need to improve the knowledge and awareness by conducting the health programmes.

Ethical Clearance- Taken from Ethical committee of SGL College of Nursing Jalandhar.

Source of Funding- Self

Conflict of Interest- NIL
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Effectiveness of Music Therapy on Depression, Anxiety and Stress among Haemodialysis Patients

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ABSTRACT

Introduction: Music therapy is a non invasive intervention, which is readily accepted by patients and has been used to relieve anxiety, stress and depression. Haemodialysis patients usually experience high level of stress, anxiety and depression. Relieving these psychological issues and helps patients to cope up with their psychological situation, calm music therapy has been found to be effective.

Objectives:- To find the effectiveness of music therapy among haemodialysis patients in reducing depression anxiety and stress as measured by DASS scale.

To find differences in Blood pressure, heart rate among subjects after music therapy

Materials and Method:- Research design adopted for the study was quasi experimental research design with pretest post test with randomization control group. Data were collected using demographic questionnaire & DASS (Depression Anxiety Stress Scale) tool.

Results: - For this study 40 subjects had been identified and majorities of 29 (72.5%) were males. Around 15 (45%) participant were in the age group of to 44 – 64 years. Among the 40 subjects, a group of 20 received music therapy. There was a difference in mean depression (p= 0.016), anxiety (p=0.035 and stress (p=0.028) between experimental and control group. In experimental group there was a difference in mean Systolic Blood Pressure and Diastolic Blood pressure (p < 0.05) after the music therapy. In control group, there was a difference in SBP (p <0.005) and no significant difference was found in the Diastolic Blood Pressure. (p = 0.297).

Conclusion: This study had been identified that, music therapy is effective in reducing the level depression, anxiety and stress among the haemodialysis cases. Thus, music therapy can be used to relieve depression, anxiety and stress among those who are undergoing Haemodialysis

Keywords: Effectiveness, Music therapy, Depression, Anxiety and Stress.

INTRODUCTION

Dialysis is the treatment of choice for end stage renal disease. Calm music has been found effective in reducing patient’s blood pressure and also benefits patient emotionally and physically. The rhythm, tonality and intensity of sound stimulate the emotional reaction and produce a state of wellbeing¹. Haemodialysis patients usually experience high level of psychological stress, anxiety and depression and these patients should be provided with more psychological resources to cope up with their psychological situation. Music therapy is non invasive intervention is readily accepted by patients and has been used to relieve anxiety, stress and depression with encouraging research study². The music therapy may be contributing to the reduction of depression, anxiety and stress among haemodialysis patients

Relaxation technique such as listening to soothing music, mediation, physical exercise, deep breathing exercise, laughter therapy, guided imagery and massage etc. are some of effective ways of known non-invasive stress busters³. Healing power of music can be achieved from various kind of music like instrumental, western,
classical, carnatic etc.

The most common mental health problems of patients undergoing hemodialysis are depressive disorders. Authors report that 12% to 52% of hemodialysis patients experience anxiety during dialysis. Depression occurs as a result of complications of chronic kidney disease and that anxiety accompanies them lower quality of life of patients.

Depression is a common and serious medical illness that negatively affects the way one feel, think and act. Depression causes feeling of sadness and / or a loss of interest in activities once enjoyed. Depressive symptoms are the one of the most common psychological disturbances associated with physical illness, but they are often undetected or left untreated. Depression may worsen disabilities, increase pain, reduce patient’s compliance and affect prognosis.

By comparing to healthy people, patients undergoing dialysis may experiences problems in participating in various fields of life. It has been noted that patient’s compliance with the treatment process is very important which affects the prognosis of the disease and the quality of life of patient under chronic dialysis.

**NEED FOR THE STUDY**

Dialysis is a life changing event that can create an overwhelming amount of stress for a dialysis patient. Since, dialysis is a lifelong therapy, patients had reported that the time seems much longer to pass and difficult to spend, which may impact the quality of life of a patient by creating numerous health issues.

Thus, in regards of all these aspects, the necessary for carrying a study which can soothe and console the wellbeing of a hemodialysis patient is necessary. Hemodialysis has been playing a tremendous role in improving the life standards of a patient with chronic kidney failure yet it can be a source of stress and anxiety. Along with the hemodialysis there are many other alternative therapies which can alleviate and reduce the amount of stress and anxiety such as yoga, music therapy and play therapy. The degree of stress and anxiety can alter the activities of daily living which may further leads to frustration and many other health problems. Therefore, music therapy is one of the most suitable and convenient way to provide relaxation and which also helps in deviating minds from stress in patients undergoing dialysis.

**OBJECTIVES**

To find the effectiveness of music therapy among haemodialysis patients in reducing depression anxiety and stress as measured by DASS scale.

To find differences in blood pressure, heart rate among subjects after music therapy.

**MATERIALS AND METHOD**

**RESEARCH APPROACH**

Quantitative approach was adopted to determine the effectiveness of music therapy on depression, anxiety and stress among the hemodialysis patients in selected hospital at Mangalore.

**RESEARCH DESIGN**

A Quasi experimental design with pre test- post test (randomization, control group and intervention) was adopted for the present study.

The research design proceedings adopted was:

- **R** = experimental group
- **C** = control group
- **O₁** = pretest
- **O₂** = post test
- **X** = music therapy

**Setting**

Present study was conducted at KSHEMA hemodialysis unit, where the patients are undergoing hemodialysis for end stage renal disease. The patients who were interested in music were selected as experimental group and others were in control group.

Justice K. S. Hegde Hospital is a well-known charitable hospital situated at Deralakatte, Mangalore. The hemodialysis unit of the hospital is well equipped with all facilities which are guided under the nephrology unit. It is a 9 bedded unit which provides dialysis on reasonable rate.
Population

The patients aged between 15-75 years admitted in hemodialysis unit of Justice K. S. Hegde Hospital.

Sample

In this study, sample comprised of 40 haemodialysis patients in the age group of 15-75 years in which 20 heamodialysis patients for the music therapy and considered in the experimental group and the other 20 were in the control group.

Sampling technique

The investigators adopted purposive sampling technique to select the sample.

Table 1: Distribution of the Demographic Characteristics

<table>
<thead>
<tr>
<th>Demographic characteristics</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22-44</td>
<td>15</td>
<td>37.5%</td>
</tr>
<tr>
<td>44-64</td>
<td>18</td>
<td>45%</td>
</tr>
<tr>
<td>64-74</td>
<td>7</td>
<td>17.5%</td>
</tr>
<tr>
<td>Gender-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>72.5%</td>
</tr>
<tr>
<td>Female</td>
<td>11</td>
<td>27.5%</td>
</tr>
<tr>
<td>Blood Group- A+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-</td>
<td>12</td>
<td>30.0%</td>
</tr>
<tr>
<td>B+</td>
<td>2</td>
<td>5.0%</td>
</tr>
<tr>
<td>B-</td>
<td>7</td>
<td>17.5%</td>
</tr>
<tr>
<td>AB+</td>
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<td>0%</td>
</tr>
<tr>
<td>AB-</td>
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<td>12.5%</td>
</tr>
<tr>
<td>O+</td>
<td>12</td>
<td>30.0%</td>
</tr>
<tr>
<td>O-</td>
<td>1</td>
<td>2.5%</td>
</tr>
<tr>
<td>Marital status-Married</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>31</td>
<td>77.5%</td>
</tr>
<tr>
<td>Unmarried</td>
<td>9</td>
<td>22.5%</td>
</tr>
</tbody>
</table>

For this study 40 subjects, who underwent haemodialysis were identified. Of these 20 received music therapy. Majorities (72.5%) were male and (27.5%) were female and age group was categorized respectively 22-44(37.5%), 44-64(45%) and 64-74(17.5%). The sample were also categorized based on blood group and the study reveal that majority (30.0%) were O+ve and A+ve, followed by (17.5%) B+ve, (12.5%)AB+ve,(5.0%) A-ve (2.5%) O-ve and AB-ve. Majority of them (77.5%) were married.

RESULTS

Organization and presentation of data

The data were analyzed and presented under the following headings:

Section 1: Description of Sample Characteristics.

Section 2: Evaluate the effectiveness of music therapy

Section 3: Correlation between music therapy and selected parameters.
Table 2: Effectiveness of music therapy on depression, anxiety and stress level among subjects

<table>
<thead>
<tr>
<th></th>
<th>Pre test</th>
<th>Post test</th>
<th>“t” value</th>
<th>“p” value</th>
</tr>
</thead>
<tbody>
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<td></td>
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<td>S.D</td>
<td>Mean</td>
<td>S.D</td>
</tr>
<tr>
<td>Depression</td>
<td>10.30</td>
<td>4.28</td>
<td>6.67</td>
<td>3.57</td>
</tr>
<tr>
<td>Anxiety</td>
<td>10.60</td>
<td>3.62</td>
<td>6.67</td>
<td>3.61</td>
</tr>
<tr>
<td>Stress</td>
<td>9.70</td>
<td>4.51</td>
<td>6.75</td>
<td>3.14</td>
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</tbody>
</table>

Paired “t” test was used to compare the difference in music therapy. The obtained p values are <0.001 for depression, anxiety and stress (table 1). It indicates, there was a difference in mean depression, anxiety and stress before and after the music therapy. Hence the therapy is effective in reducing the level of depression, anxiety and stress at 5% level of significance.

Table 3: Comparison of depression, anxiety and stress between experimental and control group among the HD patients.

<table>
<thead>
<tr>
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<th>Control</th>
<th>t value</th>
<th>P value</th>
</tr>
</thead>
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<td>Mean</td>
<td>S.D</td>
<td>Mean</td>
<td>S.D</td>
</tr>
<tr>
<td>Depression</td>
<td>11.9</td>
<td>4.43</td>
<td>8.7</td>
<td>3.55</td>
</tr>
<tr>
<td>Anxiety</td>
<td>11.8</td>
<td>3.20</td>
<td>9.4</td>
<td>3.70</td>
</tr>
<tr>
<td>Stress</td>
<td>11.25</td>
<td>3.78</td>
<td>8.15</td>
<td>4.73</td>
</tr>
</tbody>
</table>

Independent sample t test was used to find differences in depression, anxiety and stress among experiment and control group. The obtained ‘p’ value are > 0.05 for depression (p=0.016), anxiety (p=0.035 and stress (p=0.028). It indicated that there was difference in mean depression, anxiety and stress level among the experimental and control group.

Table 4: Comparison of blood pressure within the experimental and control group.

<table>
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<tr>
<th></th>
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<th>MEAN</th>
<th>S.D</th>
<th>‘t’ VALUE</th>
<th>‘P’ VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Systolic</td>
<td>Pre</td>
<td>151</td>
<td>11.192</td>
<td>4.344</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post</td>
<td>142.5</td>
<td>7.86</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diastolic</td>
<td>Pre</td>
<td>98.5</td>
<td>10.89</td>
<td>2.463</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post</td>
<td>93.00</td>
<td>6.56</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Systolic</td>
<td>Pre</td>
<td>151.00</td>
<td>15.86</td>
<td>3.489</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post</td>
<td>142.5</td>
<td>12.08</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diastolic</td>
<td>Pre</td>
<td>94.50</td>
<td>13.16</td>
<td>1.071</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post</td>
<td>91.00</td>
<td>8.52</td>
<td></td>
</tr>
</tbody>
</table>

Paired ‘t’ test was used to compare the difference in blood pressures before and after the interventions for each control and experimental group. In experimental group, the p values for both systolic and diastolic are less than 0.05 hence there was difference in blood pressures among the patients who received the music therapy. In control group, the p values of SBP are less than 0.05 hence there was difference in systolic whereas the p value of DBP is more than 0.05 and hence there is no difference among subjects.
To find the association between depression, anxiety and stress level with selected demographic variables, chi-square test or likelihood ratio test were used. The obtained p values are >0.05 and hence there is no association between depression, anxiety and stress level with selected variables at 5% level of significance.

### DISCUSSION

The present study findings reveal that majorities (72.5%) were males and age group was categorized respectively 22-44(37.5%), 44-64(45%) and 64-74(17.5%). The sample were also categorized based on blood group and the study reveal that majority (30.0%) were O+ve and A+ve. Majority of them (77.5%) were married.

To find out the effectiveness of music therapy on depression, anxiety and stress level among subjects Paired “t” test was used. The obtained p values are <0.001 for depression, anxiety and stress indicates that there was a difference in mean depression, anxiety and stress before and after the music therapy. Hence the therapy is effective in reducing the level of depression, anxiety and stress at 5% level of significance.

To find out the effectiveness of music therapy among the experimental and control group of HD patients Independent sample t test was used. The obtained p value are > 0.05 for depression (p=0.016), anxiety (p=0.035) and stress (p=0.028). It indicated that there was a difference in mean depression, anxiety and stress level among the experimental and control group.

To calculate Correlation between music therapy and selected parameters. Paired t test was used. The obtained p values are less than 0.05 and hence there was a difference in mean SBP and DBP at 5% level of significance. To find the association between depression, anxiety and stress level with selected demographic variables Chi-square test or likelihood ratio test were used. The obtained p values are >0.05 and hence there was no association between depression, anxiety and stress level at 5% level of significance.

### Table 5: Association between depression, Anxiety and stress level with selected demographic Characteristics.

<table>
<thead>
<tr>
<th>DEPRESSION</th>
<th>ANXIETY</th>
<th>STRESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEMOGRAPHIC CHARACTERISTICS</td>
<td>&lt;9.5 (MÉDIAN)</td>
<td>&gt;9.5 (MÉDIAN)</td>
</tr>
<tr>
<td>Age</td>
<td>24-44</td>
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<td></td>
<td>44-64</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>64-74</td>
<td>1</td>
</tr>
<tr>
<td>Gender</td>
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<td>7</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>13</td>
</tr>
<tr>
<td>Blood group</td>
<td>A+</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>A-</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>AB+</td>
<td>4</td>
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<tr>
<td></td>
<td>AB-</td>
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<tr>
<td></td>
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<td>5</td>
</tr>
<tr>
<td></td>
<td>O-</td>
<td>1</td>
</tr>
<tr>
<td>Marital status</td>
<td>Married</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Unmarried</td>
<td>5</td>
</tr>
</tbody>
</table>
CONCLUSION

Nurses play a profound impact on the health and functional independence of clients by promoting a healthy environment free of depression, anxiety and stress. Effective nursing interventions for reducing depression, anxiety and stress among the patient include guided imagery, progressive muscle relaxation, music therapy etc. The most common mental health problems of patients undergoing haemodialysis are depressive disorders. In the present study the investigator made an attempt to relieve stress, anxiety and depression among haemodialysis patient by providing music therapy and results shows that there was a significant difference in depression, anxiety and stress level among the experimental and control group.

Conflict of Interest:- The researcher declares that there is no personal and financial problem in writing the study.

Source Funding: Nitte University

Ethical Clearance: Ethical clearance for the study was obtained from the Institutional Ethics committee and obtained written consent from haemodialysis patient to maintain privacy, confidentiality and anonymity.

REFERENCES

Valid and Reliable Tool: Assess the Attitude of Primary School Teachers on Behavioral and Emotional Problems (ATSB) of Children

Pallavi Biswas¹, Balasubramanian N²

¹PhD Scholar, Himalayan University, Chimpu Itanagar, Arunachal Pradesh and Assistant Professor, College of Nursing, Padhar, Padhar Hospital, Betul Madhya Pradesh, ²Professor cum Principal, Ambika College of Nursing, Mohali, Punjab

ABSTRACT

The foundation of good research and of good decision making in evidence based practice nursing is the trustworthiness of data. The significant qualities in the decision making process in tool construction are reliability and validity. In India, epidemiology and behavioural disorder of children is not studied on form. It is the right time to assess on obstruction that affects normal development of children. The authors described the sequential process of development of attitude scale to assess behaviour and emotional problem of children among primary school teachers. It is a self administered 42 items Likert scale that quantifies 6 aspects of attitude of primary school teachers. The attitude aspects covered are academic Performance, rules and regulations, communication and distractibility, disobedience, aggression and peculiar behaviour. The sequential steps carried out in development of tool are extensive literature review, item construction, item analysis, validity, reliability, and piloting the tool. Tool was submitted for content validity to seven experts and content validity ratio was one. Item analysis was computed. Test retest reliability was computed and item to item correlation computed using chronbach’s alpha. The r value was 0.82 which indicate that the tool was highly reliable.

Keywords: Knowledge, Attitude, Primary school teacher, Behavioural problems, Emotional problems, School children, School, reliability, validity.

INTRODUCTION

India has 375 million children, more than any other in the world. There are more children under the age of 14 and above 14 in India than the entire of USA According to World Health Report 15 % of children have serious emotional disturbance.¹ An epidemiological study conducted by ICMR on child and adolescence psychiatric disorder indicated the overall prevalence of mental and behavioural disorders in Indian children to be 12.5%. mental disorder found as 5 of the top 10 leading cause of disability among above 5 year age group of children worldwide.² Besides the increase in number of children seeking help for emotional problems, over the years, the type of problems has also undergone a tremendous change.

A study conducted in various different area of India put forwarded the prevalence which range from 1.16% to 43.1 %.

METHOD

Tool development is the crucial part of the entire study. The development of attitude scale took following sequential step.

1. Extensive Literature Review
2. Preparation of blue print
3. Item Construction
4. Item Analysis

5. Content Validity

6. Reliability

7. Extensive Review

Review aids in general idea on the topic which has already been published. The review helps the author to evaluate the topic critically and also categorises and compares scholarly literature and tools which are already exist. Books, journals and scientific database such as PubMed, CINHAL, Google scholar etc were reviewed. Similar papers and questionnaire related to measurement of attitude scale for primary school teacher to identify the behavioural and emotional problems of school children were searched and the search was limited to English language only. The most relevant tools reviewed were Teachers Attitude Inclusion Inventory (TAII), Teachers’ Sense of Efficacy Scale (TSES), and The Opinions Relative to Mainstreaming Scale (ORMS). The main aim of this large study is to assess the teacher’s attitude towards behavioural and emotional problem of children. It is clear after extensive review that existing scales are not appropriate for the aim of the study. Therefore authors develop this instrument, Attitude of Teachers towards Students with Behavioural problems (ATSB scale), after the literature review.

Preparation of blue print

According to Anderson & Morgan (2006) and Haladyna (1999) Blue print follows under development of scale construction. It gives the foundation and guide in the development of the items. In this article the behavioural and emotional problems of children being assessed and classify the items into six dimensions i.e., academic Performance, rules and regulations, communication and distractibility, disobedience, aggression and peculiar behaviour aspects.

Blue print followed development of items. (Table 1)

Item selection and development

The items were developed on the basis of blueprint. Item was self administered 42 items Likert scale that quantifies 6 aspect of attitude of primary school teachers given on blueprint. Likert scale is a tool which is used to estimate the psychological aspect such as attitude, opinion and values. In this type of measurement an individual indicate the extent of agree or disagree with the statement ahead to respond. This scale ATSB is a five point Likert scale has 42 item. The item in the scale ATSB were critically reviewed by author with help of guide after that it validated by 7 experts.

Content Validity

According to Polit D.F. & Beck C.T (2008) content validity point out the representation of sample which is intended to be computed by the item of the scale. Content Validity refers to the degree which the item in an instrument adequately represents the universe of content. (Kothari 2004). The content validity was obtained from three Doctoral degree experts in psychiatry nursing, two psychiatrist one psychologist and paediatrician respectively were taken. Content validity ratio was computed and it is estimated as 0.75 it clearly indicates that the scale is valid. No items were deleted from the instruments and minor revision regarding the clarity or wording of the item were suggested. Those revisions were incorporated into the instrument and the received items were in the subsequent reliability test.

RELIABILITY OF THE ATSB

Haladyna (1999) and DeVon etal (2007) referred reliability as the parallel result with which an instrument measure and it is determine by internal consistency. To establish reliability the ATSB was administered on 30 primary school teachers. After scoring the tool correlation of the test was found by using cronbach’s alpha coefficient of reliability formula.

\[
\alpha = \frac{N \cdot \bar{c}}{V + (N - 1) \cdot \bar{c}}
\]

In this study, the internal consistency was measured through cronbach’s alpha. It ranges from 0 to 1.

It is simplest method to test the internal consistency of a questionnaire. Internal consistency is the extent to which a group of item measure the same construct as evidenced by how well they very together or intern correlate. A high co relational signals a high internal consistency. Generally a questionnaire with α alone 0.7 is considered reliable. In this questionnaire ATSB, α value of all the item are above 0.7, it shows that the item are positively contribute to the reliability of a questionnaire. The α remain the same when an item is deleted, the average α almost the same and the correlation between
the total score and the item score are high. (Table 2 & Table 3)

Description of Final ATSB

The final ATSB scale had 42 items in 6 areas that is academic Performance, rules and regulations, communication and distractibility, disobedience, aggression and peculiar behaviour. The score which ranges from 1-5 according to the item which is strongly agree, agree, partially agree, disagree, and strongly disagree.

Table 1: BLUE PRINT OF STRUCTURED ATTITUDE SCALE

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Content</th>
<th>Item Numbers</th>
<th>Positive items</th>
<th>Negative items</th>
<th>Total no. of items</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Academic performance</td>
<td>1-7</td>
<td>6</td>
<td>1</td>
<td>7</td>
<td>16.6%</td>
</tr>
<tr>
<td></td>
<td>Rules &amp; Regulation</td>
<td>8-15</td>
<td>5</td>
<td>3</td>
<td>8</td>
<td>19.04%</td>
</tr>
<tr>
<td></td>
<td>Communication and distractibility</td>
<td>16-20</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>11.9%</td>
</tr>
<tr>
<td></td>
<td>Disobedience</td>
<td>21-25</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>11.9%</td>
</tr>
<tr>
<td></td>
<td>Aggression</td>
<td>26-30</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>11.9%</td>
</tr>
<tr>
<td></td>
<td>Peculiar behaviour</td>
<td>31-42</td>
<td>10</td>
<td>2</td>
<td>12</td>
<td>28.6%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>29</td>
<td>13</td>
<td>42</td>
<td>99.94%</td>
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Table 2: ITEM TO ITEM CORRELATION

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<th>Item No</th>
<th>Scale Mean if Item Deleted</th>
<th>Scale Variance if Item Deleted</th>
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Continued Table 2: ITEM TO ITEM CORRELATION

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<tr>
<td>41</td>
<td>145.58</td>
<td>319.391</td>
<td>.313</td>
<td>.877</td>
</tr>
<tr>
<td>42</td>
<td>145.68</td>
<td>329.242</td>
<td>.049</td>
<td>.881</td>
</tr>
</tbody>
</table>

**DISCUSSION**

ATSB is instrument for measuring attitude of primary school teachers towards behaviour and emotional problem of children has 42 items. The psychometric characteristic of instrument has confirmed from Madhya Pradesh Betul based population of India. Total reliability of ATSB 42 questionnaires was 0.8 using Cronbach’s Alpha. The findings of this research can be generalised to the population within the inclusion criteria not the people within the exclusion criteria. Therefore authors are suggested to conduct similar studies in different statically population and different cities of India. It also can be applied in other countries.

**CONCLUSION**

In this article authors have presented sequential steps of development of attitude scale for primary school teachers toward behaviour and emotional problem among school children. The ATSB is a new tool includes 42 items found useful to assess the attitude of primary school teachers towards behaviour and emotional problem. The ATSB is valid and reliable tool.

**Source of Funding - Self**

**Conflict of Interest – Nil**

**Ethical Committee –** Ethical clearance was obtained from ethical committee of Himalayan University Itanagar Arunachal Pradesh. Prior to the data collection written administrative permission was obtained from school authority. Written informed consent taken from the school teachers before data collection. Confidentiality of the data was ensured through allotment of unique code.
REFERENCES


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An Experimental Study to Assess the Effectiveness of Reminiscence therapy on the Level of Depression among Geriatrics in a WHO Society, Greater Noida, UP

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Assistant Professor, School of Nursing Science and Research, Sharda University, Greater Noida, NCR Delhi India

ABSTRACT

Aging is not a disease, but the final stage of normal life. “Old age is an incurable disease”. “You do not heal old age”, “you protect it”, “you promote it”, “and you extend it”. The degree of adaptation to the fact of aging is crucial to a man’s happiness in the phase of later life. Failure to adapt can result in bitterness, inner withdrawal, weariness of life and depression. The difficult changes that many geriatrics can lead to depression especially in those without a strong support system. Purpose: The purpose of the study was to assess the effectiveness of Reminiscence therapy on the level of depression among geriatrics. Objectives 1. To assess the pre and post-test level of depression among elderly people in a selected society. 2. To evaluate the effectiveness of reminiscence therapy on the level of depression among elderly people in a selected society. 3. To associate the post level of depression among elderly people with their selected demographic variables (age, sex, marital status, education, religion, source of income, type of family, number of children, habitant and history of physical illness.) Methodology: The research design was Pre-experimental one group pre-test and post-test design, the setting chosen to conduct study was a WHO Society, Greater Noida, UP-201306. The sample was geriatric peoples of age 60-80yr, Sample size was 50, The sampling technique used was purposive sample technique. The geriatric peoples who fulfilled the inclusion criteria were selected as samples and were given Reminiscence therapy. The scale adapted to measure geriatric depression was a standardised Geriatric depression scale with 30 dichotomous type questions with yes or no response. The interpretation of the score cut-off; Normal 0-9, Moderate depressive 10-19, and severe depressive 20-30. The data gathered and analysed by using descriptive and inferential statistics method and interpretation is made on the basis of objectives of the study. Major findings: The analysis of the study findings revealed that the pre-test mean was 13.08 with a standard deviation of 5.094 and the post-test mean was 7.54 with a standard deviation of 2.70. The paired calculated value of t=10.28 was found to be highly statistically significant at p<0.02. Chi square test revealed that there is no association between the demographic variables. Conclusion: The study infers that there was highly statistically significant reduction in the level of depression among the geriatrics after providing the reminiscence therapy on depression to the geriatrics.

Keywords- Effectiveness, Depression, Geriatrics, Reminiscence therapy.

INTRODUCTION

Aging is a process that begins with conception but in practice, aging is regarded as that phase in life when body functioning begins to decline in the loss of adaptive response to stress and in increasing risk of age related disease.

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The WHO (2003) Report states that globally the percentage over the age of 60 years is estimated to be 9.9%. By 2030, the world population, aged 65 years, is projected to increase approximately to 973 million, increase from 6.9% to 12% and in the developing countries the share of the world’s aged 65 is projected to increase from 5.9% to 7.1%. At present, in India the population over 60 years of age is estimated to be 7.75% of the total and about 90% of aged community living in rural areas and 55% of old age people are widows. The
The elderly population has risen from 32.89 million to 55.5 million from the year 1971 to 1991 respectively.\(^4\)

Reminiscence refers to recollection of memories from the past. Reminiscence involves exchanging memories with the old and young, friends and relatives, with caregivers and professionals, passing on information, wisdom and skills. Therapeutic reminiscence not only enhances the cure of souls in geriatrics; it also helps to close the gap between the depressing expectations of younger generations and the reality of continued growth in the last half of life. Elderly adults often gain satisfaction, confidence and sense of identity from reminiscing\(^5\). To provide effective nursing care, all nurses must foster a positive attitude towards the aged. So, there is a need to know the psychological problems of senior citizens who live in the old age homes\(^6\).

Based on the information, the researcher felt that there was a need to conduct a study about the effectiveness of reminiscence therapy since it is a cost effective, non-invasive nursing intervention, and an effective strategy which increase self-esteem, reduce depression and improves the quality of life of the elderly. Therefore, the present study is designed to assess the effectiveness of reminiscence therapy on the level of depression among geriatrics residing in selected society at greater Noida, UP.

**MATERIALS AND METHOD**

Research approach- Quantitative Research approach\(^7\).

Research design- Non experimental research design\(^7\)

Setting of the study- a WHO society, greater Noida, UP-201306.

Population- Both men and women aged from 60 to 80 years

Sample – Elderly people who fulfilled the inclusion criteria from a WHO society, greater Noida.

Sample size- 50

Sampling techniques- Purposive sampling techniques\(^7\)

Criteria for sample selection

**Inclusion criteria**

Elderly people who

1) Who are willing to participate in the study.

2) Who are residing in selected society in greater Noida.

3) Who can understand English or Hindi.

4) Who are available at the time of Data Collection.

**Exclusion criteria**

1) Those that have chronic mental illness and are on treatment.

**DEVELOPMENT AND DESCRIPTION OF THE TOOL**

SECTION A: ASSESSMENT OF DEMOGRAPHIC VARIABLES

Personal data sheet on the demographic characteristics of elderly includes such as age in years, gender, religion, education, income, marital status, family and number of children, habitant, and history of physical illness.

SECTION B: GERIATRIC DEPRESSION SCALE. (Long Form)

The tool was used by Yesavage, JA, Brink TL, Rose TL, et al. Development and validation of a geriatric depression screening scale. It was a standardized long form scale with 30 dichotomous type questions with yes or no response to assess the level of depression among geriatrics\(^2\)

**FINDINGS**

The data analysis was done using descriptive and inferential statistics.

**Descriptive Statistics**

1. Frequency and percentage distribution was used to analyse the demographic variables of geriatrics.

2. Mean and standard deviation to assess the level of depression among geriatrics.
Inferential Statistics

1. The calculated paired ‘t’-test to compare pre-test and post-test level of depression among geriatrics after the administration of reminiscence therapy.

2. Chi square test was used to associate the post-test level of depression among geriatrics with their selected demographic variables.

ORGANISATION OF THE DATA

Section A: Description of demographic variables of geriatrics.

Section B: Assessment of pre-test and post-test level of depression among geriatrics.

Section C: Effectiveness of reminiscence therapy on level of depression among geriatrics.

Section D: Association of post-test level of depression among geriatrics with their selected demographic variables.

SECTION A: Table 1. DESCRIPTION OF DEMOGRAPHIC VARIABLES OF GERIATRICS.

N=50

<table>
<thead>
<tr>
<th>Demographic variables</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60-65</td>
<td>7</td>
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</tr>
<tr>
<td>66-70</td>
<td>19</td>
<td>38.0</td>
</tr>
<tr>
<td>71-75</td>
<td>18</td>
<td>36.0</td>
</tr>
<tr>
<td>76-80</td>
<td>6</td>
<td>12.0</td>
</tr>
<tr>
<td>SEX</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>31</td>
<td>62.0</td>
</tr>
<tr>
<td>Female</td>
<td>19</td>
<td>38.0</td>
</tr>
<tr>
<td>MARITAL STATUS</td>
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<td></td>
</tr>
<tr>
<td>Married</td>
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<td>100</td>
</tr>
<tr>
<td>Unmarried</td>
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<td>0</td>
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<tr>
<td>EDUCATION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collegiate</td>
<td>32</td>
<td>64.0</td>
</tr>
<tr>
<td>High school</td>
<td>9</td>
<td>18.0</td>
</tr>
<tr>
<td>Middle school</td>
<td>4</td>
<td>8.0</td>
</tr>
<tr>
<td>Primary school</td>
<td>4</td>
<td>8.0</td>
</tr>
<tr>
<td>Illiterate</td>
<td>1</td>
<td>2.0</td>
</tr>
<tr>
<td>RELIGION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hindu</td>
<td>49</td>
<td>98.0</td>
</tr>
<tr>
<td>Muslim</td>
<td>1</td>
<td>2.0</td>
</tr>
<tr>
<td>Sikh</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Christian</td>
<td>0</td>
<td>0</td>
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<tr>
<td>SOURCE OF INCOME</td>
<td></td>
<td></td>
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<tr>
<td>Pension</td>
<td>19</td>
<td>38.0</td>
</tr>
<tr>
<td>Deposits</td>
<td>6</td>
<td>12.0</td>
</tr>
<tr>
<td>Family member</td>
<td>25</td>
<td>50.0</td>
</tr>
<tr>
<td>Institution</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>TYPE OF FAMILY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nuclear family</td>
<td>31</td>
<td>62.0</td>
</tr>
<tr>
<td>Joint family</td>
<td>13</td>
<td>26.0</td>
</tr>
<tr>
<td>Extended family</td>
<td>6</td>
<td>12.0</td>
</tr>
<tr>
<td>NO OF CHILDREN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One</td>
<td>3</td>
<td>6.0</td>
</tr>
<tr>
<td>Two</td>
<td>22</td>
<td>44.0</td>
</tr>
<tr>
<td>Three</td>
<td>23</td>
<td>46.0</td>
</tr>
</tbody>
</table>
The table shows that majority of the geriatrics 19(38%) were in the age group of 66-70 years, 31(62%) were male, all 50(100%) were married, 32(62%) were educated up to collegiate, 49(98%) were Hindu, 25(50%) were dependent on family members, 31(62%) belonged to Nuclear family, 23(46%) had three children, 48(96%) were from urban area and 26(52%) had no history of physical illness.

SECTION B: ASSESSMENT OF PRETEST AND POST TEST LEVEL OF DEPRESSION AMONG GERIATRICS.

The diagram shows that in the pre-test, majority 33(66%) of geriatrics had moderate level of depression, 4(8%) had severe level of depression and only 13(26%) were normal, whereas in the post test after providing the reminiscence therapy on depression, majority 41(82%) were normal and 9(18%) had moderate level of depression and no one had severe level of depression. The calculated paired ‘t’ value of t=10.28 was found to be highly statically significant at p<0.02 level. Hence $H_1$ hypothesis stated earlier that “there will be a highly statistically significant association between the pre-test...
level of depression score and post-test level of depression score. The post-test level of depression among geriatrics at p<0.02 level all the demographic variables had not shown statistically significant association with the post-test level of depression among geriatrics. Hence H₂ hypothesis stated earlier that “there will not be a statistically significant association between the post-test levels of depression score with selected demographic variables.

CONCLUSION

The present study assessed the effectiveness of reminiscence therapy on the level of the depression among geriatrics. The study findings revealed that there was highly significant difference in the pre-test and post-test level of depression among geriatrics. The reminiscence therapy is effective in reducing the severe level of depression among geriatric clients therefore it can be used as an intervention for geriatrics to reduce the level of depression.

Source of Funding- Self

Ethical Considerations: Formal permission was obtained from dean school of nursing science and research at Sharda university

Written consent was obtained from the a WHO Society

Consents from the participants were obtained

Conflict of Interest- Nil

REFERENCES

Effectiveness of Structured Teaching Programme on Knowledge Regarding Hypoglycemia and its Management among Diabetic Patients

Suja Thomas¹, Susan Mathai², Sheela Shenai³, Soney M Varghese⁴
¹College of Nursing, ²Associate Professor and Head of Department, ³Principal, ⁴Associate Professor M.O.S.C Medical College Hospital, Kolenchery, Ernakulam, Kerala

ABSTRACT

Aim: The aim of the study was to improve the knowledge regarding hypoglycemia and its management among diabetic patients.

Methods and Materials: A quantitative pre experimental one group pre-test post-test design was used to collect data from 60 subjects by convenient sampling technique. Self administered structured knowledge questionnaire were used. The collected data was analyzed by using descriptive and inferential statistics.

Results: The Median pre-test score was 13 and Median post-test score was 26. The results revealed that among 60 study participants, majority of the diabetic clients (80%) had good knowledge, 15% had average knowledge and only 5% had poor knowledge regarding hypoglycemia and its management. The structured teaching programme was effective. Conclusion: The finding of the study revealed that there was a significant increase in the post-test knowledge scores after structured teaching programme.

Keywords: Knowledge; structured teaching programme; hypoglycemia; Diabetic patients

INTRODUCTION

Diabetes mellitus is a chronic (lifelong) disease marked by high levels of glucose in the blood¹. As per national statistics, in 2008, an estimated 347 million people in the world had diabetes and the prevalence is growing, particularly in low- and middle-income countries. India had 69.2 million people living with diabetes (8.7%) as per the 2015 data. Of these, it remained undiagnosed in more than 36 million people. The number of diabetes patient in India in 2016 was estimated as 422 million and was considered to be 700 million by the year 2030. The prevalence of diabetes is higher in men than women, but there are more women with diabetes than men². Nearly 1 million Indians die due to diabetes every year. Kerala reported a prevalence of diabetes at 35% and prediabetes at 11%. The WHO estimates that diabetes resulted in 1.5 million deaths in 2012, making it the 8th leading cause of death. However another 2.2 million deaths worldwide were attributable to low blood glucose level. Hypoglycemia is the clinical syndrome that results from low blood sugar. The symptoms of hypoglycemia can vary from person to person as do the severity. Hypoglycemia is diagnosed by a low blood sugar with symptoms that resolve when the sugar level returns to the normal range³. Prevention of hypoglycemia is to monitor blood glucose level frequently and be prepared to treat promptly. Patient at risk for hypoglycemia should always carry glucose tablets, hardly candy or other source of fast acting carbohydrates. Blood glucose awareness training can improve a person’s ability to recognize low blood glucose earlier, which may help to prevent episodes of hypoglycaemia¹. Managing diabetes, while minimizing hypoglycemia, is a key treatment goal in the Pharmacological control of diabetes.
Hypoglycemia is the condition, when one’s blood glucose is lower than normal, usually less than 70mg/dl. It occurs because of a mismatch between insulin dose, food intake and energy expenditure. The individual fails to become aware of hypoglycaemia and can result in prolonged hypoglycemia with consequent brain injury, seizure and loss of consciousness.

An awareness programme about hypoglycemia unawareness in Chennai, India stated that hypoglycemia is the most frequent and serious complication of insulin therapy and is three times more common in those who are intensively treated. Low blood glucose awareness training programme can help to identify and prevent hypoglycemia unawareness.

Hypoglycemia may have serious consequence in terms of morbidity and mortality, occurring in the elderly diabetic patients, but this severe prognosis is less frequently observed. The rate of severe hypoglycaemia remains low, but increases rapidly in the very elderly and also with insulin therapy, as well as with unawareness of symptoms.

**OBJECTIVES**

- To assess the level of pre-test knowledge regarding hypoglycemia and its management among diabetic patients.

- To evaluate the effectiveness of structured teaching programme on knowledge regarding hypoglycaemia and its management among diabetic patients.

**MATERIALS AND METHOD**

- Research approach: The approach used in this study was quantitative approach.

- Research design: Pre experimental research Design.

- Sample: 60 Diabetic clients

  Inclusion criteria: Diabetic clients:
  - Who were able to read Malayalam and write Malayalam
  - Who were attending Non-communicable disease clinics

  Exclusion criteria: -Who were hypoglycaemic due to other causes

- **Data collection instruments: Demographic proforma**

  : Structured knowledge questionnaire

- **Description of tool:**

  Part 1: Demographic proforma

  Demographic proforma included 6 items such as age, gender, food habits, family history of diabetes mellitus, previous knowledge on Hypoglycaemia and episodes of hypoglycaemia

  Part 2: Structured Knowledge Questionnaire.

  Structured knowledge questionnaire to assess the knowledge on Hypoglycemia and its management

  Content validity: Items with a content validity index more than 90% were included in the tool. The reliability coefficient was 0.82 and was calculated by using Spearman’s Brown Formula.

**DATA COLLECTION PROCESS**

The data was collected from 60 diabetic patients; those who are coming to community health centre and Non communicable disease clinics, selected by convenience sampling technique. Pre test was administered to each client followed by structured teaching program aided by charts, Power point presentation, and flashcards to facilitate the better understanding of teaching. Teaching was carried out for 45 minutes. Method of instruction was lecture cum discussion. Post test was conducted using the same questionnaire on the seventh day of teaching.

**DATA ANALYSIS**

The investigator planned to analyze data by using both descriptive and inferential statistics.

**RESULTS**

**Distribution of demographic characteristics**

Among 60 respondents most of the subjects (31.7%) belonged to age group 41-50 years and they were females
(34%). About 55% subjects were having family history of Diabetes Mellitus. Majority (68%) of the study subjects had no episodes of Hypoglycaemia and most of the study subjects (83.3%) were having mixed food habits. Most of the subjects (95%) had no previous knowledge on Hypoglycemia.

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

<table>
<thead>
<tr>
<th>Level of knowledge</th>
<th>Pre-test Knowledge score</th>
<th>Post-test knowledge score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage(%)</td>
</tr>
<tr>
<td>Poor</td>
<td>27</td>
<td>45</td>
</tr>
<tr>
<td>Average</td>
<td>33</td>
<td>55</td>
</tr>
<tr>
<td>Good</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

In the pre-test majority of diabetic patients had average knowledge (55%) and (45%) had poor knowledge regarding Hypoglycemia and its management. But in post-test majority of the diabetic clients had acquired good knowledge (80%) and (15%) had acquired average knowledge.

Table 2: Median, Interquartile Range and Wilcoxon Signed Rank Test Of Pre-Test And Post-Test Knowledge Scores  

<table>
<thead>
<tr>
<th></th>
<th>Median</th>
<th>Quantities (Q1,Q3)</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Wilcoxon Matched signed test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>13</td>
<td>(8,16)</td>
<td>6</td>
<td>20</td>
<td>-6.74 (p&lt;0.001)</td>
</tr>
<tr>
<td>Post-test</td>
<td>26</td>
<td>(22,28)</td>
<td>20</td>
<td>30</td>
<td></td>
</tr>
</tbody>
</table>

Wilcoxon Matched signed Rank test was used to find the significant difference between pre-test and post-test knowledge score. There is a statistical difference in the average knowledge regarding Hypoglycemia after the intervention (p<0.001) Hence the intervention is found to be effective.

CONCLUSION

In pre-test, most of the diabetic clients (45%) had poor knowledge, 65% had average knowledge and none of them had good knowledge.

In post test, most of the diabetic clients (80%) had acquired good knowledge, 15% had average knowledge and 5% had poor knowledge.

The difference between pre-test and post-test knowledge scores was found to be statistically significant, which shows that structured teaching programme was effective in increasing the knowledge scores of diabetic clients.

Data collection process

Ethical clearance was obtained from the Institutional Review Board of Malankara Orthodox Syrian Church Medical College Hospital. Formal permission was obtained from the District Medical Officer and Medical officer of Community health centre. The data was collected from 60 diabetic patients, those who are coming to community health centre and NCD clinics, selected by convenience sampling technique keeping in mind the study criteria. NCD clinics were conducted on every Thursday at 2pm to 4pm. Subjects were asked to participate in the study after self introduction by the investigator. The patients were informed about the purpose of the study and their consent was attained. Pre test was administered to each client followed by structured teaching programme aided by charts, Power point presentation, flashcards to facilitate the understanding of teaching. Teaching was carried out for 45 minutes. Method of instruction was lecture cum discussion. After the teaching session, clients were free to clarify their doubts. Post test was conducted using the
same questionnaire on the seventh day of teaching.

**Conflict of Interest**: No conflict of interest exist in this study

**Sources of Funding**: Nil

**REFERENCES**


3. The Juvenile Diabetes Research Foundation International, The American Diabetes Association (ADA), the NIDDK, The NINDS the NICHD and NASA. A workshop on Hypoglycemia and brain 2000 Sep:7-8


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9. Findings
10. Discussion / Conclusion
11. Conflict of Interest
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