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A Study to Assess the Effectiveness of Yogic Postures on Back Pain among Beedi Rolling Women in a Selected Rural Area at Mangalore

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ABSTRACT

Background of the study: Beedi industry is a traditional agro-forest industry which is wide spread in India and ranks as the top sector with most employers. Major portion of this industry includes women work force who hand roll beedis, at homes to earn meager but crucial subsistence level incomes. Being the informal-home based sector, it has been very difficult to organize the workers, with the result that the majority of beedi women work and live in extremely vulnerable conditions. Low back pain is a condition which is more prevalent among the beedi rolling women, mainly due to improper working posture. It is an extremely common disorder in our society with life time prevalence rate placed as high in 80%. Yoga is a holistic approach to attend to the body, mind and spirit and can be administered in beedi rolling women to reduce the intensity of back pain.

Objectives of the study: to evaluate the effectiveness of selected yogic postures on back pain among beedi rolling women.

Methodology: Quantitative evaluative approach with a quasi-experimental two group pre-test – post-test design was used for the study. Study was conducted at selected rural area. Forty samples were drawn using purposive sampling technique. Pre- test was done using numerical pain scale and post test was conducted using the same scale.

Results: The collected data were analyzed using descriptive and inferential statistics. The pretest result showed that majority, 92.5% of beedi rolling women had moderate pain and 7.5% had mild pain. In the experimental group the mean pre-test score was (5.05±0.89) which was reduced to (3.5±0.87) after practicing selected yogic postures. The mean pre-test score in the control group was (4.85±0.92) which was almost similar in post-test also (4.7±0.95). The calculated 't' value (14.14, p<0.05) was greater than the table value (t 19=2.09) in the experimental group. The 't' value between experimental and control group was (4.83, p< 0.05) which was greater than the table value (t 38=2.02). The calculated chi square values for selected demographic variables were less than the table value, hence concluded that there is no significant association for back pain with these variables. And hence the present study revealed that regular practice of selected yogic postures can reduce the intensity of back pain in beedi rolling women.

Keywords: Effectiveness; selected yogic postures; back pain; beedi rolling women.

INTRODUCTION

India, the second largest country in the world, is one of the poorest countries where almost 40% of the population lives below the poverty line, who barely enjoy 2 square meals a day. A large part of our human

resource, sources its livelihood through employment in various organized and unorganized sectors such as the cottage and agricultural industries. Nearly 70% of Indians still reside in rural areas and are largely depend on agriculture for survival and 90% of the

working population in our country, especially in rural areas, is employed by the cottage industry, which is a major source of income for them. Beedi industry is one such major industry. Annual production of beedi is around 550 billion pieces per year. The beedi industry impacts our economy to a large extent, yet is somewhat misunderstood and quite unknown. Not only does the beedi industry employ six times as many workers than its fancy cousin – Cigarettes – but also quantifies to bear a tremendous socio-economic significance in employment generation in India, yielding an average of 1310 million man days of employment¹.

Published literature reports, women make up 76% of total beedi employment. The All India Beedi, Cigar, and Tobacco Workers Federation estimates that women comprise 90 – 95% of total employment in beedi manufacture. Beedi manufacturing is a traditional agro-forest based industry, spread over almost all major states of India. It accounts for over half of the tobacco consumed in India. Within the unorganized household industries, beedi sector ranks as the top most employers. There are about 300 major manufacturers of branded beedis and thousands of small-scale manufacturers cum contractors who account for the bulk of the beedi production. It predominantly employs poor women who hand roll beedis at homes to earn meagre but crucial subsistence level incomes. The government estimates the total number of beedi workers at about 4.5 million. Unofficially however, the trade unions and NGOs say the actual number of beedi rollers could be much higher since most beedi workers do not have identity cards¹.

Being in the informal-home based sector, it has been very difficult to organize the workers, with the result that the majority of beedi women work and live in extremely vulnerable conditions. A rising concern is also the involvement of children, particularly girls, in the process of beedi rolling. It appears that the home based nature of work and piece rate system of payment creates conditions for the involvement of family labour, including that of children. Other than poverty, indebtedness, landlessness, further health effects include pain and cramping in the shoulders, neck, back, lower abdomen, anemia etc².

While India now boasts a computer industry akin to Silicon Valley, there are still millions of informal workers such as Beedi rollers who earn barely enough

to survive and are literally dying for a living. Prolonged working hours and unhygienic conditions make it really hazardous. Beedi work is one of the many types of informal and unprotected labour performed by women in India. The work is so poorly paid that some never break the cycle of poverty that locks them into unhealthy lives³.

A survey on occupational health profile revealed various occupational hazards among the beedi workers. The hazards may be attributed to improper working posture and unhygienic conditions at work place. It has been observed that almost all the workers have developed pain in various body parts. Most frequent pain is shoulder pain, followed by back pain and neck pain. Apart from that, knee, chest, elbow and wrist pain have also been reported to a significant degree. High intensity of shoulder, back and neck pain is due to sitting in forward leaning posture bending head and neck downward for prolonged hours without any back support and arm rest. It is found that the frequency and intensity of pain is more in the cases in females than the males. The reason is less tolerance to fatigue and less physiological working capacity in females.

Another cause may be improper posture places stress on joints, muscles, bones, nerves and tendons. It forces body's muscular system to adapt to improper alignment⁴. Low back pain is an extremely common disorder in our society with life time prevalence rate placed as high in 80%⁵. It is considered as benign and self limiting disease. It is the most costly ailment of working age adults, with an estimated \$33 billion spent annually on medical costs and estimated loss of \$19.8 billion due to loss of worker productivity⁷. It usually feels like an ache, tension or stiffness in back. It can be triggered by sitting badly, bending or sitting awkwardly or lifting incorrectly⁶.

Back pain is most common in lower back, although it can be felt along spine, from neck down to hips.

Yoga is the world's oldest system of self-development and encompasses mind, body and spirit. There are many forms and practices of yoga, but they all share the same aim, that of connecting and uniting with the divine. Yoga is a holistic approach to attend to the body, mind and spirit. Yoga and yogic postures are beneficial as they bring a harmonious balance within the body system. Yogic postures are an excellent antidote

to back pain and the sequence is designed to release muscular stiffness thus freeing up the spine whilst steadily building muscle strength.

Though the beedi workers are suffering from ill health, poverty restricts them to have proper treatment interventions for their illness. Back pain which is more prevalent among the beedi rollers has been selected in this study, to be intervened by yogic postures which is an effective alternative therapy.

NEED FOR THE STUDY

“He who cures a disease may be the skill fullest, but he that prevents it is the safest physician.”

Thomas Fuller

Beedi production is one of the popular cottage industries in India, with a home based women workforce predominantly employed only in beedi rolling. Six million women roll beedi in India; their arduous profession is the second largest labour intensive occupation in the world's second largest tobacco market – a country where a quarter of the population is said to be addicted to various forms of tobacco. Women constitute almost 75% of the total beedi workforce, which yields up to 750 million to 1.2 billion sticks every year. As per the Deccan Herald reports, there are 3,60,876 beedi workers in Karnataka and nearly 86% of them are women and children. India is one of the biggest tobacco markets in the world, ranking third in total tobacco consumption. Beedi smoking is more in south Asian countries especially in India, Nepal, Bangladesh, Sri Lanka and Pakistan. Most beedis are made in India and are exported to at least thirty six countries including Europe and America. In India 70% of the population live in extremely undeveloped, poor and backward rural areas. As a result of extreme poverty, 60% of the tobacco consumption is through beedis and chewing tobacco. These products are produced largely in unorganized sectors. It is them poor section of men and women who engage in hand rolling and producing these products at homes. According to Resource centre for tobacco free India, over 17 lakh children engage in beedi rolling in India. Women make up 76% of total beedi employment. Though it is the only occupation in many of the families, most of the workers are unhappy as they are suffering from various illnesses. For these beedi workers a myriad of occupational hazards exist and back pain is seen in

most of the beedi rollers⁷.

Investigator during the field visits noted that there are number of beedi rolling women residing in the selected area, who are suffering from low back pain. Researcher found that, within their economic limitations the beedi rolling population could not receive a better intervention for their health problem. So the group was selected for the study.

METHODOLOGY

Ethical clearance was obtained from the ethical committee of the institution. Prior permission was obtained from the District Health Officer, Mangalore and Medical Officer of Suratkal PHC for conducting the research study. The confidentiality of subjects was also ensured. Data collection is the process of selecting subjects and gathering data from these subjects. The researcher herself collected the data from the sample. For maximum cooperation, the investigator introduced herself to the respondents and the willingness of the participants was ascertained. The respondents were assured the anonymity and confidentiality of information provided by them. Data was collected from selected beedi rolling women at Mukka. 40 samples were selected on the basis of inclusion criteria by using numerical pain scale in which 20 were in the experimental group and rest of the 20 in the control group. These selected subjects were informed about the purpose of the study and an informed consent was obtained. The pre existing intensity of back pain was assessed by numerical pain scale in both the experimental and control groups. Selected yogic postures were demonstrated to the experimental group on the next day of data collection and made them to perform those asanas 20 minutes daily for 14 days. The control group was left untreated. On 15th day a post test was conducted using the same numerical pain scale in both groups. The data was collected and recorded systematically on each subject and was organized in a way that facilitated computer entry.

FINDINGS

Major findings of the study

Part 1: Demographic characteristics of the study

It was observed that 42.5% of beedi rolling women were in the age group of 30-39. Majority (62.5%) of the samples were married. Most of them (42.5%) belonged

to the Muslim religion.

35% of the total samples were having primary education. Majority(87.5%) of them belonged to the income group of Rs.6000 and less. Among the total samples 82.5% had mixed type of dietary pattern. 42.5% of the samples had 6-10 years of experience in rolling beedi. 32.5% of the samples used to take break every 1 hour in between beedi rolling and other 32.5% every 2 hours.

Part 2: Intensity of back pain in beedi rolling women in pre-test

According to the findings after analysis, the overall pain score showed, majority (92.5%) of the beedi rolling women had moderate pain. Only (7.5%) had mild pain and none of them had severe pain

Part 3: Effectiveness of selected yogic postures

In the experimental group majority (95%) of the samples had moderate pain and only (5%) of sample had

mild pain before practicing yogic postures with a mean SD of 5.05 ± 0.9 and

4.85 ± 0.9 respectively. After practicing yogic postures 55% of the experimental group had moderate pain and 45% of them had mild pain, where as in control group (90%) of the sample had moderate pain and 10% of them had mild pain.

In the experimental group the mean post- test score (3.5 ± 0.87) was less than the mean pre test score (5.05 ± 0.89). The ‘t’ value was calculated to analyze the difference in pain scores of experimental group and the findings revealed that the calculated ‘t’ value (14.4) was greater than the table value ($t_{19} = 2.09$) at 0.05 level of significance. Therefore, the null hypothesis was rejected and the research hypothesis was accepted.

Section A: Comparison of pre-test and post test score of experimental group

Table 1: Frequency and percentage distribution of samples according to the intensity of back pain in experimental group

Intensity of pain	Pretest		Post test	
	Frquency	Percentage	Frquency	Percentage
No pain	-	-	-	-
Mild pain	1	5	9	45
Moderate pain	19	95	11	55
Severe pain	-	-	-	-

Section B: Comparison of pre-test and post test score of control group

Table 2: Frequency and percentage distribution of samples according to the intensity of back pain in control group

Intensity of pain	Pretest		Post test	
	Frquency	Percentage	Frquency	Percentage
No pain	-	-	-	-
Mild pain	2	10	2	10
Moderate pain	18	90	18	90
Severe pain	-	-	-	-

Section C: Comparison of post test scores of experimental and control group.

To compare the post test scores of experimental and control group, frequency and percentage distribution of sample according to the intensity of back pain in both experimental and control group is calculated.

Table 3: Frequency and percentage distribution of sample according to the post test back pain scores in experimental and control group N=40

Intensity of pain	Pretest		Post test	
	Frquency	Percentage	Frquency	Percentage
No pain	-	-	-	-
Mild pain	9	45	2	10
Moderate pain	11	55	18	90
Severe pain	-	-	-	-

Comparison of post- test scores of experimental and control groups

It is observed that the mean post test score (3.5) of the experimental group was less than that of the control group (4.85). Unpaired t test was used to analyse the difference in the post test scores of experimental and control group. The findings revealed that the calculated 't' value (4.83) was greater than the table value ($t_{38}=2.02$) at 0.05 level of significance. Therefore, the null hypothesis was rejected and the research hypothesis was accepted indicating reduction in the pain score is not by chance.

Part 4: Association between pre-test score of back pain with selected demographic variables.

Chi square was computed in order to find association between pain score and selected variables. It was found that there is no significant association between pre-test score of back pain and selected demographic variables.

Conflict of Interest: Authors declare that they have no conflict of interest.

Source of Support: The study was self funded.

Ethical Clearance: Ethical clearance was obtained from the ethical committee of the institution. Prior permission was obtained from the District Health Officer, Mangalore and Medical Officer of Suratkal PHC for conducting the research study. The confidentiality of subjects was also ensured.

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Management and Palliative Care in Poisoning and Overdose

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ABSTRACT

The availability of a vast number of drugs and acute poisoning is a common medical emergency in India and any country. Poisoning and overdose can present with various clinical symptoms, including seizures, tremor, abdominal pain, vomiting, and, cardiac dysrhythmias, respiratory failure and change in mental status. The exact incidence of this problem in India remains uncertain but it is estimated that more than million cases of poisoning are reported every year, of which, more than 50,000 die. These may be the only clues to diagnosis when the cause of toxicity is unknown at the time of initial assessment of poisoning and overdose management. In multiple-drug ingestion diagnosis may be complicated. The present review focus on management and palliative care in medical emergencies.

Keywords: Overdose, poisoning, management.

INTRODUCTION

Acute poisoning constitutes a major health problem. It causes frequent presentations to emergency services, and is mainly due to suicidal behaviour, substance use disorders, or accidents. Irrespective of intention, the long-term mortality is high for this patient group¹.

Over 5 million people are treated in USA every year on exposure to drugs. Only about 5% require hospitalization. Overall mortality rate is low, only 0.03% of all exposures, but 1-3% in suicidal cases. Acute poisoning accounts for 2-3% of all admissions to hospital in India. High incidence in the community reflects cases of availability of insecticides and pesticides and also stress of modern lifestyle. Insecticides, vegetable poisons, aluminium phosphate, alcohol, hypnotics and sedatives are the major poisons encountered in India. In rural areas, Insecticides, pesticides and vegetable poison, predominate whereas in cities and towns it is sedatives or other drug over dosage. The figures are

much higher in India and are increasing day by day².

Poisoning also refers to the development of dose related adverse effects following exposure to chemicals/ drugs / xenobiotics. This may be Suicidal, Homicidal, Stupefying and Accidental^{2,3}.

1. *Suicidal poisons:* Potassium Cyanide, Opium, Barbiturates, Organophosphates (insecticides).

2. *Homicidal poisons:* Arsenic, Antimony, Aconite, and Thallium.

3. *Stupefying poisons:* Dhatura, Belladonnas.

Poisons are classified as according to the mode of action as²:

1. *Corrosive Poisons:* These are highly active irritants which produce both inflammation and ulceration of tissues. This group consists of strong acids and alkalis.

2. *Irritant poisons:* These produce symptoms of pain in the abdomen, vomiting and purging.

2. (i) *Inorganic poisons:* Metallic – Arsenic, antimony, mercury, lead and copper

2. (ii) *Non Metallic:* Phosphorus, chlorine, bromine and iodine

2. (iii) *Organic Poisons:*

2. (iii.i) *Vegetable:* Castor oil

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2. (iii.ii) *Animal*: Snakes, scorpions, spiders.

2.(iv) *Mechanical Poisons*: Powder glass, diamond dust.

3. *Neurotic Poisons*: These chiefly act on the central nervous system. Symptoms usually consist of headache, drowsiness, giddiness, delirium, stupor, coma, and convulsion.

3. (i) *Cerebral Poisons*: Opium, alcohol, sedatives, hypnotics, Anaesthetics.

3. (ii) *Spinal Poison*: Strychnine.

3. (iii) *Peripheral*: Curare.

4. *Cardiac Poisons* – Digitalis, tobacco.

5. *Asphyxiants* – Coal gas, CO, CO₂ and war gases.

6. *Miscellaneous* – Analgesics, antipyretics, tranquillizers, antidepressants.

Clinical evaluation

A detailed physical examination must be performed after the initial stabilization of the patient. Critical assessment of signs and symptoms will not only assist in determining the etiology, but may also help to assess the severity of the patient's condition⁴. Serious poisonings are often characterised by severe and

persistent gastrointestinal symptoms and signs, hypo- or hypertension, hyperthermia, cardiac dysrhythmias, altered mental status, seizures, hypoglycaemia, acid-base and electrolyte disturbances as well as signs of liver and renal impairment. As most deaths due to poisoning are a result of respiratory compromise; special attention should be given to the evaluation of the respiratory system⁵. When dealing with suspected acute poisoning, other life-threatening causes of these presentations must be considered and excluded⁶. Dynamic changes in vital signs may be useful in evaluating the patient's response to supportive or antidote treatment⁵.

Recognition of a specific toxidrome (a constellation of signs and symptoms associated with a specific poisoning) may sometimes assist in the identification of the class of poisonous substance involved^{4,8}. Poisons (and/or their metabolites) which directly cause irreversible or slowly reversible structural or functional damage to one or more organ systems. These are also considered to be compounds with a high inherent toxicity (Table No. 1). Poisons which do not cause tissue damage directly or those which cause toxic effects that are rapidly and completely reversible. Fortunately, most potential poisons fall in this category and appropriate symptomatic and supportive care during the acute phase will usually ensure complete recovery⁶.

Table: 1 Compounds with a high inherent toxicity with their manifestations: ⁹⁻¹³

Compounds with a high inherent toxicity	Early manifestations	Later manifestations
Carbon monoxide Cholinesterase Inhibitors: • Organophosphate • Carbamates Cyanide Digoxin Ethylene Glycol Isoniazid Metals: • Arsenic • Iron • Lead • Lithium • Mercury Methanol Methyl bromide Mushrooms: • <i>Amanita phalloides</i> Paracetamol Paraquat Salicylates Theophylline	Faintness Flushing Anxiety Excitement Drowsiness Vertigo Headache Dyspnea Perspiration Tachypnea Tachycardia	Altered consciousness Tremulousness Seizure Respiratory depression Noncardiogenic pulmonary edema Respiratory arrest Cardiac arrhythmia Cardiovascular collapse

Management

(i) Resuscitation Management:

The initial approach for evaluating the critically poisoned patient centers on thorough assessment, appropriate stabilization and supportive care. It is important to consider a broad differential diagnosis that includes both toxicological and non-toxicological emergencies to avoid prematurely excluding potentially serious conditions. For example, an obtunded patient who smells of alcohol could also be harboring an intracranial hemorrhage and an agitated patient believed to be anticholinergic may in fact be encephalopathic due to a metabolic or infectious illness¹⁴.

Aggressive resuscitation is often required for the patient presenting with a toxicologic emergency. This follows a standard "ABC" approach with attention to "airway, breathing and circulation" respectively. The critically poisoned patient may present with central nervous system (CNS) depression or coma necessitating intubation in order to adequately protect the airway and reduce aspiration risk. Ventilatory drive may also be impaired resulting in CO₂ narcosis with subsequent acidosis and mental status deterioration which may further increase risk for aspiration. Often this deterioration can be unrecognized in the patient placed on high flow oxygen because O₂ saturation measures may remain adequate despite significant ventilator failure. In assessing and managing circulatory status, appropriate intravenous access is essential. All severely poisoned patients should have at least one large bore peripheral intravenous catheter, and hypotensive patients should have a second intravenous line placed in either the peripheral or central circulation. Should vasopressor support be required, attention should be given to the specific poison as the mechanism producing hypotension may help direct the vasopressor selection^{14, 15}.

(ii) Antidotes Management²⁻⁴

Antidotes work in any one of a number of ways. Common modes of action are as follows:

1. Inert complex formation - Some antidotes interact with the poison to form an inert complex which is then excreted from the body e.g., chelating agents for heavy metals, Prussian Blue for thallium, specific antibody

fragments for digoxin, dicobalt edetate for cyanide, etc.

2. Accelerated detoxification - Some antidotes accelerate the detoxification of a poison, e.g., thiosulfate accelerates the conversion of cyanide to non-toxic thiocyanate, acetylcysteine acts as a glutathione substitute which combines with hepatotoxic paracetamol metabolites and detoxifies them.

3. Reduced toxic conversion - The best example of this mode of action is provided by ethanol which inhibits the metabolism of methanol to toxic metabolites by competing for the same enzyme (alcohol dehydrogenase).

4. Receptor site competition - Some antidotes displace the poison from specific receptor sites, thereby antagonising the effects completely. The best example is provided by naloxone, which antagonizes the effects of opiates at stereo-specific opioid receptor sites.

5. Receptor site blockade - This mode of action is best exemplified by atropine which blocks the effects of anticholinesterase agents such as organophosphates at muscarinic receptor sites.

6. Toxic effect bypass - An example of this type of antidotal action is provided by the use of 100% oxygen in cyanide poisoning.

(iii) Prevention of further absorption of the drug

Emesis:

Vomiting may be induced (if the patient is conscious) by simple pharyngeal stimulation (using a nasogastric tube). While apomorphine is a reliable emetic (which can be reversed by naloxone) and ipecacuanha (Ipecac syrup containing 0.12% alkaloids) 10 - 30 mL is an effective emetic (particularly in children),³² there is no evidence that these agents improve the morbidity or mortality associated with drug overdosage¹⁶. Currently, these agents are rarely if ever used¹⁷

Gastric lavage:

This is performed using 0.9% saline and a 16 - 20 French gauge nasogastric tube (inserting the tube to a distance of 10 cm greater than the distance from the xiphisternum to the bridge of the nose or inserting it to the 55 cm mark at the tip of the nose in an adult), with the patient head down and right side uppermost. When

the patient's airway is assessed as 'protected' (i.e. has effective glottic reflexes or has an endotracheal tube in place), the stomach is completely aspirated and 50 mL of saline is instilled and aspirated. This is continued until the gastric aspirate is clear, which usually occurs after 500 mL of saline has been used¹⁸.

(iv) Adsorbents:

The adsorbents commonly used include:

Activated charcoal

Activated charcoal is a general all-purpose adsorbent, which is 'activated' to increase its adsorbent capacity. It is able to adsorb from 100 - 1000 mg of poison per gram, inhibiting the absorption of orally ingested compounds as well as increasing the systemic clearance of drugs through the gastrointestinal tract¹⁹⁻²⁵.

Forced acid or alkaline diuresis.

Forced acid diuresis has been used to treat overdose of phencyclidine or amphetamine, and forced alkaline diuresis has been used to treat patients with barbiturate or salicylate overdose. However, unless managed very carefully, forced diuretic therapies have the capacity to increase rather than decrease mortality due to hypokalaemia and fluid overload²⁶.

Peritoneal dialysis.

This has no place in the management of patients with poisoning²⁶.

Haemodialysis.

This may be indicated for severe salicylate, phenobarbitone, lithium, isopropanol, methanol or ethylene glycol poisoning²⁶.

Haemoperfusion.

This is largely an unproven form of therapy,²⁷ although it is often recommended for severe theophylline overdose (particularly if severe and associated with vomiting),²⁸ methotrexate poisoning (particularly in association with renal failure),²⁹ disopyramide and camphor³¹ overdose. Charcoal filters are commonly used, although polystyrene resins (e.g. Amberlite XAD-4) have been developed which have a high affinity for lipid-soluble compounds. For most drugs, charcoal haemoperfusion is about twice as effective as haemodialysis, although only about half as effective as Amberlite XAD-4³⁰.

Specific therapy

Antidotes for the common poisons are listed in Table 2

Table 2: Indications and dose of the common poison antidotes³²⁻³⁸

Sr. No.	Antidotes	Indication	Dose
1.	N-acetyl cysteine	Paracetamol Carbon tetrachloride	150 mg/kg i.v. in 15 min (10 g/70 kg) 50 mg/kg i.v. in 4 hr (3 g/70 kg) 100 mg/kg i.v. in 16 hr (7 g/70 kg)
2.	Atropine	Organophosphates	1 - 2 mg i.v. repeated as necessary
3.	Benztropine	Dystropic effects of butyrophenones phenothiazines and metoclopramide	1 - 2 mg i.v. repeated as necessary
4.	Benzyl penicillin	Amanita phalloides	250 mg/kg i.v. daily
5.	Calcium chloride	Calcium channel blockers fluorides, hyperkalaemia hypermagnesaemia	10 mL of 10% CaCl ₂ i.v. over 5 - 10 min
6.	Desferrioxamine	Iron	Gastric lavage with 2 g in 1 litre of water. After lavage leave 5 g in 50 mL of water in stomach. i.v. 5 -15 mg/kg/hr for no longer than 24 hr
7.	Dicobalt edetate	Cyanide	600 mg i.v. over 1 minute followed by 300 mg i.v., if no response
8.	Dimercaprol	Arsenic, copper, gold, lead, mercury	. 2.5 - 5 mg/kg IM 4-hourly for two days then 2.5 mg/kg daily.

Cont... Table 2: Indications and dose of the common poison antidotes ³²⁻³⁸

9.	Ethanol	Methanol	50 gm i.v. followed by 10 - 12 g/hr to keep blood level at 1 - 2 g/L. If haemodialysis, then rate increased to 17-22 g/hr, or ethanol added to dialysate at a conc'n of 1 - 2 g/L; maintain for 4 days.
10.	Physostigmine	Anticholinergic agents	1 mg i.v. (response is often unpredictable e.g., it may cause convulsions) and the effect only lasts for 30mins
11.	Folinic acid	Methotrexate methanol	60mg i.v. twice for first day then 15 mg 6-hourly for 5-7 days 30 mg i.v. 6-hourly for 2 days
12.	Fuller's	Paraquat	earth 1 litre of a 15% solution (i.e., 150 g suspended in 1 litre of water followed by 200 mL of 20% mannitol), 2-hourly until the stools are seen to contain Fuller's
13.	Pralidoxime	Organophosphates	1 g i.v. bolus followed by an infusion of 0.5 g/hr (i.e., 12 g/day)
14.	Pyridoxine	Isoniazid	i.v. pyridoxine 1 gram/gram isoniazid ingested or 5 g i.v. each 15 minutes until seizures stopped

CONCLUSION

The physical exam should focus on identifying a toxic syndrome. This is a pattern of signs and symptoms that suggests a specific class of poisoning and allows one to narrow the differential diagnosis. This provides a starting point for management and may suggest the laboratory tests that follow. However, it should be kept in mind that there are many exceptions to the toxic syndrome and that poly-drug ingestions can present with a confusing variety of mixed and overlapping syndromes. The physical exam should also include evaluation for head trauma, focal neurologic findings, needle track marks, chest auscultation for signs of aspiration or non-cardiogenic pulmonary edema, and unusual odors on the patients breath. Toxicology screening provides direct evidence of ingestion (although false positives and false negatives do occur), but rarely impacts upon initial management. Initial management should never await results of such analysis.

Ethical Clearance- Not applicable

Source of Funding- Self

Conflict of Interest - Nil

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Social Problems and Self Esteem among Male and Female Patients with Seizure Disorders – A Comparative Study

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ABSTRACT

Epilepsy, a chronic brain disorder characterized by recurrent unprovoked seizures, affects people of all ages. Epilepsy affects every sphere of the individual's life, cutting across age, gender and social differences. Major areas of education, employment, marriage, child rearing and social functioning are often affected and the overall quality of life is hampered due to the uncertain nature of the illness and its consequences¹. The aim of the study is to identify the social problems and self esteem of patients with seizure disorders and to compare the social problems and self esteem of male and female patients with seizure disorders. **Methodology:** A comparative study was conducted in 180 patients with seizure disorders attending a tertiary care setting, Department of Neuro Medicine, Medical College Hospital, Thiruvananthapuram. 90 male and 90 female patients are consecutively selected and the social problems were assessed with an interview schedule and self esteem inventory is used to assess the self esteem. **Results:** The overall social problems were assessed in 4 domains – social life, marriage life, employment life and education. The score of male and female patients were compared, which shows that there is significant difference between male and female patients in the marriage domain ($\chi^2 = 43.214$, $p < 0.001$). The female patients had comparatively more problems with marriage life. The severity of problems in other domains shows that males and females had same problems with social life, employment life and education.

Keywords: Seizure disorders, social problems, self esteem, tertiary care setting, employment problems, education problems, marriage life problems

INTRODUCTION

The disease affects 40 million people worldwide, that was untreated for three quarters, surprisingly the same disease, if early diagnosis and treatment is made can be controlled in three quarters of those affected. The disease is epilepsy, the commonest neurologic disorder in the world (Lancet, 1997)². There is still almost universal suspicion and social, cultural and legal stigma surrounding epilepsy. Nuhu FT (2005) conducted a study on Social consequences of epilepsy. They used an instrument to assess the person's attitudes to epilepsy, relationship/marital, employment and academic problems. The mean age of the subjects was 28 years; 59.3% were males; 44.6% said people make negative remarks about their illness; 36.4% were irregular at work; 37.3% performed poorly at work; 22.5% have had their marriage proposals rejected; 19.5% have

been abandoned by spouse. At least 39.4% had poor academic performance while 19.5% were withdrawn from school because of epilepsy. Short seizure-free period, long duration of seizure disorder and family history of epilepsy were significantly associated with social problems³. Although the awareness of epilepsy among the people of Kerala was comparable to that of developed countries, the attitudes were much more negative⁴.

The objectives of the study were;

- To assess the social problems and self esteem of male and female patients with seizure disorders.
- To compare the social problems and self esteem of male and female patients with seizure disorders.
- To find the association between social problems

and self esteem with selected demographic variables.

METHOD AND MATERIALS

The comparative survey design was used in this study with a quantitative research approach. Dependent variables were social problems and self esteem and Independent variable was male and female patients with seizure disorders. The study was conducted among patients with seizure disorders attending the inpatient and Outpatient Neuro Medicine Department, Medical College Hospital, Trivandrum. 180 samples (90 males and 90 females) were collected using consecutive sampling technique. The tools used were;

Part-1 Demographic data

Part -2 Clinical data

Part -3 Interview schedule for assessing social problems.

Part-4 Self esteem inventory

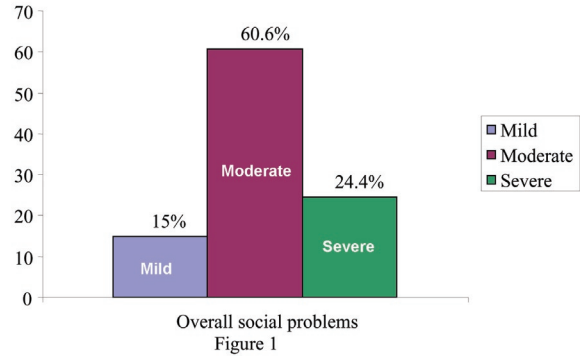
FINDINGS

The demographic data showed that 53.9% of subjects were between the age group of 15-25 years, 21.7% were in the age group of 26-35 years 13.3% were in the age group of 36-45 years and 11.1% were in the age group of 46-55 years. Out of the total sample, 38.9% had completed High school education, 31.1% had completed primary education, 21.1% had completed Higher secondary education, 5.6% were degree holders, 2.8 % were illiterate and 0.6% had post graduation. 70.6% of the subjects were unemployed and 29.4% were employed. 58.3% the sample were unmarried and 40.6% were married and 1.1% were separated.

A. Comparison of Social problems among male and female patients with seizure disorder

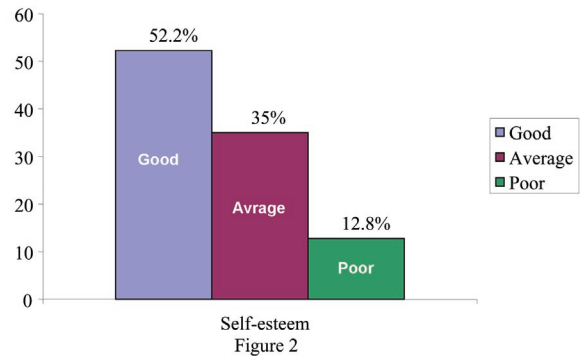
Table 1: Comparison of problems related to Social life based on gender

Problems related to Social life	Male		Female		χ^2	P
	N	%	N	%		
Do not want to use public transport	33	36.7	66	73.3	24.444	*0.000
Less social life	20	22.2	34	37.8	5.185	*0.023
Limited leisure activities	19	21.1	42	46.7	13.118	*0.000
Negative outlook of life	19	21.1	29	32.2	2.841	0.092
Unable to mingle with family	24	26.7	38	42.2	4.822	*0.028
Loneliness	20	22.2	34	37.8	5.185	*0.023



Distribution of subjects based on severity of Social problems

Figure 1 shows that out of the total sample, 60.6% had moderate social problems, 24.4% had severe social problems and 15% had mild social problems.



Distribution of subjects based on Self-esteem

Figure 2 shows that out of the total sample, 52.2% had good self-esteem, 35% had average level of self-esteem and 12.8% had poor self-esteem.

Cont... Table 1: Comparison of problems related to Social life based on gender

Burden to people	27	30.0	46	51.1	8.319	*0.004
Hard to get on with people	24	26.7	31	34.4	1.283	0.257
Feeling of overprotection	13	14.4	36	40.0	14.834	*0.000
Not interested to visit relatives	14	15.6	24	26.7	3.336	0.068
Not interested in family functions	17	18.9	33	36.7	7.089	*0.008

*significant at p<0.05

Table 1 shows that 73.3% of females had agreed that they had difficulty in using public transport where as only 36.7% of males agreed to this statement. 46.7% of females had limited leisure activities after the attack where as the percentage of males were only 21.1%. 51.1% of females felt that they were a burden to people and only 30% of males agreed to this statement. 40% of females felt that others overprotected them where as only 14.4% of males agreed to this statement. 36.7% of females were not interested in participating family functions. The percentage of males agreed to this statement was 18.9%.

Table 2: Comparison of problems related to Marriage among married based on gender

Problems related to Marriage	Male		Female		χ ²	P
	N	%	N	%		
Feel afraid when attack initially seen by partner	30	33.34	49	54.44	30.260	*0.01
Partner is not interested in treatment	0	0	8	8.89	18.995	*0.00
Partner scolds for illness	9	10	50	55.56	22.373	*0.002
Partner forces for divorce	0	0	30	33.33	21.671	*0.00
Partner is not understanding the nature of illness	40	44.44	80	88.89	36.276	*0.04
Think about abortion	0	0	0	0	0	*0

*significant at p<0.05

It is evident from table 2 that there were statistically significant differences in problems related to marriage among male and female patients. 54.4% of females felt afraid when the partner initially saw the attack and only 33.3% of males agreed to this statement. 8.9% of females felt that their partner was not interested in treatment. 55.6% of females agreed that their partner scolded them for this disease and the percentage of males agreed to this statement was 10%. 33.3% of females agreed that their partner forced them for divorce. 88.9% of females and only 44.4% of males agreed that their partner was not able to understand the nature of illness. Surprisingly none of them thought about abortion.

Table 3: Comparison of problems related to Working environment among employed based on gender

Problems related to working environment	Male		Female		χ ²	P
	N	%	N	%		
Difficult to disclose to employer	15	16.67	30	33.33	32.490	0.052
Fear of dismissal	16	17.78	30	33.33	24.347	*0.041
Embarrassment	9	10	10	11.11	15.089	0.45
Employer scold for illness	7	7.78	20	22.22	16.446	*0.006
Neglect from co- workers	17	18.89	30	33.33	12.825	0.054

*significant at p<0.05

There were no statistically significant differences in problems related to working environment among male and female patients as shown in table 3. 33.3% of females had difficulty in telling the employer about the disease and only 16.7% of males agreed to this statement. 33.3% of females and only 17.8% of males felt that attack during work would mean dismissal. 22.2% of females agreed that the employer scolded them for this disease and only 7.7% of males agreed to this statement.

Table 4: Comparison of problems related to Education based on gender

Problems related to Education	Male		Female		χ^2	P
	N	%	N	%		
Difficult to follow Studies	75	83.3	66	73.3	5.164	*0.023
Insecure in educational institution	78	86.7	76	84.4	5.000	0.5
Indecisive	83	92.2	72	80	2.642	0.14
Discontinuation of studies	83	92.2	76	84.4	5.621	0.18
Diminished memory	82	91.1	82	91.1	0.000	1.000
Feeling of neglect	85	94.4	73	81	7.457	0.06
Absentism	84	93.3	75	83.3	4.367	0.37
Not able to do doing daily assignments	86	95.6	80	88.9	2.788	0.95

*significant at $p < 0.05$

It is clear from Table 4 that both genders had similar problems related to education. 73.3% of females and 83.3% of males agreed that there were difficulty to follow studies after the attack. 84.4% of females and 86.7% of males agreed there were insecurity in educational institution after the attack. The percentage of males and females who felt diminished memory after the attack was 91.1%.

Table 5: Comparison of Self-esteem based on gender

Self esteem	Male		Female		Total		P
	N	%	N	%	N	%	
Good	48	53.3	46	51.1	94	52.2	*385
Average	28	31.1	35	38.9	63	35.0	
Poor	14	15.6	9	10.0	23	12.8	
Total	90	100.0	90	100.0	180	100.0	

$\chi^2 = 1.907$

*not significant at $p < 0.05$

Table 5 shows that of the total sample, 53.3 % males and 51.1% females had good self-esteem, 31.1% males and 38.9% females had average level of self-esteem and 15.6% males and 10% females had poor self esteem. There were no statistically significant difference in self-esteem among male and female patients ($p > 0.05$).

B. Association between social problems and selected demographic variables

Table 6: Association between Occupational status and Social problems

Occupational status	Social problems				P
	Mild		Moderate		
	N	%	N	%	
Unemployed	52	40.90%	75	59.10%	*0.017
Employed	32	60.40%	21	39.60%	
Total	84	46.70%	96	53.30%	

$$\chi^2 = 5.674$$

*significant at $p < 0.05$

Table 6 illustrates that 40.9% of patients who were unemployed had mild social problems and the remaining 59.1% had moderate social problems. 60.4% of patients who were unemployed had mild social problems and the remaining 39.6% had moderate social problems. There were statistically significant association between occupational status and social problems ($p < 0.05$). The result shows that most of the employed patients had only mild social problems.

Table 7: Association between Occupational status and Self esteem

Occupational status	Self esteem						P
	Good		Average		Poor		
	N	%	N	%	N	%	
Unemployed	58	45.70%	51	40.20%	18	14.20%	*0.02
Employed	36	67.90%	12	22.60%	5	9.40%	
Total	94	52.20%	63	35.00%	23	12.80%	

$$\chi^2 = 7.48$$

*significant at $p < 0.05$

Table 7 shows that 45.7% of patients who were unemployed had good self-esteem, 40.2% had average self-esteem and the remaining 14.2% had poor self-esteem. 67.9% of patients who were unemployed had good self-esteem, 22.6% had average self-esteem and the remaining 9.4% had poor self-esteem. There were statistically significant association between Occupation status and Self-esteem ($p < 0.05$). Employed patients had comparatively good self-esteem than unemployed.

Table 8: Association between Marital status and Self-esteem

Marital status	Self esteem						P
	Good		Average		Poor		
	N	%	N	%	N	%	
Unmarried	46	43.80%	43	41.00%	16	15.20%	*0.028
Married	48	64.00%	20	26.70%	7	9.30%	
Total	94	52.20%	63	35.00%	23	12.80%	

$$\chi^2 = 7.16$$

*significant at $p < 0.05$

Table 8 shows that 43.8% of patients who were unmarried had good self-esteem, 43% had average self-esteem and the remaining 16% had poor self-esteem. 64% of patients who were married had good self-esteem, 26.7% had average self-esteem and the remaining 9.3% had poor self-esteem. There were statistically significant association between Marital status and Self-esteem ($p < 0.05$). The result shows that most of the married patients had good self-esteem.

CONCLUSION

Results of the present study revealed that there are comparatively more social problems in females than males especially in the marriage domain. In other domains both sexes had almost similar problems. The self esteem levels of both sexes are almost similar.

Conflict of Interest – Nil

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Ethical Clearance - obtained from institutional ethical committee. Data were collected after giving patient information sheet and informed consent.

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Physical Growth and Inter-relationship of Arm Span and Height of School Going Children

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ABSTRACT

The study examines the growth pattern and relationship of arm span and height of 5-10 years of children based on a cross sectional sample from different schools of Chandigarh. Purposive sampling technique was used for both selection of schools and subjects and a total of 326 subjects (162 boys and 164 girls) belonging to affluent families according to Kuppuswamy's Scale were enrolled. Height, body weight and arm span were measured. The overall gender differences in the body weight, height and arm span were found to be nonsignificant. A high co-relation was found between height and arm span for both boys and girls which suggests that arm span can be used as surrogate for height.

Keywords- height, weight, arm span.

INTRODUCTION

Improved nutrition, together with other environmental improvements and other factors, have resulted in an increase in the body size and growth of children. Physical growth, which is generally measured in terms of height, weight, arm span and other anthropometric parameters, should be monitored carefully because growth and development are key telling signs of a child's health. Detection of early deviation from the norm is therefore considered important in the search for early acting causal factors and the institution of prophylactic measures. Few studies have been undertaken to evaluate the relationships of height and arm span measurements in children. *Hibbert et al*¹ and *Torres et al*² studied these correlations in children, however no consideration was given to the socio-economic status of the children which is an important factor affecting growth of children. *Saraswati*

*et al*³ reported inferior growth of boys and girls in comparison to NCHS standards. *Yun DJ et al*⁴ reported that the arm span to height ratios were bigger in taller children. The findings were based on data from middle class families. The present study is conducted among children belonging to upper socio-economic class using standardized techniques and instruments.

MATERIAL AND METHOD

The study group is based on school going children aged 5-10 years ($n = 326$, 162 boys, 164 girls). Data collection was carried out between July 2010 and Sept 2010. All children were examined and measured by the same observer. Height (Ht) was measured to the nearest 0.1 cm with a anthropometer. Body weight was measured using weighing machine to nearest 50 gms. Kuppuswamy scale⁵ based on parent's education, occupation and income was used in the present study as an indicator for socioeconomic status. Data from these children was used to describe mean height, body weight, arm span and relationship of arm span and height.

RESULTS

Height of children aged 5-10 years.

The mean height (Table 1) of children for both boys

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and girls from 5-10 years in this study is significantly higher than reported by *DJ Yun et al.*⁴ The increase in the height is found to be constant for both boys and girls however it is noteworthy that the jump in height is quiet higher in girls of age 10 years compared to girls of other ages and boys. However the gender difference in height is not significant. *Zverev and Chisi*⁶ in 2005 however reported higher height in girls of 7, 11 and 12 years of age.

TABLE 1:- MEAN AND STANADARD DEVIATION OF HEIGHT (cm) OF UPPER CLASS BOYS AND GIRLS. N=326

Age (± years)	Boys		Girls		Gender difference (t-value)
	Number	Mean (± SD)	Number	Mean (± SD)	
5	25	114.38 (3.04)	25	114.33 (3.60)	1.157
6	26	115.32 (3.48)	29	114.94 (5.54)	0.306
7	25	120.67 (5.66)	25	119.92 (5.05)	0.495
8	31	124.66 (0.88)	29	125.03 (5.58)	0.271
9	25	132.46 (5.30)	30	129.94 (6.63)	1.533
10	30	137.36 (7.71)	26	138.41 (7.46)	0.079

(*p≤0.05, **p ≤ 0.01, *** p≤ 0.001, df= n₁+n₂- 2)

Body weight of children aged 5-10 years.

The Table 2 shows a clear increasing trend in the mean body weight of boys and girls. The mean weight of girls is higher than boys at 8 years (not significantly). The overall gender differences in the body weight if found to nonsignificant. *Foster et al*⁷ however found that boys had greater body weight than girls from age 5-8 years.

TABLE 2:- MEAN AND STANADARD DEVIATION OF BODY WEIGHT (Kg) OF UPPER CLASS BOYS AND GIRLS. N=326

Age (± years)	Boys		Girls		Gender difference (t-value)
	Number	Mean (± SD)	Number	Mean (± SD)	
5	25	19.42 (2.46)	25	18.57 (2.73)	1.146
6	26	19.16 (3.06)	29	18.31 (3.19)	1.015
7	25	21.92 (4.24)	25	21.02 (4.66)	0.710
8	31	23.54 (0.64)	29	23.86 (4.61)	0.295
9	25	27.54 (5.60)	30	26.58 (5.20)	0.655
10	30	31.40 (7.23)	26	31.23 (8.23)	0.0794

(*p≤0.05, **p ≤ 0.01, *** p≤ 0.001, df= n₁+n₂- 2)

Arm span of children aged 5-10 years.

The Table: 3 shows that the trend of measurement of arm span is very clearly an increasing one in boys as well as girls. Calculated mean for arm span for children in the present is different at all ages, *Torres et al*² have however

calculated mean arm span of 132.3cm for children of 6-10 years of age. It is also observed that the mean arm span for boys is always more than that of girls (not significantly more) except at the age of 5 and 10 years. Also the increase in mean arm span at age of 10 years in girls is comparatively more than at 9 years.

TABLE 3:- MEAN AND STANADARD DEVIATION OF ARM SPAN (cm) OF UPPER CLASS BOYS AND GIRLS. N=326

Age (± years)	Boys		Girls		Gender difference (t-value)
	Number	Mean (± SD)	Number	Mean (± SD)	
5	25	113.16(3.40)	25	113.26(3.78)	0.094
6	26	113.44(4.21)	29	110.29(20.41)	0.302
7	25	120.06(5.79)	25	118.97(4.78)	0.729
8	31	124.78(0.87)	29	124.40(5.94)	0.269
9	25	132.26(5.37)	30	129.46(7.10)	1.616
10	30	137.08(6.90)	26	137.56(7.23)	0.248

(*p≤0.05, **p ≤ 0.01, *** p≤ 0.001, df= n₁+n₂- 2)

Co-relation between arm span and height of children 5-10 years

It is interesting to note that height significantly correlated with arm span amongst children of both the sexes as they grew from 5 -10 years (Table 4). However the co-efficient of co-relation is measured more among girls than boys below 8-9 years. As compared to other age levels inter-relationship between arm span and height in females remains relatively weaker (0.418), but despite this it remained statistically significant. The findings of the present study corroborate with some of the previously conducted studies in which arm span to height ratio was found close to unity (Lee TS et al,⁸ Mazcioglu MM⁹ ,Zeverev et al⁶ , Rodriguez MP¹⁰).

TABLE 4:- CO-RELATION COEFFICIENT (PEARSON’S ‘r’) FOR HEIGHT AND ARM SPAN N=326

Age (±years)	Boys	Girls
5	.959**	.866**
6	.825**	.418*
7	.965**	.962**
8	.936**	.960**
9	.970**	.984**
10	.954**	.904**

(*p≤0.05, **p≤0.01, ***p≤0.001)

CONCLUSION

A relation between socioeconomic status and health status has been observed and is known to have an effect on the overall growth of the child.¹¹ Keeping this in mind the present study was conducted in upper class boys and girls and it was found that the mean height and weight of boys remained greater than girls in general however, girls at 8 years were more heavier than boys. The overall gender difference for height and weight remained statistically nonsignificant. The increase in height is almost similar for both sexes barring 10 years of age where girls are found to lead boys.

Like body weight and height, a general and regular increase in mean value for arm span were also recorded amongst both boys and girls representing the present study. Except at 5 and 10 years of age boys possessed larger mean value for arm span than girls, however gender differences for this growth parameter never became significant. The growth pattern exhibited by our sample remained at variance with those studied for arm span of girls of Malawian origin where girls in general possessed higher mean arm span value than boys between 7 -14 years of age.⁶

Distance growth curves plotted for height (Figure: - 1,2) and body weight (Figure:- 3,4) of both boys and girls representing the present study showed a regular and uninterrupted increase in the mean values from throughout the age range of this study.

The inter-population comparison reveals that as compared to CDC (Ogden et al) and affluent Indian children (Aggarwal et al. 1992) the mean height and weight of both boys and girls in the present study remained marginally higher at 5 years of age thereafter their growth attainment tracks below CDC standards but remained better than that for affluent Indian children.¹² The difference recorded for these two growth parameters measured amongst our study sample as compared to their Indian and CDC counterparts may be due to ethnic reasons, as our sample belonged to upper socio-economic strata and hence from socio-economic standpoint it becomes comparable to their affluent Indian counterparts(Aggarwal et al 1992).

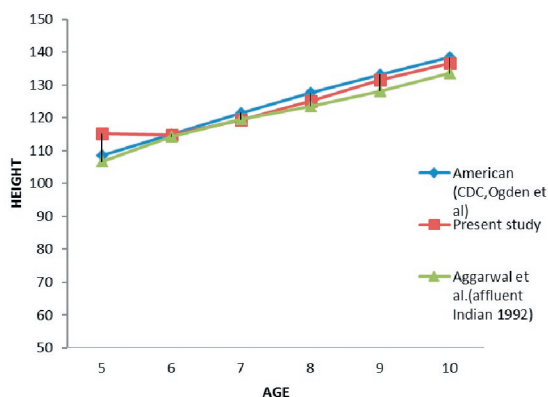


FIGURE: 1-COMPARISON OF HEIGHT WITH AMERICAN AND INDIAN BOYS

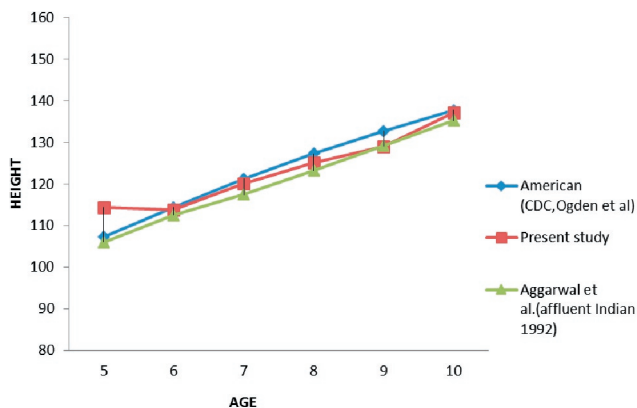


FIGURE : 2-COMPARISON OF HEIGHT WITH AMERICAN AND INDIAN GIRLS

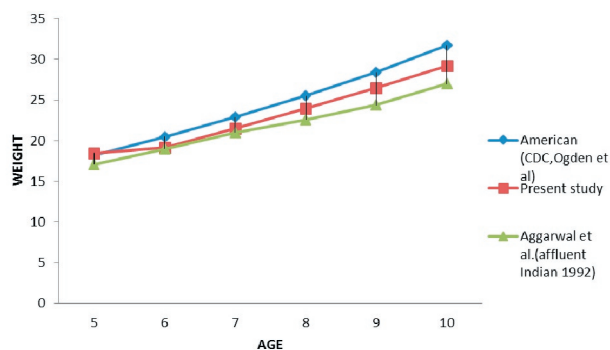


FIGURE:3- COMPARISON OF BODY WEIGHT WITH AMERICAN AND INDIAN BOYS

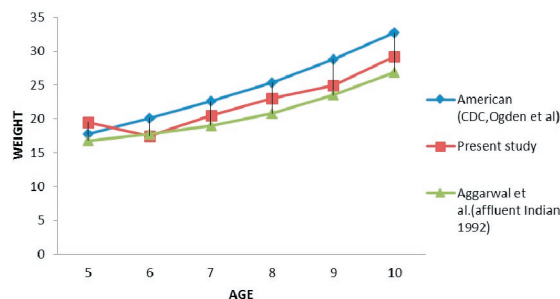


FIGURE: 4 -COMPARISON OF BODY WEIGHT WITH AMERICAN AND INDIAN GIRLS

Studies have indicated that the relationship between standing height and arm span measure is strong.^{1,2,4,8,9,13.} The support to this contention could further be obtained from highly significant ‘r’ values (co-relation of coefficient) which confirmed the existence of a strong relationship between height and arm span of subjects of the two sexes throughout the study span.

So this becomes amply clear from the above discussion, that there exists a normal and strong inter-relationship between height and arm span of children aged 5 -10 years. Hence arm span could be used as surrogate for height as and when needed.

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Effectiveness of Music Therapy on Anxiety and Pain among Mothers During First Stage of Labour in Selected Hospitals at Kollam

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ABSTRACT

Quasi experimental – pre test post test with control group design to evaluate the effectiveness of music therapy on anxiety and pain among mothers during first stage of labour in selected Hospitals at Kollam; the objectives of the study were to assess the anxiety and pain, to evaluate the effectiveness of music therapy on anxiety and pain, to find the association between anxiety and pain with selected demographic variables. Based on non-probability purposive sampling technique samples are selected with pre-determined criteria. Sample consist of 60 mothers in latent phase of first stage of labour, 30 each in experimental and control group. The tool used was Spielberger's State Trait Anxiety Inventory and Numerical Pain Intensity Scale. Music therapy was given to the experimental group for a period of one hour. The pre test and post test assessment of anxiety and pain was obtained in both the groups. Data analyzed using descriptive and inferential statistics. The findings of the present study revealed that 't' value computed between paired differences of mean anxiety scores among experimental and control group is statistically significant at 0.05 level of significance ($t = 5.771, p < 0.001$) and the 't' value computed between paired differences of mean pain scores among experimental and control group is statistically significant at 0.05 level of significance ($t = 7.942, p < 0.001$). The findings of the study showed that there was significant association between anxiety and social support; no significant association between pain and demographic variables like age, education, area of residence, religion, type of family, parity, social support. Hence it can be concluded that music therapy is a cost effective and non-pharmacological method to help the mother to reduce anxiety and pain during the latent phase of first stage of labour.

Keywords: Effectiveness; music therapy; anxiety; pain; mothers during first stage of labour.

INTRODUCTION

The physiological transition from being a pregnant woman to becoming a mother means an enormous change for each woman physiologically and psychologically. It is a time when every system in a body is affected and experiences, though unfortunately not joyous for all, represents a major occurrence in a woman's life. Labour, the culmination of pregnancy is an event with a great psychological, social, and emotional meaning for the mother and their family. In addition, many women experience stress and physical pain.¹

The experience of pain during labour is a complex, individual and multifaceted response of sensory stimuli generated during child birth. Labour pains are often

described as the most intense ever experienced, and in many case, it is the aspect of childbirth most feared by the expected mother.²

The feeling of anxiety is a common experience and may concern any human being. Anxiety and fear are commonly associated with increased pain during labour. Labor's fear and anxiety heighten, muscle tension increases, inhibiting the effectiveness of contraction increasing discomfort and further heightening fear and anxiety.³

Alternative therapies greatly expand the range of the therapeutic choices of for the patients suffering from pain. The use of music to relieve pain and decrease anxiety has been known to be helpful. Research regarding the

use of music to reduce labour pain has also demonstrated that music may be used to promote relaxation during the early stages of labour and as a stimulant to promote movement during later stages, when physical exertion is required for bearing down process.⁴

An experimental study conducted in Taiwan on 60 first time mothers expected to have normal spontaneous delivery, to investigate the effect of music therapy on labour pain and anxiety, revealed that compared with the control group, the experimental group had significantly lower pain and anxiety in the latent phase of labour.¹⁰

OBJECTIVES

The objectives of the study were to:

1. To assess the anxiety among mothers during first stage of labour in selected hospitals at Kollam
2. To assess the pain among mothers during first stage of labour in selected hospitals at Kollam
3. To evaluate the effectiveness of music therapy on anxiety among mothers during first stage of labour in selected hospitals at Kollam.
4. To evaluate the effectiveness of music therapy on pain among mothers during first stage of labour in selected hospitals at Kollam.
5. To find the association between anxiety among mothers during first stage of labour and selected demographic variables.
6. To find the association between pain among mothers during first stage of labour and selected demographic variables.

MATERIAL AND METHOD

Setting for the study was labour rooms of Bishop Benziger Hospital and L.M.S Hospital. Population for the study consisted of 60 mothers of primiparous and multiparous with the gestational age of 37-40 weeks who are in the latent phase of first stage of labour in experimental and control group by non-probability purposive sampling technique. The research designed for the present study is quasi experimental – pre test post test control group design to evaluate the effectiveness of music therapy on anxiety and pain among mothers during first stage of labour. The tool used a demographic proforma included 7 items such as age, education, area of residence, religion, type of family, parity, social

support, Spielberger's State Trait Anxiety Inventory had a minimum score of 1 and maximum score of 4. The maximum possible score was 80 and minimum score was 20, Numerical Pain Intensity Assessment Scale is typically an 11 point scale. End points are the extremes of no pain (0) and the worst possible pain (10). The intervention used for the study is instrumental music (violin) based on various ragas which is proved to be effective in reducing anxiety and pain. The CD was obtained from Dr. T Mythily, Course Director, Music Therapy Department, Apollo Hospitals, and Chennai. Informed consent was taken prior to the study from the mothers and nature of study was explained. The pain was assessed by using Numerical Pain Intensity Scale and the anxiety was assessed using Spielberger's State Trait Anxiety Inventory before intervention. The time taken to complete the questionnaire was 10- 15 minutes. The music was administered for one hour during the latent phase of labour. Reassessment of pain and anxiety was done after the intervention in both experimental and control group. The data were thus collected and compiled for data analysis

FINDINGS

Demographic data

The mothers (43.30 percent) were in the age group of 25-29 years in experimental and where as in control group 33.3 percent were in the age group of 26-29 years in the control group. The mothers (70 percent) in experimental group and (63.33 percent) in control group had an education status were graduate. The mothers (63.33 percent) in experimental group and (43.33 percent) in control group, had area of residence in rural area. The mothers (53.30 percent) in experimental group and (40.00 percent) of the mothers were in control group, were Hindus. The mothers (66.70 percent) in experimental group and (73.30 percent) in control group were staying in joint family. The mothers in experimental and control group (50 percent) were primi parous mother and (50 percent) were multi parous mothers.

Anxiety scores among experimental and control group

Findings of the study revealed that in the pre-test level of anxiety, majority of subjects (56.7 percent) of subjects had moderate anxiety, and(43.3 percent) had severe anxiety, while in the post test level of anxiety,

majority of subjects (86.7 percent) had moderate anxiety, (10 percent) of them had mild anxiety and remaining (3.3 percent) had severe anxiety in experimental group whereas, in the control group, during pre-test level of anxiety, all subjects (66.7 percent) had moderate anxiety and (33.3 percent) had severe anxiety, while in the post test level of anxiety, (76.7 percent) had moderate anxiety and (23.3 percent) had severe anxiety

Pain scores among experimental and control group

The study revealed that in the pre-test level of pain, majority of subjects (86.7 percent) had moderate pain, (13.3 percent) of subjects had mild pain, while in the post test level of pain, majority of subjects (83.7 percent) had mild pain, (16.7 percent) of them had moderate pain in experimental group whereas, in the control group during pre-test level of pain, (50 percent) had moderate pain and (50 percent) of subjects had mild pain, while in the post test level of pain, majority of subjects (93.3 percent) had moderate pain and (6.7 percent) had mild pain.

Effectiveness of music therapy on anxiety among mothers who are first stage of

Labour.

The mean pre test anxiety score was 56.13 and mean post test anxiety score was 49.70 among the experimental group, where as in the control group, the mean pre test anxiety score was 56.47 and the mean post test anxiety score was 57.33. There was significant difference between mean pre test and mean post test anxiety scores were statistically significant at 0.05 level of significance ($t = 10.75, p < 0.001$). It shows that music

therapy was effective in reducing the anxiety among the experimental group.

The findings of the present study revealed that t value computed between paired differences of mean anxiety scores among experimental and control group is statistically significant at 0.05 level of significance ($t = 5.771, p < 0.001$). It shows that there was much difference in anxiety among experimental group as compared to the control group

Effectiveness of music therapy on pain among mothers who are first stage of labour

The mean of pre test pain score was 4.10 and mean post test pain score was 2.90 among the experimental group, where as in the control group, the mean pre test pain score was 3.47 and the mean post test score was 4.37. There was significant difference between pre test and post test pain scores among the experimental group were statistically significant at 0.05 level of significance ($t = 11.93, p < 0.001$). It shows that music therapy was effective in reducing the pain perception among the experimental group

The findings of the present study revealed that the t value computed between paired differences of mean pain scores among experimental and control group is statistically significant at 0.05 level of significance ($t = 7.942, p < 0.001$). It shows that there was much difference in pain among experimental group as compared to the control.

Association between anxiety and selected demographic variables: age, education, area of residence, type of family and social support.

Table 1: Association between anxiety and selected demographic variables. n=60

Sl no:	Variables	Anxiety			df	Chi-square value
		Mild	Moderate	severe		
1	Age in years					
	Below 25	0	21	0	2	4.53
	26-29	0	28	0		
	30 and above	0	10	1		

Cont... Table 1: Association between anxiety and selected demographic variables. n=60

2	Educational status					
	High school ,	0	20	0	1	0.50
	Plus two and above	0	39	1		
3	Area of residence					
	Urban	0	28	0	1	0.89
	Rural	0	31	1		
4	Religion					
	Hindu	0	27	1	2	1.162
	Christian	0	20	0		
	Muslim	0	12	0		
5	Type of family					
	Nuclear	0	18	0	1	0.43
	Joint	0	41	1		
6	Parity					
	Primi parous	0	29	1	1	1.017
	Multi parous	0	30	0		
7	Social support					
	Maternal	0	9	1	1	5.085*
	Maternal and paternal	0	50	0		

*significant at 0.05 level

The findings of the study showed that there was significant association between anxiety and social support at 0.05 level of significance.

Association between pain and selected demographic variables: age, education, area of residence, type of family, and social support.

Table 2: Association between pain and selected demographic variables. age, education, area of residence, type of family and social support. n=60

Sl no:	Variables	Pain				df	Chi-square value
		No pain	Mild	Moderate	Severe		
1	Age in years						
	Below 25	0	5	16	0	2	0.15
	26-29	0	6	22	0		
	30 and above	0	3	8	0		
2	Educational status						
	High school	0	6	14	0	1	0.29
	Plus two and above	0	8	32	0		

Cont.. Table 2: Association between pain and selected demographic variables. age, education, area of residence, type of family and social support. n=60

3	Area of residence						
	Urban	0	9	19	0	1	2.27
	Rural	0	5	27	0		
4	Religion						
	Hindu	0	3	25	0	2	4.68
	Christian	0	7	13	0		
	Muslim	0	4	8	0		
	Type of family						
	Nuclear	0	2	16	0	1	2.147
	Joint	0	12	30	0		
6	Parity						
	Primi parous	0	5	25	0	1	1.491
	Multi parous	0	9	21	0		
7	Social support						
	Maternal	0	2	8	0	1	0.00
	Maternal and paternal	0	12	38	0		

at 0.05 level of significance.

The findings of the study showed that there was no significant association between pre therapy pain score and demographic variables like age, education, area of residence, religion, and type of family, parity, and social support at 0.05 level of significance.

DISCUSSION

Effectiveness of music therapy on anxiety among mothers who are first stage of labour

The findings of the present study revealed that t' value computed between paired differences of mean anxiety scores among experimental and control group is statistically significant at 0.05 level of significance ($t = 5.771, p < 0.001$). It shows that there was significant difference in anxiety among experimental group as compared to the control group.

An experimental study was conducted in Mangalore to evaluate the effects of music therapy on pain and level of anxiety during first stage of labour among 40 intranatal mothers. In the first phase, the hospital for music therapy was selected by convenience sampling. In

the second phase, the sample was randomly selected by Lottery method⁴. In the third phase, the samples were randomly allocated to experimental and control groups. A pre test was conducted using structured interview schedule for data base line, Visual Analogue Scale for measuring pain, observational checklist to assess physiological response of pain and modified Spiel-Berger's Anxiety Inventory for measuring anxiety. The findings of the study revealed that calculated⁴ value for pain (6.268) and for anxiety (4.056) is greater than the tabled value ($t_{10} = 2.093$) at 0.05 level, showing that music therapy was effective to reduce pain and anxiety during labour.¹¹

Effectiveness of music therapy on pain among mothers who are first stage of Labour

The mean of pre test pain score was 4.10 and mean of post test pain score was 2.90 among the experimental group, where as in the control group, the mean of pre test pain score was 3.47 and the mean of post test score was 4.37. There was significant difference between pre test and post test pain scores among the experimental group were statistically significant at 0.05 level of significance ($t = 11.93, p < 0.001$). It shows that music therapy was

effective in reducing the pain perception among the experimental group.

The findings of the present study revealed that the t value computed between paired differences of mean pain scores among experimental and control group is statistically significant at 0.05 level of significance ($t = 7.942$, $p < 0.001$). It shows that there was much difference in pain among experimental group as compared to the control group

A study was conducted on effectiveness of music therapy in terms of level of pain perception among primigravida mother in Southern Railway Hospital, Chennai. Based on non probability purposive sampling technique, 30 mothers were allotted for experimental and 30 mothers were allotted for control group. Music therapy was given to assess the level of labour pain perception. The pre and post assessment of level of pain was obtained using a modified combined Numerical Categorical Pain Intensity Scale. The findings of the study showed that comparison of pre and post assessment t value in session I was 21.53 and in session II, the t value was 21.05 which were significant at $p < 0.01$ level. It reveals that the primigravida mother's pain perception level was reduced after music therapy.¹²

CONCLUSION

Sample consisted of 60 mothers in latent stage of first stage of labour with 30 each in experimental and control group. The findings of the present study revealed that t value computed between paired differences of mean anxiety scores among experimental and control group is statistically significant at 0.05 level of significance ($t = 5.771$, $p < 0.001$). It shows that there was much difference in anxiety among experimental group as compared to the control group. The findings of the present study revealed that the t value computed between paired differences of mean pain scores among experimental and control group is statistically significant at 0.05 level of significance ($t = 7.942$, $p < 0.001$). It shows that there was much difference in pain among experimental group as compared to the control.

Source of Fund: Self

Conflict of Interest: Nil

Ethical Considerations: The study was conducted after obtaining ethical clearance from the institutional ethical committee and permission from Bishop Benziger

Hospital and L.M.S Hospital, Kollam, was obtained for conducting the study. Informed consent was taken prior to the study from the mothers and nature of the study was explained. Confidentiality was assured throughout the study.

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Effectiveness of Structured Teaching Program on OSCE among Nurse Educators

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ABSTRACT

A pre experimental study was done to determine the effectiveness of Structured Teaching Program (STP) on Objective Structured Clinical Examination (OSCE) among nurse educators. The objectives of the study are: a) assess the pretest knowledge scores of nurse educators, b) determine the effectiveness of STP on OSCE among nurse educators by comparing post test knowledge scores with pretest knowledge scores and c) associate the pretest knowledge scores with demographic variables. The investigator had prepared STP on OSCE and was delivered by lecture method using power point presentation. The study was conducted in a college of nursing, Nainital. The sample consisted of 31 nurse educators. Data was collected using convenience sampling technique nurse educators were selected for the study. Pretest was given using structured knowledge questionnaire. Subsequently, STP was delivered using power point presentation. Following that post test was done after five days using same tool used for pretest. The results of the study reveals that the over all mean, standard deviation and mean percentage of the pretest knowledge scores of nursing faculty members were 3.968, 1.516 and 39.7% respectively. The mean difference between pretest and post test were 4.355 and paired 't' value was 17.576 that was significant at 0.001 level. Further, level of knowledge between pretest and post test were computed. It was found majority (51.6%) had average knowledge and 38.7% had poor knowledge in the pretest whereas majority (90.3%) had good knowledge and 9.7 % had average knowledge in post test. Also, it was found that except qualification, all demographic variables were not found to have any significant association.

Keywords: *Structured teaching program, Objective Structured Clinical Examination, knowledge, nurse educators,*

INTRODUCTION

Assessment of clinical skills has a central role in nursing education and the selection of suitable methods has been a matter of permanent concern for clinical teachers, assessment of clinical competence, requiring educators to make informed decisions that measure students' clinical knowledge and skills accurately, an effective educational system is realized through effective assessment and evaluation methods. Few concerns given by Gillings and Davies about unrealistic and the artificial nature of the traditional system of clinical evaluation, learners would pass the examination with high marks up to 100% but would not make any difference in the clinical practice with regard to improvement on clinical reasoning skills and such clinical assessments have often been challenged by a lack of objectivity. ⁽¹⁾ It is therefore important to utilize trustworthy assessment

and evaluation methods in clinical nursing education.

Nursing education encompasses theoretical and practical training. And clinical training is considered as an indispensable part of professional nursing education. It is provided to the nursing students to hike their clinical competence. The responsibility of the students' clinical competence largely remains on the shoulders of nurse teachers.

OSCE was introduced by Harden in 1975 and has become a well- established method of assessment in medical education. A framework for the development of clinical competence has been described by Miller (1990) which outlines four levels at which a learner can be assessed: knows, knows how, shows how and does (Fig.1). OSCE corresponds to the third level, that is, shows how.

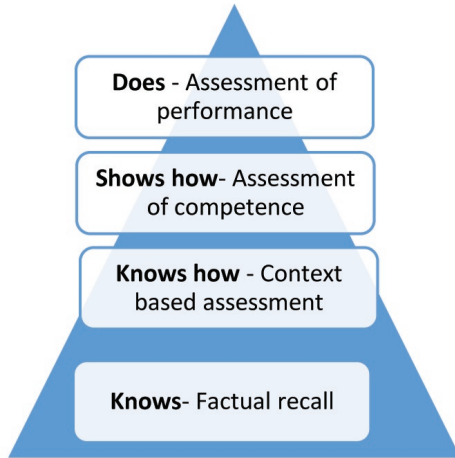


Fig.1: Development of clinical skills/ competence/ performance adapted from Miller (1990)

As a method of clinical skills assessment, OSCE possesses a number of intrinsic advantages. Initially, it can include both summative and formative components, in which a judgment or evaluation of an individual's performance is made and followed by provision of feedback, from which student can learn. ⁽²⁾ Next advantage is that because each student is required to demonstrate specific behaviors in a simulated work environment, strict control over the clinical context is possible and simultaneously it reflects real life professional tasks. This control eliminates the 'the luck of the draw' problem that arises when students are assessed within real- world clinical environment with actual patients. ⁽³⁾

NEED FOR THE STUDY

OSCE is one form of objective evaluation method that is gaining more importance and is being adopted by educators of various disciplines. It involves the use of cognitive skills like critical thinking and problem solving. OSCE enhances interaction between the teacher and student; learners need critical and reflective thinking skills to be evaluated in order to be safe and competent practitioners of the profession. ^(4,5)

OSCE sessions not only help students determining their own weaknesses⁽⁶⁾, but also enable examiners or lecturers to realize what are the current students' abilities.⁽⁷⁾ OSCE is practiced world wide in nursing education, although a considerable body of knowledge concerning technical and organizational aspects of OSCE administration is available; little had been published on the responses of the faculty members.

OSCE foster a deeper approach to learning and encourage more meaningful learning and reflection. ^(8,9,10) They can be used to assess a range of skills in an objective manner but those skills need to be developed in parallel with what a nurse will be doing in clinical area. Also, OSCE can identify students who are weak in performing clinical skills early on in their program. With a raised awareness of this, and help of tutors, mentors and lecturers students can be directed to extra sessions, resources and assistance in practice. ⁽¹¹⁾

The aforementioned literature states the significance of OSCE and highlights this objective way of evaluating skills. It is implied that the nurse educators would be equipped to perform OSCE. The present study is thus selected to assess if nurse educators are adequately equipped with knowledge of applying OSCE and their performance after STP.

Problem statement:

A study to determine effectiveness of structured teaching program on OSCE among nurse educators in a selected nursing college.

Objectives of the study:

1. Assess the pretest knowledge scores of nurse educators
2. Determine the effectiveness of STP on OSCE among nurse educators by comparing post test knowledge scores with pretest knowledge scores
3. Associate the pretest level of knowledge with demographic variables

Research hypothesis:

H₁: There will be significant improvement in the mean knowledge scores of the nurse educators in the post test scores than pretest scores.

MATERIALS AND METHOD

Research approach and design: The research approach is quantitative and research design selected for the study was pre experimental.

Intervention: The investigator had prepared structured teaching program on OSCE comprising of components including OSCE used as a tool for evaluation, clinical competence and its significance

in nursing, planning as OSCE assessment, methods of conducting and need for scoring. It was delivered by lecture method using power point presentation for the duration of eighty minutes.

Setting of the study: The study was conducted in a college of nursing, Nainital.

Target population: All nurse educators in the college of nursing

Sample size: The sample consisted of 31 nurse educators

Sampling technique: The sampling technique adopted for the present study was convenience sampling.

Tools of the study: It includes Part A) demographic variables and Part B) Structured knowledge questionnaire on OSCE

Data collection procedure: Permission was obtained from the authorities to conduct study. Using convenience sampling technique nurse educators were selected for the study. Pretest was given using structured knowledge questionnaire. Subsequently, STP was delivered using power point presentation. Following that post test was done after five days using same tool used for pretest. Data was collected in March 2015.

RESULTS

The results of the study are organized in tables in accordance to the objectives of the study.

**Table: 1: Distribution of demographic variables
N=31**

Variables	Frequency	Percent
Age		
21 - 25 Years	9	29.0
26 - 30 Years	20	64.5
Above 30 Years	2	6.5
Gender		
Male	16	51.6
Female	15	48.4
Qualification		
B.Sc Nursing	21	67.7
M.Sc Nursing	10	32.3
Years of Experience		
1 - 3 Years	13	41.9
4 - 6 Years	15	48.4
Above 6 Years	3	9.7

**Table: 2: Mean, SD and Mean percentage of pre-test and post-test knowledge scores
N=31**

Observation	Mean	SD	Mean %	Range
Pre-test	3.968	1.516	39.7%	2 - 7
Post-test	8.323	0.653	83.2%	7 - 9

**Table: 3: Distribution of pre-test and post-test knowledge
N=31**

Level of knowledge	Pre-test		Post-test	
	Frequency	Percent	Frequency	Percent
Poor	12	38.7	0	0.0
Average	16	51.6	3	9.7
Good	3	9.7	28	90.3
Total	31	100.0	31	100.0

**Table: 4: Effectiveness of structured teaching on OSCE in overall knowledge
N=31**

Observation	Mean	SD	Difference	t - value	df	p - value
Pre-test	3.968	1.516	4.355	17.576**	30	0.000
Post-test	8.323	0.653				

** Association is significant at 0.001 level

Table: 5: Effectiveness of structured teaching on OSCE in each aspect of knowledge N=31

Aspects of OSCE	Observation	Mean	SD	Difference	t - value	df	p - value
Tool of Evaluation	Pre-test	1.194	0.601	0.613	5.547**	30	0.000
	Post-test	1.806	0.402				
Clinical Competence	Pre-test	1.161	0.735	0.710	5.047**	30	0.000
	Post-test	1.871	0.341				
Planning an OSCE Assessment	Pre-test	0.710	0.824	1.000	6.502**	30	0.000
	Post-test	1.710	0.529				
Method of Conducting	Pre-test	0.677	0.653	1.000	8.803**	30	0.000
	Post-test	1.677	0.475				
Need for Scoring	Pre-test	0.226	0.425	1.032	8.742**	30	0.000
	Post-test	1.258	0.514				

** Association is significant at 0.001 level

Table: 6: Association between knowledge and demographic variables N=31

Variables	Knowledge			Total	Fisher's Value	p - value
	Poor	Average	Good			
Age Group						
21 - 25 Years	3 (33.3)	5 (55.6)	1 (11.1)	9 (100)	1.220	0.999
26 - 30 Years	8 (40.0)	10 (50.0)	2 (10.0)	20 (100)		
Above 30 Years	1 (50.0)	1 (50.0)	0 (0.0)	2 (100)		
Gender						
Male	8 (50.0)	7 (43.8)	1 (6.3)	16 (100)	1.923	0.430
Female	4 (26.7)	9 (60.0)	2 (13.3)	15 (100)		
Qualification						
BSc Nursing	9 (42.9)	12 (57.1)	0 (0.0)	21 (100)	5.859*	0.048
MSc Nursing	3 (30.0)	4 (40.0)	3 (30.0)	10 (100)		
Years of Experience						
1 - 3 Years	6 (46.2)	6 (46.2)	1 (7.7)	13 (100)	1.335	0.959
4 - 6 Years	5 (33.3)	8 (53.3)	2 (13.3)	15 (100)		
Above 6 Years	1 (33.3)	2 (66.7)	0 (0.0)	3 (100)		

* Association is significant at 0.05 level

DISCUSSION

Assessment of pretest scores: The over all mean, standard deviation and mean percentage of the pretest knowledge scores of nurse educators were 3.968, 1.516 and 39.7% respectively. When analyzed with each aspect of OSCE the mean percentage of tool for evaluation, clinical competence, planning an OSCE assessment, method of conducting and need for scoring were 59.7%, 58.1%, 35.5%, 33.9% and 11.3% respectively. The

findings of the present study were consistent with the findings of the qualitative study done. (12) It revealed that most nursing instructors do not have enough information about the students before starting each apprenticeship. They also did not have enough information about each student during completion of clinical evaluation forms. Furthermore, they admitted that they had problems in clinical evaluation methods.

Effectiveness of structured teaching program on OSCE: The effectiveness of the structured teaching program on OSCE among nurse educators were

determined by comparing post test knowledge scores with pretest. The mean difference between pretest and post test were 4.355 and paired 't' value was 17.576 that was significant at 0.001 level that indicates the intervention administered created a marked change among nurse educators. Besides computing paired 't' test for overall scores, each aspect of OSCE was computed between pretest and post test and it was found to be significant at 0.001 level which supports H_1 . The mean knowledge scores obtained in the post test score was higher than pretest knowledge score, thus H_1 was accepted.

It is believed that the educators should be more careful about students' perfect knowledge which can be achieved by using more clinical nursing practice environments. ⁽¹³⁾ The present study findings is in line with previous study performed to evaluate knowledge and perception of nurse educators regarding OSCE construction and self assessment skills implementing OSCE in a workshop. The results revealed significant improvement in their mean score of post test when compared to pretest. The participants highly evaluated the workshop and were positive in their future ability to conduct OSCE. ⁽¹⁴⁾

Further, level of knowledge between pretest and post test were computed using descriptive statistics. It was found majority (51.6%) had average knowledge and 38.7% had poor knowledge in the pretest whereas majority (90.3%) had good knowledge and 9.7 % had average knowledge in post test that reflects the effectiveness of intervention administered.

Association of pretest knowledge level and demographic variables: It was found that except qualification, all demographic variables were not found to have any significant association.

CONCLUSION

Although numerous studies state OSCE was an acceptable method of evaluation in the view of clinical instructors and students as well, and many recommendations of the study elaborating on OSCE to be mandatory to evaluate clinical skills among students, present study findings projected the knowledge of OSCE among nurse educators in the pretest was low. It reflects that OSCE should be a topic which each clinical instructor should be equipped enough to conduct OSCE

without which the whole program can run into failure. OSCE should be installed in the induction program for all clinical instructors at the time of employment to have a mutual benefit, for them and students. In the quest to improve clinical evaluation, nurse educators need to strive towards improving and strengthening clinical skills of students.

Ethical Clearance: Obtained from Research Advisory Committee of the Institute.

Source of Fund: None

Conflict of Interest: Nil

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A Study to Identify the Correlation between Psychological Problems & Coping Strategies Adopted by the Wives of the Alcoholics Attending the Selected De-addiction Centres in Mangalore

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ABSTRACT

Introduction: Alcoholism is a chronic, often progressive disease in which a person craves alcohol and drinks despite repeated alcohol related problems. Families with alcohol problems live in a painful chaos. The wife of an alcoholic, who enters into marital life with a heart full of expectations, becomes exhausted, when she faces tough life situations, from the alcoholic husband. The wife of an alcoholic may experience psychological problems due to her life with alcoholic husband. The problems may be arguments about drinking, role change, conflicts, quarrels and even physical violence.¹

Objective: The aim of this study was to correlate the psychological problems and the coping strategies adopted by the wives of alcoholics.

Materials and Method: Descriptive survey approach with correlational research design was adopted in the study. Total of 30 wives of alcoholics were selected through purposive sampling technique. The data was gathered by using psychological assessment checklist and modified BRIEF cope inventory was used. The data was analyzed using descriptive and inferential statistics.

Results: Most (93%) of wives of alcoholics were having problems like feeling sad, feeling of loneliness and neglected in the community. About (80%) of the samples had disturbed sleep and getting irritated over silly things and (27%) of them had a feeling of helplessness and hopelessness. The study also revealed that there was a weak negative correlation ($r = -0.1$, $p = 0.688$) between the psychological problems and the coping strategies adopted by the wives of alcoholics and it is statistically not significant.

Conclusion: Alcoholism is family fatal disease which disturbs the entire family rather than an alcoholic. So there is a need of an immediate attention to promote the wellbeing of the wives of alcoholics.

Keywords: Correlation; Psychological Problems; Coping Strategies; Wives of alcoholic.

INTRODUCTION

Alcoholism is the major problem in our society and alcoholics are increasing drastically today. Two third of the Indian population consumes alcohol. Alcoholism affects not only the individual but also his family and the society and it creates severe problem to the family

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members and they face unfold misery¹. Wives of alcoholics are the persons who suffer the consequences of alcoholism and its effects the most.

Today alcoholism is the third leading cause of psychiatric problems in the world. It is estimated that 1 in 10 people worldwide are either alcoholic or borderline alcoholic. Alcoholism causes significant harm to the physical, psychological and social health of an individuals and families as a whole¹.

Addiction is a family problem and major source of stress for the family members. Family disruption related to alcoholism is a serious, complex and pervasive social problem. It is linked to violence, disrupted family roles, impaired communication and partly physical and psychological illness. The statistics also show that alcoholism increases suicidal tendencies, incident of domestic violence and affects the ability of a person to concentrate at work².

Alcoholism is also known as a family disease and alcoholics may have young, teenage or grown-up children; they have wives or husband etc, so an alcoholic can totally disrupt family life and cause harmful effects that can last a lifetime permanently².

NEED FOR THE STUDY

Alcoholism is a chronic excessive drinking of alcoholic beverages resulting in impairment of health and or social or occupational functional and increasing adaption to the effects of alcohol requiring increasing doses to achieve and sustain a desired effect¹.

Alcoholism is not only a disease; it is a serious, life-altering problem that the whole family has to deal with. When a man is an alcoholic, it can be destructive and painful for not only any children who are in the home, but also his wife. Some alcoholics can become violent, and turn abusive toward their wives. Other times, the alcoholic husband is not violent, but is draining family finances to support his habit. Whatever the consequences of alcoholism happen to be, both the alcoholic and his wife will need support and help²

Alcoholism also has negative effects on the spouse of the alcoholic. The spouse may have feelings of hatred, self-pity, avoidance of social contacts, may suffer from exhaustion, and become physically or mentally ill. Very often the spouse has to perform the roles of both the

parents. Family responsibilities shift from two parents to one parents. As a result, the non- alcoholic parents may be inconsistent and demanding.

Alcoholism also is one of the major reasons for divorce. Today experts who study alcoholic families know that family and marital problems often start because of alcoholism. The consequences of alcoholism all too often result in chaotic, disorganized and dysfunctional families. Families of alcoholics experience guilt, shame. Husbands were hospitalized for the first time for deaddiction. United States of America states that alcoholic families demonstrate poorer problem solving abilities than non-alcoholic families both among the parents and within the family as a whole. These poor communication but finally they begin to feel depressed, confused, and even guilty². Skills may be mechanisms through which lack of cohesion and increased conflict develop and escalate in alcoholic families. Wives of alcoholics first they try to adjust with the problems.

In Indian society alcoholism is one of the major social problems. This problem directly affects the health of family structure, divorce, irresponsibility of husbands, suicide, homicide, broken home, poor academic performance of children, poverty are all the outcome of this evil³.

OBJECTIVES

1. To assess the psychological problems experienced by the wives of alcoholics as measured by psychological assessment checklist
2. To determine the coping strategies adopted by the wives of alcoholics as measured by modified BRIEF cope inventory
3. To find the correlation between the psychological problems and coping strategies

HYPOTHESIS

All hypotheses will be tested at 0.05 and 0.01 level of significance.

- H_1 : There will be a significant correlation between psychological problems and coping strategies adopted among the wives of alcoholics

ASSUMPTIONS

This study assumes that

- The wives of alcoholics may have their own strategies to cope with an alcoholic husband
- The wives of alcoholics will respond honestly to the questions regarding coping strategies adopted to manage their husbands drinking habit.

DELIMITATIONS

This study is delimited to the wives of alcoholics

- whose husbands are admitted to the selected de-addiction centre for treatment of alcoholism.

RESEARCH METHODOLOGY

• Research Approach

Descriptive survey approach was adopted in this study.

• Research Design

Descriptive correlational research design was used.

• Setting of the study

This study was conducted in (velankanni ward) de-addiction centre at Father Muller Medical College Hospital Mangalore.

• Population

Population for the present study comprises of all the wives of alcoholics whose husbands are admitted to the selected de-addiction centre for treatment of alcoholism.

Sampling technique

Purposive sampling technique was used to select 30 wives of alcoholics.

Sample size

30 wives of alcoholics, whose husbands are admitted in de-addiction centre at Father Muller Medical College Hospital, Mangalore

Criteria for sample selection

• Inclusion Criteria:

The study includes wives of alcoholics

1. whose husbands are admitted to the de-addiction centre for treatment at the time of data collection
2. the wives who are willing to participate in the study

Exclusion Criteria:

1. The wives of alcoholics, who are having a known history of psychiatric illness.

Data collection instruments:

Tool-consisted of three (3) parts:

- Section A: **Demographic variables** which had 08 items
- Section B: **Psychological problem assessment checklist** was used to assess the psychological problems among wives of alcoholics. It consisted of 15 items.[Maximum score-15]
- Section C: **Modified BRIEF cope inventory** was used to determine the coping strategies used by wives of alcoholics. It consisted of 20 items. [Maximum score- 80]

DATA COLLECTION PROCEDURE

- Formal written permission was obtained from the consent authorities to conduct research study in Fr. Muller hospital in Mangalore,
- The purpose of the study, method of data collection and time required were explained to subjects.
- They were also assured of the confidentiality of the information.
- Ethical clearance was obtained from concerned ethical committee
- Informed consent was obtained.
- Data was collected from the wives of alcoholics.
- Collected data was analyzed using descriptive statistics

RESULTS

- Sample characteristics

- Highest percentage (43%) of the samples belonged to age group of 18-25 years.
- Majority (50%) of the wives belonged to Hindu religion
- Maximum percentage (33%) of them were having primary education,
- Majority (60%) of the samples were house wives,
- About (37%) of them was having their family income less than Rs 5000.
- Highest percentages (37%) of samples were having 5-10 years of marital life.
- About (33%) of the wives of alcoholic husbands are having alcohol more than 5 years.

- Psychological problems

- Most (93%) of wives of alcoholics were having problems like feeling sad, feeling of loneliness and neglected in the community.
- Majority (80%) of the samples had disturbed sleep and getting irritated over silly things.
- About (27%) of them had a feeling of helplessness and hopelessness

- Correlation between psychological problems and coping strategies adopted among wives of alcoholics

- The correlation between psychological problems and coping strategies adopted among wives of alcoholics was tested using Spearman's rank correlation co-efficient.
- The study revealed that there was a weak negative correlation ($r = -0.1$, $p = 0.688$) between the psychological problems and the coping strategies adopted by the wives of alcoholics and it is statistically not significant. Hence null hypothesis is accepted and research hypothesis is rejected

LIMITATIONS OF THE STUDY

- Since the study sample was limited to only one de-addiction centre with small sample, generalization of findings were restricted.

- The study was conducted on wives of alcoholics whose husbands are admitted for treatment of alcoholism only.

RECOMMENDATIONS

- A similar study may be repeated on a larger sample.
- A similar study can be conducted among the wives of alcoholics and non-alcoholic husbands.

CONCLUSION

Alcoholism is a fatal disease which affects the wives of alcoholics physically, mentally and socially. Hence health personnel's should give more attention towards them and make them to ventilate their feelings and problems because of their alcoholic husband. This study proved that majority of wives of alcoholics' face one or the other psychological problems and some have their own way to overcome from them.

Source of Funding: Self

Conflict of Interest: Nil

Ethical Clearance: Ethical clearance obtained from Father Muller Institutional Ethics Committee.

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Evaluation of the Effect of Clinical Nurse Mentors Assigned to Nursing Students upon Level of Satisfaction Regarding Clinical Teaching-learning Process

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ABSTRACT

Introduction: Mentoring is an important teaching-learning process in undergraduate nursing Curricula.

Material and Method: A Quasi experimental one group pretest and post test design was conducted on 30 students of 1st and 2nd Year B.Sc Nursing from Symbiosis College of Nursing, Pune to evaluate the effect of Clinical Nurse Mentors. Non-Probability Random Sampling was used to select the students. The study was undertaken over a month period. The students attempted pre-test and post- test before and after the exposure to Clinical Nurse Mentors. **Results:** The analysis was done using percentage calculation for demographic data and non-parametric Chi square test for analyzing the data collected regarding satisfaction level. The statistical analysis revealed that majority of the respondents were females between 18-19 years of age. The student satisfaction level was calculated to be significantly high after the appointment of Clinical Nurse Mentors:

1. Duration of clinical supervision (Chi Square value 144, significant at level $p = 0.001$)
2. Clarification of doubts of students in clinical setup (Chi Square value 172, significant at level $p=0.001$)
3. Satisfaction level regarding self-confidence while performing Advanced and Basic clinical nursing procedures (Chi Square value 118, significant at level $p=0.001$)
4. Opportunities to practice Basic and Advanced clinical procedures (Chi Square value 129.6, significant at level $p=0.001$)
5. Regularity of clinical teaching (Chi Square value 124, significant at level $p=0.001$)
6. Empathetic treatment from teacher in clinical setup (Chi Square value 92, significant at level $p=0.001$)
7. Provision of individual attention for students (Chi Square value 29.87, significant at level $p=0.001$)
8. Ability to communicate the problems to the teacher (Chi Square value 84.9, significant at level $p=0.001$)
9. Motivational level to perform better in clinical setup (Chi Square value 116 significant at level $p=0.001$)

The study confirmed the value of mentorship in Under Graduate (UG) Nursing Program and highlighted the importance of skill competence as a basis for professional role identity by Baccalaureate students. Thus appointment of Clinical Nurse Mentors for the purpose of clinical teaching learning process may be a good decision by Colleges of Nursing.

Keywords: *Clinical Nurse Mentors, Under Graduate Nursing students.*

'Mentoring' as a concept and practice, that is in reference to facilitating professional learning in healthcare. This has evolved consistently since the 1970s and was formally implemented in pre-registration nursing and midwifery education in the 1980s. In the *Shorter Oxford English Dictionary* (Brown, 2002: 1747), the term 'mentor' originates from the Greek classical story '*The Odyssey*' in which King Odysseus called upon a trusted friend and named him Mentor to act as the guide and advisor to his young son Telemachus, when he left for another country to fight a war. ⁽¹⁾ The word mentor also relates to the Latin word '*men's*' that is, pertaining to, or occurring in the mind (Simpson and Weiner, 1989: 614). The term has gradually evolved to signify a designated person who dedicates some of his time to help individuals to learn during their developmental years, to progress towards and achieve maturity and establish their identity.⁽²⁾ It has been implemented as a formal role in nursing education to direct the focus on enabling students to gain safe and effective clinical practice skills during practice placements. This section disentangles the concept of mentor from similar titles by exploring the differences and similarities between them.

Mentoring is a learning and developmental process that assists students' achievement of competencies, orientation to the clinical role, and personal and professional accomplishment (Ehrich et al. 2002), the opportunity to reduce the theory-practice-gap.⁽³⁾ With the growing emphasis on expanding evidence-based practice in nursing, however, mentoring within the context of research is becoming increasingly important.

Review of Literature revealed that appointment of Clinical Nurse Mentors is a newer trend in Nursing Education, ensuring holistic Nursing Education for the students.

A study conducted by K Rose (2003) indicates that presence of Nurse Mentors as teachers in clinical setup was highly appreciated by the students. His study showed that above all, a job that was regarded as permanent and perceived as a connection to Nursing education by the Nurse Mentors, caused them to be more receptive towards students learning process & significantly boosted the job satisfaction score, with a marginal increment for not having to work unpaid overtime.⁽⁴⁾

Statement of the problem:

"Evaluation of the effect of Clinical Nurse Mentors assigned to nursing students upon level of satisfaction regarding clinical teaching-learning process".

Objectives:

1. To assess the feasibility of appointing Clinical Nurse Mentors to nursing students.
2. To evaluate the effect of appointing Clinical Nurse Mentors for nursing students upon the satisfaction of nursing students regarding clinical teaching-learning process.
3. To evaluate the satisfaction level of the Clinical Nurse Mentors regarding this clinical teaching-learning process.

Hypothesis:

H₁: It is feasible to appoint Clinical Nurse Mentors for the nursing students for the purpose of effective teaching learning process.

H₂: The students will achieve significant increase in level of satisfaction regarding clinical teaching-learning activity by Clinical Nurse Mentors

H₃: The Clinical Nurse Mentors will achieve significant increase in level of satisfaction regarding their jobs after introducing Clinical Nurse Mentorship in their job descriptions.

METHODOLOGY

Research Approach: An evaluative approach was used for the present study.

Study Design: Quasi experimental; one group pretest posttest design

Sample Size: 30

Sampling technique: Non-Probability Random Sampling was used

Sampling Frame: 1st & 2nd year B.Sc Nursing students of Symbiosis College of Nursing, Pune city. The study was undertaken over a period of one month.

Variables under Study:

1. Independent Variable:

Clinical Teaching by Clinical Nurse Mentors

2. Dependent Variable:

o The satisfaction level of nursing students regarding the clinical teaching learning process

o The satisfaction level of Clinical Nurse Mentors regarding their jobs after inclusion of clinical mentorship

3. Socio-Demographic Variables:

In this study socio-demographic variables refer to the selected variables regarding the Clinical Nurse Mentors, like age, gender, educational background, religion, year of study.

4. Setting of the Study:

The present study was conducted at Symbiosis College of Nursing, Pune.

POPULATION:

Target Population: Nursing students and Staff nurses working in various hospitals of Pune city.

Accessible population: Nursing students of Symbiosis College of Nursing and Staff Nurses working in selected Hospitals of Pune city, Maharashtra.

CRITERIA FOR SELECTION OF SAMPLE

Inclusion Criteria:

1. Students who are physically fit to be part of research study.

2. Staff nurses who have undergone degree programme in nursing.

3. Staff Nurses having at least 2 years of clinical experience.

4. Students and Staff Nurses who are willing to participate in the study.

Exclusion Criteria:

1. Students and Staff nurses having out of ordinary personal/academic stress.

2. Students undergoing P.B.B.Sc course.

3. Students who are recurrent absentees from the

clinical field.

4. Post Graduate students.

Description of Tools:

Tool was developed by the investigator after extensive review of literature. The Tool has two parts.

For Students:

A: Demographic data

B: Likert scale to measure satisfaction level regarding clinical teaching learning process.

For Clinical Nurse Mentors:

A: Demographic data

B: Likert scale to measure satisfaction level regarding job description

Validity & Reliability of the Tool:

Tool was sent for content validity to five experts from the field of Nursing. Pilot study was conducted on five students of another institute to check the reliability of the tool. The reliability of tool was calculated by Split-half technique, and was 0.78 which was reliable. These students were not included in the main study.

Data Collection Procedure:

Pre-test satisfaction level of student nurses was assessed before the appointment of Clinical Nurse Mentors with regard to duration of clinical supervision, clarification of doubts, level of confidence while performing clinical procedures, opportunities to practice basic and advanced nursing procedures, regularity of clinical teaching, empathetic treatment during clinical postings, provision of individual attention, communication of problems to supervisor, scheduling of return demonstrations, motivation to perform better in clinical field, permanent appointment of Nurse Mentors.

Post-test satisfaction level of student nurses was assessed after the appointment of Clinical Nurse Mentors using the same Questionnaire, at the same place, in regard to duration of clinical supervision, clarification of doubts, level of confidence while performing clinical procedures, opportunities to practice basic and advanced

nursing procedures, regularity of clinical teaching, empathetic treatment during clinical postings, provision of individual attention, communication of problems to supervisor, scheduling of return demonstrations, motivation to perform better in clinical field, permanent appointment of Nurse Mentors.

FINDINGS

Table: Satisfaction level of students in various areas of satisfaction

Sl.No.	Areas of Satisfaction	Satisfaction level before appointing clinical mentors	Satisfaction level after appointing clinical mentors	Chi square
1	Duration of clinical supervision	-36	36	144*
2	Clarification of doubts	-43	45	172*
3	Level of confidence while performing clinical procedures	-23	39	118.56*
4	Opportunities to practice basic and advanced nursing procedures	-32	40	129.6*
5	Regularity of clinical teaching	-31	35	124.45*
6	Empathetic treatment during clinical postings	-23	24	92.04*
7	Provision of Individual attention	06	41	29.87*
8	Communication of problems to supervisor	-21	26	84.96*
9	Scheduling of return demonstrations	30	35	0.71*
10	Motivation to perform better in clinical field	-27	47	116.51*
11	Permanent appointment of Nurse Mentors	-	59	-

Significant at 0.05 level.

DISCUSSION

1. As displayed in the table, at Serial No. 1, there was a significant increase ($p=0.001$) in the level of satisfaction of students regarding the clinical supervision provided during clinical posting. The interpretation to be drawn is that presence of Nurse Mentors significantly enhances the satisfaction level of the students regarding clinical teaching practices. Therefore, H_2 is accepted, H_0 is rejected.

2. As displayed in table, at Serial No. 2, there was a significant increase on scale ($p=0.001$) in the level of satisfaction of students regarding clarification of doubts regarding procedures performed in the wards. Nurse Mentors were better able to clarify the doubts as compared to Clinical Instructors. Therefore, H_1 is accepted, H_0 is rejected.

3. As displayed in table, at Serial No. 3, there was a significant increase on scale ($p=0.001$) in the level

of satisfaction of students regarding the confidence while performing clinical procedures. Presence of Nursing Mentors has significantly increased the level of confidence of the students more as compared to Clinical Instructors. Therefore, H_1 is accepted, H_0 is rejected.

4. As displayed in, at Serial No.4, students claimed that they got significantly better opportunities to perform advanced and basic nursing procedures under the guidance of Nurse Mentors, as compared to Clinical Instructors. The value was significant at $p=0.001$ scale. Therefore, H_2 is accepted, H_0 is rejected.

5. As displayed in table, at Serial No. 5, the level of satisfaction of students was significantly higher on scale ($p=0.001$) regarding regularity of clinical teaching taking place in clinical setup under the guidance of Nurse Mentors as compared to Clinical Instructors. Thus, it can be interpreted that Nurse Mentors ensure better scheduling and continuity of bed side nursing education. Therefore, H_2 is accepted, H_0 is rejected.

6. As displayed in table, at Serial No. 6, the level of satisfaction of students was significantly higher on scale ($p=0.001$) regarding empathetic treatment given to them by Nurse Mentors as compared to Clinical Instructors. It can be interpreted that the longer the time spent with the students makes the Nurse Mentors more empathetic towards the students as compared to Clinical Instructors. Therefore, H_2 accepted, H_0 is rejected.

7. As displayed in table, at Serial No. 7, the level of satisfaction of students was significantly higher on scale ($p=0.001$) regarding Individual attention given to each student in clinical setup under the guidance of Nurse Mentors, as compared to Clinical Instructors. Thus, it can be interpreted that Nurse Mentors pay better attention to individual students as compared to the Clinical Instructors. Therefore, H_1 accepted, H_0 is rejected.

8. As displayed in table, at Serial No. 8, the level of satisfaction of students was significantly higher on scale ($p=0.001$) regarding ease of communicating problems related to teaching-learning in clinical setup under the guidance of Nurse Mentors, as compared to Clinical Instructors. Thus, it can be interpreted that Nurse Mentors are able to guide the students better in clinical set up as compared to the Clinical Instructors. Therefore, H_1 accepted, H_0 is rejected.

9. As displayed in table, at Serial No.9, the level of satisfaction of students was not significantly distinguishable on scale ($p=0.001$) regarding scheduling of return demonstrations by Nurse Mentors as compared to Clinical Instructors. The frequency of return demonstration is more or less similar by both the Nurse Mentors as well as the Clinical Instructors. Therefore, H_2 accepted, H_0 is rejected.

10. As displayed in table, at Serial No.10, the level of satisfaction of students was significantly higher on scale($p=0.001$) regarding the motivational level to perform better in clinical setup under the guidance of Nurse Mentors as compared to Clinical Instructors. It can thus be interpreted that presence of Nurse Mentors is a better motivational factor for the students to do better in clinical set up as compared to the presence of Clinical Instructors. Therefore H_2 accepted, H_0 is rejected.

11. As displayed in table, at Serial No.11, all the respondents felt that presence of Nurse Mentors

permanently for the purpose of clinical Teaching will be most appreciable. This indicates that the overall satisfaction level of the student is high for the permanent appointment of Nurse Mentors for the teaching of the students as compared to appointment of Clinical Instructors. Therefore, H_2 accepted, H_0 is rejected.

SUMMARY & CONCLUSION

Overall the satisfaction level of the student nurses was very high related to mentors for the teaching of the students as compared to appointment of Clinical Instructors.

“Thus it can be interpreted that appointment of Clinical Nurse Mentors for the purpose of clinical Teaching- Learning process may be a good decision by Colleges of Nursing”

Implications

Nursing Education:

Clinical Nurse Mentors enhance the quality of nursing education by keeping the motivational level of the students high.

Appointing Clinical Nurse Mentors is an opportunity (is a new teaching instrument/technique, should be adopted as a new methodology) for providing better nursing education.

Nursing Practice:

Clinical Nurse Mentors bridge the gap between nursing education and nursing practice. This dual role of a nursing professional enhances better hands on training of nursing students and provides opportunities for standardization of nursing practice.

Nursing Research:

The concept of appointing Clinical Nurse Mentors is relatively a newer concept in Indian scenario, and many research studies can be carried out to effectively judge the change in nursing education brought by Clinical Nurse Mentors.

RECOMMENDATIONS

1. Reciprocation of similar study in different set up

2. Comparative study of satisfaction levels of B.Sc. and P.B.B.Sc. Students

3. Study of Nurse Mentors' Satisfaction level

4. Effect of Nurse Mentors on Clinical Performance of Nursing Students

From the present study, it was found that, mentoring facilitates practice-based learning by assigning a student to practice with a mentor who is an experienced clinician and takes particular interest in the personal and professional development of the student. Mentoring is a learning and developmental process that assists students' achievement of competencies, orientation to the clinical role, personal and professional accomplishment. Thus the investigator who is a Nurse felt that appointment of Clinical Nurse Mentors for the purpose of clinical teaching learning process may be a good decision by Colleges of Nursing so that it helps in meeting the challenges of the transitional age.

Funding Information: Self funded

Ethics: Informed consent taken from students and staff nurses included in the study

Conflict of Interest - Nil

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Knowledge of Expectant Fathers on Childbirth Care

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ABSTRACT

The knowledge of expectant fathers is vital to ensure that healthcare is sought early to prevent any complications related to pregnancy and childbirth. It is essential for the health care agencies to be aware of the existing knowledge of men on childbirth care so that educational sessions can be arranged to enhance it. The objective of the study was to assess the knowledge of expectant fathers on childbirth care and to associate it with selected socio-personal variables. A cross sectional descriptive study was carried out among husbands of pregnant women attending the maternity outpatients' clinics. The results showed that knowledge of expectant fathers is poor on childbirth care and it is associated with age, education, occupation, monthly income, religion, attendance at childbirth classes and source of information on child birth classes. These findings are useful for healthcare agencies in tailoring childbirth preparation classes for expectant couples with diverse socio-personal characteristics.

Keywords: *Childbirth care, Expectant fathers, Knowledge.*

BACKGROUND OF THE STUDY

The ICPD [International Conference on Population and Development] has stressed men's shared responsibility for women's health. Husbands play an important and vital role in the decision making process regarding pregnant women's health but they do not feel properly prepared for parenthood¹. Despite having a lack of knowledge and involvement, men often dominate the decision making process related to pregnancy, especially in male – dominated cultures².

“For husbands to support, they must be well informed and sensitized” said MCHIP team leader Steve Hodgins³. Men need support and guidance to make a positive start as new fathers. The knowledge of expectant fathers is vital to ensure that healthcare is sought early to prevent any complications related to pregnancy and childbirth.

A cross sectional descriptive study revealed that the knowledge level of husbands of primigravida on antenatal care was poor. The authors recommend sensitization of husbands of primigravida on ANC, as each member in the family has a role to play in the course of pregnancy towards the delivery of a healthy baby to a healthy mother⁴.

Mullany et al ⁵ in a study revealed that educating pregnant women and the male partners together yield a greater net impact on maternal health behaviours compared with educating women alone. A study conducted in Bangalore displayed the husbands' involvement in antenatal care. The findings showed that husbands had inadequate exposure to reproductive health matters and little or no involvement in meeting the wives' needs during pregnancy⁶.

There is key evidence from many countries that expectant fathers want to be more involved and to know how to protect the health of their family⁷. From a policy perspective, proper dissemination of knowledge about maternal health care among husbands and making the husband's presence obligatory during antenatal care visits will help primary health care units secure better male involvement in maternal health care.⁸

The findings of a community survey method including 764 recently delivered women indicated low levels of knowledge of danger signs and low levels of birth preparedness (35%) in the rural population studied⁹.

Awareness of men on danger signs of pregnancy and what to do about them is initial prerequisite for

taking right decisions at right time¹⁰. A community-based cross-sectional study in the urban slums of Agra revealed that only 23.62% of husbands were aware of problems and complications during pregnancy in spite of the fact that 58.3% of women had experienced at least one health problem during antenatal period ($P < 0.001$). However, 18.1% of husbands were aware of complications during delivery of their wives, and 20% of women had actually experienced natal complications ($P > 0.001$)¹¹. Men may become more involved because greater knowledge make them aware of the potential dangers of pregnancy and childbirth and the importance of care seeking.¹²

A study by Narang et al, to determine the awareness of participation of men in maternal health care and to assess their attitude toward their partners, reveals that 61% of the participants only had accompanied their wives to the antenatal clinics at once or the other times. 60.5% were aware of the components of antenatal care¹³.

A survey analysis in Maharashtra, India showed that men were generally knowledgeable, but were excluded from participating in routine care because the medical system did not accommodate them¹⁴.

Recently, there has been an increasing recognition of the role of the father in childbirth. Free antenatal education should be made available to all expectant mothers and when possible, men should be included in educational sessions, either together with their wives.⁸ As men are generally hesitant to seek information keenly about pregnancy and childbirth care issues, midwives and nurses must take deliberate steps to ensure their participation. Men become more confident and good fathers if they are supplemented with adequate information about pregnancy, birth and beyond.

MATERIALS AND METHOD

Study Location : This study was carried out at Maternity department of Travancore Medical College Hospital, a super-speciality hospital, Kollam, Kerala.

Study Population: The study population included consented husbands of pregnant women attending the antenatal clinic of the hospital, between 1st August and 20th of November 2016.

Study Design: This was a cross sectional study

among consenting husbands' of pregnant women attending the ANC in Travancore Medical College Hospital.

Sampling Technique: Simple randomized sampling technique was used for allocating study participants. The participants were picked randomly at each ANC of the hospitals till sample size was reached. The husband's phone numbers were obtained for easy follow up.

Sample Size: A sample size of 240 was taken based on a previous study finding.

DATA COLLECTION INSTRUMENTS

The questionnaire was structured and pre-tested before use with two sections; Section A: was employed to collect the demographic data including age, education, occupation, religion, educational status, source of knowledge, and order of pregnancy. Section B was employed to know about respondent's knowledge on various dimensions of child birth care and determine knowledge score. The knowledge scores were graded as <40% -Poor, 41 to 60-Average, 61 to 80 -Good and 81 to 100 -Excellent. Data was collected from August to November 2016. The questionnaires in Malayalam version were given to the men who were accompanying their wives in the antenatal clinics.

SELECTION CRITERION

Consenting husbands of pregnant women attending antenatal clinic at Travancore Medical College Hospital, Kollam, Kerala were only recruited for the study. The tool was administered only to men who could read and write Malayalam. Men with medical education were excluded from the study.

RESULTS

Table 1: Distribution of Socio-personal Variables - I

Socio-personal Variables	Frequency	Percent
Age		
Up to 20 Years	0	0.0%
21 - 25 Years	8	3.3%
26 - 30 Years	99	41.3%
31 - 35 Years	125	52.1%
Above 35 Years	8	3.3%

Cont... Table 1: Distribution of Socio-personal Variables - I

Education		
School Level	132	55.0%
College Level	93	38.8%
Technical / Professional	15	6.3%
Occupation		
Employed	117	48.8%
Unemployed	6	2.5%
Farming	10	4.2%
Business	32	13.3%
Skilled Labour	33	13.8%
Day Labour	42	17.5%
Monthly Income		
Nil	14	5.8%
Up to Rs. 10,000	58	24.2%
Rs. 10,001 - 20,000	111	46.3%
Rs. 20,001 - 30,000	39	16.3%
Above Rs. 30,000	18	7.5%

Two hundred and forty (240) questionnaires were distributed. The age of respondents ranged between 20–40 years with age range of 26 -30 constituting the largest age group (52.1). 41.3% of the samples belonged to the age group of 31-35 years. Around 55.0% of the samples have school level education, 38.8% have college level education and 6.3% have technical/professional education. Only 2.5% cases unemployment was noted and the rest was employed. About 5.8% of the samples have no income. Almost 46.3% had a monthly income of Rs. 10,001-20,000 whereas 24.2% earned up to Rs. 10,000 only per month. Around 16.3% earned Rs. 20,001-30,000 and 7.5% earned above Rs. 30,000.

Distribution of Socio-personal Variables – II

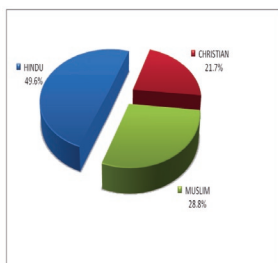


Figure 1. Religion.

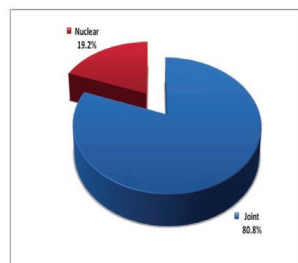


Figure 2. Family

Almost 49.6% of the samples were Hindu, 21.7% were Christian and 28.8% were Muslim. Around 80.8% of the samples were from joint family and 19.2% were

from nuclear.

Figure 3. Attendance at Childbirth Classes.

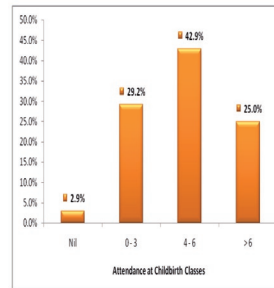


Figure 3. Attendance at Childbirth Classes.

Figure 4. Order of pregnancy

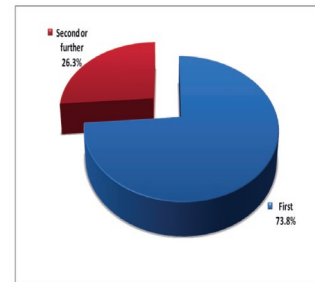


Figure 4. Order of pregnancy

Almost 32.1% of the husbands have not attended the childbirth classes or attended three classes maximum and 67.9% have attended at least 4 classes or more. Around 80.8% of the husbands were first time fathers and 19.2% cases were second or further. According to Figure 5, about 47.9% of the fathers had no source of information on knowledge. The main sources noted were family/friends (22.5%) and health workers (15.0%).

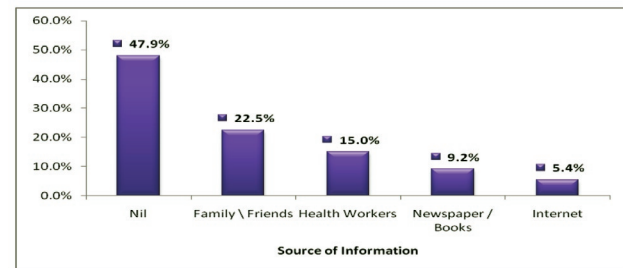


Figure 5. Source of Information

Table: 2. Overall Knowledge of expectant fathers on Childbirth Care

Overall Knowledge	Frequency	Percentage
Poor	142	59.2%
Average	77	32.1%
Good	21	8.8%

The distribution of knowledge of men on essential childbirth care is depicted in table Two. Almost 59.2% samples have poor knowledge whereas around 8.8% of the samples have good knowledge on essential childbirth care.

Table: 3. Descriptive Statistics of Knowledge of Men on Domains of Childbirth Care

	Mean	Median	SD	Mean %	Range
Antenatal	11.26	10	4.469	31.3%	3 - 22
Labour& Delivery	1.367	1	1.492	17.1%	0 - 7
Postnatal	1.225	1	1.408	13.6%	0 - 8
Neonatal	5.300	5	3.225	26.5%	0 - 16
Overall Knowledge	19.15	18	8.303	26.2%	6 - 49

The knowledge score of respondents ranged between 6(12%) and 49(66%) with an average score of 19.15 ± 8.303. Mean % of overall knowledge was 26.2%. In domains, antenatal (31.3%) and neonatal (26.5%) showing better knowledge than labour& delivery (17.1%) and postnatal (13.6%).

Table: 4. Descriptive Statistics of Knowledge of Expectant Fathers on Key Aspects of Childbirth Care

Knowledge	Score	Frequency	Percentage
Father’s preparedness	1	72	30%
	2	4	3.3%
	3	5	6.25%
Danger signs of Pregnancy	1	68	28.3%
	2	21	6.75%
	3	9	3.75%
Danger signs in Newborn	1	66	27.5%
	2	19	7.91%
	3	2	0.83%

Table four reveals that of the 240 fathers, only 81 (39.55%) could give one or more correct answers on parent preparedness. Majority of them reported saving money as the most important factor in parent preparation.98 fathers (28.3%) reported bleeding in pregnancy as a danger sign in pregnancy. At least one danger sign in newborns was mentioned by 66 fathers(27.5%].

Table: 5. Association between Knowledge and Socio-personal Variables

Socio-personal Variables	Chi-square	p - value
Age	29.377**	0.001
Education	16.119*	0.013
Occupation	56.707**	0.000
Monthly Income	31.626**	0.002
Religion	38.119**	0.000
Type of Family	0.224 ^{NS}	0.974
Source of Information	34.920**	0.000
Attendance at Childbirth Classes	25.908**	0.002
Order of Pregnancy	4.545 ^{NS}	0.208

** Association is significant at 0.01 level.

* Association is significant at 0.05level.

NS • Association is not significant.

Here the p-value corresponding to education is less than the significance level 0.05; the association between knowledge of men on essential childbirth care and education is significant. Age, occupation, monthly income, religion, source of information and attendance at childbirth classes are highly associated with knowledge of men on essential childbirth care as the corresponding p-values are less than the significance level 0.01. The p-values corresponding to type of family and order of pregnancy are greater than the significance level 0.05; type of family and order of pregnancy are not significantly associated with knowledge of men on essential childbirth care.

DISCUSSION

This study was carried out in a private medical college hospital in Kollam District, Kerala. Majority of the expectant fathers (93.4 %) were in the age group of 26 -35 years. All fathers were literate with only 2.5% unemployed but with source of income from farming or self employment. Only a small proportion reported to have monthly income less than Rs. 10,000.Nearly half of the men practiced Hindu religion and the other half constituted Muslims and Christians. It was interesting to note that 80.8% of the couples were from joint families. Yet, only 22.5%resourced information from families. Even though all men were literate nearly half of them

(47.9%) never resourced any information on childbirth care.

Only a small proportion (2.9%) did not accompany their wives to ANC. This finding was certainly contrary to a study in Northern Nigeria, where only 32.1% of husbands accompanied their wives at least once to the hospital and a study revealed that Only 43.8% of respondents had ever accompanied their wife to ANC, majority (56.3%) have not accompanied their wives to ANC at all^{4,10}.

The overall knowledge of expectant fathers was poor (26.2%) with comparatively better knowledge in antenatal (31.3%) and neonatal (26.5%) domains than labour & delivery (17.1%) and postnatal (13.6%) [Figure 6]. These findings are closely similar to a descriptive study where the knowledge score ranged between (12%) and 24 (96%) and the mean knowledge score was 13.55 ±6.17(54.2%), while the median score was 14.0 (56%)⁴

There is association between knowledge of men on essential childbirth care and education (P value 0.05). Age, occupation and monthly income are highly associated with knowledge of men on essential childbirth care as the corresponding P-values are less than the significance level 0.01. These findings are similar to Reddemma GG⁶ who also found association between the knowledge score of husbands of expectant women and socio-demographic variables like age group (P<0.01), Education (P<0.001), and income of participants (P<0.01).

Of the 240 men studied, only 81 (39.55%) could give one or more correct answers on parent preparedness. Majority of them reported saving money as the most important factor. Bleeding in pregnancy as a danger sign in pregnancy was reported by 98 fathers (28.3%) and 66 fathers (27.5%) could mention only one danger sign in newborns. This finding was lower than the report by Iliyasu¹⁴ in northern Nigeria who reported that more than half (51.9%) considered bleeding, about a third considered convulsions (37.8%) and loss of consciousness (33.2%) as danger signs.

CONCLUSION

Despite being literate, the expectant father's knowledge on childbirth care is poor. As concluded in a previous study, policies must be formulated for proper

dissemination of knowledge about maternal health care among husbands and making the husband's presence obligatory during antenatal care visits¹⁵. Health care providers must consider the diversities in socio personal back ground of the individuals in tailoring parent preparation programmes. Qualitative studies must be undertaken to explore the fatherhood experiences and barriers in their involvement in childbirth care.

Conflict of Interest : None

Source of Funding: Self

Ethical Clearance: The ethical approval was obtained from MOSC Medical College, Ernakulam. Permission was obtained for the conduct of the study and only consented fathers were included in the study.

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Effectiveness of Breast Feeding on Pain Perception During Vaccination among Infants

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ABSTRACT

The present study was conducted to assess the effectiveness of breast feeding on pain perception during vaccination among infants. A True experimental, post test control group design was adopted with a total number of 200 subjects (100 Experimental group + 100 control group infants) from urban health centre by 'simple random sampling' method, Vijayawada. The tools used for conducting the study were a set of demographic variable, modified behavioral pain scale and visual analog scale. Infants nursed just before (5 min), during and after vaccination for the experimental group and Infants of control group placed in the mothers hands without being breast feed and collected pain score and crying duration. Data were analyzed with the help of descriptive and inferential statistics. The present study which clearly shows that there was a significant reduction in the pain perception during vaccination among infants of experimental group with 't' value 10.7482 for modified behavioral pain scale and 12.9932 as per VAS at 0.01 level of significance, which emphasizes that breast feeding can be used as an effective pain relieving measure during vaccination.

Keywords: Breast feeding, Pain perception, vaccination.

INTRODUCTUON

"The child shall in all circumstances be among the first to receive protection and relief".

-UN's Rights of children

Infancy is a time to gurgle, a time to crawl, and time for laugh and cry a time to hear a sweet lullaby at it is a time to get vaccinated against major killer diseases. India is a vast country with widely differing populations. Among sub groups infants are most important age group in the society, because there is renewed awareness that the determinants of infectious and chronic diseases in later life are laid down at this stage. The main causes for infants mortality are under weight, communicable diseases i.e, by immunization and oral rehydration.¹

The three major causes of neonatal deaths worldwide are infections (36%, which includes sepsis/pneumonia, tetanus and diarrhoea), pre-term (28%), and birth asphyxia (23%). There is some variation between countries depending on their care configurations.

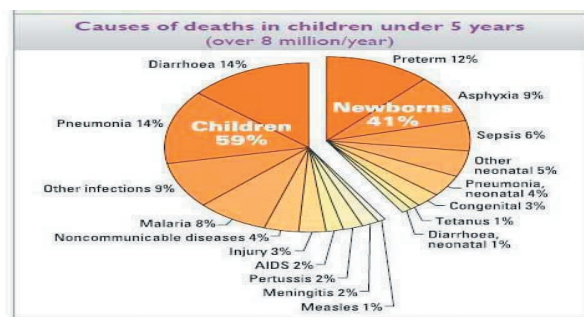


Fig. 1: Causes of deaths in children under 5 years

To effectively prevent and control communicable and non-communicable diseases, in order to reduce the resultant morbidity, mortality and disability. Those activities are preventing and control of the six major causes of mortality: malaria, diarrhoea, malnutrition, ARI, tuberculosis and vaccine-preventable diseases, including introduction of new vaccines Pentavalent vaccines (a combination vaccine which protects against five killer diseases: diphtheria, pertussis, tetanus, hepatitis B and Hib). The pentavalent vaccines provide a golden opportunity to curb Hib disease and hepatitis B along with diphtheria, pertussis and tetanus in the developing countries.²

Despite of impressive achievement, immunization coverage through national programme remains unsatisfactory. This not only hampers disease control, but consequently diminishes public support for vaccination, and tarnishes the prestige of program, setting up a vicious cycle. The leading cause for this can be overcome by improving vaccination rates, improving the cold chain, increasing vaccines acceptability and increasing demand.³

Unfortunately, infants have limited means to cope with pain because they “cannot rub a painful area and stimulate non-nociceptive touch fibers that would block the pain sensation, nor can they distract themselves through visualization.” There also are no current systemic pharmacological treatments that are appropriate to provide pain relief during minor procedures, such as immunizations, in this age group.⁴

Children are similarly exposed to acute pain due to vaccination, invasive procedures or trauma. Acute pain caused by skin-breaking procedures can lead to physiologic instability and behavioral distress, and it has downstream effects on subsequent pain processing, development and stress response. Because of these detrimental effects of injections reduction or prevention of pain is worthy clinical goal, which is also expected by most parents.⁵

Lovepreet Kaur et al., (2009) conducted a quasi-experimental study on — Effect of feeding the infant on breast during injecting vaccine on perception in Chandigarh among 216 infants receiving DPT and its combining vaccines were randomly distributed into control and experimental group. Infants in the control group (n=106) were administered vaccine without breast feeding and the infants in experimental group (n=110) were administered vaccine during breast feeding. Pre-vaccination and post-vaccination behavior of infants was scored on Modified Behavioral Pain Scale. Cry duration was recorded. The net pain scores and duration of cry was compared among the two groups. Significant difference in behavioral response of the infants was observed among the infants, $t= 5.5$ at $df = 214$ ($p < 0.01$). It was concluded that the perception of pain intensity is less among the infants when vaccine is administer during breastfeeding.⁶

Breast-feeding links evolutionary biology and medical practice. This is of clinical interest because pain

is routinely experienced in hospital settings, even by healthy newborns, and natural interventions are effective at a time when many pharmacologic interventions are not.⁷

Breast feeding is practical as it is easily achievable from the perspectives of health care providers and parents particularly in the situations where acute pain experience is there as for example during blood collections and immunization injections among the neonates as it effectively reduces response to pain (Shah PS et al, 2006. There are several studies showing that breast milk oro-sensorially affects pain response.⁸ Breast feeding and expressed breast milk is associated with pleasant memories of being with mother for babies.⁹

The researcher observed that many children receive immunization with little or no formal attempt made to reduce the fear and pain associated with the injections. As this caused psychological impact for parents and difficulties in administering immunization by the health workers, this inspired the investigator to look out for an alternate method which would reduce the pain threshold of infant during immunization. Hence, the investigator felt the need to use breast feed as an intervention to decrease pain perception during vaccination which is natural, and cost effective.

MATERIALS AND METHOD

A true experimental approach with A True experimental, post test control group design was adopted for the present study. A total number 200 subjects (100 Experimental group + 100 control group infants) from from urban health centre by ‘simple random sampling’ method. The subjects who fulfilled in the inclusion criteria (In the age group of 1-6 months who Receiving Pentavalent vaccine (Intra muscular), Free from significant illness, Mothers who were willing to participate in the study and Attending at urban health center during data collection) were selected. Written consent was taken from the infants mothers and the purpose of the study was explained.

The **instrument** was organized into three sections.

Section-I: consists of questions related to demographic data. The scoring key was prepared for section-1 by coding the demographic variables

Section II: Part –A : It includes Modified

Behavioral Pain Scale by Taddio, et al to assess infants' pain perception during clinical procedures. It consist of 3 parameters: facial expression, cry and movements. The maximum score is 10 and the minimum score is 0

Part-B: Duration of crying will calculate for all the infants by stop watch beginning with the first needle puncture of skin to absence of audible distress vocalization.

Section -III: Visual analog scale by Wong an baker will use by infant mothers to code infants pain perception during vaccination. Data will collect after vaccination. The score ranges from 0-10. **Score interpretation:** Mild pain: 0-3 , Moderate Pain: 4-7 and Severe Pain: 8-10

The pilot study was conducted and the findings of the study revealed that tool was reliable, feasible to conduct the main study. The obtained reliability was $r=0.96$ which indicate that tool was highly reliable.

The data was analyzed by using descriptive statistics such as frequency and percentage distribution and inferential statistics such as Chi-square test for the strength of the association between two categorical variables and Independent group 't' test to compare the pain perception between experimental and control group.

RESULTS AND DISCUSSION

The level of pain perception among experimental and control group infants as per modified behavioral pain scale was depicted under the following: Out of 100 infants in control group 78 (78%) had severe pain, 21 (21%) had moderate and 1(1%) had mild pain during vaccination. Whereas in experimental group 10(10%) had mild pain, 74(74%) had moderate and 16(16%) had severe pain.

Table- 1: Level of pain perception among infants during vaccination in experimental and control groups as per MBPS

S. No.	Categories	Control group		Experimental Group	
		F	%	F	%
1.	Mild	1	1%	10	10%
2.	Moderate	21	21%	74	74%
3.	Severe	78	78%	16	16%

Table-1 depicts that among 100 infants in control group 78% had severe pain, 21% had moderate and 1% had mild pain during vaccination. Whereas in experimental group 10% had mild pain, 74% had moderate and 16% had severe pain.

The level of pain among infants receiving vaccination in experimental and control groups, as per data given by mothers by using VAS after vaccination as follows: Out of 100 infants in control group 74(74%) had severe pain, 25(25%) had moderate and 1(1%) had mild pain during vaccination. Whereas in experimental group 6(6%) had mild pain, 84(84%) had moderate and 10(10%) had severe pain.

Table- 2: Level of pain perception among infants during vaccination in experimental and control groups as per VAS

S. No.	Categories	Control group		Experimental Group	
		F	%	F	%
1.	Mild	1	1%	6	6%
2.	Moderate	25	25%	84	84%
3.	Severe	74	74 %	10	10 %

Table-2 depicts that among 100 infants in control group 74% had severe pain, 25% had moderate and 1% had mild pain during vaccination. Whereas in experimental group 6% had mild pain, 84% had moderate and 10% had severe pain.

Table-3: Mean, standard deviation of pain perception during vaccination among infants in experimental and control groups as per modified behavioral pain scale.

S. No	Parameters	Control group		Experimental group	
		MEAN	SD	MEAN	SD
1	Facial expression	2.64	0.559	1.85	0.743
2	Cry	3.23	0.763	2.17	0.711
3	Movement	2.71	0.607	2	0.568

The above table-3 reveals that in the experimental group mean facial expression was 1.85, standard deviation 0.74366, mean cry 2.17, standard deviation 0.71145 and mean movement 2, standard deviation

0.5685. In the control group mean facial expression was 2.64 , standard deviation 0.55994, mean cry 3.23, standard deviation 0.7635 and mean movement 2.71 , standard deviation 0.60794.

Table-4: Effectiveness of breast feeding on pain perception during vaccination among infants of experimental and control groups.

S.No	Parameters	Control group		Experimental group		't' value	
		MEAN	SD	MEAN	SD	Value	SN
1	Pain perception as per MBPS	8.55	1.54	6.02	1.77	10.748	**
2	Pain perception as per VAS	8.56	1.45	5.5	1.85	12.993	**
3	Crying duration	128.54	52.9	77.2	50.4	7.0145	**

Key: S : Significant, * : significant at 0.05 level ** : significant at 0.01 level

MBPS: Modified behavioral pain scale

VAS: Visual analog scale

The data in the table-4 represents that there is a significant reduction in the pain perception during vaccination among infants of experimental group with 't' value 10.7482 for modified behavioral pain scale and 12.9932 as per VAS at 0.01 level of significance, which emphasizes that breast feeding can be used as an effective pain relieving measure during vaccination,

The mean crying duration in control group 128.54 sec and experimental group was 77.27 sec and with "t" value 7.0145 was significant at 0.01 level. Which emphasizes that cry duration was more in control group.

The present study which clearly shows that there was a significant difference in pain perception during vaccination among infants between experimental and control groups. This indicates breast feeding is effective to reduce pain perception during vaccination.

CONCLUSION

Vaccine injections are most iatrogenic procedures performed in child hood the major source of distress for children. In this study majority of infants experienced severe pain who were not breast fed and in the experimental group infants who were breast fed majority of them had moderate pain. And there was no significant association between selected demographic variables with pain perception among infants of experimental and

control group. These findings suggest that breast feeding is a non –pharmacological measure which is effective convenient and inexpensive, this can be easily adopted as part of standard infant immunization practice.

Conflict of Interest: Nil

Source of Funding: Self

Ethical Clearance: Taken from Himalaya university research degree committee, Arunachal Pradesh.

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Effectiveness of Music Therapy in Reducing Pain and Anxiety among Primigravid Women during Active Phase of First Stage of Labor

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ABSTRACT

Pain of childbirth ranks among the most intense pain experiences. Literature suggests that primigravid women report more intense pain and anxiety requiring appropriate management. There are many non-pharmacologic measures to relieve labor pain and anxiety. Music therapy has found to be very effective in reducing labor pain and anxiety with no adverse effects, its use has been very limited. The objectives of the study were to assess the level of pain and anxiety of primigravid women in first stage of labor before administration of music therapy, to assess the effectiveness of music therapy in reducing pain and anxiety by comparing the pre and post test scores among primigravid women in labor and to assess the effectiveness of music therapy between the experimental group as compared to control group. The study was conducted on a sample of 60 (30 experimental and 30 control) primigravid women during active phase of first stage of labor who are admitted in labor room of K.L.E'S Dr. Prabhakar Kore Charitable Hospital Belgaum, using simple random sampling technique by envelope method. In the present study single- blind randomized control trial was chosen. Data was collected by using standardized visual analogue pain scale (VAS) and Zung's self rating anxiety scale. The obtained data was analyzed by using descriptive and inferential statistics. The findings of the study showed that music therapy is an effective, non invasive and cost effective non pharmacological measure among primigravid women in labor to reduce pain and anxiety, to increase coping ability and as a relaxation technique.

Keywords: Music therapy, pain, anxiety, first stage of labor, primigravid women, relaxation technique.

INTRODUCTION

Labor pain is a universal and unique experience for childbearing women but threshold of this pain varies between individuals.¹ For some it resembles, menstrual cramps for others severe pressure and also alike extremely strong waves that feel like diarrheal cramps. Pain intensity varies widely and generally increases as labor progresses.² Primigravid women spend a lot

of time worrying about things that are unlikely to occur...leading to anxiety.³ Anxiety and fear are factors contributing towards women's perception of pain and may also affect their labor and birth experience.⁴

There are many pharmacological and non-pharmacological measures for managing labor pain and anxiety.⁵ Non pharmacological measures like relaxation, breathing techniques, positioning/movement, massage, hydrotherapy, hot/cold therapy, aromatherapy, guided imagery, acupressure, and music therapy are some self-help comfort measures women may initiate during labor to achieve an effective coping level for their labor experience.⁶

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Music is a powerful distraction, turning the women's attention away from pain and promoting relaxation. It is also used in conjunction with pharmacological interventions and offer additional help to the women in labor pain. Most relaxation training exercises use a trigger stimulus for the learned relaxation response, and music has been shown to have excellent potential as a conditioned stimulus for relaxation.⁷

METHODOLOGY

An evaluative study was conducted using single-blind randomized control trial design. The study was conducted on 60 primigravid women (30 experimental 30 control) who were in active phase of labor admitted in labor room of KLE'S Dr.Prabhakar Kore Charitable

Hospital, Belgaum. Simple random sampling by envelope method was used for the selection of sample. Data was collected using standardized Visual analogue pain scale and Zung's self rating anxiety scale. The maximum score for VAS was 10. The pain scores were divided into five categories viz; no pain, minor pain, moderate pain, severe pain and worst pain. Zung's self rating anxiety scale was used to assess the anxiety level. Maximum anxiety index score was '100'. A score of '1' was given to little or none of the time answer, score '2' was given to some of the time answer, score '3' was given to a large part of the time and score '4' was given to the most or all of the time. There are 20 anxiety questions in the Zung's self rating standardized scale. The collected data were analyzed by using descriptive and inferential statistics.

RESULTS AND OBSERVATION

Table 1: Comparison between pre test and post test scores of pain in experimental and control group using paired t test. n=30+30=60

Group		Mean	Std.Dv.	Mean Diff	Std.error	t value	P value
Experiment	Pre test	9.45	0.7				
	Post test	4.16	0.75	5.29	0.184	64.03	<0.001*
Control	Pre test	9.55	0.69				
	Post test	9.68	0.55	-0.13	0.158	6.03	<0.01*

P<0.05

*significant

In experimental group the obtained 't' value of pain was 64.03(P<0.001*).In control group the obtained' value of pain was 6.03 (P<0.01*).

Table 2: Comparison between pre test and post test scores of anxiety in experimental and control group using paired t test n=30+30=60

Group		Mean	Std.Dv.	Mean Diff	Std.error	't' value	P value
Experiment	Pre test	61.58	1.46				
	Post test	28.26	2.24	33.32	0.487	10.01	<0.01*
Control	Pre test	61.87	1.46				
	Post test	61.87	0.55	0.00	0.825	0.00	>0.05

P<0.05

*significant

In experimental group the obtained' value of anxiety was 10.01 (P<0.01).In control group the obtained' value of anxiety was 0.00 (P >0.05) level.

Table 3: Comparison of pain and anxiety scores between the experimental and control by using unpaired t test. n =30+30=60

Pain scores	't' value	d.f	'P' value	Anxiety scores	't' test	d.f	'P' value
Pre test scores	0.59	58	>0.05	Pre test score	0.28	58	>0.05
Post test scores	46.375	58	<0.001*	Post test score	40.01	58	<0.001*

P<0.05

*significant

The mean pretest scores of pain between the experimental and control group by unpaired t test was 0.59(P>0.05).The mean post test scores of pain between experimental and control groups was 46.375 (P< 0.001*).

The mean pretest scores of anxiety between the experimental and control group by unpaired t test was 0.28 (P >0.05). The mean post test scores of anxiety between experimental and control groups was 40.01 (P< 0.001*).

DISCUSSION

The findings in experimental group after applying paired't' test results showed that't' value was =64.03 which was significant at p<0.001 level. This revealed that music therapy was effective in reducing pain. The findings in the control group after applying paired 't' test results showed that 't' value was 6.03 which was significant at p< 0.01 level. This revealed that there was increase in the intensity of pain in the post test scores as compared to pre test scores. Similar findings are supported by the study conducted by Rajakumari. A G⁸, that the obtained 't' value in the experimental group was 24.75, which was significant at p<0.001 level and in the control group 't' value was 0.24 which was not significant at any level.

The findings of the mean pre test scores of pain between experimental and control group obtained by utilizing visual analogue pain scale (VAS) after applying unpaired' test yielded, t=0.59(P>0.05) suggesting no significant difference .While after comparing the post test scores of pain between experimental and control groups were t=46.37(P<0.001) significant difference was observed. Similar findings were seen in the study conducted by Labrague .J.L, Rosales A.R, Rosales .L.G and Fiel .B.G.⁹ The mean pre test scores of pain between

experimental and control group were obtained by utilizing visual analogue pain scale (VAS) after applying unpaired (t=1.3844, p=0.172) no significant difference. After comparing the post test scores of pain between experimental and control groups were (p<0.05, t=7.317) significant difference was observed.

The findings of mean pre test and post test anxiety scores obtained by using Zung's self rating anxiety scale in experimental group, that the mean post test scores of anxiety was 28.26 lower than mean pre test score 61.58 at p<0.01 level. In control group the mean pre test and post test score of anxiety was 61.87 at p>0.05 level there was no significant difference. Similar findings were seen in study conducted by Sutthiwanichsak. U, Chareonpolin. O and Phumonsakul S.¹⁰ The mean pre test and post test anxiety scores were obtained by using state trait anxiety inventory. In experimental group they had lower post test mean scores of anxiety at p<0.01 level of significance than in the control group with statistical significance.

CONCLUSION

The results showed that music therapy is an effective, non invasive and cost effective non pharmacological method of treatment among primigravid women in labor to reduce pain and anxiety, to increase coping ability and as a relaxation technique.

Conflict of Interest: No conflict of interest

Source of Funding: Self

Ethical Clearance: Formal permission from K.L.E.S Dr. Prabhakar Kore Hospital and Medical Research Centre, Belgaum was taken and written consent was obtained from the participants.

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Effectiveness of Structured Teaching Programme on Knowledge of High School Children Regarding Prevention of Sexual Abuse

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ABSTRACT

Child sexual abuse is a significant health problem with long term consequences for victims. Therefore prevention and education programmes are critical. The study was conducted to find out the effectiveness of structured teaching programme on knowledge of high school children regarding prevention of sexual abuse.

The objectives of the study were to assess the pre test and post test level of knowledge of high school children regarding prevention of sexual abuse, to find out the effectiveness of structured teaching programme and association of pre test knowledge with selected demographic variables.

The researcher used one group pre test post test design. The study was conducted among 60 high school children who were selected by using stratified random sampling.

The results of the study showed that the teaching programme was effective. The knowledge of high school children regarding prevention of sexual abuse was improved to 20.56% after the structured teaching programme. The calculated 't' value was 25.06 which was greater than the table value 2.58 at 0.01 level of significance. It was revealed that there was statistically significant difference between the pre test and post test level of knowledge of high school children. There was a significant association between pre test knowledge score and demographic variables such as age, class of study and educational status of the mother.

The study concluded that the teaching programme is very crucial in addressing the sensitive topic such as child sexual abuse.

Keywords: *knowledge, structured teaching program, child sexual abuse*

INTRODUCTION

Adolescence is a unique stage in every person's life. Adolescence is described as a stage among human beings where a lot of physiological as well as anatomical changes takes place resulting in reproductive maturity in adolescents. Many adolescents manage this

transformation successfully while others experience major stress and find themselves engaging in behaviors such as sexual experimentation, exploration and promiscuity that place their well being at risk.¹

Every child has the right to a life of physical, mental, emotional, and sexual health. A child may be too young to be educated about child abuse, but is vulnerable enough and with every right to be protected, from it. Child abuse is a broad concept ranging from emotional abuse, corporal punishment, child neglect, abandonment, denial of rights, trafficking, sale, sexual exploitation, forced beggary, forced labour, foeticide and infanticide.

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Children are the most violated of all the marginalized groups. Every child is vulnerable irrespective of the socioeconomic status or gender. Children are regularly abused is a fact.²

India has the largest number of children in the world, nearly 40% of the total population. 69% of the Indian children are victims of physical, emotional, or sexual abuse. New Delhi, the nation's capital, has an abuse rate of over 83%.³

Sexual abuse of children is a real problem in India. According to the WHO report, one in every four girls and one in every seven boys in the world are sexually abused. Lois J.Engelbrecht a researcher working on the problems of child sexual abuse, quotes studies showing that over 50% of children in India are sexually abused, a rate that is higher than in any other country. In a study on child abuse in Kolkata, Elaan, an NGO found that four out of 10 boys faced sexual harassment in school. The national study found that the abuse gained momentum at the age of 10 and peaked between 12-15.⁴

A child's first encounter with sexuality should not be with abuse or fear-based messages. We need to provide children with comprehensive sexuality education so that they can understand and gain control of their own body and enjoy overall well-being, which includes safety from abuse. Sex education is the education about human sexuality and reproductive anatomy. Prevention can be focused at three levels. At the primary level, the focus can be on removing the causes, strengthening the child's competence to recognize and react, increasing parental awareness, strengthening social vigilance, and bringing in effective and punitive penal policy. At the secondary level, the emphasis should be on early detection, quick intervention and provision of a supportive environment in schools and families. Tertiary intervention should involve coordination among the police, courts, counsellors, doctors and social workers.²

Hence it is very important to impart relevant sex education appropriate to the age and thereby we can make the children protect themselves against sexual abuse. And by imparting sex education, we can make the growing children as better citizens for our nation.

"Child abuse doesn't go away, but 90% of child abuse is preventable." - Karen Adams⁵

Statement of the problem

A study to evaluate the effectiveness of structured teaching programme on knowledge of high school children regarding prevention of sexual abuse in a selected school in Alapuzha district.

OBJECTIVES OF THE STUDY

The objective of the study was to evaluate the effectiveness of structured teaching programme on knowledge of high school children regarding prevention of sexual abuse.

MATERIALS AND METHOD

One group pre test post test design was used to conduct the study among high school children in S.N. Vidyapeetam High School, Kayamkulam in Allepey district, Kerala. Stratified random sampling is used to select the study samples. A school of Alapuzha district was conveniently selected and one division from each standard of viii, ix & x were selected by simple random method and the students were selected proportionately from each strata of standard and gender by using lottery method. Hence 10 boys and 10 girls were selected from each division of each standard. After obtaining formal permission from the school, the researcher selected the samples and consent was also obtained from the participants. Pre test was conducted on the first day by using structured knowledge questionnaire. The structured teaching program was given on the second day. The teaching program included the topics about human reproductive anatomy, sexual abuse, its risk factors, effects, complications and preventive measures for 30 minutes. Post test was conducted on the seventh day following the teaching program by using the same structured knowledge questionnaire. The tool consisted of Section A – Socio demographic variables including age, sex, education, education of the parents, type of family, source of knowledge. Section B – Includes knowledge questions regarding human reproductive anatomy, sexual abuse, its risk factors, effects, complications and preventive measures.

RESULTS

The researcher conducted the study in 60 high school students.

Demographic characteristics:

- Among the 60 high school students, males and females were equal in number (50%)
- Among them, majority of the samples belonged to the category, 13-14 years (61.7%) and 5% were between 11-12 years.
- Equal number of study samples were there from 8th, 9th, and 10th standard.
- Majority of the samples ' possessed secondary education.
- Majority of the fathers were having private job and mothers were housewives.
- Most of the samples ' family were having two children (66.7%), (28.3%) were having one child and 5% were having more than two children.
- Most of the samples were having the main source of information from media (95%) and 5% from the peer group
- Most of the samples belonged to nuclear family (91.7%) and least percentage belonged to extended family (3.3%)

Pre test knowledge score:

Figure 1 shows that 55% were having moderately adequate knowledge level and 45% were having inadequate level of knowledge regarding the prevention of sexual abuse before the structured teaching programme.

Post test knowledge score:

- 73.3% were having moderately adequate level of knowledge
- 18.3% were having adequate level of knowledge
- 8.3% were having inadequate level of knowledge

Effectiveness of structured teaching program:

Paired 't' test was used to compare the pre test and post test level of knowledge of high school children. Table 1 shows that:- The knowledge of high school

children regarding prevention of sexual abuse was improved to 20.56% after the structured teaching programme.

The calculated 't' value was 25.06 which was greater than the table value 2.58 at 0.01 level of significance. It was revealed that there was statistically significant difference between the pre test and post test level of knowledge of high school children regarding prevention of sexual abuse.

Table 2 shows that association of pre test level of knowledge with selected demographic variables was found by using Chi Square test. Study findings revealed that there was no significant association between pre test level of knowledge with selected demographic variables except age, class of study and educational status of the mother which had association with pre test level of knowledge.

DISCUSSION

The study revealed that 55% of the samples were having moderately adequate knowledge level and 45% were having inadequate level of knowledge regarding the prevention of sexual abuse before the structured teaching programme.

The study was supported by a study conducted in Chennai among all mothers who had children less than 15 years to assess the awareness level of the mothers regarding child abuse and neglect. The results showed that only 8% women had adequate awareness and 68% had moderately adequate awareness and the remaining 24% women had inadequate awareness. The study concluded that awareness of mothers regarding child abuse and neglect is very low.

In the present study there was an increase in the knowledge level of the students during the post test than in the pre test.

The study was supported by a study with Elementary School Children in Hawai'i which evaluated changes in children's knowledge of sexual abuse using a school-based train-the-trainer curriculum. Emphasis was placed on developing a curriculum that considered the unique cultural context in Hawai'i. Results showed that Children in intervention schools significantly increased their knowledge of appropriate and inappropriate touch and what to do if they experienced sexual abuse.

Findings suggested the utility of a train-the-trainer model in social work practice to address sensitive topics such as child sexual abuse.

In the present study, the comparison of pre test and post test knowledge level of students was done by using paired ‘t’ test. The structured teaching programme was effective and there was an increase in the knowledge level after the structured teaching programme.

This was supported by a study conducted to evaluate the proximate effects of a child sexual abuse prevention program in elementary school children in Quebec, The results indicated that children participating in the prevention program showed greater preventive knowledge and skills relative to children not participating.

The researcher found that there was a significant association between the pre test knowledge level and the age, class of study and educational status of the mother. There was no association with any other demographic

variables.

This was supported by a study conducted in Chennai among all mothers who had children less than 15 years to assess the awareness level of the mothers regarding child abuse and neglect so that actions can be taken to create awareness thereby protecting the rights of the child. There was an association found between the knowledge level and educational status at 0.5 % level on chi square test.

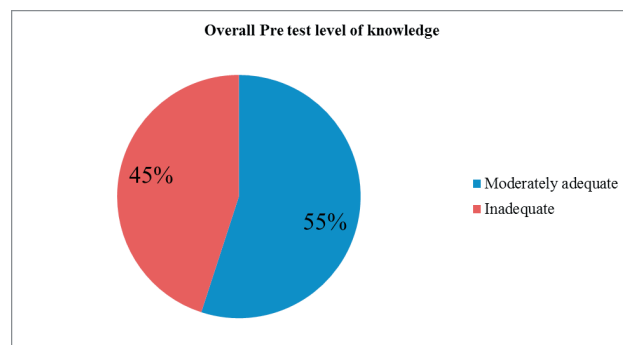


Figure 1: Percentage distribution of the high school children according to their pre test level of knowledge.

Table 1: Comparison of pre test and post test level of knowledge and the effectiveness of structured teaching programme.

Variable	Test	Mean	Mean%	SD	SD%	MD	MD%	df	t
Overall Knowledge score	Pretest	13.63	45.44	3.61	12.04	6.17	20.56	59	25.06**
	Posttest	19.8	66	3.46	11.53				

Table 2: Association of pre test knowledge regarding prevention of sexual abuse with selected socio demographic variables.

Demographic variables	Chi square	df	P	Inference
Age in years	7.58	2	0.023	S
Gender	0.61	1	0.436	NS
Class of study	12.53	2	0.002	S
Educational status of the father	4.03	3	0.26	NS
Educational status of the mother	15.11	32	0.002	S
Occupational status of the father	2.75	3	0.43	NS
Occupational status of the mother	1.15	2	0.56	NS
Number of children in the family	5.01	2	0.08	NS
Main source of information	0.17	1	0.68	NS
Type of family	3.24	2	0.20	NS

CONCLUSION

The study aimed to assess the effectiveness of structured teaching programme on knowledge of high school children regarding prevention of sexual abuse. The structured teaching program was found to be effective. Similar education programs will help the society to mould fruitful and healthy individuals thereby promoting to the wealth of the nation.

Conflict of Interest : There is no conflict of interest for the present study.

Ethical Considerations : The study was conducted after obtaining ethical clearance from the institutional ethical committee and permission from the concerned school was obtained for conducting the study. Consent was obtained from the school authority and the students who participated in the study. Confidentiality was assured for the students throughout the study.

Source of Funding: Self

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Effectiveness of Interventional Package on Menopausal Symptoms among Postmenopausal Women

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ABSTRACT

Menopause is a very complex time in women's life during which unpredictable fluctuations in ovarian function and their consequences occur. Research has demonstrated the positive effects of exercise and physical activity on reducing menopausal symptoms. A quantitative research approach was used to determine the effectiveness of interventional package on menopausal symptoms among postmenopausal women.

The objectives of the study were to assess the menopausal symptoms among postmenopausal women, to assess the effectiveness of an interventional package on menopausal symptoms among postmenopausal women of experimental group, to find out the association between the menopausal symptoms with the selected demographic variables.

In order to achieve the objectives of the study, a quantitative quasi experimental pretest posttest control group design was adopted to collect data from the selected 60 postmenopausal women in selected Kudumbashree units at Pathanamthitta. Standardized menopausal rating scale was used to assess the menopausal symptoms.

The findings of the study reveals that 50% of the postmenopausal women were in the age group of 51 – 55 years, 75% were multipara, 73.3% had natural menopause, 66.7% postmenopausal women were unemployed and 73.3% got information from peer group. The findings of the present study revealed that there was significant difference in the menopausal symptoms before and after interventional package in the experimental group as the calculated 't' value greater than table value at 0.05 level of significance. The association of menopausal symptoms with selected demographic variables showed that menopause is significantly associated with type of menopause and parity. The study concluded that the interventional package is effective for reducing menopausal symptoms among postmenopausal women.

Keywords: menopausal symptoms, postmenopausal women, interventional package.

INTRODUCTION

Woman is a precious creature of God. She has many roles in the society to perform being a daughter, a sister, a wife and a mother. In order to perform her functions effectively, her health needs has to be taken care of and requires more attention. Menopause is the

permanent cessation of menstruation which occurs as a result of loss of ovarian activity. It is a retrospective diagnosis made when 12 months have elapsed after the final menstruation period. The word menopause derived from the Greek word 'menos' meaning month and 'pauasis' meaning cessation. At the end of the fertility period, the ovarian response is reduced and finally, the ovarian function ceases. Due to this the menstrual cycle become gradually infrequent, decreases eventually and amenorrhea prevails. ¹

It has been estimated that the onset of menopause usually begins between the ages of 45 and 55 years, with an average of about 51 years. With increasing

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life expectancy of women, 25-30% of a women's life is in the postmenopausal period and the occurrence of menopause is different for each woman.

Although all women have similar hormonal changes with menopause but the experience of each woman is influenced by her age, type of menopause, childbearing desires and relationships. Women may view menopause as a major change in their life, either positively or negatively. Positive feelings like freedom from dysmenorrhoea and the need for contraception, and negative feelings such as feeling old or losing child bearing possibilities.²

Symptoms that are associated with oestrogen deficiency after the menopause are hot flushes, night sweats, insomnia and vaginal dryness. Many other symptoms such as osteoporosis, arteriosclerosis, dyslipidaemia, depressed mood, irritability, headache, forgetfulness, dizziness, deterioration in postural balance, palpitations, dry eyes, dry mouth, reduced skin elasticity, restless legs, and muscle and joint pain also associated with the menopause but are not necessarily correlated to oestrogen levels.³

Menopause can be very challenging for women, more when they have surgical menopause. When a woman reach menopause without having adequate knowledge, there is a need for educating them about how to adjust with this challenging phase of life because cessation of ovulation and menstruation is actually a physiological adaptation preventing pregnancy and child birth at an age when a woman is not physically fit for it. Understanding this, will help women to adopt a positive attitude towards menopause.⁴

Exercise is another important lifestyle modification. The positive effects of exercise and physical activity on reducing menopausal symptoms are high, the positive changes do not seem to be brought on by correction of hormonal concentration but rather from the acute effects of exercise and the long-term positive adaptations that result from exercise training. The outcomes resulting from regular exercise and by physical activity programs include increased cardiovascular fitness, improvements in body composition, decreased anxiety and depression, and enhanced feelings of well-being. From the above instances and also from the researcher's own clinical experience, it is strongly felt by the investigator to conduct this study with a purpose to determine the

existing menopausal symptoms among postmenopausal women and to find out the effectiveness of interventional package which is a combination of exercises such as deep breathing, range of motion exercises, walking and hip rotation in improving the menopausal symptoms.⁵

Statement of the problem

A study to assess the effectiveness of an interventional package on menopausal symptoms among postmenopausal women of selected Kudumbashree units at Pathanamthitta.

Objectives

- To assess the menopausal symptoms among postmenopausal women of selected Kudumbashree units at Pathanamthitta.
- To evaluate the effectiveness of an interventional package on menopausal symptoms among postmenopausal women of experimental group.
- To find out the association between the menopausal symptoms with the selected demographic variables such as age, parity, occupation, type of menopause, source of information regarding menopause.

MATERIALS AND METHOD

Quasi experimental pretest posttest control group design was used to assess the effectiveness of interventional package on menopausal symptoms among postmenopausal women. purposive sampling method is used to select the study samples. Formal written permission was obtained from the concerned authorities of Kudumbashree. The purpose of the study was explained to them and informed consent was obtained. After obtaining baseline information the researcher assessed the menopausal symptoms among experimental and control group using menopausal rating scale. Interventional package was administered to experimental group for the next 30 days. Post-test was conducted with the menopausal rating scale on the 31st day for the experimental and control group. The tool consisted of Section A- socio demographic data including age in years, parity, occupation and type of menopause and source of information. Section B- The menopausal rating scale is the standardised tool for rating menopausal symptoms. It consists of 11 items and

score range is categorised as no/ little complaints: 0 – 4, mild: 5 – 9, moderate: 10 – 18, severe: 19 – 27, very severe: 28 – 44.

RESULTS

The researcher conducted the study in 60 postmenopausal women

Demographic characteristics:

- It is observed that 50% of the postmenopausal women were in the age group of 51 – 55 years.
- Out of 60 samples, 75% were multipara.
- It shows that 73.3% had natural menopause.
- Out of 60 samples, 66.7% postmenopausal women were unemployed.
- Majority 73.3% got information from peer group.

Description of menopausal symptoms among postmenopausal women.

Table 1 shows that the data in the pre-test assessment of menopausal symptoms indicates that 91.7% had severe menopausal symptoms

Effectiveness of an interventional package on menopausal symptoms among postmenopausal women.

- **Comparison of pretest and posttest scores of menopausal symptoms among experimental group**

Table 2 shows, the calculated 't' value is greater than table value, mean pretest score of experimental group (22.37+/-1.866) was lower than the mean posttest score (17.43+/-1.591) at 0.05 level of significance ($p=0.0001<0.05$). Hence it indicates that there was significant reduction in menopausal symptoms among experimental group.

- **Comparison of posttest scores of menopausal symptoms among experimental and control group.**

Table 3 shows that the calculated 't' value is greater than the table value, mean posttest scores of experimental group (17.43+/-1.59) is lower than the mean posttest score of control group (22.37+/-3.31) at 0.05 level of significance ($p=.0001<0.05$). Hence it was inferred that interventional package is effective in

reducing menopausal symptoms among postmenopausal women.

Association between the menopausal symptoms with the selected demographic variables.

Table 4 shows the association between menopausal symptoms and selected demographic variable and it shows there is a significant association between menopausal symptoms and selected variables like parity and type of menopause except age, occupation and source of information regarding menopause.

DISCUSSION

In this study, it was revealed that 91.7% had severe menopausal symptoms and the mean pretest menopausal symptoms were 22.33 with standard deviation 2.515.

These findings of the present study were supported by a descriptive study, conducted to assess the menopausal symptoms. According to menopausal status 40.6% premenopausal women had menopausal symptoms, 48% perimenopausal women had menopausal symptoms and 11.4% postmenopausal women had menopausal symptoms. The five most frequent symptoms of the 11 composing the menopausal rating scale were muscle and joint problems (77%), depressive mood (74.6%), sexual problems (69.6%), hot flushes (65.5%) and sleeping disorders (45.6%).

The findings was supported by another cross-sectional house to house study was conducted the assess prevalence of menopausal symptoms among women in the age group of 43 to 55 years in a rural area in Kottayam district in Kerala state. Mean age of 320 women participated in the study was 48.96. The study results showed that the prevalence of menopausal symptoms is high among women in this rural area in Kottayam, Kerala. About 88.8 % of postmenopausal women and 62.5% premenopausal women reported at least one symptom.

The findings of the present study reveal that there was a significant difference between the menopausal symptoms of experimental group before and after intervention and were statistically significant at 0.05 level. There was also significant difference between posttest menopausal symptoms of experimental and control group at 0.05 level of significance. It shows that interventional package was effective in reducing

menopausal symptoms.

These findings of the present study were supported by a quasi experimental study was conducted among 100 Kudumbashree workers in the Arpookkara panchayath, to determine the effectiveness of exercise interventions on the menopausal symptoms. The exercise interventions including hip rotation, walking, range of motion and deep breathing was administered to the women in the age group 45-60 years who were experiencing the menopausal symptoms. The duration of the study was one month. The results of the study revealed that 43.4 % of the control group experienced severe menopausal symptoms. Among the experimental group 46.70 % experienced severe menopausal symptoms and it was found that exercise package was effective in reducing the severity of menopausal symptoms ($t = 4.842, p < 0.001$).

The findings was supported by another cross sectional study was conducted among postmenopausal women, to evaluate the effectiveness of exercise interventions on the occurrence and severity of menopausal symptoms. The duration of the study was one month. The exercise interventions included deep breathing, hip rotation, walking and range of motion exercises. Results of the study had shown that there was a significant reduction in the severity of menopausal symptoms in the experimental group ($p < 0.001$).

The findings of the present study in consistent with the above mentioned studies shows that the interventional package is effective in reducing menopausal symptoms among postmenopausal women.

The findings of the study revealed that there was a significantly association between menopausal symptoms and selected variables like type of menopause and parity except age, occupation, and source of information regarding menopause.

The findings of the present study was supported by a cross sectional study conducted to determent the association between genitourinary complaints and associated factors among 1,328 postmenopausal women and they identified association between the frequency of genitourinary complaints and parity.

The findings was supported by another cross sectional study was conducted on 263 Turkish women, to determine the association between women's menopausal symptoms and associated factors. The result showed that women who had six or more pregnancies had more menopausal complaints and women who entered menopause due to surgery experienced more menopausal complaints than those who entered menopause naturally.

The findings of the present study in consistent with the above mentioned studies shows that menopausal symptoms are associated with parity and type of menopause.

Table -1 Description of menopausal symptoms among postmenopausal women (N=60)

Menopausal Symptoms	Score range	Frequency	Percentage	Mean	S.D
No/little complaints	0-4	0	0	22.33	2.515
Mild	5-9	0	0		
Moderate	10-18	3	5		
Severe	19- 27	55	91.7		
Very severe	28- 44	2	3.3		

Table 2- Comparison of pretest and posttest scores of experimental group (n = 30)

Test	Mean	Mean difference	S.D	t value
Pretest	22.37	4.97	1.866	14.709*
Posttest	17.43		1.591	

$t_{(29)} = 2.04$, *significant at 0.05 level

Table 3- Comparison of posttest scores of menopausal symptoms among experimental and control group. (N=60)

Group	Mean	Mean difference	S.D	t value
Experimental	17.43	4.94	1.59	7.365*
Control	22.37		3.31	

$t_{(58)} = 2.00$, *significant at 0.05 level

Table 4- Association between the menopausal symptoms with the selected demographic variables

Demographic variables	Chi square	df	P	Inference
Age in years	5.979	6	0.426	NS
Parity	15.145	6	0.019	S
Type of menopause	8.616*	2	0.013	S
Occupation	4.03	2	0.256	NS
Source of information	2.288	32	0.319	NS

Conflict of Interest : There is no conflict of interest for the present study.

Ethical Considerations: The study was conducted after obtaining ethical clearance from the institutional ethical committee and permission from the concerned kudumbasree unit was obtained for conducting the study. Consent was obtained from the postmenopausal women who participated in the study. Confidentiality was assured for the participants throughout the study.

Source of Funding: Self

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Prevalence of Thalassemia in Reproductive Age Group Females in Central Gujarat- Literature Review

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ABSTRACT

The current study aims to know the prevalence of thalassemia in the country INDIA among various age groups of human, to know the lacking area, which can be explore further through research, and the literature review as the methodology in this article. Multiple databases were searched focusing on prevalence of thalassemia among various age group of human.

It was concluded that to prevalence rate of thalassemia is higher at some tribal and other areas but prenatal diagnosis, premarital screening and psychological intervention may play an important intervention.

Keyword: *thalassemia, prevalence rate, prenatal diagnosis, premarital screening*

INTRODUCTION

Thalassemia is a serious inherited blood disorder in which the body makes an abnormal form of hemoglobin. The disorder results in excessive destruction of red blood cells, which leads to anemia.¹ Thalassemia is inherited, meaning that at least one of parents must be a carrier of the disease. It's due to either a genetic mutation or a deletion of certain key gene fragments. The two main forms of thalassemia are alpha-thalassemia and beta-thalassemia. In alpha-thalassemia, at least one of the alpha globin genes has a mutation or abnormality. In beta-thalassemia, the beta globin genes are affected.²

Thalassemia occurs when there's an abnormality or mutation in one of the genes involved in hemoglobin production. Person inherits this genetic defect from their parents. If only one of parents is a carrier for thalassemia, than person may develop a form of the disease known as thalassemia minor. If this occurs, patient probably won't have symptoms, but patient will be a carrier of

the disease. Some people with thalassemia minor do develop minor symptoms. If both of patient parents are carriers of thalassemia, than have a greater chance of inheriting a more serious form of the disease.³

According to the Centers for Disease Control (CDC), thalassemia is most common in people from Asia, the Middle East, Africa, and Mediterranean countries such as Greece and Turkey.³

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

MATERIAL, METHOD AND FINDINGS

Literature review worked as Methodology.

A multicenter study was carried out on Prevalence of β -thalassemia and other haemoglobinopathies in six cities in India. Earlier studies have shown that the overall prevalence of β -thalassemia is 3–4 % with an estimate of around 8,000 to 10,000 new births with major disease each year (Madan et al. 2010; Balgir 1996). The study was conducted at Six centers at Mumbai in Maharashtra and Vadodara in Gujarat in the

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west, Bangalore in Karnataka in the south, Kolkata in West Bengal in the east, Dibrugarh in Assam in the north east and Ludhiana in Punjab in the north were selected for the study. In all, 56,780 individuals were screened and the overall prevalence of β -thalassemia carriers was 2.78 % (95 % CI 2.66–2.94). Ludhiana and Kolkata had the highest prevalence 3.96 % (95 % CI 3.62–4.38) and 3.64 % (95 % CI 3.23–3.97) respectively, while Dibrugarh showed the lowest prevalence, 1.48 % (95 % CI 1.21–1.79). Sporadic cases of $\delta\beta$ -thalassemia trait—0.06 % (95 % CI 0.01–0.11) and HPFH trait were more commonly encountered in the western region in Vadodara—2.94 % (95 % CI 2.57–3.23) and in Mumbai—0.53 % (95 % CI 0.39–0.67) while HbD trait was mainly seen in the northern region in Ludhiana (1.09 %). HbE trait was highly prevalent in Dibrugarh—23.9 % (95 % CI 22.99–25.01) and was also more common in Kolkata—3.92 % (95 % CI 3.52–4.28) while few cases were also seen in the other regions.⁴

A epidemiological study to know the prevalence of Deletional alpha thalassemia & Sickle gene in a tribal dominated Malaria endemic area of eastern India by Prasanta purohit, Snehaddhini Dehury, Siris patel a7 Dilip kumar patel. This study was undertaken at sickle cell clinic and molecular biology laboratory, veer surendra sai medical college, Burla, Odisha. The study carried out in three tribal dominated villages of western Odisha. Total 594 samples selected. A routine health check-up was carried out on all subjects, detailed personal information and clinical characteristic noted in pre-designed format. Written consent obtained from each subject before collecting the blood by trained personnel. 5 ml of EDTA venous blood was collected in vacutainer & stored between 2 to 8 degree in vaccine carrier & transported to clinic within 24 hours. The prevalence of alpha thalassemia alleles in this study population was 50.84% and the sickle alleles were 13.1%. None of the subject had beta thalassemia major. This study was funded by DST, ICMR & NHM Odisha. The study concludes that the alpha thalassemia & sickle gene is highly prevalent in the tribes of western Odisha. The high prevalence is probably due to selection pressure of endemic malaria in this part of India.⁵

A Cochrane systematic review to examine the evidence that in people with thalassemia, psychological treatments improve the ability to cope with condition and improve both medical & psychological outcome.

The search method was “Cochrane Cystic Fibrosis and Genetic Disorders group haemoglobinopathies Trails Register”. The selection criteria were all randomized or quasi-randomized controlled trails comparing the use of psychological intervention to No (Psychological) intervention in people with thalassemia. The author of this systematic review concludes that as chronic disease with a considerable role for self-management, psychological support seems appropriate for managing thalassemia. This review has clearly identified the need for well-designed, adequately powered, multi-center randomized controlled trails assessing the effectiveness of specific psychological interventions for thalassemia.⁶

A study published in PubMed by Choudhuri S., Sen A., Ghose MK, Misra S. & Bhattacharyya M on effectiveness of prenatal screening for hemoglobinopathies in developing country. The study reveals that there are estimated 7500-1200 babies born with beta thalassemia major every year in India. Couples who are at risk of having children with hemoglobin disorder, desired to have the option of avoiding the birth of an affected child by prenatal diagnosis. Thus the prenatal women are highly important target group for carrier screening and preventing the birth of thalassemia children in the country. The present study was conducted among 20883 pregnant women, irrespective of gravida and duration of pregnancy form the prenatal clinic of medical college of west bangal, India, form February 2009 to November, 2012. Thalassemia carrier status was assessed by High Performance Liquid Chromatography (HPLC) along with RBC indices. Husbands of all thalassemia women were advised and persuaded to undergo screening for hemoglobinopathies. The couple was counseled to undergo prenatal diagnosis, if both of them were detected to be thalassemia carrier.⁷

A retrospective cohort study was conducted by Charoenboon C, Jataven P, Traisrislip K & Tangsang T on pregnancy outcome among women with beta-thalassemia trait. The study conducted with an objective to compare the obstetric outcome between pregnant women affected with beta-thalassemia trait & normal controls. A retrospective cohort study on singleton pregnant women complicated by beta-thalassemia trait & normal control randomly selected with the control-to-case ratio of 2:1. The pregnancies undergoing invasive prenatal diagnosis were excluded. Total 597 pregnant women with beta-thalassemia trait & 1194 controls were

recruited. Baseline characteristic and maternal outcome in two groups were similar, expect that haemoglobin levels were slightly lower in the study group. The prevalence of small for gestational age and preterm birth tended to be higher in study group but not reached the significant levels but the rate of low birth weight was significantly higher in the study group (relative risk 1.25; 95% CI 1.00-1.57) additionally, abortion rate was also significantly higher in study group (relative risk 3.25; 95% CI 1.35-7.80). the study concluded that beta-thalassemia trait could minimally, but significantly increase risk of low birth weight but did not increase rates of maternal adverse outcome.⁸

A descriptive study conducted by Ishaq F, Abid H, Kkab F, Akhtar A & Mahmood S on awareness among parents of beta thalassemia major patients regarding prenatal diagnosis & premarital screening. The study conducted at thalassemia centre of Sir Ganga Ram Hospital, Lahore from July to September 2009 with a objective of to assess the knowledge among parents of thalassemia major patients about prenatal diagnosis, premarital screening for carrier detection and impact of consanguineous marriage on disease transmission. 115 patients of beta thalassemia major patient were enrolled in the study. Questionnaires were developed and parents were interviewed to assess their knowledge about preventive measures against thalassemia major. The study reveals that 52 parents (44.6%) knew that thalassemia is an inherited disorder. 38 (33%) had heard about the test for detecting thalassemia carrier, premarital screening & prenatal diagnosis was known to 97 (84.3%) & 88 (76.5%) parents respectively. Major sources of information to the parents were doctors. The study concludes that prenatal knowledge about thalassemia and its preventive measures were inadequate; this requires interventions in the form of public health education progress concentrating on high/targeted population.⁹

A survey of thalassemia and anemia was conducted in June-July, 2012 (unpublished data) in a few congregations of tribal communities' in Mangoan taluka, Raigad district, Maharashtra about 150 km south of Mumbai, Maharashtra, India. In a routine community health survey conducted in adult *Adivasis* of the costal Maharashtra, microcytosis and hypochromia were observed in more than 80 per cent of both males and females having normal hemoglobin levels suggesting

the possibility of α -thalassemia in these communities. They conducted a study in *Adivasi* students in the same region to find out the magnitude of α -thalassemia. Total 51 participants (28 girls and 23 boys) were 14-17 year old studying in a tribal school. Fasting venous blood samples (5 ml) were subjected to complete blood count (CBC), Hb-HPLC and DNA analysis using gap-PCR for deletion of $-\alpha 3.7$ and $-\alpha 4.2$, the two most common molecular lesions observed in α -thalassemia in India. Microcytic hypochromic anemia was observed 50% and 35% girls and boys respectively. Iron supplementation improved Hemoglobin levels but did not correct microcytosis and hypochromia. More than 80% non-anemic students of both genders showed microcytosis and hypochromia. DNA analysis confirmed that the hematological alterations were due to α -thalassemia trait characterized by deletion of $-\alpha 3.7$. Majority (> 60%) of the affected students had two deletions ($-\alpha 3.7/-\alpha 3.7$) genotype α^+ thalassemia. This is perhaps the first report on the occurrence of α -thalassemia in tribal communities of coastal Maharashtra. The study concludes that very high (78.4%) haplotype frequency suggest the condition is almost genetically fixed. These preliminary observations should stimulate well planned large scale epidemiological studies on α -thalassemia in the region of other states.¹⁰

A survey on thalassemia among people of reproductive age was conducted in Guilin City, Guangxi, China. The objective of study was to study the present situation of thalassemia among people at reproductive age. A complete red blood cell mean cell volume (RBCMCV) was detected as well as hemoglobin electrophoresis analysis was done for all samples. Suspected alpha or beta thalassemia cases were screened out and alpha and beta thalassemia genes were detected by PCR-RDB. Study showed that among 1580 cases, 79 cases were detected a thalassemia gene positive, with the detection rate as 5.00%. The detection rates on a thalassemia were 5.32%, 4.68% in males and females, but no significant difference ($\chi^2 = 3.04$, $\chi^2 < \chi^2_{0.05} (1) = 3.84$, $P > 0.05$). 114 cases were detected carrying beta thalassemia gene with the detection rate as 7.22%. The detection rates on beta thalassemia were 7.85%, 6.58% in males and females, with no significant difference ($\chi^2 = 0.95$, $\chi^2 < \chi^2_{0.05} (1) = 3.84$, $P > 0.05$). The overall detection rate of thalassemia was 12.22% (193/1580). Alpha thalassemia was found to

have had ten genotypes, with --SEA/alpha, alpha the most common one and the detection rate was 3.54%. -Alpha(3.7)/alpha, alpha appeared the majority in the static alpha thalassemia and --SEA/alpha, alpha took the majority in the light a thalassemia, while --SEA-alphaCS was the major one in the intermedia alpha thalassemia, with gene contributions of 7.59%, 70.88% and 2.53%. Beta thalassemia was detected having seven genotypes, with CD41-42 (-TTCT) the most common one in beta thalassemia, and the detection rate was 3.16%. The commonly seen three mutations, CD41-42 (-TTCT), CD17 (A-->T) and IVS-II-654 (C-->T) were accounted for 87.71% of beta thalassemia. The detection rate on thalassemia and beta combination was 0.63%. the study shows that the detection rate of thalassemia among people at productive age in Guilin city was relatively high.¹¹

CONCLUSION

The present paper is a part of minor research funded project by Charotar University of science and technology (CHARUSAT) Gujarat. The project aimed to know prevalence of thalassemia in reproductive age group of females in central Gujarat. It was concluded with this literature review that the prevalence rate of thalassemia is higher at some tribal and other areas but prenatal diagnosis, premarital screening and psychological intervention may play an important intervention.

Conflict of Interest: None

Source of Funding: Investigator's received funding from Charotar University of Science and Technology (CHARUSAT), Changa, Anand-Gujarat

Ethical Clearance: The study approved by CHARUSAT.

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Impact of Simulation on Nursing Students' Competence: A Perspective Qualitative Study in Saudi Arabia

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ABSTRACT

The goal of transformation in nursing education is to improve the quality of nursing training, which will impact the quality of holistic nursing care. This paper presents results from a rich active discussion of faculty perspective about the impact of simulation on student competence. The study used inductive, interpretive and constructive types of qualitative research design. The author conducted three focus group discussions, and 22 faculty members from the College of Nursing at King Saud University participated. Each focus group was interviewed and audio recorded for 60 minutes. The study yielded three main themes: students' readiness for simulated reality, required processes for successful simulation, and challenges of simulation implementation. Understanding the faculty perspectives will help appropriately support and facilitate nursing simulation education.

Keywords: *Simulation education, Clinical skills, Competence, Saudi Arabia.*

BACKGROUND

As nursing simulation education has evolved, a number of forecasting models have been developed to predict behaviors of students, faculty, and health care providers ¹. In addition, the revised standards for simulation practice was published and presented to national and international nurse simulation educators. The adoption of these standards demonstrates the importance of using up-to-date evidence when implanting simulation in nursing education. New simulation programs and advanced programs have used these standards as their foundation to ensure high-quality competency-based learning.¹ However, few models show how simulation education affects nursing students' competences in the health care workplace. Implementation remains an ongoing process, with the hope of yielding valuable evidence-based knowledge to support nursing faculty practice of simulation curricula. Furthermore, challenges such as the amount of time instructors spend supervising students' skills development, allowing fewer students on in-patient

units, and restricting their activities to observing patient care may limit educational opportunities and students' clinical learning.² More nursing programs have begun in Saudi Arabia, and many are facing access limitations and competition for clinical sites.

The literature has identified the types of courses that used simulation and how they are implemented. Additionally, some programs used simulation as part of clinical time with case scenarios, while others substituted it for traditional clinical hours.^{3,4} While there is difficulty in linking simulation with a direct positive impact on the learning of clinical skills, several studies have connected the two. Unfortunately, out of 13 studies, only three examined skill performance and competency that contributed to successful simulation practice but all were in developing countries and non in Saudi Arabia.⁵ This study attempted to investigate nursing faculty members' perspectives about the impact of simulation on student competence.

METHODOLOGY

This study was designed using inductive, interpretative, and constructionist types of qualitative research. An exploratory focus group interview was applied in this study to explore holistically what faculty feel and believe and have fruitful communication that highlights their perceptions, considerations, and suggestions for some solutions to a phenomenon under exploration.⁶

The study was conducted in the College of Nursing (CON) at King Saud University. CON has 21 simulation nursing-skill labs with a wide range from low to high fidelity that meet the high-tech equipment requirements for student clinical training.

A total of 121 faculty members who had taken part in simulations were invited to participate. A purposive sample of Twenty-two faculty members was selected for this study. Three focus groups were scheduled. The inclusion criteria of the sample were faculty members with master’s qualifications and above who taught a theory class, provided a practical class in simulation or clinical setting class, had full or partial simulation training, and served as a head or member in the internship program, curriculum, and skill simulation lab committees.

Each focus group was interviewed for 60 minutes, and the discussion was audio recorded to improve data collection and analysis. Triangulation of data was achieved by combining different types of data and several unique data sources, which is a frequently used approach for achieving trustworthiness of qualitative data.⁷ Participants were assured of the anonymity of their responses during the focus group discussions.

DATA ANALYSIS

The audio recordings were used for verbatim transcription in English. ATLAS.it7 software tool for organization and analysis of qualitative data was used to analyze the focus group verbatim transcripts. Thematic analysis was performed in this study. The coding system and indexing were performed on three levels: descriptive, interpretative, and pattern coding.⁸ This approach allowed for a variety of analyses, permitting the investigator to recognize important patterns and themes. For validation of data and evidence, triangulation was

used, and it involved the use of multiple data sources.⁷ Figure 1 provides detailed description of the approaches used to analyze the data.

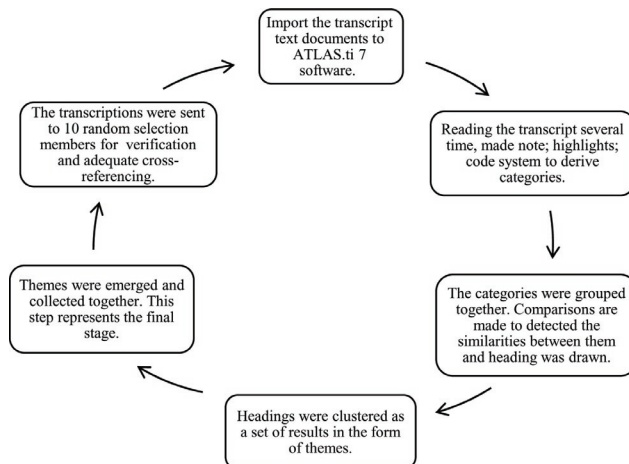


Figure 1 Process of data analysis

FINDING

From the series of group focus discussions that were designed to elicit the nursing faculty members’ perspectives about the impact of simulation on student competence, participant responses were programed into 84 codes and organized into eight categories. The categories were then merged into three main themes: students’ readiness and preparing them for simulated reality, required processes for successful simulation, and challenges for simulation implementation. Figure 2 displays the process of themes emerging.

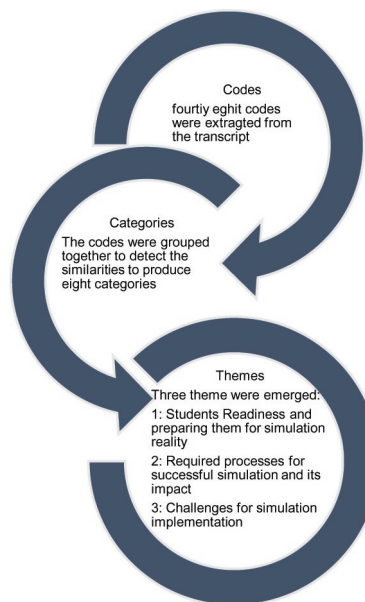


Figure 2 Themes emerging process

Theme 1: Students' readiness and preparing them for simulated reality.

Nursing faculty members reached a common conclusion that there is a need for rigor in curriculum preparation that is properly fueled with student readiness and approaches to measure the simulation impact on student performance. The discussion among members led to the conclusion that simulation is an appropriate tool that augments student self-confidence in their abilities and skills. Furthermore, simulation is successful in helping maintain student competency level. One group added how nurses' shortages created more pressure on faculty. It is assumed that more difficulties will appear in examining the impact of simulation on student-learning outcomes. These difficulties that are progressing in nursing education in Saudi Arabia would make the roles of faculty nurses more complex. Furthermore, the discussion in all groups emphasized that the role of faculty must be extended beyond providing clinical experiences as an essential part of nursing education and build competence and confidence with an innovative clinical experience to help students further improve their learning needs.

"Nursing students need to display a wide variety of competencies and skills within a clinical setting. Simulation gives instructors the ability to replicate the complexity of patient care within a fast-paced work environment and give students authentic tasks. However, student readiness is critical to the success of the simulation. Adding simulation hopes to provide students the ability and confidence they need prior to clinical placement to bridge the gap between theory and practice."

Theme 2: Required processes for successful simulation and its impact

Faculty should facilitate the student learning environment by developing a simulation for students to practice specific nursing skills prior to beginning their clinical rotation. This approach could aid students in applying skills learned in simulations to their clinical setting. Faculty expressed strong views that there are more requirements needed to provide successful simulation and to enhance its impact on student competencies. In their deliberating, faculty raised cooperation and collaboration as processes that are needed.

They recommended setting implicit roles and responsibilities and formulating internal policy and procedures, in addition to other requirements.

"I liked one time when I got the chance to teach the students two consecutive semesters. I had class activities to explain what was expected from them in the simulation lab experience. There were specific roles related to this experience and what the expected outcomes of the experience were. And each student felt comfortable in this learning environment. They visited the lab to get a chance to introduce themselves to certain equipment and technology ... I just really followed the plan. But not every experience had specific roles or guidelines."

However, to have faculty writing skillful scenarios is a necessity as a process requirement, as conveyed by members. Simulation education and training should be focused on junior instructors and all nursing faculty. This will allow the developing reliable training program to provide consistency in education for all nursing program simulation labs and nursing clinicals in the workplace.

Theme 3: Challenges for simulation implementation

The aim of faculty is to equip student nurses with the required knowledge and skills to assume their roles as graduates and to achieve academic recognition. However, toward this goal they expressed some challenges in simulation implementation. It is required that nursing faculty must earn a master's or doctoral degree in nursing and have nursing clinical practice experiences in order to resume a teaching role. However, discussion among the members of all groups explored the idea that the examination of nursing students' clinical understanding and competence has presented faculty with problems of validity and reliability. Frequently, assessments of nursing students' competence comprise quick assessments of psychomotor checklist skills undertaken in basic skill nursing labs rather than in advanced simulated laboratory settings. As might be expected, the politics surrounding simulation and its requirements are new and will make legislative and regulatory changes challenging. Actually, the discussion among members in the group highlighted these issues as presented:

"... Local Saudi Arabian or regional Gulf countries,

I think they would be considering an immediate, short-term goal to have round-table discussions regarding their nursing programs' criteria and how to apply reliable and valid simulation environment practices. The result of this discussion will collect important information to set some simulation legislative and regulatory applications. This simultaneously will provide precise guidelines to implement delineate policies regarding students' competency and simulation requirements.... Do not forget that it is important to work with a nursing board as an authorized body in the Saudi Commission for Health Specialties and higher education entities to add to ... more investments appropriate in human resources."

CONCLUSION

The conclusion of simulation's value and student competency was drawn from the finding of this study. The goal of this study was not to measure student competency, but rather to explore faculty perspectives while also introducing them to simulation education and its impact. The study determined the value of simulation and that its impact on student learning outcomes is well recognized. Faculty recognize that simulation facilities have substantial benefits to students by giving them full access to practical experiences and vigorous curriculum. When supported by other teaching strategies and techniques, simulation helps students achieve the desired confidence for success in clinical settings. Simulation education focuses on authentic situations whereby nurses are able to apply their skills in a safe environment with instructional support.^{9,10}

Additionally, focus groups in this study realized that students' awareness of simulation and its impact on their learning might escalate their competency. A student's perceptions of the simulation learning environment and comprehension of its effect can progress his or her competency status. This is related to situation awareness, which has been described as students' ability to be vigilant of their surroundings and the prediction of their status.¹¹ Students' awareness assists to interpret information, guides how to integrate this information, and enables prioritization of tasks, which, in turn, influences their performance and competency.¹² Likewise, situation awareness is a key aspect in enhancing responsiveness to clinical situations.¹³ concluded that situation awareness was not well confirmed by students and may not be a

specific consideration in undergraduate course delivery.

This study's findings are consistent with other studies that showed that simulation sensitive to interactional dynamics enabled students' confidence and may help to improve student competencies. In contrast, the benefits of this interactional dynamics characteristic are often taken for granted, although it is not clearly demonstrated how it improves learning competency.¹⁴

In Saudi Arabia, nursing programs have begun using simulation at different levels of integration to help teach nursing care principles and skills. Students participating in simulated clinical education can gain experience, learn and refine skills, and develop competencies within a safe, supervised setting. For students to understand simulated education and to be able to realize its impact on their competency, the faculty of this study stated that there is both a need to introduce relevant conceptual frameworks into instruction and to form explicit connections with college policy and procedures. It is important to carefully consider creating an interactive simulation learning environment that affords opportunities for students to make important connections and reduce the gap between theory and practice.¹⁵

This study highlighted challenges related to the complexity of simulation associated with advanced technology that requires a commitment of educators to continuously train in the use of simulation. The field of faculty simulation training and practice is supported by much research.¹⁵⁻¹⁸ Faculty recognizes that simulation education is an advanced educational tool. Therefore, training is important to allow faculty to successfully implement simulation education.

Moreover, as to the difficulty in assessing the impact of simulation on nursing outcomes, the faculty in this study articulated some challenges to implementing simulation and said that more study is recommended. The challenges for implementing appropriate simulation education include the complexity of cultural simulation, lack of instant simulation management and technical support, lack of simulation team experts, unclear internal simulation policy and procedures, and lack of ongoing professional simulation management development. The findings of this study are consistent with other studies that demonstrated the need for further discussion of these challenges that influence students' competency.^{9,19}

In general, Saudi Arabia faces a shortage of faculty qualified in simulation education. The reasons for qualified faculty shortages, however, are complex, although the less skilled faculty explored techniques that contributed to successful simulation practice. This study's findings are conclusive regarding the effectiveness of simulation and show positive results. All faculty members in this study reached a common conclusion that the need for rigorous preparation is appropriately driven by approaches to measure the simulation effectiveness and its impact on student performance.

Conflict of Interest: To the author's knowledge, no conflict of interest, financial or other, exists.

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Ethical Clearance: Participants were assured of the anonymity of their responses during the focus group discussions using informed consent. This research received institutional review board approval.

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E-learning in Nursing: Literature Review

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ABSTRACT

Objectives: This article has two main objectives; the first objective is to provide a narrative historical review and analysis of the research studies focusing on e-learning in nursing to describe any trends in e-learning within the nursing field. The second aim is to report any evidence that supports the use of synchronous and asynchronous e-learning methodology in improving high quality of nursing education. **Design:** A narrative historical review of literature is utilized to provide an overview about e-learning in nursing. **Data Sources:** search for articles was conducted by using CINAHL, MEDLINE and PubMed. The key words for literature search included: “E-Learning in Nursing” with time frame from 1971 to 2016. **Review methods:** The literature review is presented in a historical chronological framework. The review process utilized the conceptual model titled “A conceptual Model of E-learning Adoption” to report the literature review results based on the conceptual model variables. The inclusion criteria for reviewed articles included articles that investigated e-learning with various research methodologies. **Results:** Several studies investigated E-learning in general education. Limited literature was found focusing on e-learning in nursing education. One of the gaps noted was that a now well-established teaching style utilizing e-learning is being developed and used worldwide with little research to support the andragogy/pedagogy of the teaching and learning used. **Conclusion:** This review of literature provides practical implications that could enhance the efficacy of utilizing e-learning in nursing, and direct future research to answer the recommendations of previously conducted studies focusing on e-learning.

Keywords: *E-Learning, Methods, Nursing. Nurse educator, Online learning*

INTRODUCTION

The purpose of this article is to provide a narrative historical literature review related to e-learning in nursing, and describe the historical trend in nursing education affected with the modern technologies and use of apps in nursing educational programs. Conducting this review will provide a clear map about e-learning in nursing, and report any gaps in the literature that may direct future research focusing on e-learning in nursing.

BACKGROUND

E-learning is an electronic procedural learning tool that incorporates a level of cognitive interactivity which facilitates transformation of an individual’s learning experience through knowledge construction process.

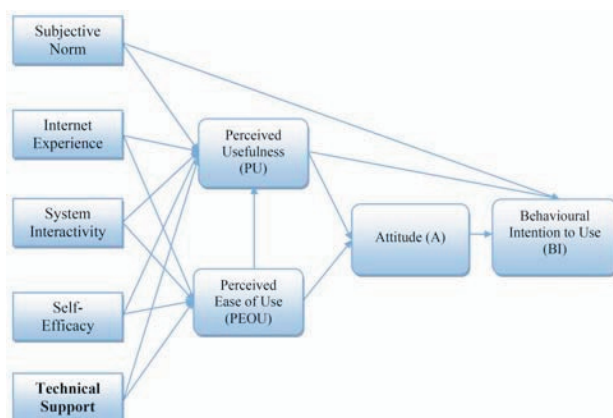
^{9,28,29} E-learning is defined as an “educational process that uses information and communication technologies to create training, to distribute learning content, communication between students and teachers and for management of studies”.²⁹

E-learning is also called online learning, computer-assisted instruction, or Internet-based learning. Historically, there have been two common e-learning modes: distance learning and computer assisted instruction. Distance learning uses information technologies to deliver instruction to learners who are at remote locations from a central site. Computer-based learning uses computers to aid in the delivery of stand-alone multimedia packages for learning and teaching.¹

Conceptual framework:

The conceptual model is based on the technology acceptance model (TAM) which is an information systems theory. TAM has been used to test acceptance of different technologies and software in the e-learning environment. “The TAM provides a sound framework for further research of the acceptance of e-learning systems”.¹

Abbad utilized the TAM model and proposed a new conceptual model of e-learning adoption with no specific focus on any educational field.¹ The model identifies the following variables that are correlated together to influence e-learning adoption; Subjective norm, Internet experience, System Interactivity, Self-Efficacy, Technical Support. All these variables affect the perceived usefulness, ease of use and subsequently attitude and behavioral intention to use.¹



Figure#1: “A conceptual Model of E-learning Adoption”.¹

METHODOLOGY

Objectives: The first objective of this article is to provide a narrative historical review and analysis of the research studies focusing on E-learning in nursing to describe any trends in E-learning within the Nursing field. The second objective is to report any evidence that supports the adoption of synchronous and asynchronous e-learning methodology in improving the quality of nursing education.

Data sources: search for articles were conducted by using CINAHL, MEDLINE and PubMed search engine. The key words for literature search included: “E-Learning in Nursing” with time frame from 1971 to 2016.

Literature Review

The literature review is presented in a historical chronological framework. The inclusion criteria for reviewed articles was all articles that investigated e-learning in nursing with various research methodologies. Both quantitative and qualitative studies are included in the review. The literature analysis will be presented in a historical chronological manner, and according to the type of research methodologies used in studies that investigated e-learning in nursing phenomenon.

In an international study, utilizing qualitative and quantitative research, full time and part time students were interviewed about attitudes and opinions regarding distance education.¹⁶ The research was performed among 125 students (36 in Slovenia and 89 in USA). A questionnaire for quantitative research was composed from 37 questions. Based on personal opinion, authors rated each of the barriers on how strong or how weak they thought each barrier may be to them when considering taking a distance education class. The findings proved that e-learning can have many benefits and can enhance learning experiences in nursing education, but it has to be provided in correct manner.

A systematic review of the literature was performed by Feng and colleagues in 2013.¹⁰ The purpose of their systemic review was to determine the effectiveness of situated e-learning in pre-licensure and post-licensure medical and nursing education. The researchers used the literature databases of PubMed, Medline, CINAHL, ERIC, and Cochrane Library. The review included English articles that examined the effectiveness of situated e-learning on the outcomes of knowledge and performance for clinicians or students in medicine and nursing. A meta-analysis was created for fourteen articles. The systemic review of the literature related to e-learning found that “Situating e-learning could effectively enhance learners’ knowledge and performance when the control group received no training”¹⁰

FINDINGS

Thirteen articles with different research methodologies that investigated e-learning were the result of the literature review. Although e-learning has been studied in general education, there is a lack of literature that investigated e-learning in nursing specifically, and its effectiveness to produce a well-

educated nurses compared to the campus based learning. Table-1 provides a visual presentation of the historical literature review aligned with the “Conceptual Model of E-learning Adoption” variables provided by Abbad, along with researcher’s recommendations for future studies.¹

Table-1: Analysis & Recommendations of Reviewed Studies Ascending Time Frame

Study Methodology	Sample	P*	Location/setting/ Year	Variables investigated in “Conceptual Model of E-learning Adoption”	Researchers recommendations
Mixed Methods	125 students		Slovenia and USA	<ul style="list-style-type: none"> • Attitude • Perceived usefulness 	“The study proved that e-learning can have many benefits and that it can enhance learning experience in nursing education, but it has to be provided in correct manner”. ¹⁶
Observational-Faculty mentoring project	Nursing faculty		School of Nursing at the University of Memphis	<ul style="list-style-type: none"> • Subjective norm • Internet experience • Ease of use 	Faculty with technology expertise are encouraged to consider how they can provide support for their colleagues who have weaker computer skills or need to learn how to use new programs. ³
Descriptive study	42 nurses	P=.00	776-bed teaching medical center in Taipei/ 2008	<ul style="list-style-type: none"> • Subjective norm 	The researchers encouraged the use of e-learning in nursing education. ²⁶
Mixed methods	41 students and 35 staff	Not reported	UK/ 2010	<ul style="list-style-type: none"> • Subjective norm • Ease of use 	The researchers recommended to develop e-learning that would engage students in the social construction of knowledge. ²¹
Exploratory descriptive	38 Nursing academics	Not reported	UK/2012	<ul style="list-style-type: none"> • Self-Efficacy 	Findings contribute to the literature by revealing a wider breadth of views and responses towards technology”. ²²
Mixed methods	83 students were recruited from a graduate program	Not reported	Australia/2013	<ul style="list-style-type: none"> • Perceived usefulness • Subjective norm • Behavioral intention to use 	The researched concluded that E-learning does not fit the needs of all learners, and it can support graduate students clinical skills education. ⁶
Systematic review	14 articles PubMed, Medline, CINAHL, ERIC, and Cochrane Library.	Not reported	Search Engine	<ul style="list-style-type: none"> • Subjective norm • Perceived usefulness 	“Situated e-learning is an effective method to improve novice learners’ performance. The effect of situated e-learning on the improvement of cognitive ability is limited when compared to traditional learning. Situated e-learning is a useful adjunct to traditional learning for medical and nursing students”. ¹⁰
Systematic review and meta-analysis of randomized controlled trials (RCT)	Results of 11 randomized controlled trials including a total of 2491 nurses and student nurses’ were analyzed	Not reported	Search Engine	<ul style="list-style-type: none"> • Perceived usefulness 	The researchers reported that there is a lack of systematically conducted RCT studies comparing the effects of e-learning and traditional learning methods in nursing education, and e-learning is not superior to traditional learning method but can be used as an alternative method in nursing education. ¹⁷

Cont... Table-1: Analysis & Recommendations of Reviewed Studies Ascending Time Frame

Qualitative study	53 nurses	p< 0.05	Southern Finland with three specialized psychiatric units	<ul style="list-style-type: none"> • Perceived usefulness • Subjective norm 	Participants recommended the course to other nurses. ¹⁸
Mixed methods systemic review	Seventeen papers reported on online approaches and only two papers reported on a blended approach	Not reported	Search Engine	<ul style="list-style-type: none"> • Perceived usefulness 	Highlighted by this review is “the lack of available evidence on the implementation of a blended learning approach to teaching clinical skills in undergraduate nurse education. Further research is required to assess the effectiveness of this teaching methodology”. ¹⁹
Experimental controlled	60 nursing students	p< 0.001	Iran	<ul style="list-style-type: none"> • Subjective norm 	Researchers recommended that teachers should use student- centered approaches in their lectures, and further studies required to explore the problems of e-learning in Iran. ²³
Systemic review of randomized controlled trials	Electronic databases CINAHL, Embase, ERIC, MEDLINE, Mosby’s Index, Scopus and Cochrane – CENTRAL	Not reported	Search Engine	<ul style="list-style-type: none"> • System Interactivity • Perceived usefulness • Ease of use 	Recommended that future research should adhere to the Consolidated Standards of Reporting Trials (CONSORT) reporting guidelines in order to improve the quality of reporting. ²⁷
Cross sectional, descriptive research design	113 female nursing students	P=.03	Nursing Students at El Dawadme Applied Medical Science at Shaqraa University, Saudi Arabia	<ul style="list-style-type: none"> • Behavioral intention to use 	“The findings show that applicant nursing students are ready for e-learning. The implementation of new technologies with instruction should be made. The e-Learning is a tool that can be used in undergraduate nursing education. Therefore, the University should develop e-Learning as a medium to enhance learning for students as they are ready to learn on their own, whether what year they are at or what age they are. There are no barriers to learning through e-Learning anymore”. ²

DISCUSSION

The adoption of e-learning in education varied according to the participants of the reviewed studies. Participants ranged from nursing students, medical students, nursing staff, and nursing faculty. “Findings contribute to the literature by revealing a wider breadth of views and responses towards technology”.²²

The findings from the review are supportive of e-learning as a methodology for teaching nurses in both the academic and services settings. Although findings do not provide evidence that e-learning is superior to traditional learning practices, there is evidence that “individualized, tailored e-learning approaches are more effective than traditional interventions”.¹⁷ In addition, it was found that “interactivity, practice exercises,

repetition and feedback” enhanced learning and due to its flexibility is ideal for e-learning.¹⁷

The e-learning platform used in the reviewed studies took many formats including the use of online recorded slides with narration, virtual e-learning, and other various platforms in e-learning, resulting in having wide range of data. Because of varied findings, it is recommended that more research be conducted and outcomes reported on the use of e-learning in the education of nurses. Sinclair et al. recommended that future studies should adhere to the Consolidated Standards of Reporting Trails (CONSORT) to improve the quality of reporting and enhance providing meta-analysis reporting of literature.²⁷

Limitations

There are a few limitations in this historical review that warrants further discussion. The key word/nomenclature e-learning is quite vast and synonymous with the following terms: mobile learning, collaborative based learning, tablet learning, and self-paced learning. Although the aforementioned terms are similar in meaning, the variability of these terms may limit generalizability of our findings. While the limitations are few, the historical literature review is a strength as it provides further understanding and grounding of factors that contribute to e-learning.

CONCLUSION

The applicability of this historical review of e-learning results in providing nursing educators with the current trend of e-learning as reported by the authors of the articles, exploring previous directions in e-learning and predicting future directions of e-learning in nursing. These practical implications of the review findings could enhance the efficacy of utilizing e-learning in nursing, and direct future research to answer the recommendations of previously conducted e-learning studies.

Conflicts of Interest: No conflict of interest is present.

Funding statement: No funding is received.

Ethical Clearance: This is a literature review manuscript, Institutional Review Board was obtained from California State University San Marcos related to

e-learning effectiveness.

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Study the Effectiveness of Mindful Eating on Quality of Life among Adults with Type 2 Diabetes Mellitus in Selected Hospital of Dehradun, Uttarakhand

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ABSTRACT

Background: Health is a state of functional or metabolic efficiency of a living organism. Today diabetes is considered to be a major health problem in India. It is a chronic progressive disease of an epidemiological character, causing consideration human as well as social and economical distress. **Objectives :** To Study the Prevalence/Magnitude of quality of life among adults with type 2 diabetes mellitus. To assess the effectiveness of mindful eating on Quality of Life. **Materials and Method:** A randomized control research design was used for study to measure the prevalence/magnitude of quality of life, and to measure the effectiveness of mindful eating on quality of life among adult patients with type 2 diabetes mellitus patients. The study was conducted in a multispecialty Hospital, Dehradun Uttarakhand. Simple random sampling was used to select 70 patients from the population and randomly assigned 35 in experimental and 35 control group who were diagnosed with type 2 diabetes since (0-5) year, taking oral hypoglycemic drug, routinely attending OPD and measuring their random blood sugar. The Audit of Diabetes-Dependent Quality of Life ((ADDQOL) in Hindi language was administered to assess their quality of life. **Results:** More than half (56%) of diabetes patients were reported extremely 'bad quality of life', 40% of diabetes patients were reported 'very bad quality of life' and least (4%) of diabetes patients reported 'neither good or not bad quality of life'. After, the experimental group had undergone two months of mindful eating intervention, mean post test score was significantly reduced to 1.55 ± 0.584 at the level of significance $p \leq 0.05$ form, the control group mean posttest score 5.92 ± 1.397 . The Socio demographic variables of the type 2 diabetes mellitus patients like: Age, Gender, type of family, Marital status, Religion, Education, Dietary pattern, Personal habits and Income did not have any significant association with their Quality of life mean Score, except for Occupation and family history at the significant level $P \leq 0.05$. **Conclusion:** The findings shows that half of type 2 diabetes mellitus patients had 'extremely bad quality of life' but mindful eating intervention was considerably proven as a additional treatment modality for improving the quality of life among diabetes mellitus patients.

Keywords: Adult with types 2 diabetes mellitus, Effectiveness, Mindful eating, Quality of life.

INTRODUCTION

Health is a overall state of individual body or mind. Health is fundamental to the attainment of peace and

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feeling of security and is dependent upon the fullest co-operation of individuals and their state of wellbeing. The achievement of any society in the promotion and protection of health is of value to all. ^[1] Diabetes mellitus or type-2 diabetes, which is one of the major non-communicable and fastest growing public health problems in the world, is a condition difficult to treat and expensive to manage. It has been estimated that the number of diabetes sufferers in the world will double from the current value of about 190 million to 325

million during the next 25 years.^[2,3,4] The quality of life issues are crucially important in diabetes, because it may powerfully predict an individual's capacity to manage his disease and maintain long-term health and well-being.^[5] Therefore Diabetes is dependent upon continuous medical treatment and additional strategy to prevent life time complication. Sani M. et al (2013) reported that diabetes patients had lower quality of life than non diabetic.^[6]

Diet is one of the major factors now linked to a wide range of diseases including diabetes. The amount and type of food consumed is a fundamental determinant of human health. Diet constitutes a crucial aspect of the overall management of diabetes, which may involve diet alone, diet with oral hypoglycemic drugs, or diet with insulin.^[7,8,9,10,11] As the society changes, people do not have enough time to sit properly and eat food.^[12] Rinske A Gotink. et al (2015) reported that mindfulness had significant improvement in quality of life and physical functioning.^[13] Therefore, mindful eating where individuals take their food consciously and with attention to their illness, is an emerging concept in managing diabetes. It also has an associated impact in which individuals become aware of their thoughts, feeling, surrounding.^[12]

MATERIAL AND METHOD

A randomized control research design with quantitative approach was followed to attain an error

free outcome of this study. The adult patients with type 2 diabetes mellitus were the universe of the study population. Medicine OPD was the setting of the study, which is a part of the multispecialty Hospital. Seventy patients were selected through simple random sampling. These patients were diagnosed with diabetes since (0-5) year, who were taking oral hypoglycemic drug and routinely measure their blood sugar level, were included in the study. Randomly selected patients from population were randomly assigned to Experimental and Control group. The Experimental group underwent forty minute of mindful eating intervention which comprises of mindful eating cycle i.e.(What, when ,why, where, how, how much) and mindfulness practice for two months (Makarasana, Shavasana and Breath awareness). The demographic characteristic of patients collected through structured demographic questionnaire and Standardized tool i.e. Audit of diabetes dependent quality of life (ADDQOL) were used to measure the quality of patients . The ADDQol has 19 domain specific and their responses. The quality of life assess in between -9 (maximum negative impact of diabetes) to +3 (maximum positive impact of diabetes) score. The ADDQol Internal reliability measured by Cronbach's alpha (0.85) [standardized value]. Informed consent was obtained from the study participants and Ethical permission was taken from the Ethical committee.

RESULTS

Table no.1 Frequency and percentage-wise distribution of base line data of the type 2 diabetes Mellitus Patients. (n=70)

S.No	Demographic variable		Groups		X ²	'p' Value
			Experimental (n ₁ =35)	Control (n ₂ =35)		
			F (%)	F (%)		
1.	Age in years	(35-44)	13(37.1%)	8(22.9%)	1.088	0.296
		(45-55)	22(62.9%)	27(77.1%)		
2.	Gender	Male	17(48.6%)	20(57.1%)	0.229	0.632
		Female	18(51.4%)	15(42.9%)		

Cont... Table no.1 Frequency and percentage-wise distribution of base line data of the type 2 diabetes Mellitus Patients. (n=70)

3.	Types of family	Combined	29(82.9%)	27(77.1%)	0.089	0.765
		Nuclear/extended	6(17.1%)	8(22.9%)		
4.	Marital status	Unmarried	-	5(14.3%)	-	0.024
		Married	35(100%)	29(82.9%)		
		Widow/widower	-	1(2.9%)		
5.	Religion	Hindu	27(77.1%)	26(74.2%)		0.31
		Muslim	7(20.0%)	5(14.3%)		
		Others	1(2.9%)	4(11.5%)		
6.	Education	No formal education	9(25.7%)	6(17.1%)	-	0.87
		Primary	4(11.4%)	5(14.3%)		
		High school	9(25.7%)	9(25.7%)		
		Secondary /graduate	13(37.1%)	15(42.9%)		
7.	Occupation	Employment	18(51.4%)	27(77.1%)	3.98	0.04
		Unemployment	17(48.6%)	8(22.9%)		
8.	Dietary	Vegetarian	12(34.3%)	14(40%)	0.061	0.80
		Mixed	23(65.1%)	21(60%)		
9.	Personal habit	No addiction	21(60%)	20(57.1%)	-	0.3
		Smoker & tobacco	7(20%)	5(4.3%)		
		Alcoholic	7(20%)	7(20%)		
		Both 2&4	-	3(8.6%)		
10.	Life style	Mild worker	1(2.9%)	3(8.6%)	-	0.71
		Moderate worker	30(85.7%)	28(80%)		
		Heavy worker	4(11.4%)	4(11.4%)		
11.	Income (Rupees)	5000	4(11.4%)	7(20%)	0.431	0.511
		5001	31(88.6%)	28(80%)		
12.	Family history	Yes	17(48.6%)	20(57.1%)	0.229	0.632
		No	18(51.4%)	15(42.9%)		

(n₁ = experimental group, n₂ = Control group)

Table no 1: Illustrate that two third (62.9%) in experimental group and three fourth (77.1%) of study participants in control group were (45-55) years of age. Approximately half (48.6%) study participants in experimental group and more than half (57.1%) in control group were male. Majority (82.9%) of study participants in experimental group and three fourth (77.1%) in control group were belong to combined family. All (100%) of study participants in experimental group and majority (82.9%) in control group were married. Three fourth (77.1%) in experimental group and most (74.2%) of study participants in control group were Hindu. Approximately half (51.4%) of study participants in experimental group and three fourth (77.1%) in control group were employed. Approximately two third (65.1%) in experimental group and (60%) in

control group participants had mixed dietary pattern. Approximately two third (60%) in experimental group and approximately more than half (57.1%) in control group participants had no addiction history. Majority (85.7%) in experimental group and mostly (80%) in control group study participants were belonged to moderate work activity. Most (88.6%) of study participants in experimental group and majority (80%) in control group were in above 5000 rupees income per month. Approximately half (48.6%) in experimental group and more than half (57.1%) in control group study participants had family history of diabetes. The inferential statistics of the sample distribution show both experimental and control group were homogenous in base line data except occupation and marital status at the level of significance $p \leq 0.05$.

Table 2: Prevalence /Magnitude of Quality of life (ADDQol) among types 2 diabetes mellitus Patients. (n=70)

S.No	Variable	Range	Frequency(%)	Interpretation
1.	ADDQol (Audit of diabetes dependent quality of life)	(-8.84 to -7.05)	39(56%)	Extremely bad
		(-7.05to-5.25)	28(40%)	Very bad
		(-5.24to-3.45)	-	Bad
		(-3.44to-1.66)	3(4%)	Neither good nor bad

Table 2 Showed that more than half (56%) of diabetes patients were having ‘extremely bad quality of life’, 40% of diabetes patients were having ‘very bad quality of life’ and least (4%) of diabetes patients were in ‘neither good or not bad quality of life’.

Table 3: : Effectiveness of mindful eating on Quality of life (ADDQOL- audit of diabetes dependent quality of life) among types 2 diabetes mellitus Patients. (n=64)

Value	Control (n ₁ =31) Mean ±SD	Experimental (n ₂ =33) Mean ±SD	Mean difference	‘t’ value	‘P’ value	95% Confidence Interval	
						Lower	Upper
Pre test	7.02±1.493	7.28±0.759	0.2612	0.890	0.377	-0.325	0.847
Post test	5.92±1.397	1.55±0.584	4.3704	16.503	0.05	-4.899	-3.840
Mean difference	1.0932	5.724					
95% Confidence Interval							
Lower	0.481	1.70	5.32	6.120			
t value	3.650		29.44				
P Value	.001		0.05				

(n₁=experimental group, n₂=Control group, df=62, p0.05, table ‘t’value 1.98)

The data presented in table 3 : illustrated that baseline experimental and control group quality of life mean score was homogenous but after 2 month of mindful eating intervention experimental mean quality of life score

was reduced 1.55 ± 0.584 from 7.28 ± 0.759 . Also in post test experimental group quality of life mean score significantly reduced from control group at the level of significance $p \leq 0.05$.

Hence the null hypothesis (H_{01}) is rejected and research hypothesis (H_1) was accepted.

Socio demographic variables of the type 2 diabetes mellitus patients like: Age (0.19), Gender(0.47), type of family(0.37), Marital status(1), religion((0.77), education(0.11), dietary pattern(1), personal habits((0.14), life style(0.16), Income(0.18) not have significant association with their Quality of life Score except Occupation(0.01) and family history(0.0003) at the significant level $P \leq 0.05$.

DISCUSSION

Diabetes is a major lifestyle disease which is increasing globally. Asian countries contribute 60% of world diabetes and the incidence is increasing in these countries.^[14] India is a top list of countries with diabetes 50.8 million in 2010 and if no preventive measures are taken, then the diabetes cases will increase to 87 million in 2030.^[15] Diabetes has societal, economical and psychological impact.^[16] In the Present Study more than half of diabetes patients were having 'extremely bad quality of life', These findings were supported by Robert D, Pat J Philips, Laura J fisher, David H (2004) which show that depression in diabetic population was 24 % compared with 17% in the non diabetic Population.^[17] Thus, it concluded that quality of life & depression affected the diabetic patients more compare to non diabetics. Hence the need for alternative and additional treatment for diabetes arises. So mindful eating is an emerging concept in diabetes in India. Mindful eating comprises of mindfulness awareness and right eating habit. Eight weeks of mindfulness practice showed an increases greater rebuilt of gray matter and promote relaxation.^[18] So mindful eating can be defined as by Naddem Maria "Mindfulness is actually the moment to moment awareness of our thoughts, feelings and surroundings. It is non -diet approach to achieve and maintain healthy weight with long term benefit. Mindful eating means "eat with attention".^[19] The present study findings shows that control group quality of life mean post test score is 5.92 ± 1.397 . Because of two month of mindful eating intervention in experimental group quality of life mean post test score significantly reduced

to 1.55 ± 0.584 at the level of significance $p \leq 0.05$. These findings interconnected with study done by Van Son J, Nyklicek I, Pop VJ, Blonk MC, Erdtsieck RJ, Spooen PF, Toorians AW, Pouwer F (2013) that 4 to 8 weeks of mindful eating is more effective in improving quality of life upon diabetes patients.^[20] Another quasi experimental study was also supported Smith B, Metzker k, Waite R, Gerrty P (2015) that mindful based stress reduction course can serve to reduce anxiety and improve quality of life in a diabetic population.^[21] The Study findings shows that Socio demographic variables of the type 2 diabetes mellitus patients like: Age, Gender, type of family, Marital status, religion, education, dietary pattern, personal habits, Income not have significant association with their Quality of life Score except Occupation and family history at the significant level $P \leq 0.05$. The Study Findings were correlated with study done by Farzana, Ara Ferdous, Jahan M S, Hafez A (2015) that Age, female gender, income, education, family history and duration of DM and prescribed treatment are important factors that are associated with the HR-QOL in type 2 diabetes.^[22]

CONCLUSION

The prevalence of diabetes is high in India. Study result shows positive impact in improving quality of life among diabetes patients. Hence it is an emerging and a non pharmacological approach to manage Chronic illness like diabetes. Therefore, it concluded that mindful eating is an additional treatment modalities to treat diabetes and its related impacts.

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Conflict of Interest: No

Source of Funding: Self

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

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Knowledge of Daily Fetal Monitoring Chart among Antenatal Women

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ABSTRACT

Motherhood is a boon for every woman to be adorned. Pregnancy does not always end the right way. Sometimes even before you could feel the baby inside, you lose it and more painful you feel a life inside but may never see it, breathe life outside. Nature allows a mother herself to get to know that her baby is all well. Every baby's flutter felt by the mother between 16'th to 20'th week of pregnancy is the sign. So counting these flutters through daily fetal monitoring chart (dfmc) would aid many women live their dreams of motherhood.

Objectives: 1. To assess the existing knowledge of antenatal women regarding daily fetal movement chart (dfmc) 2.To determine the association between knowledge and selected sample characteristics.

Methodology: A quantitative descriptive survey method was adopted to collect data from 60 antenatal women visiting the selected hospital who were selected by non probability convenient sampling technique. Self administered structured knowledge questionnaire ($r'=0.84$) was used for the same. The collected data was analyzed using descriptive and inferential statistics.

Results: The findings of the study reveal that 70% of the antenatal mothers had inadequate knowledge, 30% had moderate knowledge and none of them had adequate knowledge. There was a significant association between the knowledge scores with parity and education at 0.05 level, whereas no association was computed between knowledge scores with age, occupation, weeks of gestation and previous source of information.

Conclusion: The present study findings concluded that nearly three-fourth of the antenatal women had inadequate knowledge, just a little more than quarter had moderate knowledge and none of the mothers had adequate knowledge regarding daily fetal monitoring chart (dfmc). There is an urgent need to make the general public aware of the simple antenatal diagnostic measure which would indirectly bring down the statistical figures of stillborn and IUFD (Intra Uterine Fetal Death) drastically.

Keywords: *antenatal women, daily fetal movement chart, pregnancy.*

INTRODUCTION

Mothers can usually feel their babies moving in their wombs from around 16 to 20 weeks. Fetal movement counting is a method by which a woman quantifies the movements she feels to assess the condition of the baby. Babies' activities in the womb can vary considerably, some being very active and some not so active.¹

Interest for maternal fetal movement counting as a method of screening for fetal well-being boomed during

the 1970's and 1980's. Several reports demonstrated that the introduction of counting charts significantly reduced stillbirth rates. Increased vigilance towards maternal perception of movements reduces stillbirth rates, in particular stillbirths deemed avoidable.²

A review on fetal death indicates that nearly half of them occur in pregnancies that are not candidates for traditional antepartum testing. A prospective evaluation was carried out to assess the effectiveness of a fetal movement screening program in reducing the

fetal mortality rate. During a 7-month control period, 2519 deliveries occurred, no formal fetal movement assessment was done, and the fetal mortality rate was 8.7 per 1000 births. During the study period, 1864 patients were delivered of infants and the fetal mortality rate was 2.1 per 1000 ($X^2 = 6.8, p < 0.01$). During the study period the number of antepartum tests performed increased by 13%. Interventions for fetal compromise prompted by inadequate fetal activity tripled in the study period, resulting in a drop in fetal mortality among patients with decreased movement from 44 to 10 per 1000.³

A decrease in a baby's normal pattern of movements may be a sign that the baby is struggling for some reason and it might be better for the baby to be born early. Hence, it has been suggested that if the mother counts her babies' movements each day, she may be able to identify a decrease in her baby's normal movement patterns at the earliest. It is further suggested that if the mother informs caregivers of this, then the caregivers can do additional tests and some babies can be prevented from dying before birth.¹

Some clinicians believe that fetal movement counting is a good method as it allows the clinician to make appropriate interventions in good time.¹

While screening for fetal well-being by maternal fetal movement counting can reduce fetal mortality rates, research activity is urgently needed to optimize its benefits. Thus heading a step towards bringing down the globally stated 2.6 million stillborn rates.⁴

OBJECTIVES

1. To assess the existing knowledge of antenatal women regarding daily fetal movement chart (dfmc)
2. To determine the association between knowledge and selected sample characteristics.

HYPOTHESIS

H₁: There will be a statistically significant association between knowledge scores regarding dfmc and selected sample characteristics at 0.05 level.

METHODOLOGY

A descriptive survey approach and non experimental descriptive research design was adopted in the study. The sample consisted of 60 antenatal women attending

the Outpatient Department of the selected hospital. The subjects were selected using non probability convenient sampling technique. The data was collected using a self constructed structured knowledge questionnaire which included two sections. Section A: Sample characteristics, Section B: Consisted of 20 multiple choice questions including five categories: Biological characteristics, perception of fetal movement, fetal movement monitoring in relation to perinatal outcome, home care and fetal movements and general care during pregnancy. Every correct answer was scored one and every wrong answer was scored zero (maximum score=20). To compute the knowledge level of antenatal women the percentage scores were arbitrarily graded as inadequate knowledge [$<50\% (<10)$], moderate knowledge [$50-75\% (10-15)$] and adequate knowledge [$>75\% (>15\%)$]. The reliability computed using split half method for internal consistency with Spearman Brown Prophecy formula was 0.84. Content validity was established by seven experts including obstetricians and obstetrical and gynaecology nursing experts. Formal permissions were sought from authorities of the hospital and the institutional ethical review board. The researcher obtained informed written consents from the respondents after assuring anonymity and confidentiality of the information collected. An information leaflet on the importance of dfmc and its practice was distributed to the antenatal women on submission of the completed questionnaire. The effectiveness of the same was not assessed. The collected data was analysed using descriptive and inferential statistics.

RESULTS

I: Description of Sample Characteristics of the antenatal women.

The findings of the study showed that more than half (53.3%) of the antenatal women belonged to the age group of 23-27 years and were graduates. A little more than half (53.3%) of the antenatal women were housewives. A little less than three quarters (70%) of the antenatal women were primigravidas. Among the antenatal mothers, 20% were ≤ 12 weeks of gestation, 60% were between 13-28 weeks of gestation and 20% were >28 weeks of gestation. A little more than half (53.3%) of the antenatal women had no previous information about daily fetal movement chart (dfmc).

II: Description of knowledge of antenatal women

regarding daily fetal movement count

Analysis of the knowledge scores of the antenatal women showed that 70% of the respondents had inadequate knowledge, 30% had moderate knowledge and none of them had adequate knowledge regarding daily fetal movement chart. The mean score was 13.75 (maximum score=20) with a standard deviation of 1.58. The mean percentage of the overall knowledge scores of antenatal women was 68.75% which is moderate.

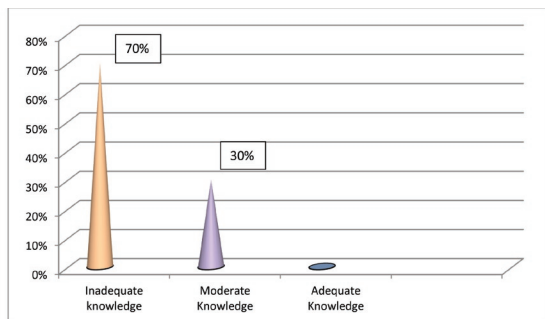


Figure 1: Pyramidal diagram depicting the distribution of antenatal women according to their level of knowledge regarding dfmc

III: Association between the knowledge score of antenatal women and selected sample characteristics.

Chi square test was computed to test the association between the knowledge scores of respondents and the selected sample characteristics. The findings revealed that there was a significant association between the knowledge scores with parity, and education at 0.05 level, whereas no association was computed between knowledge scores with age, occupation, weeks of gestation and previous source of information. Thus partially accepting H_1 for parity and education and partially rejected for age, occupation, weeks of gestation and previous source of information.

Table 1: Association between existing knowledge score and the selected sample characteristics: n=60

Sample Characteristics	df	χ^2	P-value
Age	1	0.0852	0.7703
Education		10.2557	0.0013 *
Occupation		0.6787	0.4100
Weeks of Gestation		0.0852	0.7703
Parity		4.9829	0.0255*
Previous source of information		3.4534	0.0631

Significant at 0.05level

DISCUSSION

Babies are a boon; many cherish them and many others long for their own. Not always does the baby who has started its journey in the womb of its mother walks through a joyous birth. However nature does offers clues for the mother that everything is alright or something is not right. Sensing those clues at the earliest would allow many babies to be born into the world, thus permitting every mother’s dream to come true. The present study findings showed that most of the mothers had inadequate knowledge regarding daily fetal movement charting which is similar to the findings of many other studies. Those studies also consensually recommend that though daily fetal movement charting emerged as a valuable non invasive assessment method of fetal well being, many of the women are unaware and increasing awareness is the need of the hour.^{5, 6,7,8,9}

It is also very sad to know that the health system still lacks in communication and patient education needs though technology has improved massively. The present study being carried out in an urban setting had more than half of the respondents not hearing about daily fetal monitoring charting (dfmc). This should make every health personnel think what would be the fate of rural women?

IMPLICATION

Dfmc should be added as health education content for antenatal women in every hospital protocol. Distribution of pamphlets or leaflets on dfmc can also be encouraged among literate population. We live in a country where health is still beyond what we can afford. So it is very important to make the general public aware about cheap, non invasive health benefits which are simple to practice. Nurses who spend ample time should make use of the opportunity giving individual attention to every antenatal woman’s educative need including dfmc. The community health nurses can create awareness among the general public about the benefits of dfmc through appropriate folk medias.

LIMITATIONS

The present study was limited to a small sample size which limits the generalization of the study findings. The effectiveness of the information leaflet on dfmc and

its compliance was not assessed which further limits the generalisation

CONCLUSION

The present study concludes that the antenatal women had inadequate knowledge regarding dfmc. There is an urgent need for the nurses and the health care team to work on educative and communicative skills thus indirectly lowering the statistical figures of stillbirth in the country.

Conflict of Interest: Nil

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Effectiveness of Education Programme on Students' Breastfeeding Attitude

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ABSTRACT

Breastfeeding has short-term and long-term health benefits for infants and mothers. Breast milk remains the best food for the proper development and growth of infants. Longer durations of breastfeeding also contribute to the health and well-being of mothers. A total of 400 adolescent girl students were included in this study. It is revealed that mean attitude score of the student increased from 67.51 to 82.87 with an increase of 15.36 (22.75%) after administration of teaching programme. Paired 't' test between pre test and post test was found to be 50.78 which is highly significant at $p < 0.001$. The use of structured teaching program is found to be effective in improving attitude of the adolescents on breastfeeding.

Keywords: adolescent girls, breastfeeding, attitude, teaching programme

INTRODUCTION

Breastfeeding is the most effective way to ensure infant health and survival. If every child was breastfed within an hour of birth, given only breast milk for their first six months of life, and continued breastfeeding up to the age of two years, about 800000 child lives would be saved every year¹. There is extensive evidence of short-term and long-term health benefits of breastfeeding for infants and mothers. Breast milk remains the best food for the proper development and growth of infants. Breast milk contains vitamins, protein, and fat -- everything infant needs to grow. It also contains antibodies that help child fight off viruses and bacteria, lowers baby's risk of having allergies, ear infections, respiratory illnesses, and diarrhea. Breast milk is also an important source of energy and nutrients in children aged 6 to 23 months. It can provide half or more of a child's energy needs between the ages of 6 and 12 months, and one third of energy needs between 12 and 24 months. Breast milk is also a critical source of energy and nutrients during illness, and reduces mortality among children who are malnourished. Longer durations of breastfeeding also contribute to the health and well-being of mothers; it reduces the risk of ovarian and breast cancer and helps space pregnancies. This is a natural (though not fail-safe) method of birth control known as the Lactation Amenorrhoea Method.²

World Breastfeeding Week is celebrated every year from 1 to 7 August to encourage breastfeeding and improve the health of babies around the world. This year, WHO is encouraging people to "Support mums to breastfeed anytime, anywhere," as all of society has a role to play in making our communities more breastfeeding-friendly.

REVIEW OF LITERATURE

Francis and Read (1996) compared the knowledge, attitudes and beliefs regarding breastfeeding among male and female adolescents and found that the females scored significantly higher than males on the knowledge and attitude scale.³ A comparison of the knowledge and attitudes towards breastfeeding of adolescent rural and metropolitan secondary school students suggest that metropolitan students had higher breastfeeding knowledge and were more positive towards breastfeeding than rural students. It is important that breastfeeding and lactation information needs are addressed earlier than adolescence in order to increase breastfeeding knowledge and promote positive attitudes.⁴

Marrone S et al. (2008) found a significant relationship between positive attitudes toward breastfeeding and exposure to breastfeeding. The positive attitude toward breastfeeding are a significant predictor of intention to breastfeed among women and

men.⁵ Similar study show that having been breastfed as a child and having seen a mother breastfeeding significantly correlated with intention to breastfeed among both females and males.⁶

METHODOLOGY

A request letter which outlined the purpose and benefit of the research was written to the Principal of the selected five Govt. Sr. Secondary Schools in rural areas of Rohtak district, asking permission for their school to be involved in the study. Through negotiation with the school Principal and the concerned class teacher, 400 interested girl students of class 11th and 12th were administered with a 20 item structured attitude questionnaire to measure their attitude towards breast feeding. The questions in the questionnaire centered on convenience, skills/ knowledge, emotional, physical/ social aspects of infant feeding. On the same day teaching program was administered through lecture cum discussion method with the use of LCD slide show. Post test was conducted using the same questionnaire to assess the students’ attitude on the 7th day after the administration of the questionnaire on the first day.

The validity of the questionnaire was verified by a panel of members of research committee, College of

Nursing Pt. BD. Sharma PGIMS Rohtak.

A five point Likert scale was used to rate responses with five possible choices: strongly agree, agree, neutral, disagree and strongly disagree. Five was the most positive response and one the most negative response. A mean was used to differentiate between groups with positive and negative attitude. Depending upon the score, the students were categorized as having following scores

- A) Negative attitude ----- Total score > 60 or 60
- B) Positive attitude ----- Total score 61 to 80
- C) Highly Positive attitude ----- Total score 81 and above

RESULTS

It was observed that out of 400 adolescents, majority of students (60%) were of class 11th and remaining 40 % were 12th class students. Age of the students ranged from 15 years to 18 years with a mean age of 16.54 years.

Table - 1: Shows the attitude of students towards breast feeding

Attitude	Range	No of students		Score								SD	
				Mean				Max	Min	Max	Min		
		Pre test	Post test	Pre test	Post test	Pre test	Post test	Pre test	Post test	Pre test	Post test	Pre test	Post test
Negative	0-60	54 (13.5%)	0 (0%)	57.9	0	67.51	82.87	81	53	95	67	5.86	5.21
Positive	61-80	344 (86%)	129 (32%)	68.9	76.9								
Highly Positive	81-100	2 (0.5%)	271 (68%)	81	85.7								

The pretest attitude of student toward breast feeding ranged from a minimum of 53 to maximum of 81. Fifty four students i.e. 13.5 % had negative attitude towards breastfeeding with a mean attitude score of 57.9 while 346 students i.e 86 % had positive attitude with a mean attitude score of 68.9 towards breastfeeding. Two

students (0.5%) had highly positive attitude (mean attitude score of 81) towards breastfeeding. The overall mean pre test attitude score of the students was found to be 67.51 with a SD of 5.86. At post test, the students had an overall mean attitude score of 82.87 with a SD of 5.21. The minimum mean attitude score was 67 while

maximum was found to be 95. No student was having a negative attitude. One hundred twenty nine (32%) students were having a positive attitude with a mean attitude of 76.9 while 271 (68%) students were found to have highly positive attitude with a mean attitude score of 85.7.

It is revealed that mean attitude score of the student increased from 67.51 to 82.87 with an increase of 15.36

(22.75%). At pre test 13.5% students were found to be having negative attitude towards breastfeeding, while at post test no student was having negative attitude. At pre test only 0.5% student was having highly positive attitude, while at post test 68% students were found to be having highly positive attitude towards breastfeeding. Paired ‘t’ test between pre test and post test was found to be 50.78 which is highly significant at $p < 0.001$.

Table – 2: Indicates aspect wise mean attitude scores among adolescent girls regarding breastfeeding.

Sr No.	Aspect	No. of items	Mean score		Mean %		SD		Enhancement		Paired ‘t’ test
			Pre test	Post test	Pre test	Post test	Pre test	Post test	Mean	%	
1	Convenience	5	16.54	21.21	66.16	84.84	2.74	1.74	4.67	28.23	36.28*
2	Skills/ knowledge	7	22.88	28.03	65.37	80.08	3.82	2.82	5.15	22.77	34.53*
3	Emotional	4	16.46	17.03	82.85	85.15	2.52	2.08	0.57	3.46	9.86*
4	Physical/ social	4	11.63	16.60	58.15	83.0	2.36	2.14	4.97	42.73	27.52*
Total		20	67.51	82.87	67.51	82.87	5.86	5.21	15.36	22.77	50.78*

*** Highly significant at $p < 0.001$**

Emotional aspect with a mean score of 85.15% was followed by convenience aspect with a mean score of 84.84%. Physical and social aspect was having a mean attitude score of 83% while the skill knowledge aspect was having the lowest mean attitude score of 80.8%.

It is indicated that aspect wise comparison of mean attitude score at pre test and post test showed increase of 3.46% to 42.73% at post test. Physical and social aspects showed the highest increase of 42.73% followed by aspect of convenience with a increase of 28.23%. Mean increase in skill and knowledge aspect was found to be 22.55%. Emotional aspect showed lowest increase of 3.46% at post test as compared to pre test attitude. However, overall mean attitude score increase was 22.75%. Paired ‘t’ test was found be highly significant in all the aspects.

DISCUSSION

The students in the study had some understanding of breastfeeding and they did not strongly endorse negative

attitudes about it. The majority of student showed positive attitude towards breast feeding. The education programme produced significant improvements in attitudes at posttest and was effective in reducing negative attitudes among students. The results of the study are in consistent with the previous studies that have shown improvements in the adolescents’ behavior and attitude of students about breast feeding through educational programme.⁷

The study supports the idea that attitude of the young people are susceptible to change. The knowledge acquired and attitude developed during adolescent age are carried throughout the life of an individual which plays an important role.⁸ An educational programme at the school level could be a promising approach to improve attitude of the future mothers. School-based breastfeeding promotion programs hold promise for increasing knowledge and promoting positive attitudes towards breastfeeding and increasing future intentions to breastfeed.

There is a high level of agreement among health professionals that promotion of breastfeeding among future mothers is an urgent priority. This requires strategies targeted at building knowledge and improving adolescent attitude towards breastfeeding. The findings in the study suggest that an educational program can be an effective intervention to improve attitudes about breastfeeding among adolescents and their increased behavioral intention of breastfeeding later in life.

CONCLUSION

It is concluded that the school going adolescent girls have a mixture of negative and positive attitudes towards breastfeeding that may influence their future infant feeding choices. Structured teaching program is effective in improving the attitude of the adolescents regarding breastfeeding. Since significant improvement was found in attitude of the students regarding breastfeeding after education by using structured teaching program, hence incorporation of such teaching programmes into the school curriculum is recommended.

Source of Funding: Self

Conflict of interest: Nil

Ethical Clearance: Taken from the Ethical Committee on Human Research, Pt. B.D. Sharma University of Health Sciences, Rohtak – 124001.

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Effect of Pulmonary Rehabilitation on Quality of Life among the Chronic Obstructive Disease Patients Admitted at Pravara Rural Hospital, Loni (Bk)

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ABSTRACT

Background: Pulmonary rehabilitation is an evidenced based intervention to improve the quality of (QOL) of chronic obstructive pulmonary disease. The objective of the study to determine the effect of pulmonary rehabilitation on quality of life of Chronic obstructive pulmonary disease(COPD) and to identify the association of quality of life with selected demographic variables of COPD patients. **Materials and method:** An evaluative approach with Quasi experimental design with control group approach was used for the study. 30 patients of moderate COPD patients were enrolled for the study. Patients were randomized into two groups one received pulmonary rehabilitation programme plus standard medical therapy(SMT)(n=15) and control group received standardised medical treatment. **Results:** In the pre-test(before breathing exercises), Pulmonary function was assessed the overall mean FEV₁ is almost (0.11±0.42) in study group and control group (0.03±0.22) Patients in study group showed significant improvement (p=0.000)in SGRQ activity score. Improvement (12.04±6.99) in SGRQ –impact score was observed in study group and improvement (0.24±0.88)in SGRQ – impact score was also present in control group. No significant association found between control and study group in respect of demographic characteristics (p>0.05) By applying Chi-Square test there is a significant association between demographic characteristics namely; History of exposure to smoke, Duration of exposure to pollutants, Duration of Illness and Control and Study group (p<0.05) and remaining characteristics are not significant (p>0.05) .

Conclusions: Pulmonary rehabilitation programme improved exercise capacity, symptoms and health related quality of life without any significant change in pulmonary functions.

Keywords: Pulmonary rehabilitation, Quality of life (QOL), Chronic Obstructive Pulmonary Disease(COPD) ,

INTRODUCTION

Chronic obstructive pulmonary disease is a major health problem in India. In 2012it is ranked as the third leading cause of death killing over 3 million people¹.

Chronic obstructive pulmonary disease characterised by airflow limitation leading ventilatory capacity and is associated with shortness of breath. Globally, it is estimated that about 3 million deaths were caused by the disease in 2015 (that is, 5% of all deaths globally in that year).More than 90% of COPD deaths occur in low and middle income countries.²

Pulmonary rehabilitation is a multidisciplinary programme of care to optimize the quality of life.It improves the COPD patients exercise capacity, reduces dyspnoea, improves the QOL and minimise the stay in hospital³.

A randomized, control study was conducted at Los Angeles to assess the efficacy of pursed lip breathing: a breathing pattern retraining strategy for dyspnea reduction. The study result reveals that there is a significant reduction for the modified Brog Scale after 6 MWD (P=0.05) and physical function (P=0.02) from baseline to 12 weeks were only present for pursed lip breathing. The findings

suggests that pursed-lips breathing provided sustained improvement in exertional dyspnea and physical function.⁴

Cristoforo Incorvaia et al 2014 conducted Prospective study comparing a group of 190 COPD patients undergoing PR to a group of 67 patients treated only with drugs a mean improvement of FEV1 from 1240 mL to 1252.4 mL was found in the former, while the values changed from 1367 mL to 1150 mL in the latter ($p < 0.001$). These observations suggest that improvement of lung function in COPD patients undergoing PR.⁵

A quasi experimental study was conducted in Iran to assess the effects of pursed lip breathing on respiratory function, arterial blood gases ventilation and activities of daily living in patients with COPD. The result of the study reveal that there was significant increase in oxygen saturation ($P < 0.05$) and activities of daily living ($P < 0.001$). This shows that breathing retraining program can improve lung functions, arterial blood gas and the levels of activities of daily living. Therefore, breathing retraining should be included in respiratory physiotherapy programs in patients with COPD.⁶

A Correlation study on health-related quality of life with other disease severity indices in Indian chronic obstructive pulmonary disease patients .Patients with COPD showed significantly reduced HRQOL when measured by the SGRQ. The study concluded that patients with COPD had reduced HRQOL. Longer disease duration, patient perception of disease severity, and worsening dyspnea impacted negatively on HRQOL⁷

A study was conducted at Japan to evaluate the effects of a short term pulmonary rehabilitation program on patients with chronic respiratory failure due to pulmonary emphysema. The findings suggest that this program relieves dyspnea, increases functional exercise capacity, and decreases total lung capacity and residual volume on patients with chronic respiratory failure due to pulmonary emphysema.⁸

A study was conducted on “patient education in COPD, during in-patient rehabilitation improves quality of life and morbidity” among 184 patients(control group,CG:90 and education group,EG:94). The

study result reveals that the total number of hospital admissions was diminished after 1 year (CG: 24.7% to 11.5%, $p = 0.02$; EG: 30.8% to 9.9%, $p = 0,001$). The study concluded that patient education for COPD has been shown to improve the effectiveness of an inpatient rehabilitation programme, regarding quality of life and it also reduces morbidity and supports a change of lifestyle. Therefore, education should be an essential component of rehabilitation in COPD.⁹

OBJECTIVES

1. To determine the effect of pulmonary rehabilitation on quality of life of Chronic obstructive pulmonary disease(COPD) patients.
2. To identify the association of quality of life with selected demographic variables of Chronic obstructive pulmonary disease(COPD) patients.

MATERIALS AND METHOD

Research Design: The present study was in quasi experimental design with pre and post test with control group approach. Setting: The study was conducted in Pravara Rural Hospital, Loni(Bk), Maharashtra .Population: The population included Chronic obstructive patients admitted in Pravara Rural Hospital,Loni(Bk). Sample Size: 30. Sampling technique: Simple random technique with random assignment for each group. **Inclusion Criteria:-**1) Diagnosed to have Chronic Obstructive Pulmonary Disease on admission.2) Age group above 35 years.3)Admitted in Medical Ward of Pravara Rural Hospital.4) Willing to undergo the Rehabilitation programme.5) Able to understand and read Marathi. **Exclusion Criteria:-**1) Clients having Co-Morbid Illness like Cancer, Heart Failure, Ischemic heart disease, Psychiatric and Neurological disease.2) Unable to follow the Rehabilitation Programme. The tool were self administered questionnaire **Section A** : Socio Demographic Profile of COPD ,Clinical Characteristics of COPD **Section B** : **A:** Clinical Measurement **B:** Pulmonary Function Test **C:** Six Minute walking Distance Test **D:** Modified BORG's Dyspnoea Scale **E** Observational Checklist for Exercise.**Section C:** Quality of Life by St George's Respiratory Questionnaire .

Pulmonary rehabilitation

The comprehensive pulmonary rehabilitation

programme given as formulated by recommendations given by standard evidence based guidelines. Duration of this rehabilitation programme was 12 weeks. It included Deep breathing exercises: Pursued Lip breathing, Diaphragmatic breathing, controlled coughing, incentive spirometry and Pranayama : Ohm Chant, Surya Bedhana, Anulom Vilom, Ujjai and Bhramari. Exercises session lasted upto 2 hours with adequate rest as required in between. In addition they were educated about the disease, smoking cessations and life style modification to relieve dyspnoea. Follow up visit conducted by the researcher after discharge till 3 months.

St Georges’ Respiratory Questionnaire

The SGRQ is a standardized, self administered questionnaire for measuring impaired health and perceived HRQOL in airway disease. It contains 50 items divide in three domains : Symptoms. Activity and Impacts. A score is calculated for each domain and a total score including all items is also calculated. Each item has empirically derived weight. Low scores indicate a better HRQOL.

Data collection procedure

Formal permission was obtained from concerned authority Medical Superintendent, Head of Department of Medicine and Chest Physician. The study proposal

was reviewed and approved by the Research Ethical Committee, Subjects was selected according to the selection criteria and assured the confidentiality of the sample .Informed Written Consent was obtained after explaining the benefits in details and assured the anonymity and confidentiality of information by the investigator. Pre test conducted on the first week of hospitalization to both study and control group .Subjects in the study group were trained for pulmonary rehabilitation programme. Post-test was conducted for both the group after 3 month of implementing rehabilitation programme

FINDINGS

SECTION : A : Description of the samples

Majority of the subjects were in age group of 55-64 years 09 (60%) in study and 10(66%)control group, Maximum 12(80%)were males in study group and 08(53.33%) males in control group. Majority 14(93.33%) of the subjects were Hindus in study and 13(86.66%) in control group. Maximum 10(66.7 %) of the subjects were illiterate in study group and 11(73.3%) were in control group. Most 6(40%) of the subjects were farmers in both study and 8(53.3%) were in control group. Regarding income most 8(53.3%) of the subjects earned between below 3000/-per month in study and 9(60%) in control group.

Table No.1: Distribution of patients according to clinical profile of COPD Patient

Characteristics		Control group	Study group
		No. (%)	No. (%)
1.History of exposure to smoke			
a	Active smoking	2(13.3%)	0
b	Passive smoking	1(6.7%)	14(93.33%)
c	Biomass	5(33.3%)	3(20%)
d	No history of smoking	3(20%)	1(6.7%)
If active smoker, smoke			
a	below 1packet/day	2(13.3%)	5(33.3%)
b	Above 1 packet/day	0	6(40%)
2.History of Allergy			
a	Yes	12(80%)	3(20%)
b	No	0	0
If Yes Specify the Allergens		5(33.33%)	8(53.4%)
c	pollens	4(26.7%)	0
	Dust	4(26.7%)	3(20%)
	Pesticide spray		

3.Duration of exposure to pollutants			
a	Below 1 year	0	0
b	1-3 years	2(13.3%)	1(6.7%)
c	3-5 years	3(20%)	1(6.7%)
d	Above 5 years	7(46.7%)	7(46.7%)
4.Duration of Illness			
a	Below 1 year	5(33.33%)	4(26.7%)
b	1-3 years	2(13.3%)	3(20%)
c	3-5 years	2(13.3%)	2(13.5%)
d	Above 5 years	3(20%)	6(40%)
5.History of co-morbid Illness			
a	Yes	0	0
b	No	14(93.3%)	14(93.3%)
c	If yes Specify		
d	Cancer	0	0
f	Heart Failure	0	0
g	Ischemic Heart Disease	0	0
h	Psychiatric Illness	0	0
i	Neuromuscular diseases	0	0
j	Others	0	0
6. Are you on regular treatment for COPD			
a	Yes	5(33.3%)	7(46.6%)
b	No	10(66.7%)	3(20%)
c	If Yes Specify the treatment modalities		
d	Allopathy	7(46.7%)	0
e	Homeopathy	5(33.33%)	0
f	Ayurveda	0	0
g	Unani	0	0
h	Siddha	0	0
i	Others	0	0
7. Have you been hospitalized for COPD			
a	Yes	3(20%)	3(20%)
b	No	0	0
c	If Yes Specify the number of times	6(40%)	6(40%)

Majority 14(93.33%) of the subjects were passive smokers in study group and 5(33.3%) females were exposed to biomass fuel. Highest 6(40%) of the subjects smoke above one packet per day and 2(13.3%) had below one packet per day in control group. Maximum 8(53.4%) had allergy due to dust in study group and 5(33.33%) due to pollens in control group. Majority 7(46.7%) of the subjects had exposure to allergens above 5 years in study group and in control group. Most of the subjects 4(26.7%) had duration of illness below one year and 5(33.33%) in control group. Majority 100% of the subjects did suffer from co-morbid illness. Maximum 7(46.6%) had regular treatment in study group and 10(66.7%) were not taking regular medication in control group. Majority (7(46.7%)

of the subjects in control had allopathy treatment and 5(33.33%) had homeopathic treatment.

SECTION B : Determine the Effect of Pulmonary Rehabilitation

Clinical measurement of COPD

The result of Student's Paired 't' test there is a significant increase and decrease in mean values of Pulse and Respiratory rate respectively in study group ($p < 0.05$)

Pulmonary function test

In the pre-test (before breathing exercises),

Pulmonary function was assessed the overall mean FEV₁ is almost (0.11±0.42) in study group and control group (0.03±0.22) . There was a decline of 0.70±0.07litres in FVC in study group and similar decline of (0.22±0.11).FEV₁ /FVC ratio increased 2.8±9.5% and control group decline (0.55±3.85%).this changes found to statistically significant(p=0.2666) when compared with study and control group.

Six minute Walking test

The mean 6MWD in the PEFR group during initial period was 300.05±85.00 metre, however at the end of 12 weeks it significantly improved 320± 87 metre (p<0.001). The mean 6MWT in the control group was found to be 290±95.45 and at the end of 12 weeks the value decreased to 250±101 and the changes are statistically significant.

Table 2: Modified Borg’s Scale Score for dyspnoea at baseline and after pulmonary rehabilitation programme

Group	Modified Borg’s Scale score for Dyspnoea at rest (Mean ±SD)		Modified Borg’s Scale score for post-exercise Dyspnoea (Mean ±SD)	
	Study (n= 15)	1.55±0.99	0.29±0.26	3.50± 1.30
Control (n=15)	1.30±1.0	1.20± 0.85	5.00± 2.51	4.30± 2.45

SECTION C Effect of pulmonary rehabilitation on quality of life of Chronic obstructive pulmonary disease.

The SGRQ symptoms score improved (19.16±6.70) in study group as compared to control group (3.35±4,15) .The SGRQ Symptoms treatment in study group receiving pulmonary rehabilitation programme was statistically greater(p=0.001) than control group. Patients receiving pulmonary rehabilitation showed more (14.00±5.57)in SGRQ-activity score compared with control(0.68±1.70). Patients in study group showed significant improvement (p=0.000)in SGRQ activity score. Improvement (12.04±6,99) in SGRQ –impact score was observed in study group and improvement (0.24±0.88)in SGRQ – impact score was also present in control group.The improvement in SGRQ total score from baseline after pulmonary rehabilitation was (13.88±4.99) in study group and improvement of (0.74±1.70)was observed in total score of SGRQ in control group.

SECTION D Association of quality of life of Chronic obstructive disease patients with selected demographic profiles.

No significant association found between control and study group in respect of demographic characteristics (p>0.05) By applying Chi-Square test there is a significant association between demographic

characteristics namely; History of exposure to smoke, Duration of exposure to pollutants, Duration of Illness and Control and Study group (p<0.05) and remaining characteristics are not significant (p>0.05)

DISCUSSION

Man et . al studied the effects of 12 weeks pulmonary rehabilitation programme on an out patient basis .The finding of the study shows early pulmonary rehabilitation can lead to significant improvement of quality of life of St George’s respiratory questionnaire.¹⁰

A critical review and metaanalysis on long term effects of pulmonary rehabilitation in patients with COPD detected a significant improvement in six minute walking distance after pulmonary rehabilitation , corresponding to mean value of 49 metres.¹¹

Barakat et al. evaluated the effects of pulmonary rehabilitation in patients at baseline ans at the end of 14 weeks. The results found were comparable with the present study.¹²

A pre- experimental study was conducted on breathlessness in patients with COPD. Dyspnea was assessed by a Modified Borg Scale.The study showed that deep breathing exercises is more effective in reducing dyspnea in COPD patients¹³.

CONCLUSION

The study reveals pulmonary rehabilitation in patients with chronic obstructive pulmonary disease have a comprised quality of life in all domains of quality of life St George's Respiratory questionnaire in all domains (symptoms, activity, impact) with a greater impairment in patients who were not receiving pulmonary rehabilitation. Pulmonary rehabilitation care given by nurse interventionist improves the quality of life of Chronic obstructive pulmonary disease patients.

Ethical Clearance: Ethical committee permission was obtained from the Ethical committee of Pravara Institute of Medical Sciences(DU), Loni(Bk), Maharashtra.

Conflict of Interest: None

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A Study on Knowledge and Practice of Mothers on Play Therapy for Pre-school Children in Selected Anganwadi Centers of Doiwala, Dehradun

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ABSTRACT

Introduction: Pre-school period is the important and critical period of life that has critical effects on personality of an individual. In this period the children learn adaptive behaviors and effective communication skills. These skills can provide corrective emotional strategies and healing in conflicts. Play is a right for all preschool children and also an integral aspect to preschool children's development. Play therapy is an effective therapeutic intervention of emotional and behavioral difficulties. Play therapy allows pre-school children to explore their feelings, increase positive interactions with others and develop appropriate social skills using their natural form of communication. **Methodology:** A Quantitative research approach with Descriptive research design was used for the study to assess the knowledge and practice of mothers on play therapy for pre-school children. The population comprised of Mothers' of Pre-school children. The study was conducted in selected Anganwadi Centers of Doiwala, Dehradun. Convenient Sampling technique was used to select the 60 subjects from the population. Self developed structured Knowledge questionnaire, self developed Practice checklist was used to assess the knowledge and practice of mothers on play therapy for pre-school children. **Results:** The results of the study shows that 35% of mothers have average knowledge and 36.66% of mothers were having poor and average practices on play therapy for pre-school children. **Conclusion:** The study results indicate that Mothers have average knowledge, and poor and average practice on play therapy for pre-school children. There is need to improve knowledge and practice of mothers on play therapy for pre-school children.

Keywords: knowledge, mothers, play therapy, practice, pre-school children.

INTRODUCTION

The Children of today will be adults of tomorrow. The Wealth of a nation is not so much in its of economical and natural resources but it lies more decidedly in the kind and quality of the wealth of its **children**. It is they who will be the creators and shapers of a nation's tomorrow. A child has to be pruned of its baser instincts and trained in a proper manner in order to make him

beneficial to society.

For preschool children play is like the bridge between preschool children's experiences and understanding, thereby providing the means for insight, learning, problem solving, coping and mastery.¹

Play therapy allows pre-school children to explore their feelings, increase positive interactions with others and develop appropriate social skills using their natural form of communication. Play therapy help create change so that the preschool child function in a healthy way.²

Benefits of play therapy include helping the preschool child separate reality from fantasy, rectifying misconceptions, addressing personal.³

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Through play therapy preschool children learn to gain control and mastery of their world, develop problem solving skills and empathy, release tension, assimilate and accommodate past events, prevent or resolve psychosocial difficulties and achieve optimal growth and development.⁴

Play therapy improves preschool children’s self-concepts, external behavioral functioning and language development. Through play therapy stress in parent child relationship is reduced. Preschool children’s can identify their own emotions, strengths, and gain confidence with the help of play therapy. Those preschool children who received play therapy develop higher self –confidence, improved relationships with others and develop a better understanding of self.⁵

Parents who have knowledge about play therapy, can help in the preschool child’s therapeutic goals, and recognize the benefits of play therapy, and are able to give play therapy at home to build upon the gains the preschool child is making in the play sessions. It is important to encourage positive parenting skills and the effort exerted by parents to facilitate change and practice play therapy. How play therapy will be beneficial for the preschool child and how parents can be involved in the process of play therapy these all things the parents should understand. Parents should know how to

utilize play therapy techniques in interacting with their preschooler child.⁶

MATERIALS AND METHOD

A Quantitative research approach with Descriptive research design was used for the study to assess the knowledge and practice of mothers on play therapy for pre-school children. The population comprised of Mother’s of Pre-school children. Mothers of pre-school children were selected from anganwadi centers of Doiwala Dehradun. Mothers of pre-school children who communicate in hindi, who were willing to give consent and participate in the study, who were having the children between the age of 3 to 5 years, who were available at the time of data collection were included in the study. The mothers of pre-school children were selected by Convenient Sampling technique. On the basis of standard sample size calculation total 60 subjects were recruited for the study. Self developed structured Knowledge questionnaire and self developed Practice checklist was used to assess the knowledge and practice of mothers on play therapy for pre-school children. After explaining the purpose of the study written consent was taken from the participant before starting data collection. Assurance was given to the subjects that the anonymity of each individual will be maintained.

RESULTS

Table no. 1 Frequency and percentage distribution of personal profile characteristics of mothers. (N=60)

S.no.	Variables	Frequency (f)	Percentage (%)	
1.	Educational status of mother	Formal education	27	45%
		No formal education	33	55.0%
2.	Occupation of mother	Homemaker	32	53.3%
		Employed	28	46.66%
3.	Occupation of father	Self employed	40	66.7%
		Private job	20	33.3%
4.	Type of family	Nuclear	22	36.7%
		Joint family	38	63.33%
5.	Monthly income of family	Less than 5000	17	28.3%
		More than 5000	43	71.66%
6.	No. of children in the family	1-2	31	51.66%
		3-4	29	48.33%
7.	Age of children	24-36 months	23	38.3%
		36-48 months	13	21.7%
		48-60 months	24	40.0%

Table No. 1 Illustrates that 45% of participants were having formal education. 55% of participants were having no formal education. 53.3% of participants were homemaker, 46.6% of participants were employed. 66.7% of participants husband were self employed. 33.3% of participant’s husband were doing private job. 36.7% participants were having nuclear family. 63.33% participants were having joint family. 28.3% participants were having less than 5000 monthly income of family, 71.66% of the participants were having more than 5000 monthly income of family.51.66% of participants were having 1 to 2 No. of children in the family. 48.33% of participants were having 3 to 4 No. of children in the family. 38.3% of the participants were having children of 24 months to 36 months. 21.7% participants were having children of 36 months to 48 months. 40.0% of participants were having children of 48months to 60 months.

Table no. 2 (a) Frequency and percentage distribution of knowledge level of mothers on play therapy for pre- school children. (N = 60)

Aspect	Category	Frequency	Percentage %
Poor	4-6	9	15%
Average	7-9	21	35%
Good	10-12	19	31.66%
V.Good	13-16	11	18.33%

Table no. 2 (a) reveals that, the knowledge level was average among 35% of the mothers on play therapy for

pre-school children, 31.66% of the mothers were having good knowledge , 18.33% of mothers were having very good knowledge , and nearly 15% of the mothers were having poor knowledge.

Table 2(b) Practice level of mothers on play therapy for pre-school children. (N=60)

Aspect	Category	Frequency	Percentage%
Poor	5-7	22	36.66%
Average	8-10	22	36.66%
Good	11-13	13	21.66%
V.Good	14-16	3	5%

Table no. 2 (b) reveals that, the practice level was poor among 36.66% of the mothers on play therapy for pre-school children, the practice level was average among 36.66% of the mothers on play therapy for pre-school children, practice level was good among 21.66% of the mothers on play therapy for pre-school children, only 5% of the mothers were having very good practice level on play therapy for pre-school children.

Table no.3: Correlation between practice score and knowledge score of mothers on play therapy for pre-school children. (N=60)

	Mean±SD	r-value	P-value
Practice	9.01±2.54	0.75	0.0001
Knowledge	10.06±3.23		

Table no.3 Depicts that there was a significant ($p \leq 0.05$) positive correlation ($r = 0.75$) between practice score and knowledge score.

Table no. 4 (a) Association between knowledge score and selected personal profile of mothers on play therapy for pre-school children. (N=60)

Sr. No.	Demographic Data	Below median (< 10)	At and above median (>10)	Chi square	Df	P-Value	Significance
1)	Education status of mother Formal education No formal education	5 (18.51%) 25 (75.75%)	22 (81.48%) 8 (24.24%)	19.46	1	0.0001	Sig χ^2
2)	Occupation of mother Home maker Employed	20 (62.5%) 10 (35.71%)	12 (37.5%) 18 (64.28%)	4.28	1	0.038	Sig χ^2

Cont... Table no. 4 (a) Association between knowledge score and selected personal profile of mothers on play therapy for pre-school children. (N=60)

3)	Occupation of father Self employed Private job	25 (62.5%) 5 (25%)	15 (37.5%) 15 (75%)	7.50	1	0.0062	Sig χ^2
4)	Type of family Nuclear Joint family	13 (59.09%) 17 (44.73%)	9 (40.90%) 21 (55.26%)	1.14	1	0.28	NS χ^2
5)	Monthly income of family More than 5000 Less than 5000	19 (44.18%) 11 (64.70%)	24 (55.81%) 6 (35.29%)	2.05	1	0.15	NS χ^2
6)	No. of children in the family 1-2 3-4	20 (64.51%) 10 (34.48%)	11 (35.48%) 19 (65.51%)	5.40	1	0.02	Sig χ^2
7)	Age of children 24 months to 36 months 36 months to 48 months 48 months to 60 months	14 (60.86%) 5 (38.46%) 11 (45.83%)	9 (39.13%) 8 (61.53%) 13 (54.16%)	1.94	2	0.37	NS χ^2

Table no. 4 (a) shows that there is significant association between knowledge score and education status of mother, occupation of mother, occupation of participant’s husband, no. of children in the family of the participants. Hence it can be interpreted that the mothers who were having formal education 81.48% were having more knowledge regarding play therapy for pre-school children. Also 64.28% of the mothers who were employed, and the participant’s husband 75% who were in the private job and 65.51% of the mothers who were having 3-4 no. of children in the family are having more knowledge regarding play therapy for pre-school children.

Table No. 4 (b) Association between practice score and selected personal profile characteristics of mothers on play therapy for pre-school children.

(N=60)

SR. NO.	Demographic Data	Below median (<10)	At and above median (>10)	Chi Square	Df	P-Value	Significance
1)	Educational status of mother Formal education No formal education	7 (25.92%) 32 (96.96%)	20 (74.07%) 1 (3.03%)	0	1	1.00	NS F
2)	Occupation of mother Homemaker Employed	27 (84.37%) 12 (42.85%)	5 (15.62%) 16 (57.14%)	11.31	1	0.0008	Sig χ^2
3)	Occupation of father Self employed Private job	31 (77.5%) 8 (40%)	9 (22.5%) 12 (60%)	8.24	1	0.0041	Sig χ^2

Cont... Table No. 4 (b) Association between practice score and selected personal profile characteristics of mothers on play therapy for pre-school children.

4)	Type of family Nuclear Joint family	18 (81.81%) 21 (55.26%)	4 (18.18%) 17 (44.73%)	0.05	1	0.82	NS F
5)	Monthly income of family More than 5000 Less than 5000	24 (55.81%) 15 (88.23%)	19 (44.18%) 2 (11.76%)	0.01	1	0.88	NS F
6)	No. of children in the family 1-2 3-4	25 (80.64%) 14 (48.27%)	6 (19.35%) 15 (51.72%)	6.90	1	0.0086	Sig^{z2}
7)	Age of children 24 months to 36 months 36 months to 48 months 48 months to 60 months	16 (69.56%) 9 (69.23%) 14 (58.33%)	7 (30.43%) 4 (30.76%) 10 (41.66%)	0.78	2	0.67	NS F

Table - 4 (b) shows that there is significant association between practice score of participants and occupation of mother, occupation of participant's husband, no. of children in the family. Hence it can be interpreted statistically that 84.37% of the mother's who were homemaker, 77.5% of participant's husband who were self employed and the 80.64% of the mothers who were having 1-2 no. of children in the family were having good practice regarding play therapy for preschool children.

DISCUSSION

The findings of the study reveal that, the knowledge level was average among 35% of the mothers on play therapy for pre -school children. It might be happened because half of the mothers were not educated and were homemaker and also remains at home most of the time. They were never been exposed to this topic ever.

The findings of the study reveals that the Practice level was poor and average among 36.66% of the mothers on play therapy for preschool children. It might be because the mothers were not educated and were homemaker and remains at home most of the time and were busy in doing household activities. So they were not much bothered about practice regarding play therapy. So most of the mothers don't practice play therapy.

The findings of the study reveals that Correlation between the practice score and knowledge score among

mothers on play therapy for pre-school children was found to be significant. As the knowledge of mothers on play therapy for pre- school children increases, the practice of mothers on play therapy for pre -school children also increases.

The findings of the study reveals that there is association between knowledge score and education status of mother, occupation of mother, occupation of participant's husband , no. of children in the family of the participants. It might be because the mothers who were having formal education have more knowledge regarding play therapy for pre-school children. The mothers who were employed went outside to work and have knowledge regarding play therapy. The participant's husband who were doing private job were having knowledge regarding play therapy as they work outside. The mothers who were having 3-4 no. of children in the family were having knowledge regarding play therapy as they might be knowing that play therapy is important for their children.

The findings of the study reveals that there is significant association between practice score of participants, occupation of mother, occupation of participants husband and no. of children in the family. It might be because the mothers who were homemaker, means who remains at home have good practice regarding play therapy. As they play with their children at home and know regarding play therapy .The participant's

husband who were self employed have good practice regarding play therapy as they work outside and know regarding play therapy. And the mothers who have 1-2 no. of children in the family are having good practice regarding play therapy for pre-school children as they might be knowing that play therapy is important for their children.

The strength of the present study was the study was conducted in community setting. Also, the study was limited with certain areas like First the study was conducted with a small sample size, which restricts the generalization. Second this study was limited to the mothers who were having children between the age group of 3 to 5 years. Third Researcher has to rely on verbal responses of subjects. Fourth Convenient sample selection technique.

CONCLUSION

The study results indicate that Mothers have average knowledge and poor and average practice on play therapy for pre-school children. There is need to improve knowledge and practice of mothers on play therapy for pre-school children.

Ethical Clearance: Ethical committee permission was obtained from the Ethical committee of Swami Rama Himalayan University, Dehradun.

Source of Funding: Self

Conflict of Interest- Nil

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Effectiveness of Nursing Educational Intervention on Knowledge regarding First Aid Measures of Epilepsy among Caregivers of Children with Epilepsy

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ABSTRACT

Background: Epilepsy is a disorder of the brain that is characterized by an enduring predisposition to generate seizures and by its neurological, cognitive, psychological and social consequences. **Aim:** The aim of the study was to evaluate the effectiveness of nursing educational intervention on knowledge regarding first aid measures of epilepsy among care givers of children with epilepsy.

Settings and design: Pre experimental one group pre test post test design was used. The study was conducted among care givers of children with epilepsy in selected wards and OPDs of AIMS, Kochi.

Materials and method: Quantitative approach with pre-experiential design was used to collect the data. The sample size of the study was 30 care givers who were taking care of children with epilepsy attending neurology OPD and selected wards of AIMS, Kochi. Pre designed and validated structured questionnaires were used to collect the data.

Results: The study results showed that the majority 28(93.3%) of the subjects were females and mothers to the children with epilepsy and 13(43.3%) of the subjects had higher secondary level of education. Among the 30 subjects 15(50%) had previous experience of managing epilepsy. The comparison of mean pre-test (15.1) and post-test (23.3) shown that there is a significant increase in the knowledge level after the nursing educational intervention. There was also a significant association between the pre-test knowledge score and the selected demographic variables, that is education ($t=2.76$, $p<0.01$) and previous experience of managing epilepsy ($t=4.388$, $p<0.001$).

Conclusion: The study concludes that the nursing educational intervention on first aid measures of epilepsy was an effective strategy for enhancing the knowledge of caregivers of children with epilepsy regarding the first aid measures of epilepsy.

Keywords: epilepsy, effectiveness, nursing educational intervention, first aid measures.

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INTRODUCTION

Epilepsy is a disorder of the brain that is characterized by an enduring predisposition to generate seizures and by its neurobiological, cognitive, psychological, and social consequences. The term epilepsy was derived from the Greek word “epilepsia” which means “to take hold of” or “to seize”¹. Clusters of nerve cells, or neurons, in the brain sometimes signal abnormally and cause a

person to have seizures. Epilepsy affects every child differently depending on age, types of seizures, response to treatment and whether or not the child has other health issues, etc. For some, the seizures were easily controlled with medicine and eventually outgrown. For others, epilepsy can create difficult challenges throughout their lives. It was one of the most frequent chronic disorders of childhood and is a symptom complex arising from disordered brain function that itself may be secondary to variety of pathologic process.^{2,3,4,5}

The assistance provided during the first few minutes of epilepsy is vital for the injured, in saving their lives as well as in reducing future complications and disabilities, if the correct first aid measures are taken^{7, 8}, life could be saved and disabilities can be limited. The major cause of death in epilepsy was due to the lack of proper knowledge and availability of initial management during the epileptic attack. Knowledge on initial management of epilepsy was therefore essential for the care givers of children with epilepsy⁷. Knowledge of epilepsy among participants was still limited and the attitudes towards epilepsy are more negative.

Epilepsy was the second most common neurological problem all over the world. The incidence and prevalence of epilepsy both followed a bimodal distribution with a first peak in childhood and another in old age. The WHO intimated that 3-10 per 1000 of total world population had epilepsy^{3, 4}. Epilepsy care was one of the priority areas of World Health Organization. In total child population 4-10% of children suffer with at least one episode of seizure in the first 16 years of life⁸. Generally 5% of the Indian population experiences at least one episode of convulsion in one's life time. In India the prevalence of epilepsy among children ranged from 64-177 per 10,000 and almost 5% children are at risk of experiencing seizure¹⁰. The prevalence of epilepsy in Kerala was 22. 2 per every 1000 children^{1,10}.

Priyadarsini S conducted a Quasi experimental study on effectiveness of informational booklet on cure and management of epileptic children in Karnataka (n =35). The study result showed that the mean post test score (17.71) of the mothers was found to be significantly higher than their mean pre-test score (9.91) as evident from the 't' value (34) =17.31 (p<0.05 level).

A quasi experimental study was conducted by Sunitha kumari (2011) on care giver's knowledge on

home care of children with convulsion in a tertiary hospital Pune among 60 participants. The study showed majority (55%) of participants in the pretest were presented with poor knowledge score, where as in post test majority (93. 3%) of participants had good knowledge score .

A study was conducted by John Jeya Varghese (2005) to assess the effectiveness of planned health teching on knowledge of mothers related to febrile convulsion among children in selected hospitals of Pune city (n=60). In the pre test score of practices of mothers regarding febrile convulsion, where 75% of them had average knowledge, 20% good knowledge and 5%of them had poor knowledge. . In post test 80% were presented with good knowledge and 20% were presented with average knowledge (p<0. 01).

METHOD

Design, sample and setting

Quantitative approach with pre- experimental one group pre test – post test design design was used to collect the data. The sample size of the study was 30 care givers who were taking care of children with epilepsy attending neurology OPD AIMS, Kochi.

Description of tool

Tool- I: Demographic Performa of the care giver and epileptic profile of the child.

Section A: Demographic Performa questionnaire included questions related to demographic characteristics including age, sex, religion, marital status, educational level, occupation and income.

Section B: Clinical profile of the child, which includes type of epilepsy, family history of epilepsy, type of illness, type of anti epileptic therapy and source of information on epilepsy.

Tool- II: Semi structured knowledge assessment questionnaire on first aid measures of epilepsy

It included three sections:

Section A: Knowledge on facts of epilepsy which includes 6 items.

Section B: Knowledge on management of epilepsy includes 4 items.

Section C: Knowledge on first aid measures of epilepsy which includes 20 items.

Reliability: Reliability coefficient of the tool was 0.92

Data Collection Procedures

An interview method was adopted to collect the demographic data of the care giver and the epileptic profile of the child, and the semi structured knowledge assessment questionnaire on first measures of epilepsy was administered to the subjects for the pre test. The duration of data collection was 15 minutes. After getting the data collected, the teaching was given on first aid measures of epilepsy on the first day of admission to the hospital. Post test was conducted on the 7th day using the same questionnaire.

RESULTS

Section I : Distribution of subjects based on socio demographic variables

Table 1: Distribution of subjects based on socio demographic variables n=30

Sociology-demographic variable	Frequency	Percentage
Age (In Years)		
Below 20	4	13.3
20-30	14	46.7
31-40	10	33.3
Above 40	2	6.7
Gender		
Male	2	6.7
Female	28	93.3
Relationship		
Mother	28	93.3
Father	2	6.6
Sister/brother	0	0
Religion		
Hindu	9	30
Christian	14	46.7
Muslim	7	23.3
Marital status		
Married	30	100
Unmarried	0	0
Occupation		
Unemployed	26	86.6
Agricultural	2	6.7
Professional	2	6.7
Income (In rupees)		
<5000	9	30
5001-10000	2	6.7

10001-15000	12	40
>15001	7	23
Education		
Primary	2	6.7
Secondary	4	13.3
Higher secondary	13	43.3
Graduate /Post graduate	11	36.7
Previous experience		
yes	15	50
no	15	50

Table 1 show that more than half 14(46.7%) of the subjects belong to the age group between 20-30 years of age. Majority of the subjects were females 28 (93.3%) and only 2(6.7%) males. All of the subjects 30 (100%) were married and majority 28 (93.3%) was mothers, 14(46%) of the subjects were Christians and nine (30%) were Hindus. As far as the occupation and income was concerned, most of the subjects 26 (86%) were unemployed and 12 (40%) of them belongs to the income category of rupees 10000-15000/ month. 13(43.3%) of the subjects were having higher secondary education, were as 2(6.2%) were having primary education.15 (50%) of the subjects were presented with experience of managing epilepsy and 15(50%) with no experience.

Section II: Level of knowledge on first aid measures of epilepsy

Table 2: Distribution of level of knowledge on first aid measures of epilepsy in pre-test n=30

Aspects	Level of knowledge					
	Poor <10		Adequate 10-20		Good >20	
	n	%	n	%	n	%
Basic facts of epilepsy	10	33	15	50	5	16
Management of epilepsy	0	0	25	83	5	16
First aid measures of epilepsy	3	10	20	66	7	23
Overall knowledge	3	10	22	73.3	5	16.

Table 2: The table represents distribution of level of knowledge in pre-test in each category of first aid

measures of epilepsy, it revealed only five(16%) of the subjects presented with good knowledge in both basic facts and management of epilepsy and seven(23%) presented with good knowledge in first aid measures of epilepsy.

Table 3: Distribution of level of knowledge on first aid measures of epilepsy in post- test n=30

Aspects	Level of knowledge					
	Poor <10		Adequate 10-20		Good >20	
	n	%	n	%	n	%
Basic facts of epilepsy	2	6	12	40	16	53
Management of epilepsy	0	0	3	10	27	90
First aid measures of epilepsy	0	0	6	20	24	80
Overall knowledge	0	0	8	26.7	22	73.3

Table 3: The table represents the level of knowledge on first aid measures of epilepsy in post-test, and it revealed that only two(6%) of the subjects presented with poor knowledge regarding basic facts of epilepsy, 12(40%) of them had adequate and 16(53%) of the had good knowledge in the same aspect, where as in the case of first aid measures of epilepsy 24(80%) of them presented with good knowledge and no one(0%) with poor knowledge.

Table 4: Comparison of Mean and SD of pre-test and post-test knowledge on first aid measures of epilepsy n = 30

Sl.No	Aspects of knowledge	Pre-test		Post-test	
		Mean	SD	Mean	SD
1	Basic facts of epilepsy	3.133	1.30	4.50	1.07
2	Management of epilepsy	1.80	0.71	3.13	0.68
3	First aid measures of epilepsy	11.6	2.96	15.40	2.7
	Overall knowledge	16.53	4.30	23.3	3.98

Table 4: shows the mean and SD of the pre-test and post-test knowledge on first aid measures of epilepsy in each sections among the subjects, the mean value of overall knowledge was 16.53 in the pre-test and 23.3 in the post-test and the corresponding SD was 4.30 and 3.98.

Table 5: Comparison of pre test and post test knowledge scores using paired 't' test n=30

Knowledge score	mean	SD	df	mean difference	't' value
Pre test	16.10	4.30	29	6.93	14.61***
Post test	23.0	3.98			

($t_{(29)} = 2.05, p < 0.001$)

*** significant

Table 5 : Data regarding the 't' value (14.612) computed between the pre-test and post-test knowledge score indicates that there was a statistical difference in the pre and post –test knowledge score at $p < 0.05$ level of significance.

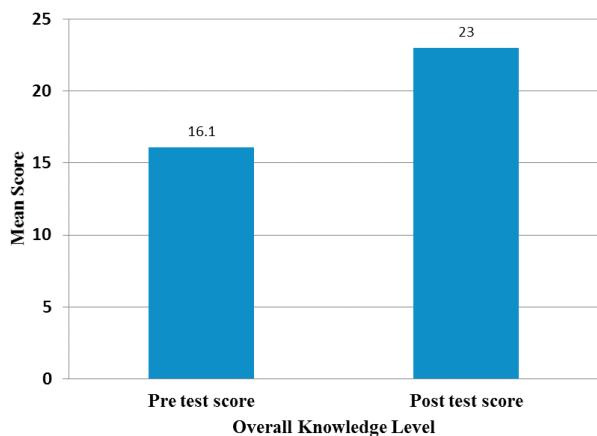


Figure 1: The diagram representing the mean score of level of knowledge in pre-test and post-test.

From the figure, the mean score of level of knowledge on first aid measures of epilepsy in pre-test was 16.1 and in post-test it was 23.03.

Section III: Association of knowledge on first aid measures of epilepsy with selected demographic variables

There was a significant association found between the level of knowledge on first aid measures of epilepsy and educational status of the caregivers of children with epilepsy ($t_{(28)}=2.76, p<0.01$). The comparison of level of knowledge with previous experience of the mean value of the subgroup 'Yes' (18.8) was more than that of the sub group 'No' (13.40) which shows that there was a significant association between knowledge and previous experience ($t_{(28)}=4.388, p<0.001$).

DISCUSSION

The first objective of the study was to compare the pre-test and post-test score of level of knowledge on first aid measures of epilepsy among care givers of children with epilepsy.

In the present study the mean pre test score was 16.10 and after the intervention it was improved to 23.03. The number of subjects with good knowledge was only 5(16.7%), but after the intervention it improved to 22(73.3%). The mean pre-test scores and post-test scores were analyzed in each section of the questionnaire and is proved that, the mean score of knowledge on basic facts of epilepsy, management of epilepsy and first aid measures of epilepsy is improved from 3.13 to 4.50, 1.80 to 3.13 and 11.16 to 15.40 respectively.

A study conducted by John Jeya Varghese⁷ (2005) to assess the effectiveness of planned health teaching on knowledge of mothers related to febrile convulsion among children in selected hospitals of Pune city (n=60). In the pre test score of practices of mothers regarding febrile convulsion, 75% of them had average knowledge, 20% good knowledge and 5% of them had poor knowledge regarding febrile convulsions. In post test 80% presented with good knowledge and presented with average knowledge. Comparison of knowledge on practices of mothers, between pre-test and post test in experimental group showed significant increase in the knowledge of practices after the planned health teaching ($p<0.01$).

A quasi experimental study conducted by Sunitha Kumari⁶ (2011) on care givers knowledge on home care of children with convulsion in a tertiary hospital Pune among 60 participants. The main objectives of the study were to assess the knowledge of the care givers on home care management of convulsion before and after the teaching programme. The major findings of the study were, majority (55%) of people in the pretest of the study group were having poor knowledge score. 41.7% of people in pre test of study group were having average knowledge score. 3.3% of the study group were having good knowledge score where as in post test majority 93.3% of people had good knowledge score and 6.7% of people in post test of study group were having average knowledge score.

The second objective of the study was to find out the association between the level of knowledge in first aid measures of epilepsy and selected demographic variables.

In the present study it was found that there was a significant association between knowledge level and selected demographic variables. There was a significant association found between knowledge level and educational status ($t=2.76$) at 0.01 level of significance, and previous experience of the subjects ($t=4.388$) at 0.01 level of significance.

Sangeetha Priyadarsini¹⁰ (2010) conducted a Quasi experimental study on effectiveness of informational booklet on cure and management of epileptic children in Karnataka (n =35). It was proved that a significant association was found between pre-test knowledge and the selected demographic variables which include

place of domicile ($x^2=4.81$), education ($x^2=10.0$), exposure to mass media ($x^2=10$), previous experience with the disease ($x^2=15.34$) and family history of epilepsy ($x^2=6.58$).

CONCLUSION

One of the vital roles of a nurse is to teach the care givers regarding the condition of the patients and make them to understand the condition of their loved ones. Nursing professional working in neurology ward can teach the care givers of children with epilepsy regarding the first aid measures of epilepsy. They can teach the preventive measures of epilepsy too. The nurses should encourage the care givers to follow all the first aid measures when their child has an epileptic attack.

Conflict of Interest : Nil

Source of Funding : Self

Ethical Consideration: Permission had been taken from the research committee of Amrita College of Nursing and Thesis Review Committee of AIMS, Kochi. Consent was obtained from the subjects.

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Effectiveness of Nursing Process based Clinical Practice Guideline on Quality of Nursing Care among Post CABG Patients

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ABSTRACT

Background: Coronary artery bypass grafting is one of the high risk and high cost surgeries performed all over the world. Post operative complications prolong the length of hospitalization. Clinical Practice Guidelines (CPGs) are relatively new quality improvement tools which are developed for maintaining quality, minimizing costs and improving outcomes.

Methods: A quasi experimental pretest post test design was used to compare the quality of nursing care of the conventional care group with those of the experimental group. The sample comprised of 60 post CABG patients admitted to the cardiothoracic ward and 30 staff nurses caring them. The non probability, total enumeration sampling technique was used. The quality of nursing care and patients' satisfaction with nursing care was assessed before and after the implementation of the Nursing Process Based Clinical Practice Guideline.

Results: The study findings showed that the quality of nursing care of the experimental group was significantly higher than that of the conventional group (249.90 ± 23.58 Vs 145.17 ± 22.70 , $p = 0.001$). Further the level of satisfaction of the experimental group was significantly higher than that of the conventional care group (187.7 ± 25.0 Vs 148.1 ± 36.9 , $p = 0.001$).

Conclusion: Nursing Process Based Clinical Practice Guideline was effective in improving the quality of nursing care of post-CABG patients, which in turn improved the patients' satisfaction.

Keywords: CABG, Nursing Process Based Clinical Practice Guideline, Quality of Nursing care, patient satisfaction.

INTRODUCTION

Coronary artery bypass grafting is one of the high risk and high cost surgeries performed all over the world. But all patients after CABG are not the candidates for early discharge. Post operative complications prolong

the length of hospitalization. Nurses represent the major professional force in the health care system. Hospitals that have proven excellence in nursing care are awarded the 'Magnet status'. These initiatives motivate nurse practitioners in experimenting with quality improvement tools like critical paths, clinical pathways, clinical protocols and practice guidelines.¹

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Nursing process is an orderly systematic manner of determining the client's health status specifying the problems, initiating and implementing plans to solve them and evaluating the extent to which the plan was effective. Clinical Practice Guidelines (CPGs) are relatively new quality improvement tools which is

developed for maintaining quality, minimizing costs and improving outcomes. CPGs are more easily applied to patients in surgical diagnosis related groups because those patients are more predictable population than patients in medical diagnosis related groups. The advantage of this approach is that the practitioners, patient and family know the typical progress of a patient along with the care provided. The present study incorporates nursing process into clinical practice guideline for the development of a simple and more feasible quality improvement tool. In addition, the impact of nursing quality improvement initiatives on a high risk patient population such as CABG patients is not well addressed and studied.¹

Coronary Heart Disease is the leading cause of death globally and is expected to account for 14.2% of all deaths by 2030¹. Cardiac bypass surgery is used as a precaution against premature death from heart disease characterized by severe blockages of arteries and to improve quality of life. Annual cardiovascular thoracic surgery patient turnover of Amrita Institute of Medical science and Research centre Cochin touches an incredible figure of over 30000 outpatients. The cardiothoracic surgery department performs an average of 65 CABG surgeries per month. So nurses should be well trained in the care of CABG patients, nursing care of post CABG patients is challenging as they often present with multitude of post operative complications, physical and psychological ailments. A comparative study done by Tack and Gilliss comparing 110 rehospitalized CABG patients to 224 CABG patients not rehospitalized, reported readmissions within 30 days were related to wound infection (19%), atrial fibrillation (13%), pleural effusion (11%) and thrombo embolic events (10%). This study indicates that CABG patients have complex care needs hence this high risk group of patients also require specialized nursing care.²

The post CABG patients have complex care needs, with increase in this complexity it becomes crucial to evaluate quality of nursing care received by this vulnerable population. Caron and Sandra explored the role of professional nurse in the care of patients undergoing CABG. According to them proper preparation of patient and significant others expertise during the intra operative phase and a thorough knowledge base combined with skill and compassion of the nursing staff during the post operative phase increase

the likelihood of positive outcome for the patient.³

Field and Lohr gave the first standardized definition for clinical practice guidelines as 'systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances'. It is an organizational tool that gives providers a blue print for day to day care. It integrates medical treatment protocols, nursing care plans and activities of allied health professionals into a single care plan, which clearly defines expected progress and outcomes of a patient throughout the hospital stay. It ensures that the essentials are not forgotten and are performed on time and resources are utilized appropriately. Clinical utilization of best practice guidelines significantly reduced the length of stay of CABG patients which is an indicator of quality of health care.⁴

The present study also evaluated the level of patient satisfaction with nursing care as it is an indirect measure of quality and at the same time a subjective entity. The result of this study may provide fruitful information regarding the clinical effectiveness of quality improvement tool. This will facilitate nurses to function as autonomous professionals and to assure their contribution in quality patient care.

Objectives of the study were:

1. To compare the quality of nursing care provided to post CABG patients before and after the implementation of nursing process based CPG
2. To compare the post CABG patient satisfaction towards nursing care before and after the implementation of nursing process based CPG
3. To assess the attitude of nursing personnel towards the implementation of nursing process based CPG

MATERIALS AND METHOD

Study design, setting and sample

An evaluative research approach was adopted to find out whether a nursing process based CPG is more effective than conventional nursing care in improving the quality of nursing care provided to post CABG patients. The Quasi experimental pretest- post test design was used for this study. The target population of

the study consisted of post CABG patients between the age of 30-80 years admitted to cardiothoracic surgical wards and staff nurses taking care of them. Study was done among 60 post CABG patients admitted to the cardiothoracic surgical ward who remained under treatment for at least a period of three days and 30 Staff nurses on the same ward. Of the 60 post CABG patients, 30 patients contributed the control group and rest formed the interventional group.

Data collection instruments

The instrument used for this study has four tools.

4. Tool I

Section A: Demographic profile of patient

Section B: Clinical profile of patients.

5. Tool II: Nursing Audit Checklist to assess the quality of nursing care provided to post CABG patients

6. Tool III: Structured interview schedule to assess the post CABG patient’s satisfaction with nursing care.

7. Tool IV: Semi structured opinionnaire to assess the attitude of the nursing personnel towards the implementation of the Nursing Process Based CPG

The intervention given to the experimental group

was the implementation of Nursing Process Based CPG developed by the researcher. Before each shift a 15 minutes discussion was held by the researcher with the staff nurses to familiarize with the Nursing Process Based CPG to clarify any doubts. The night duty staff nurses were entrusted to plan care and they reviewed the care planned every 24hours. The other two shifts nurses carried out care planned and evaluated the care given during their shifts. They were also asked to identify and document nursing problems as and when they arise and plan care accordingly. The staff nurses were asked to document the assessment carried out, the nursing diagnoses identified and the nursing care planned for the patient during each shift in the guideline with a tick mark. They documented the nursing care implemented, evaluated and any variances from the guideline in the patients case records. After two weeks of implementation of guidelines data was collected from the experimental group. In order to find out the attitude of nursing personnel towards the implementation of the guidelines an opinionnaire was administered at the end of post test during each shift and data was collected. The data collected was analyzed using descriptive (frequency& percentage) and inferential statistics (‘t’ test).

RESULTS

Section I: Demographic characteristics and clinical variables of the subjects

Table 1: Clinical characteristics of Post CABG patients n=60

Clinical Characteristics	Control Group n=30		Experimental Group n=30	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Diagnosis				
a)Single Vessel Disease	0	0	0	0
b)Double vessel disease	2	6.67	2	6.67
c)Triple vessel Disease	28	93.33	28	93.33
Ejection Fraction				
a)Good LV function	4	13.33	4	13.33
b) LV dysfunction	26	86.67	26	86.67
LV dysfunction				
a)Mild	4	15.38	4	15.38
b)Moderate	18	69.24	20	96.92
c) Severe	4	15.38	2	7.69
Co Morbidities				

Cont... Table 1: Clinical characteristics of Post CABG patients**n=60**

a)Yes	30	100	30	100
b)No	0	0	0	0
No. of bypass grafts used				
a)One	0	0	0	0
b)Two	0	0	0	0
c)Three	24	80	25	83.33
d)More than three	6	20	5	16.67
Previous CVTS Surgery				
a)None	20	66.67	22	73.34
b)CABG	0	0	0	0
c)Valve replacement/repair	5	16.67	5	16.67
d)CHD Correction	1	3.33	1	3.33
e)Thoracic Surgery	1	3.33	1	3.33
f)Carotid endarterectomy	1	3.33	0	0
g)Peripheral Vascular surgery	2	6.67	1	3.33
Urgency Of Surgery				
a)Elective	28	93.33	29	96.67
b)Emergency	2	6.67	1	3.33
Type of bypass graft used				
a)Artery	8	26.67	12	40
b)Vein	22	73.33	18	60

Table 1 indicates that majority of the patients (93.33%) in both the groups had triple vessel disease. More than half of the patients, (60%) in the control group and (66.67%) in the experimental group had moderate LV dysfunction. All the subjects in both the groups (100%) had co-morbidities. Majority of patients in the control group (66.67%) and in the experimental group (73.3%) underwent a surgery for the first time. Among the patients who had previous surgical history, valve replacement or repair was the most common surgery, 16.67% in the control group and 3.33% in the experimental group. Most of the subjects in the control group (93.3%) and experimental group (96.67%) had elective surgery. Majority of the subjects (80%) in the control group and 83.3% in the experimental group had three bypassgrafts.

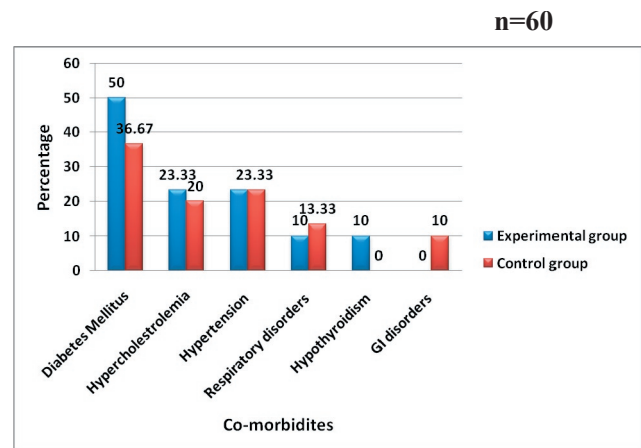
**Fig 1: Distribution of subjects based on co-morbidities.**

Figure 1 reveals that diabetes mellitus was the most common co morbidity in both experimental (50%) and control groups (36.67%). Both experimental and control group had hypertension (23.33) and hypercholesterolemia (23.33).

Table 2: Demographic characteristics of the staff nurses**n=30**

Variables	Frequency (f)	Percentage (%)
Age in years		
a) 21-25	4	13.33
b) 26-30	14	46.67
c) 31-35	10	33.33
d) >35	2	6.67
Gender		
a) Male	3	10
b) Female	27	90
Professional qualification		
a) GNM	18	60
b) B.Sc.Nursing	11	36.67
c) Post Basic B.Sc.Nursing	1	3.33
Clinical experience in CVTS/cardiology department of AIMS(in months)		
a) <6	3	10
b) 7-12	10	33.33
c) 13-18	3	10
d) 19-22	11	36.67
e) >24	3	10
Total clinical experience in AIMS (in years)		
a) <2	13	43.33
b) 2-5	14	46.67
c) 6-9	3	10
d) >10	0	0

Table 2 shows that majority of the subjects belonged to the age group of 26 to 35 years of age. There were only 3(10%) male nurses. More than half of the subjects (60%) had Diploma in General Nursing and Midwifery while 36.67% had B.Sc.Nursing degree.

Section II: Effectiveness of nursing process based CPG on quality of nursing care among post CABG patients

Table 3: Quality of Nursing care before and after implementation of Nursing Process Based CPG n=30

Quality of nursing care	Pre test			Post test			Mean Difference	't' Value	p value
	Mean	Range	S.D	Mean	Range	S.D			
	145.17	87	22.7	249.9	93	23.58			

$$t(29) = 2.05$$

Table 3 shows that there is statistically significant improvement in the quality of nursing care received by post CABG patients after the implementation of the Nursing process based CPG and the difference in the means is highly significant(p=0.000)

Table 4: Patient Satisfaction scores in the experimental and control group

n=60

Patient Satisfaction	Experimental Group n = 30		Control Group n = 30		Mean Difference	't' Value	p value
	Mean	SD	Mean	S.D			
	187.3	25.0	148.1	36.9			

t (58) = 1.67

Table 4 depicts that there is statistically significant difference in the satisfaction scores of subjects in the experimental group (p=0.001)

Table 5: Attitude of the Staff nurses towards the implementation of Nursing Process Based CPG

n=30

Sl. No.	Attitude	Frequency (f)	Percentage (%)
1	Poor	4	13.3
2	Good	23	76.67
3	Very Good	3	10.00
	Total	30	100

Table 5 indicates that 3(10%) of the staff nurses had very good attitude, 23(76.67%) had good attitude towards the implementation of nursing process based CPG

DISCUSSION

The present study was undertaken to evaluate the effectiveness of nursing process based CPG on the quality of nursing care delivered to post CABG patients. The first objective of the study was to compare the quality of nursing care provided to post CABG patients before and after the implementation of nursing process based CPG. From this study it is evident that there is statistically significant improvement in the quality of nursing care. The research hypothesis was (tested using paired 't' test at 0.05 level of significance) accepted at very high level of significance(p=0.001).The present result concur with previous studies carried out in other high risk population. A longitudinal, quasi-experimental pre-test/ post test designed study by Velasco FT, Ko W&

Rosenger TL at New York Hospital- Cornell Medical Centre to compare the outcomes, length of stay and cost effectiveness between the clinical pathway and the conventional care groups undergoing CABG. The results of the study showed that when the clinical pathway for patients undergoing CABG was used, the patient's length of stay decreased from 11.1 days to 7.7(+1.5 days), which was statistically significant (p=0.002). In addition the cost was decreased by \$1181 per patient. The indicators length and cost of stay are directly related to care process and patient recovery. So without maintaining the quality, cost effective care in the shortest time and in the absence of any adverse clinical outcomes cannot be achieved.⁵

The second objective of the study was to compare the post CABG patient's satisfaction with nursing care before and after the implementation of nursing process based CPG. The research hypothesis tested using independent sample 't' test at 0.05 level of significance was accepted at a high level of significance (p= 0.001). The mean patient satisfaction score of the experimental group after the implementation of nursing process based CPG was significantly higher than that of control group (p=0.001). As patients' satisfaction is an outcome indicator of quality, this study finding reinforced that the CPG has improved the quality of care. So the present study concluded that patients were more satisfied with nursing care when nurses adhered to the nursing process based CPG.

The third objective of the study was to assess the attitude of nursing personnel towards the implementation of nursing process based CPG in the care of patients after CABG. Among the 30 sample, 26(86.67%) staff nurses had good attitude towards the implementation of CPG. If nurses have good attitude towards the nursing process in clinical practice, they will be determined to view that the nursing process is efficiently implemented,

as a person's attitude can greatly influence his or her behaviour. This reflects that the staff nurses were eager to practice the guideline even if it was new and quite lengthy. The significant improvement in the quality of care and patient satisfaction with nursing care by the experimental group reinforced that the CPG was successfully implemented. Approximately 86.67% of the staff nurses were ready for the clinical utilization of the CPG.

CONCLUSION

The nursing process based patient care approach is widely practised in health care settings where nursing is considered as an autonomous profession. The quality of nursing care is monitored based on the nursing process where nurse decides, plans, implements and evaluates the nursing care. The clinical utilization of the nursing process and availability of a clear guideline can improve the quality of nursing care.

Conflict of Interest: Nil

Source of Funding: Self

Ethical Clearance: Ethical clearance was obtained from the Research Committee of Amrita College of Nursing and Institutional Ethical Committee AIMS,

Kochi. Permission was also taken from Heads of CVTS department, AIMS, department of Nursing services and from the subjects of the study.

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Effectiveness of Structured Teaching Programme Knowledge and Practice of Post Natal Mothers Regarding Essential New Born Care

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ABSTRACT

The present study was conducted to assess the level of knowledge and practice of postnatal mothers regarding essential newborn care. The research design for the study was one group pre-test post-test design. A sample of 200 postnatal mothers were selected by using purposive sampling technique at Bheemunipatnam selected community areas, vishakapatnam. The tools used for conducting the study were a set of demographic variables and Structured questionnaire. Structured teaching programme on essential new born care was conducted. The subjects were administered structured questionnaire on essential newborn care 30 days with pre and post assessment of structured questionnaire on essential newborn care. Data were analyzed with the help of descriptive and inferential statistic.

Among 200 postnatal mothers, majority 176(88%), 164(82%) had inadequate knowledge, 20 (10%),32(16%) had moderate knowledge and 4 (2%),4 (2%) had adequate knowledge the pre assessment of level of knowledge and practice on essential new born care. After the administration of structured teaching programme, majority 16(8%), 20(10%) had inadequate knowledge, 104(52%),100 (50%) had moderate knowledge and 80 (40%),80 (40%) had adequate knowledge in the post assessment of level of knowledge on essential new born care. It represents that of structured teaching programme was effective improved their knowledge on essential new born care among postnatal mothers.

There was no statistically significant association between post assessment of essential newborn care and the demographic variables such as age of the mother, education, religion, parity, type of delivery. There was statistically significant association between post assessment of essential level of knowledge on essential new born care and the demographic variables such as education and parity at $p < 0.01$ level of significance.

Keywords: *Essential new born care, knowledge and practice, selected community areas, postnatal mothers, structured teaching programme*

INTRODUCTION

“A newborn baby is like the beginning of all things – Wonder, hope, a dream of possibilities.”

The birth of a baby is one of life's most wondrous moments, babies have amazing abilities. Yet they are completely depended on others for feeding, warmth and comfort. Newborn is a continuum of the fetal life and very important transient time to adopt extra uterine life. The physical and mental wellbeing of every individual depends on the correct management of events in perinatal period¹.

The newborn's body is the most super sensitive, delicate and susceptible from which can easily harmed if not taken care of. To ensure that the body has the best possible start in life there are critical aspects of newborn care, which all birth attendants and families should be aware of.

Environmental temperature should be maintained according to baby weight and age to avoid hypothermia. It is necessary to dry up the baby and wrap the baby with clothes make sure the baby head is covered².

Newborn or neonatal period include the time from birth to 28 days of life. This is the crucial period in laying the foundation of good health. At this time specific biological and psychological needs must be met to ensure the survival and health development of the child into a future adult³.

The principles of essential newborn care is simple, requiring no expensive high technology equipment resuscitation, warmth to avoid hypothermia, early breast feeding, hygiene, support for the mother ^{infant} relationship and early treatment for low birth weight or sick infants⁴.

The first week of life is the most crucial period in the life of an infant. This is because the newborn has to adapt itself rapidly and successfully to an alien external environment. The risk of death is greatest during the first 24-48 hours after birth. Newborn mortality is one of the most neglected health problems in the developing world, there are estimated 4 million neonatal deaths worldwide each year. Moreover, it is estimated to account for 40% of under five deaths and two-third of infant deaths. The proportion is generally higher in rural areas. According to World Health Report 2005, global neonatal mortalities rate is 36/1000, while in developing countries, the rate is 39/1000⁵.

Poor perinatal and neonatal care is responsible for many deaths even during later childhood. They also account for mental retardation and other neurological handicaps of later life which are largely preventable. Improved neonatal care lead a better and intact infant survival, which will pave the way for better acceptance of small family norm. Mother plays a key role in identifying minor developmental deviations and early evidence of disease process because she is constantly and closely watching her baby. Participation of mother in the nursing care of baby infuses self confidence in her and reduces demands on nursing personnel. So she needs the basic knowledge and skills pertaining to child feeding, personal hygiene, immunization and other common problems in children.

The risk of neonatal mortality is more acute in rural areas where expert obstetric care is scarce, and the home environmental conditions in which the baby is born, are usually unsatisfactory. Roughly 60% of birth in less developed countries occurred at home, so parents need to be educated about what they can do to save their newborn lives. Families need to adapt better nutritional

practices, including breastfeeding ; learn how to dry and warm their newborns; and better understand the danger signs of maternal and neonatal complication saving newborn lives depends on a broad based condition that include donors and international organizations that can provide policy focus and finding, governments that are willing to expand their commitment to national and local health care services, and NGOs and grass roots organizations that can work with communities to pass on information on saving newborns ⁶.

The challenges of reducing neonatal mortality require solutions through research to inform programme innovation and action-oriented policies designed to improve newborn health. In all these above programmes, the mother plays a vital role. The community health nurse can educate the mothers regarding essential newborn care and regarding antenatal care and postnatal care and regarding importance of institutional deliveries and through proper guidance and education regarding essential newborn care.

Since mothers are the primary care takers of the newborns round the clock, it is the most important priority to improve their knowledge and competency. If a mother is educated, she can educate the entire family and the community as well.

BACKGROUND

Newborn or neonatal period include the time from birth to 28 days of life. This is the crucial period in laying the foundation of good health. At this time specific biological and psychological needs must be met to ensure the survival and health development of the child into a future adult ³.

The major causes of neonatal deaths globally were estimated to be due to complications of pre-maturity, (28%) sepsis, pneumonia (26%), birth asphyxia, injuries (23%), tetanus (7%), congenital anomalies (7%) and diarrhoea (3%). A study done by Baqui, et.al., (2006) in rural Uttar Pradesh showed that out of 618 neonatal deaths, 32% deaths were on the day of birth, 50% occurred during the first 3 days of life and 71% were during the first week of life⁷.

Care practices immediately after delivery play a major role in causing neonatal morbidities and mortalities. Essential newborn care practices were

outlined to decrease the neonatal morbidity and mortalities. These practices include clean cord care, thermal care, and initiating breast feeding immediately after birth. The traditional practices like applying cow dung on the umbilical stump, oil instillation into nose, eyes also contribute to newborns risk of morbidity and mortality⁸.

India's current neonatal mortality is higher in rural areas at 49/1000 live births than in urban area at 27/1000 live births. Orissa have the highest neonatal mortality rate of 61/1000 live births. Karnataka, Uttar Pradesh, Madhya Pradesh, West Bengal, Punjab have the neonatal mortality rate of 54/1000, 53/1000, 51/1000, 31/1000, 29/1000 live births respectively. Kerala have the lowest neonatal mortality of 10/1000 live births respectively. It is necessary together to meet both national and the millennium development goal to reduce Neonatal Mortality rate by two thirds between 1990 and 2015. In India, Andhra Pradesh stands 6 place in neonatal mortality rate of 30/1000 live births⁹.

Still traditional practices of newborn care are seen among the mothers which are harmful to the newborn. Such as practice of pre-lacteal feeds like feeding sugar water or honey, castor oil, application of oil and powder to the umbilical cord, application of Kajal, instillation of oil in babies eye, ear and nose, baby being exposed and not covered well, lack of hygienic practices these are all contributes to the increased rate of neonatal morbidity and mortality.

Best practices of newborn care that includes maintenance of temperature, exclusive breastfeeding, skin care, eye care, cord care, prevention of infection, immunization (Mathur, N. B, 2010). Hence as a first step, the researcher felt the need for assessing the knowledge and practices of postnatal mothers with regard to essential newborn care at Bheemunipatnam, Vishakhapatnam.

METHODOLOGY

The research design for the study was one group pre-test post-test design. A sample of 200 postnatal mothers were selected by using purposive sampling technique at Bheemunipatnam vishakapatnam. The tools used for conducting the study were a set of demographic variables and Structured questionnaire. *Structured teaching programme on essential new born care was*

conducted. The subjects were administered structured questionnaire on essential newborn care 30 days with pre and post assessment of structured questionnaire on essential newborn care. Data were analyzed with the help of descriptive and inferential statistics.

The tools used for the study were categorized into 2 sections.

The tool consists of three sections:

Section-1 Description of Demographic variables

- It includes age of the mothers, educational status, occupation, income, religion, type of delivery, parity.

Section-2: knowledge questionnaire

- It consists of 25 multiple choice questions to assess the knowledge regarding essential new born care. Each question has 4 options in which one option correct and other 3 options are wrong. Each correct answer carries one mark, wrong answer carries zero mark.

Section -3; Practice questionnaire

- It consists of 15 questions to assess the practice of essential new born care among postnatal mothers. Both positive and negative questions are formed based on observational check list.

INTERPRETATION OF SCORES:

The score was interpreted in the following manner

The scores were interpreted in the following manner.

A score between <50% Inadequate knowledge.

A score between (50-75%) - Moderately adequate knowledge

A score between > 50%- Adequate knowledge.

EXPERIMENTS AND RESULTS

- Among 200 postnatal mothers, majority 176(88%), 164(82%) had inadequate knowledge, 20 (10%), 32 (16%) had moderate knowledge and 4 (2%), 4 (2%) had adequate knowledge the pre assessment of level of knowledge and practice on essential new born care.

- After the administration of structured teaching programme. majority 16(8%),20(10%) had inadequate knowledge, 104(52%)100,(50%) had moderate knowledge and 80 (40%),80 (40%) had adequate knowledge in the post assessment of level of knowledge and practice on essential new born care It represents that structured teaching programme was effective to improved knowledge and practice on essential newborn care among postnatal mothers.

- The present study also revealed that there was no statistically significant association between post assessment of level of knowledge and practice and the demographic variables such as age of postnatal mothers, religion, education, parity, type of delivery . There was statistically significant association between post assessment of essential level of knowledge on essential new born care and the demographic variables such as education and parity at p<0.01 level of significance.

Table – 1 : Level of knowledge and practice in Pre-test

Inadequate (<50%)		Moderate (50%-75%)		Adequate (>50%)	
F	%	F	%	F	%
176	88%	20	10%	4	2%
164	82%	32	16%	4	2%

The data presented in the Table –1 shows the level knowledge and practice among elderly postnatal mothers 176(88%), 164(82%) had inadequate knowledge, 20 (10%), 32 (16%) had moderate knowledge and 4 (2%),4 (2%) had adequate knowledge the pre assessment of level of knowledge on essential new born care.

Table – 2: Level of knowledge and practice in Post-Test

Inadequate (<50%)		Moderate (50%-75%)		Adequate (>50%)	
F	%	F	%	F	%
16	8%	104	52%	80	40%
20	10%	100	50%	80	40%

- The data presented in the Table 2 shows that the stress levels among elderly are majority16(8%),20(10%) had inadequate knowledge, 104(52%)100,(50%) had moderate knowledge and 80 (40%),80 (40%) had adequate knowledge in the post assessment of level

of knowledge and practice on essential new born care. It represents that structured teaching programme was effective to improved knowledge and practice on essential newborn care among postnatal mothers.

The mean score 12.72 ,5.62and standard deviation 2.303,1.723 obtained in the pre- test and a mean score 19.06, 9.18and standard deviation 3.363,2.19 were obtained in the post test for the level of knowledge and practice among postnatal mothers showed that there was a increases in mean and standard deviation after the administration of structured teaching programme for postnatal mothers

Table 3- Effectiveness of structured teaching programme on essential newborn care among postnatal mothers

	Mean	Standard deviation	T value
Pre-test scores of level knowledge and practice	12.72,5.62	2.303,1.723	21.475, 14.98
Post-test scores of level knowledge and practice	19.06,9.16	3.363,2.19	

CONCLUSION

The research study was done to assess the effectiveness of structured teaching programme of knowledge and practice postnatal mothers regarding essential newborn care at bheemunipatnam Visakhapatnam.

About two hundred postnatal mothers were selected by purposive sampling technique. A structured questionnaire and observation checklist was used to assess the level of knowledge and level of knowledge on practice regarding essential new born care among postnatal mothers, before and after the structured teaching programme.

The first objective of the study was to assess the knowledge and knowledge on practices regarding essential new born care among postnatal mothers.

The pre-test was conducted by using the structured questionnaire, Table 1 revealed that out of 200 postnatal mother ,88% (176) had in adequate knowledge, 20%

(10) had moderately adequate knowledge, 4% (2) had adequate knowledge. Regarding the knowledge on practices related to essential newborn care, 88% (164) had inadequate knowledge, 32% (16) had moderately adequate knowledge and 4% (2) had adequate knowledge.

Post-test was conducted by using the same pre-test questionnaire; 7 days after the Health education to the postnatal mothers Table 2 revealed that out of 200 postnatal mothers 16% (8) had inadequate knowledge, 52% (104) had moderately adequate knowledge and 40% (80) had adequate knowledge on essential newborn care. Regarding knowledge on practices, 20% (10) had inadequate knowledge, 100% (50) had moderately adequate knowledge and 40% (80) had adequate knowledge on prevention of essential newborn care.

The second objective of the study was to evaluate the effectiveness of the Health education on essential new born care among post natal mothers. Table 3 revealed the effectiveness of the Health education. The paired 't' test values showed that there was a significant improvement in the level of knowledge and level of knowledge on practices related to essential new born care at $P < 0.0001$ level.

The present study revealed improvement in the level of knowledge and level of knowledge on practices related to essential new born care after administering the health education programme. It was proved that direct education can lead to increase in the level of knowledge and level of knowledge on practices related to essential new born care.

The third objective was to associate the relationship between selected demographic variables and the level of knowledge and knowledge on practices among postnatal mothers related to essential new born care.

Still some of the demographic variables are not significant with the mother's knowledge. Irrespective of

demographic variables, the post natal mothers improved their knowledge after receiving structured teaching programme. Hence, direct education has a bearing and can bring about improvement of their knowledge and change in a desirable behaviour.

Ethical Clearance- Taken from Himalaya University Research Degree committee.

Source of Funding- Self

Conflict of Interest- Nil

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Effect of Video Assisted Teaching on Knowledge and Attitude Regarding Prevention and Early Detection of Cervical Cancer among Housewives

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ABSTRACT

Cervical cancer is the most common cancer in woman worldwide. Through proper screening this cancer can be prevented in its early stage. The study was conducted to assess the effect of video assisted teaching on knowledge and attitude regarding prevention and early detection of cervical cancer among housewives of selected area under CHC Palathara, Kollam. The objectives were to assess, correlate the pre and post interventional knowledge and attitude and find out association of the pre and post interventional knowledge and attitude on prevention and early detection of cervical cancer with selected demographic variables of housewives. The method used in the study is pre experimental one group pretest posttest design. Majority (66.67%) of the housewives had inadequate and 33.33% had moderately adequate pre interventional knowledge and none had adequate knowledge. Following the video assisted teaching the knowledge and attitude of the housewives were assessed after one week. Majority (97%) of the housewives gained adequate knowledge and 3% still had moderately adequate knowledge. Assessment of the pre interventional level of attitude revealed that majority of the housewives, 63.33% had unfavourable attitude and 36.67% had neutral attitude. After the intervention assessment revealed that majority 96.67% of the housewives gained favourable attitude and 3.33% gained moderate attitude. The difference between pre and post interventional scores of knowledge and attitude were significant. There was a positive correlation of knowledge with attitude. When associated with selected demographic variables, pre interventional knowledge had association with education and pre interventional attitude had association with family income and previous exposure to information. From the results, it was concluded that the intervention was effective. However, housewives need constant reinforcement for the uptake of screening measures. So, nurses have a key role to improve knowledge and attitude of the community towards the screening programme

Keywords: *cervical cancer; knowledge; attitude; video assisted teaching; early detection; prevention.*

INTRODUCTION

Cervical cancer is the fifth most common cancer in humans, the second most common cancer in women worldwide and the most common cancer cause of death in the developing countries. Sexually transmitted human papilloma virus (HPV) infection is the most important risk factor for cervical intraepithelial neoplasia and invasive cervical cancer.¹ 80% of the new cervical cancer cases occur in developing countries, like India, which reports approximately one fourth of the world's cases of cervical cancer each year.² According to the Cervical Cancer-Free Coalition (CCFC), an American research

and advocacy group that released a "cervical cancer global crisis card" on 10 th May ,2013, more women die from cervical cancer every year in India than anywhere else in the world .The index, which ranked 50 countries, shows India in the top spot in terms of overall deaths, with nearly 73,000 a year. The rankings were compiled using information from a 2010 report available on the World Health Organization Web site, which says an estimated 72,825 women die of cervical cancer every year in India. About 134,420 women are diagnosed annually with this disease, the most common form of cancer that is detected in women between the ages of 15 and 44.³ Recent data released by India's Health Ministry based

on the National Cancer Registry Programme (NCRP) report in 2009 the number of cervical cancer cases were 101938 which has increased to 107690 in 2012. It is being estimated that the number of cervical cancer cases and deaths are estimated to increase by 2025 to 203,757 and 115,171, respectively.³Pap smear screening every 3-5 years with appropriate follow up can reduce cervical cancer incidence upto 80%.⁴ HPV vaccination for both girls and boys (to prevent passing the virus) is expected to further reduce this risk.⁵The tragedy of the matter is that cervical cancer is one of the rare cancers that are completely treatable if diagnosed in time. If caught at the onset, the treatment of cervical cancer takes less than an hour and a fraction of the cost that would otherwise be spent to treat the same at an advanced stage. Luckily the cancer of cervix can be diagnosed in precancer stage when disease is not invasive. Where most women make a mistake is in assuming that because they are young and have no symptoms or discomfort, they need not worry about their health.⁶

The researcher felt that nurses have an important task of imparting information on risk factors, detection of early signs of cervical cancer and encourage women to perform cervical cancer screening regularly for its prevention. Expanded role of community health nurse in the primary prevention by providing health education, specific protection by providing HPV vaccination, early detection and diagnosis by pap smear test and referral for appropriate treatment is considered under the study. Extended role as advocating, lobbying, counselling and educating for prevention of cancers have high scope today. This can be achieved by conducting additional education programmes for women. The researcher find an immense opportunity while conducting the video assisted teaching among housewives as it enable family and thereby community education on prevention and early detection of cervical cancer.

RESEARCH METHODOLOGY

Research approach: Quantitative approach

Research design: Pre experimental one group pretest posttest design

The design is represented as below:

$$O_1 \rightarrow X \rightarrow O_2$$

O₁-Knowledge and attitude scores before

intervention

X- Nursing intervention [video assisted teaching on cervical cancer]

O₂ -Knowledge and attitude scores after intervention

Variables:

Dependent variables: Knowledge and attitude

Independent variable: Video assisted teaching

Demographic variables: Age, educational status, family income, type of family, religion, previous exposure to information regarding cervical cancer and source of information, family history.

Setting of the study

The present study was conducted in College Nagar under Community Health Centre (CHC) Palathara, Kollam.

Population

The population for this study is the 300 housewives residing at College Nagar in Kollam.

Sample and sampling technique

The samples selected in this study are 60 housewives of 21 years - 65 years, prioritizing youngest among the housewives present in each household.

The sampling technique used in this study is simple random sampling technique, using random table method.

Tool/ instruments

The data collection tool consisted of a structured questionnaire to collect the demographic data and assess the knowledge and modified Likert scale to assess the attitude regarding prevention and early detection of cervical cancer among housewives.

Description of the tool

The tool consists of two sections- Section A and Section B

SECTION A

Part-I Structured Questionnaire to collect

socio demographic data.

Part II Structured Questionnaire to assess knowledge regarding prevention and early detection of cervical cancer.

Part III Modified Likert Scale to assess attitude of housewives regarding prevention and early detection of cervical cancer.

SECTION B

Video assisted teaching programme on cervical cancer

Video on cervical cancer of 16:09 minutes consisted of general awareness on cervical cancer, its risk factors and causes, clinical manifestations, its early identification, diagnosis and prevention emphasizing pap smear test.

METHOD OF DATA COLLECTION

The data collection was done in College Nagar under Community Health Centre Palathara, Kollam starting from 11.02.2013 to 09.03.2013. After getting permission from study setting using random sampling method 60 samples were selected. The data was collected from home to home. Pretest was done for the samples followed by the administration of video assisted teaching which took an average of 20-25 minutes for each sample. Data was collected from 6-8 members per day and took 10 days to complete it. On the 7th day post test was conducted.

DATA ANALYSIS

1. Descriptive statistics

Mean, percentage, standard deviation

2. Inferential statistics:

Z test: To assess significance of pre and post interventional knowledge and attitude scores within the group

Spearman's Rank Correlation: To assess correlation between knowledge and attitude.

Chi-square: To associate pretest and posttest level of knowledge and attitude with selected socio demographic variables.

RESULTS AND DISCUSSION

Section 1: Distribution of samples according to socio demographic variables

Table 1 depicts the baseline variables of the study samples, among the 60 samples 31(51.67 %) of the sample were included in the age group of 21-30 years of age. 34 (56.67%) of the sample were educated upto high school level and 27(45%) had an income between Rs.1001 and Rs. 5000. 4(6.67%) had family income between 5000-10,000 & 2 have >10,000.35 (58.33%) of the samples belonged to nuclear family. Majority, 49(81.67%) of the samples were Muslims and 11(18.33%) of them were Hindus. Only 21(35%) had previous exposure to information regarding cervical cancer and 6(10%) of them had family history of cervical cancer.

Section II: Assessment of the pre and post interventional knowledge and attitude on prevention and early detection of cervical cancer among housewives

Results showed that there was a mean difference of 13.23 in the post interventional mean score from the pre interventional mean score of level of knowledge regarding prevention and early detection of cervical cancer. Assessment of the preinterventional level of knowledge revealed that majority of the housewives, 40 (66.67%) had inadequate and 20 (33.33%) had moderately adequate knowledge and none had adequate knowledge. Assessment of the post interventional level of knowledge revealed that majority, 58 (97%) of the housewives had acquired adequate and 2 (3%) moderately adequate knowledge.

Results showed that there was a mean difference of 24.75 in post interventional attitude score from pre interventional attitude score. Assessment of the preinterventional level of attitude revealed that majority of the housewives, 38 (63.33%) had unfavorable attitude and 22 (36.67%) had neutral attitude. Assessment of the post interventional level of attitude revealed that majority 58 (96.67%) of the housewives had favorable and 2(3.33%) had neutral attitude.

Table 2 depicts the mean, standard deviation, and Z value of pre and post interventional knowledge regarding prevention and early detection of cervical cancer. The calculated value of 'Z' at 0.05 level of significance was

higher than that of the table value which showed that the difference between pre and post interventional scores of knowledge regarding prevention and early detection of cervical cancer among housewives was significant at 0.05 level of significance.

Table 3 depicts the mean, standard deviation, and Z value of pre and post interventional attitude regarding prevention and early detection of cervical cancer. The calculated value of ‘Z’ at 0.05 level of significance was higher than the table value which showed that the difference between pre and post interventional scores of attitude regarding prevention and early detection of cervical cancer among housewives was significant at 0.05 level of significance.

Section III: Correlation of pre and post interventional knowledge with attitude on prevention and early detection of cervical cancer among housewives.

Correlation was found using Spearman’s rank correlation test. Results showed that there existed a positive correlation between the pre interventional knowledge level with their attitude which meant that housewives with increased pre interventional knowledge had an increased pre interventional attitude.

Results showed that there existed a positive correlation between the post interventional knowledge level with their attitude which meant that housewives with increased post interventional knowledge had an increased post interventional attitude.

Section IV: Association of pre interventional level of knowledge and attitude regarding prevention and early detection of cervical cancer with selected demographic variables of housewives.

Finally regarding the association of knowledge and attitude with socio demographic variables, the pre interventional knowledge had significant association with educational status. The post interventional level of knowledge among the housewives had no association with their socio demographic variables. The pre interventional attitude had significant association with income and previous exposure to information. The post interventional attitude of the housewives had no association with sociodemographic variables of the housewives.

From the above findings the researcher concluded that video assisted teaching was effective in improving the knowledge and attitude of housewives regarding prevention and early detection of cervical cancer.

Table 1: Frequency and percentage distribution of housewives based on socio demographic data as age in years, educational status, income in rupees, type of family (N=60)

Sl.no.	Demographic variable	Frequency	Percentage
1	Age in years		
	21-30	31	51.67
	31-40	24	40
	41-50	5	8.3
	Above 50	0	0
2	Educational status		
	Primary	0	0
	Secondary	5	8.3
	High school	34	56.67
	Higher secondary	13	21.67
Graduation and above	8	13.33	
3	Family income in Rs.		
	<1000	19	31.6
	1001-5000	27	45
	5001-10000	12	20
	10001-15000	1	1.67
>15000	1	1.67	

Cont... Table 1: Frequency and percentage distribution of housewives based on socio demographic data as age in years, educational status, income in rupees, type of family (N=60)

4	Type of Family		
	Nuclear family	35	58.33
	Joint family	22	36.67
	Extended family	3	5
5	Religion		
	Hindu	11	18.33
	Christian	0	0
	Muslim	49	81.67
	Others	0	0
6	Previous information		
	Yes	21	35
	No	39	65
	If yes,		
	Newspaper, Magazines	8	38.09
	Television, Radio	9	42.86
	Health professionals	4	19.05
7	Family history		
	Yes	6	10
	No	54	60

Table 2: Mean, Standard deviation and Z value of pre and post interventional knowledge regarding prevention and early detection of cervical cancer. (N=60)

Sl. No.	Knowledge	Mean	Standard Deviation	Calculated Z value	Table value	P value
1.	Pre test	9.47	5.09	18.85*	1.96	0.05
2.	Post test	22.7	1.91			

* 0.05 level of significance

Table 3: Mean, Standard deviation and Z value of pre and post interventional attitude regarding prevention and early detection of cervical cancer (N=60)

Sl. No.	Attitude	Mean	Standard Deviation	Calculated Z value	Table value	P value
1.	Pre test	23.38	4.81	45.18*	1.96	0.05
2.	Post test	48.13	3.12			

* 0.05 level of significance

CONCLUSION

Cervical cancer is preventable and treatable if detected in early stages. It is possible only if community awareness is promoted regarding cervical cancer screening and its prevention strategies. Education

programmes enhances the knowledge and attitude of public towards it..

From the result of the study it was concluded that housewives need to be educated through teaching programmes. Researcher experienced that apart from the household toils housewives were keen and eager to acquire knowledge to protect themselves and their

family and thus developed the view that more of video assisted teaching programmes on health topics should be centered in the community. Uptake of screening and safer practices will be improved by education and motivation and thereby its prevention and early detection.

Recommendations

On the basis of the study that had been conducted, certain suggestions are given for future studies.

- A similar study can be done on large population in different setting
- A comparative study can be done between rural and urban housewives
- Handouts and pamphlets on health topics can be distributed to the housewives through anganwadi workers and ASHA workers on home visits.

Conflict of Interest: None

Source of Funding: Self

Ethical Clearance: Taken from Institutional review committee of Vellappally Natesan Shashtyabdapoorthi Smaraka College of Nursing, Kollam

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Student Nurses' Knowledge about Prevention of Ventilator-Associated Pneumonia

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ABSTRACT

The rate of ventilator-associated pneumonia (VAP) worldwide is still high. There is increasing concern that nurses do not receive sufficient education in their undergraduate courses on VAP-prevention guidelines. The purpose of this study was to investigate student nurses' knowledge of these guidelines; assessment of the level of knowledge is essential to provide evidence of the need to modify nursing curricula. A descriptive cross-sectional design was used in this study. A total of 434 participants from seven universities in Jordan completed a questionnaire that evaluated their knowledge about VAP-prevention guidelines. The participants demonstrated poor knowledge of the majority of topics in the questionnaire. The mean knowledge score was 6.4 out of 20 ($SD=2.9$). Participants who reported having been taught about VAP on their undergraduate courses achieved higher scores than those who had not: $t(432) = -3.5, p=0.000$. However, both groups' scores were unsatisfactory. It is imperative that student nurses be knowledgeable about VAP-prevention guidelines, despite the gap in their education on this topic. Modification and updating of nursing curricula is indispensable to improve nurses' knowledge.

Keywords: Ventilator; pneumonia, prevention, guidelines.

INTRODUCTION

Ventilator Associated Pneumonia (VAP) is a common nosocomial infection that is associated with increased length of hospitalization^{1,2}, inflated cost of care, and significant mortalities^{3,4}. The Center for Disease Control and Prevention (CDC), the Institute for Healthcare Improvement and the American Thoracic Society have developed evidence-based guidelines to prevent VAP^{5,6}. The VAP prevention guidelines serve as directives for effective practice during the care of patients on mechanical ventilators⁵ however, it is unknown if those guidelines are adequately covered in the undergraduate education for student nurses. Thus, the purpose of this study is to assess the soon-to-graduate student nurses' knowledge about evidence-based guidelines to prevent VAP.

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BACKGROUND

VAP affects 10%-25% of patients who are treated in intensive care units for more than two days^{2,3}. The rate of VAP varies between countries, with higher prevalence and mortality rate reported in developing countries⁷. The risk of VAP in the middle east is 217% higher in comparison with United States⁸. The mortality rate for VAP patients in India was as high as 42%⁹ while in Jordan was 53%¹⁰. Several reasons for the significant elevation in the rate of VAP in developing countries have been reported, including limited resources for infection control practice, lack of infection control education and training¹¹, shortage of staff¹², failure to integrate findings of research in clinical settings and ineffective use of antibiotics¹³.

Evaluation of student nurses' educational needs related to VAP prevention is a basic element in updating and modifying nursing curricula. Although many studies have investigated nurses' knowledge of VAP prevention among nurses, very few have assessed student nurses'

knowledge, and assessment is important to provide evidence of the need to improve VAP learning in nursing curricula.

METHOD

Design

This study was a descriptive cross-sectional survey.

Sample

A total sample of 434 student nurses was collected for the current study, the sample size determined by the Rawsoft sample size calculator . Based on an estimated response rate of 50%, $\alpha = 0.05$, power = 0.95; the estimated population of student nurses in Jordan is 20,000, so the required sample size is estimated to be 377. The current study used a larger sample to enhance the results' external validity.

Inclusion Criteria

-Undergraduate nursing student in the final year in the school

Study Setting and Participants

A convenience sample of undergraduate student nurses was obtained from seven universities throughout Jordan. The study was approved by the ethics committees of the researcher's university and the participating universities.

Instrument

We developed a questionnaire that integrated the evidence-based guidelines for prevention of VAP from the Center of Disease Control and Prevention ¹⁴, the Institute for Healthcare Improvement ¹⁵ and the American Thoracic Society ¹⁶. The content of the questionnaire was validated by a panel of four specialists in the disciplines of nursing and infection control. A pilot study was conducted to assess the clarity and readability of the questionnaire, with a group of 20 students. Internal consistency reliability for the questionnaire was found acceptable with a Cronbach's alpha of 0.7.

The questionnaire comprised two parts. Part one included demographic items such as gender and geographic location of the school. Part two comprised

20 multiple-choice questions, each containing four choices: the correct answer and three distracters. The four choices included "I don't know" as an option to prevent guessing. For scoring purposes, the questions were graded as 1 for the correct answer and 0 for other responses. Individual totals for the 20 could thus range from 0 to 20, a higher score indicating a better knowledge level and a score below 10 meaning that the student failed the test.

Data collection procedure

The questionnaire was administered to the participants in their classrooms by the principle investigator. Students were informed that their completion of the questionnaire would be considered as consent to participate. Students were assured that participation is completely voluntary and that their responses in the questionnaire were confidential. The students also were informed that they had the right to withdraw from the study any time. The students were subject for any emotional, physical or mental harm as a result of participation in the study. Data were collected in the period April -August 2016.

Statistical analysis

SPSS version 22 was used for data analysis. The mean scores and frequencies were calculated. An independent sample t-test was used to measure the difference in mean scores between male and female participants and between students with previous education in their undergraduate courses about VAP management and mechanical ventilators and those without. An ANOVA test was conducted and the difference in mean scores was compared among students according to the geographical location of the school.

RESULTS

All students in the study were in their fourth year. The study team distributed 600 questionnaires of which only 434 were completed, a total response rate of 72%. Respondents were of different geographical locations and gender. Participating universities were of private and government affiliation. The mean age of participants in the study was 22.6 ($SD=2.9$) for females and 22.7 ($SD=2.7$) for males. (Table 1).

Table 1. Students' characteristics

Characteristic	Number of Students (%) N = 434
Gender	
Female	203 (47%)
Male	231 (53%)
Geographic location of the school	
North	92 (21%)
Middle	111 (26%)
South	112 (26%)
East	119 (27%)
Received educational program and training on Mechanical ventilator in their undergraduate courses	
Yes	230(53%)
No	204 (47%)
Received educational program and training on Ventilator Associated Pneumonia (VAP) management in their undergraduate courses	
Yes	235 (54%)
No	199 (46%)

Students' knowledge scores.

The mean knowledge score for participants was 6.4 (32%) ($SD=2.9$), with a range of 16 (80%) to 0(0%). 63 students (14.5%) answered more than half of the questions correctly. Weakness in the knowledge related to mechanical ventilator management was obvious. The majority of the students didn't know that the mechanical ventilator humidifier must be changed weekly to prevent VAP, the endotracheal tube's cuff pressure must be kept at the level of 20-30 H₂O, and that the ventilator circuit must be changed only when it is visibly soiled or for every new patient's admission. Another topic of concern was oral care and suction. On the other hand, students showed a reasonable level of knowledge regarding hand washing and patients' positioning. (Table 2).

Table 2. Preferred guidelines and frequencies of correct answers

Preferred guidelines and frequencies of correct answers	n(%) N=434
Which method of endotracheal tube insertion is preferred to decrease VAP?	175(40%)
How often is it preferred the ventilator circuits be changed to decrease the risk VAP?	77(18%)
Which type of humidifiers is preferred to decrease the risk of VAP?	162(37%)
How often is it preferred the humidifier be changed to decrease the risk VAP?	30(7%)
Which type of suctioning systems is preferred to decrease the risk VAP? (open vs close)	180(42%)
How often is it preferred the suction systems be changed to decrease the risk VAP?	103(24%)
Which type of endotracheal tube is preferred to decrease the risk of VAP?	140 (32%)
Which type of bed is preferred to decrease VAP (the kinetic bed vs the standard bed)?	138(32%)
Which patient position is preferred to decrease the risk VAP?	248(57%)
Which solution is preferred for oral care to decrease the risk VAP?	82(19%)
How often oral care is preferred to decrease the risk VAP?	94(22%)
How often is it preferred to assess patient readiness for extubation?	231(53%)
How often is it preferred to perform spontaneous breathing trial with sedatives turned off?	167(39%)
When is it preferred to wash hand to decrease the risk of VAP?	284 (65%)
When is it preferred to wear gloves to decrease the risk of VAP?	93(21%)
At which level endotracheal tube cuff pressure should be kept to decrease the risk of VAP?	57(13%)
To decrease the risk of VAP, which of the following practices related to antibiotics use is preferred?	137(31%)
What is effect of giving peptic ulcer prophylactic (e.g. H ₂ blockers, Proton pump inhibitors, or sucralfate) administration on the risk of VAP?	100(23%)
What is the effect of Deep Venous Thrombosis (DVT) prophylaxis on the risk of VAP?	63(15%)
What is the effect of using normal saline during endotracheal tube suction?	32(7%)

There was a statistically significant difference in knowledge scores between students who had received education in VAP on their undergraduate courses and those who had not: $t(432) = -3.5, p = 0.00$. However, both groups revealed poor knowledge, The former achieved higher scores ($M = 6.9, SD = 2.8$) than the latter ($M = 5.9, SD = 2.9$). There was no statistically significant difference in the scores of male and female students, and no statistically significant difference between students who had been taught about mechanical ventilators and those others who had not ($p > .05$) (Table 3).

Table3. Students' scores vs. baseline characteristics

Variable	Students Scores out of 20		
	Mean (SD)	t	p
Gender			
Male	6.42(2.8)*	0.1	0.92
Female	6.44(2.9)		
Received educational program and training on Mechanical ventilator in the school			
Yes	6.9(2.8)	-3.5	0.000
No	5.9(2.9)		
Education on mechanical ventilator in the school			
Yes	6.4(2.9)	-1.9	0.052
NO	6.6(2.9)		

DISCUSSION

The finding that our participants have a poor knowledge of VAP-prevention can be compared with other studies that showed poor overall knowledge about infection control guidelines among student nurses in India¹⁷, Iran¹⁸ and Spain¹⁹ however, our study was more comprehensive as it focus only on VAP prevention guidelines also it provided a broader set of updated VAP prevention guidelines . Mechanical ventilator management, oral care and the endotracheal tube suction items were the major topics of concern among our students, again similar to the findings from another study with student nurses in Spain¹⁹ and with newly graduated nurses in United States²⁰. On the other hand, participants showed much better knowledge about hand hygiene and the Semi-Fowler position than about other topics, although their performance was still unsatisfactory. This finding is similar to that of Pérez-Granda, Muñoz, Heras, Sánchez, Rello, Bouza¹⁹.

Our findings reflecting poor knowledge of VAP-prevention guidelines predict unsafe nursing practice in the future. Education for student nurses is the cornerstone in the prevention of VAP²¹. Although knowledge of the guidelines does not ensure adherence, a significant reduction in the incidence of VAP has been reported in many studies after educating nurses about the guidelines

²² . The modification and updating of nursing curricula is indispensable in order to improve nurses' competency in the future²³. Student nurses report dissatisfaction with the content of infection control courses and the teaching strategies in their undergraduate courses¹¹. It is imperative that nursing educators integrate new teaching strategies such as simulations and web-based media²⁴, and give more focus on clinical training to improve students acquisition and retention of knowledge²⁵.

Strengths and limitations

A major strength of this study is the reasonably large sample size and the inclusion of students from different geographical locations in Jordan, which enhanced the accuracy and reliability of the findings. The study also integrated VAP prevention guidelines from three organization ; the Center for Disease Control and Prevention, the American Thoracic Society, and the Institute for Health Care and Improvement which provided a more comprehensive view on the status of knowledge among the students.

A major limitation is that the sample included only Jordanian students, which might affect the generalizability of the findings. Future studies are recommended to include a random sample of students from various countries.

CONCLUSIONS

We encourage all parties in Jordan and other countries to evaluate the content of the nursing curricula to identify shortcomings in content. It is imperative that VAP-prevention guidelines be integrated in training and teaching within the nursing schools, and that the content and teaching strategies of infection control courses be updated. The findings from this study may be used as a reference to evaluate the effectiveness of educational interventions in the future.

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Effectiveness of Structured Teaching Program (STP) on OSPE as a Method in Evaluation of Clinical Competency among Nursing Students

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ABSTRACT

Background: The assessment of students competency to practice is a worldwide matter of concern to all practice-based professions. Furthermore, OSPEs have been reported to be beneficial as they enhance skill acquisition through hands-on approach and affords students to practice in a safe controlled environment. Teaching sessions need to be organized to address skills that caused problems to the students during the OSPE.

Method: An interventional study was carried on 60 nursing students from selected nursing colleges in Ludhiana, Punjab. Convenience sampling technique was used to select the colleges and disproportionate random sampling was used to collect sample. Data was collected with structured questionnaire to assess the knowledge on OSPE and checklist for the assessment of practices on OSPE among nursing students.

Results: the study results revealed that 75% of students were in the age group of 24-26 years. Nearly all i.e. 98.3% were females. Majority i.e. 73.3% graduated through B.Sc. Nursing. The post-test mean knowledge score (12.52 ± 1.662) and practices score (13.03 ± 3.425) regarding OSPE, was significantly higher than pre-test mean knowledge score (9.12 ± 2.278) and practices score (3.32 ± 3.968) at $p=0.001$.

Conclusion: The post-test mean knowledge and practices score of nursing students regarding OSPE was significantly higher in comparison to pre-test mean knowledge and practices score. The structured teaching program was effective.

Keywords: Effectiveness, structured teaching program, OSPE, nursing students.

INTRODUCTION

Knowledge or education, the third eye of man, gives an insight into all affairs and teaches how to act.¹ Education is the complete development of the individuality of the child, so that he can make an original contribution to human life according to the best of his capacity. In the education industry, a wide variety

of people, such as teachers, health care professionals, military officers, lawyers etc. engage in developmental process through the professional education.²

Nursing education is one of the professional educations which is consciously and systematically planned and implemented through instructions and discipline. It prepares each individual nurse to provide quality patient care in a comprehensive manner along with optimum health guidance to individual, family and community.³

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The Objective Structured Clinical Evaluation (OSCE) is a clinical examination, utilizing a

standardized patient (SP) setting in order to test the student's understanding and performance knowledge, skills and attitudes.⁴ The Objective Structured Clinical Examination (OSCE) later extended to the practical examination (OSPE) described in 1975 and in greater detail in 1979 by Harden and his group from Dundee. OSPE is a modern type of examination often used in health sciences (e.g. medicine, chiropractic, physical therapy, radiotherapy, nursing, pharmacy, dentistry) to test clinical skill performance and competence in skills such as communication, clinical examination, medical procedures etc.⁵

In a time where means of assessing the clinical competence of a medical undergraduate or a postgraduate student is a dilemma, the OSPE seems to be one of the best options. So far the method has proved itself from the time of its introduction and many have contributed in developing the assessment method to be more reliable, valid and cost effective as well as acceptable.⁵

The OSPE can be set up to integrate theory and practice in forms of small scenarios, simulations, case studies, standardized patient (SP) and the students can improve their own learning and reflection in a safe environment. In the OSPE, evaluation of clinical skills is essential feedback and it plays an important motivating role for students and teachers to ensure the quality and appropriateness of a learning process. It may be used for exploration of the relationship between competence and knowledge as an assessment method through meeting specific objectives of the teaching process, integrating technical and theory "stations" to advanced clinical practice.⁶

OSPE has been supported as an appropriate method in evaluating nursing clinical skills because of various advantages such as, improving student clinical performance, preparing highly qualified and competent graduates, increasing decision making abilities, and enhancing teaching level. Furthermore, OSPEs have been reported to be beneficial as they enhance skill acquisition through hands-on approach and affords students to practice in a safe controlled environment.⁶ Most of studies revealed students perceived OSPE scores as a true measure for essential clinical skills being evaluated, standardized, and not affected by student's personality or social relations.⁷

From this it can be suggested that OSPE provides

an integrated way of measuring learning outcomes in skills based learning. The OSPE sessions not only help students determining their own weaknesses, but also enable examiners to realize what is the student's current status. Teaching sessions need to be organized to address skills that caused problems to the students during the OSPE. The use of such sessions may be a well key element to the training of better-prepared healthcare professionals.⁶

In this changing world, the social, political and technological trends encounter the matter of updating the knowledge and skills through self-directed learning. Thus the nurse educators are having the responsibility to choose different methods of teaching for nursing students to prepare them effectively for their future practice. OSPE has been considered as one of the excellent method of learning by filling the gap between the theory and practice in nursing.⁸

MATERIAL AND METHOD

An interventional study was carried on to assess the effectiveness of structured teaching program (STP) on OSPE as a method in evaluation of clinical competency among nursing students of selected colleges in Ludhiana, Punjab. Convenience sampling technique was used to select the colleges and disproportionate random sampling was used to collect sample. Data was collected through structured questionnaire to assess knowledge and checklist to assess practices on OSPE by using self-report method. The tool was divided into three parts:

Part A: Socio-demographic consisted of characteristics such as age, gender, religion, father's education, mother's education, occupation of father, habitat, type of family, major sources of financial support for education, socio-economic status, graduated through, number of year(s) of experience after graduation, type of experience after graduation, previous information about OSPE.

Part B: Structured Questionnaire related to assessment of knowledge on OSPE among nursing students. The self structured questionnaire was developed. It consisted of 15 questions, each correct answer carries '1' score. Each wrong and unattended answer carries '0' score. Maximum score was 15 and minimum was 00.

Criterion Measure for knowledge:

Level of Knowledge Score

- 1. Good 11-15
- 2. Average 06-10
- 3. Poor 00-05

Part-C: Structured checklist related to assessment of the practices on OSPE. It consisted of 18 components which were included in 3 phases i.e. Pre-planning, Implementation and Evaluation. The score ‘1’ was given for doing step and ‘0’ score was given for not doing the step. Maximum score was 18 and minimum score was 00.

Criterion Measure for practices:

Level of practices Score

- 1. Good 10-18
- 2. Poor 00-09

The reliability of both the tools was calculated by test and re-test method applying Karl Pearson’s coefficient of correlation and inter-rater method. Both the tools were reliable i.e. 0.86 and 0.76.

RESULTS

Table 1: Distribution of subjects as per their socio-demographic characteristics. N=60

Socio-demographic characteristics	f(%)
Age (in years)	
21-23	09(15.0)
24-26	45(75.0)
≥ 27	06(10.0)
Gender	
Male	01(01.7)
Female	59(98.3)
Religion	
Hindu	09(15.0)
Sikh	51(85.0)
Major sources of financial support for education	
Parents and family	56(93.4)
Relatives	02(03.3)
Loan	02(03.3)

*Mean age = 24.92±01.75

Sample demographics

A total of 60 sample participated in the study as summarised in **Table 1** it depicts the distribution of subjects as per their socio-demographic characteristics. It depicts that 45(75.0%) subjects were between age group of 24-26 years, 09(15.0%) were between 21-23 years age and 06(10.0%) subjects were from age group of ≥27 years. Almost all i.e. 59(98.3%) subjects were females and only 01(01.7%) was male. Majority of students i.e. 51(85.0%) belonged to Sikh religion and rest 09(15.0%) belonged to Hindu religion. As per sources of financial support for their education 56(93.4%) were supported by their parents and family, 02(03.3%) students from each reported that they had taken loan and support from relatives respectively.

Hence, it was concluded that most of the subjects belonged to age group 24-26 years, were females, belonged to Sikh religion and were financially supported by their parents and family.

Table 2: Distribution of subjects as per their family characteristics. N=60

Family Characteristics	f(%)
Father’s education	
Illiterate	03(03.3)
Elementary	02(05.0)
Higher secondary	26(43.3)
Graduation and above	29(48.4)
Mother’s education	
Illiterate	03(05.0)
Elementary	11(18.3)
Higher secondary	28(46.7)
Graduation and above	18(30.0)
Occupation of father	
Working	49(81.7)
Not working	11(18.3)
Habitat	
Rural	39(65.0)
Urban	21(35.0)
Type of family	
Nuclear	47(78.3)
Joint	13(21.7)
Socio-economic status	
Upper (I) class	06(10.0)
Upper middle (II) class	38(63.3)
Middle/lower middle (III) class	16(26.7)

Table 2 depicts the family characteristics of subjects. Nearly half i.e. 29(48.3%) of fathers were graduated and above, followed by 26(43.3%) who were educated up to higher secondary, 03(3.3%) were illiterate and 02(05.0%) were educated till elementary level. Nearly half i.e. 28(46.7%) mothers were educated up to higher secondary, 18(30.0%) mothers studied up to graduation and above, 11(18.3%) mothers had passed elementary level and 03(05.0%) mothers were illiterate. Regarding occupation of father maximum i.e. 49(81.7%) were working, while rest 11(18.3%) were non-working. Maximum number of students i.e. 39(65.0%) belonged to rural area and rest 21(35.0%) students were from urban area. According to type of family 47(78.3%) students lived in nuclear family and 13(21.7%) in joint family. Majority i.e. 38(63.3%) of the students belonged to upper middle (II) class, 16(26.7%) were from middle/lower middle (III) class and 06(10.0%) belonged to upper (I) class status.

So it was inferred that fathers education of maximum students was graduation and above, mother’s education was higher secondary and fathers were working. Majorities were from rural area, lived in nuclear family and belonged to upper middle (II) class socio-economic status.

Table 3: Distribution of subjects as per their educational characteristics. N=60

Educational Characteristics	f(%)
Graduated through	
B.Sc. Nursing	44(73.3)
Post Basic Nursing	16(26.7)
No. of year(s) of experience after graduation	
1-3	57(95.0)
4-6	02(03.3)
≥7	01(01.7)
Type of experience after graduation	
Teaching	30(50.0)
Clinical	30(50.0)
Previous information about OSPE	
Workshop	10(16.7)
Classroom teaching	20(33.3)
No information	30(50.0)

Table 3 Table 1 depicts the educational characteristics of subjects. Maximum of the students i.e. 44(73.3%) were graduated through B.Sc. Nursing and 16(26.7%) through Post Basic Nursing. Majority of students i.e. 57(95.0%) had experience of 1-3 years,

02(3.3%) students had experience of 4-6 years and only 01 student (01.7%) had experience of 7 years. Half i.e. 30(50.0%) had obtained teaching and 30(50.0%) had clinical experience. Half of the students i.e. 30(50.0%) reported that they had no information about OSPE, 20(33.3%) reported that they had received information from classroom teaching and 10(16.7%) through workshop.

Hence, it was concluded that most of the students graduated through B.Sc. Nursing, had experience between 1-3 years, had teaching and clinical experience and were not having any previous information about OSPE.

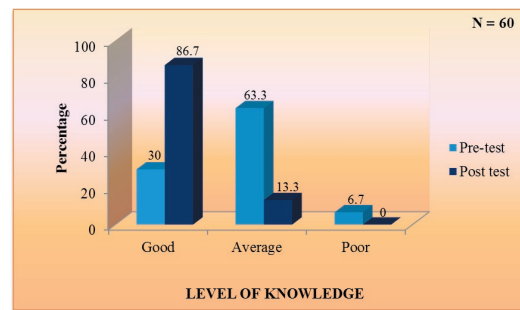


Figure 1: Distribution of pre-test and post-test level of knowledge on OSPE.

Figure 1 illustrates the distribution of students as per their level of knowledge regarding OSPE. Majority i.e. 38(63.3%) had average knowledge scores in their pre-test followed by 18(30.0%) students who had good knowledge and rest 04(06.7%) students had poor knowledge whereas in post-test scores majority of the students i.e. 52(86.7%) had good knowledge followed by 08(13.3%) students who had average knowledge and no student had poor knowledge scores in post-test.

Hence, it is interpreted that maximum of the students had average level of knowledge in pre-test where as majority had good level of knowledge in the post-test about OSPE.

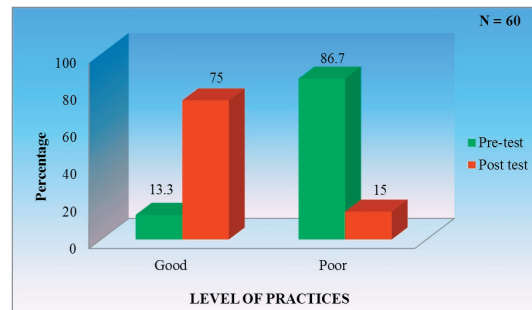


Figure 2: Distribution of pre-test and post-test level of practices on OSPE.

Figure 2 illustrates the distribution of students as per their level of practices regarding OSPE. Majority i.e. 52(86.7%) had poor practice scores in their pre-test followed by 08(13.3%) students who had good practice whereas in post-test scores, majority of the students i.e. 45(75.0%) had good practice followed by 15(25.0%) students who had poor practice scores.

Hence, it was concluded that maximum students had poor level of practices in pre-test whereas majority students had good level of practices in post-test.

Table 4: Comparison of pre-test and post-test level of knowledge and practices on OSPE.

N=60

	KNOWLEDGE Mean±SD	PRACTICE Mean±SD
Pre-test	9.12±2.278	3.32±3.968
Post-test	12.52±1.662	13.03±3.425
t value	10.372	20.540
p value	0.001*	0.001*

*=Significant at $p \leq 0.05$

Table 4 describes the comparison of pre-test and post-test level of knowledge and practices. The mean knowledge score of post-test (12.52±1.662) was higher than mean knowledge score of pre-test (9.12±2.278) which was found to be statistically significant at $p = 0.001$.

The mean practice score of post-test (13.03±3.425) was higher than mean practice score of pre-test (3.32±3.968) which was found to be statistically significant at $p = 0.001$.

CONCLUSION

The post-test mean knowledge and practices score of students regarding OSPE was significantly higher in comparison to pre-test mean knowledge and practices score. So, it is concluded that structured teaching program (STP) on OSPE helps to improve knowledge & practices of students regarding OSPE.

Conflict-of-interest Statement: Not applicable

Ethical Clearance: The permission to conduct the present study was obtained from the ethical committee of DMC&Hospital, Ludhiana before starting the study. The permission for conducting the study was obtained from the Principals of selected colleges.

Source of Funding: Self funded

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Assessing the Knowledge Regarding Cord Blood Banking among Nurse Educators, Staff Nurses and Nursing Students

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ABSTRACT

Umbilical cord blood is rich in stem cells, which are the building blocks of the blood and the immune system. These biologically unique cells have the ability to develop into other cell types within the body. Stem cells collected from the umbilical cord have the ability to replace bone marrow and to produce various blood and immune cells. Nursing personnel have the great responsibility to educate about cord blood banking as an opportunity for parents to save the stem cells found in the blood of their newborn's umbilical cord.

Statement of the problem

Assessing the knowledge regarding cord blood banking among nurse educators, staff nurses and nursing students.

The research study was conducted in two settings: Justice K.S Hegde charitable hospital, Deralakatte and Nitte Usha Institute of Nursing sciences. The study findings showed that, Majority of subjects 63 (84%) were in the age group of 21-30. It is observed that 72 (96%) of the participants were females.

As the p value for the variable such as age, Gender, educational qualification, work experience, information regarding cord blood banking <0.05 at 0.05 level of significance using Likelihood ratio and it is interpreted that there is significant association between the knowledge regarding cord blood banking among nurse educators, staff nurses and the nursing students with selected demographic variables.

The likelihood calculated value of age with regard to knowledge regarding cord blood banking is 0.004. Whereas, the calculated likelihood ratio with gender is <0.033 . The likelihood ratio with educational qualification is <0.001 . Mean while the calculated likelihood ratio with work experience is <0.001 . The calculated likelihood ratio with information regarding blood banking is <0.002 . Hence, there is significant association between age, gender, educational qualification and work experience.

Keywords: *Nurse educator, Staff nurses, Nursing students, cord blood banking.*

INTRODUCTION

Umbilical cord is the vital direct interlink between mother and foetus, which is always depicted as the relationship of an emotional bonding of motherhood, which is a beautiful experience for a women¹. When mother gives birth, the blood that remains in the placenta

and umbilical cord is referred as cord blood. This particular blood contains numerous haematopoietic stem cells that have the ability to differentiate into other cells and the ability to self-degenerate². Stem cells are found in all multi cellular organisms, and are characterized by the ability to renew through mitotic cell division and differentiate into a diverse range of specialized cell types. The two broad types of mammalian stem cells are: embryonic stem cells that are isolated from the inner cell mass of blastocysts, and adult stem cells that are found in adult tissues³.

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In India, there are approximately 72000 births daily, which results in discarding 72000 umbilical cords a day. The storage of stem cell rich blood derived from these umbilical cords can prove to be the best possible insurance against life threatening diseases. Indians have high incidence of diseases like Diabetes and Heart ailments, in the treatment of which cord blood can be a godsend. The potential of these stem cells are far higher because they prevent Graft versus Host Disease.¹¹

BACKGROUND OF THE STUDY

The nursing role in collection of cord blood is preparation tube labelling, and packaging. Cord blood is collected using sterile technique, drawing the blood from the umbilical vein into a collection bag, using a closed system collection kit, and total collected volume averages about 110 ml. In some cases, cord blood may be collected into tubes rather than a collection bag, also using sterile technique. In both cases, an anticoagulant is in the collection container. Cord blood collection is done within 10 minutes of birth. Moreover, nurses and midwives are part of health care in all the stages of our lives. Thus, nurses must be knowledgeable and aware of recent trends in diagnosis, treatment. Continuing education provides means by which nurses can remain up to date with current developments, maintain their competence and meet the standards of nursing practice. Nurses are thus challenged to assimilate knowledge, develop critical thinking skills and it is necessary to apply that knowledge into practice. Therefore, nurses need to be educated regarding the value of collecting and preserving umbilical cord blood stem cells for future use in treating illnesses¹⁵.

MATERIAL AND METHOD

Research approach: - Quantitative research approach was adopted by the investigator.

Research design: - An exploratory survey design was used to assess the level of knowledge among nurse educators, staff nurses and nursing students.

Variables:-There are two types of variables used in the study: Research variable and Demographic variables.

Research variable:- Knowledge on cord blood banking

Demographic variable:- Age, Present designation, Gender, Educational qualification, work experience and previous information regarding cord blood banking.

Research setting:- The research study was conducted in two settings:

Justice K.S Hegde charitable hospital, Dearalakatte and Nitte Usha Institute of Nursing sciences.

POPULATION

The study population comprised of nurse educators, staff nurses and nursing students of selected nursing educational institution and selected hospital in Mangalore respectively.

Sampling procedure:- The selection of sample was done by using purposive sampling technique.

Sample size:- The sample comprised of 25 nurse educators, 25 staff nurses and 25 nursing students.

Eligibility criteria:-

1. Nurse educators who were below Assistant Professor Cadre.
2. Undergraduate nursing students in their final year of study
3. Registered staff nurses working in the selected hospital and those who have minimum of one year experience.
4. Those who voluntarily consent to participate in the study.

Instruments used

1. Demographic proforma was used to collect baseline characteristics
2. A self administered structured knowledge questionnaire was used for assessing the knowledge regarding cord blood banking. .

Selection of Instruments:-

The instruments for the study were developed through the following steps.

1. Review of literature
2. Discussion with experts

3. Construction of demographic proforma
4. Content validity

Description of the tool:-

Part I:- Demographic proforma

Baseline data consists of 7 items which includes age, present designation, gender, educational qualification, work experience and previous information regarding cord blood banking.

Part II:- Structured knowledge questionnaire on cord blood banking

The Structured knowledge questionnaire on cord blood banking consisted of 14 items. All items were multiple-choice questions. Each multiple choice question has 3 answer options. A score value of one (1) would be allotted to every correct response and the wrong answer has zero (0) score. Knowledge score was arbitrarily scored as Good, Average and Poor.

Good	10-14
Average	5-9
Poor	≤4

Testing the tool

Content validity

The prepared instrument along with the statement of the problem and objectives submitted to five subject experts. All the experts were from the nursing profession. There was 100% agreement for selection of the content.

Data collection method

To conduct the research study, the investigator obtained written permission from the concerned authorities of the Hospital and Nursing institution.

The data was collected from 10th to 25th, November 2016. The purpose of the study was explained to nurse educators, staff nurses & nursing students and informed consent was obtained. Confidentiality was assured to

all the subjects to get their co-operation. A total of 75 samples were taken for the study.

DATA ANALYSIS METHOD

The data obtained was analyzed by both descriptive and inferential statistics and the data was presented using tables based on the objectives of the study.

Findings

Organization of the study results:-

Part I:- Demographic characteristics of the Nurse educators, Staff nurses and Nursing students.

Demographic characteristics of the participants was analyzed using descriptive statistics such as frequency and percentage.

Part II:- Compare the level of knowledge regarding cord blood banking between nurse educators, staff nurses and nursing students.

This section presents, the data regarding level of knowledge regarding cord blood banking between nurse educators, staff nurses and nursing students. The data was analyzed in terms of frequency and percentage.

Part III:- Association between the knowledge regarding cord blood banking among nurse educators, staff nurses and the nursing students with selected demographic variables.

Association between the knowledge regarding cord blood banking among nurse educators, staff nurses and the nursing students with selected demographic variables was analyzed using chi square test.

Part I:- Demographic characteristics of the Nurse educators, Staff nurses and nursing students.

Demographic characteristics of the participants was analyzed using descriptive statistics such as frequency and percentage.

Table I: Distribution of demographic characteristics**n=75**

Characteristics	Freq-uency (f)	Percen-tage (%)
Present designation		
Nurse educator	25	33
Staff nurses	25	33
Nursing students	25	33
Age		
18-20	0	0
21-30	63	84
31-40	12	16
Gender		
Male	3	4
Female	72	96
Educational Qualification		
GNM	23	31
BSc(N)	44	59
MSc(N)	8	10
Work experience		
Less than one year	26	35
1-3 years	37	49
More than 3 years	12	16
Information regarding cord blood banking		
Yes	44	59
No	33	41
Source of Information		
Peer groups	20	27
Journals	18	24
Internet / Mass media	37	49

Table 2:-Area wise comparison of knowledge among participants.

Q. No	Questions	Group I (Nurse educator)	Group II (Staff nurses)	Group III (Nursing students)
1	Cord blood is collected from	14	14	14
2	Cord blood stem cells can treat disorders related to	16	17	7
3	Cord blood preserved in			
4 blood will be collected on an average for the cord blood banking?	18	19	10
5	Stem cells can be extracted from all of the following EXCEPT	12	10	10
6	Cord blood is....	12	16	11
7 are banked from a baby's cord blood?	22	17	11
8	Chances of your baby will be in need of treatment with cord blood are	23	25	14
9	Which are important measures for the security of your infant's cord blood during storage?	24	25	16

Cont... Table 2:-Area wise comparison of knowledge among participants.

10	Why should you preserve your Baby's Cord Blood?	10	14	7
11	The easiest method of collecting stem cells is	18	16	12
12	Authorized owner of the cord blood stored in a private bank is	20	21	12
13	Who will be the owner of the cord blood stored in a public bank?	11	6	8
14	The approximate expenses of storing cord blood in a public bank (for first one year) will be	19	15	5

Table 3:- Classification of participants based on the knowledge score

Knowledge level	Category	Respondents		
		Group 1	Group 2	Group 3
Good	10-14	11	7	2
Average	5-9	14	18	16
Poor	1-4	0	0	7

Table 4:- Association between the knowledge regarding cord blood banking among nurse educators, staff nurses and the nursing students with selected demographic variables.

Sl. No	Demographic characteristics	Group I (Nurse educator)	Group II (Staff nurses)	Group III (Nursing students)	P value
1	Age				0.004 (Likelihood ratio) Significant
	21-30	18	20	25	
	31-40	7	5	0	
2	Gender				0.033 (Likelihood ratio) Significant
	Male	3	0	0	
	Female	22	25	25	
3	Educational qualification				<0.001 (Likelihood ratio) Significant
	GNM	0	18	0	
	B.Sc(N)	20	17	25	
	M.Sc(N)	5		0	
4	Work experience				<0.001 (Likelihood ratio) Significant
	Less than 1 year	1	0	25	
	1-3 years	17	20	0	
	More than 3 years	7	5	0	
5	Information regarding cord blood banking				0.002 (Likelihood ratio) Significant
	Yes	8	12	20	
	No	17	13	5	
6	Source of information				<0.001 (Likelihood ratio) Significant
	Peer groups	12	20	12	
	Journals	10	0	5	
	Internet / mass media	3	5	10	

CONCLUSION

The main study findings are:-

Majority of subjects 63 (84%) were in the age group of 21-30. It is observed that 72 (96%) of the participants were females. It is evident that, 44 (59%) of the participants were with the educational qualification of B.Sc (N). Majority of the participants 37(49%) with the work experience of 1-3 years. Most of the participants had previous information regarding cord blood banking. 37 (49%) of the participants had received the information internet or mass media whereas, 20 (27%) of the participants were received the information from peer groups.

The study findings reveal that 11 nurse educators had good knowledge and 14 of them had average knowledge on cord blood banking. Whereas, 7 of the staff nurses had good knowledge and 18 of them had average knowledge. Meanwhile, 16 of the nursing students had average knowledge, 2 of them had good knowledge and 7 of them had poor knowledge.

As the p value for the variable such as age, Gender, educational qualification, work experience, information regarding cord blood banking <0.05 at 0.05 level of significance using Likelihood ratio and it is interpreted that there is significant association between the knowledge regarding cord blood banking among nurse educators, staff nurses and the nursing students with selected demographic variables.

The likelihood calculated value of age with regard to knowledge regarding cord blood banking is 0.004. Whereas, the calculated likelihood ratio with gender is <0.033. The likelihood ratio with educational qualification is <0.001. Mean while the calculated likelihood ratio with work experience is <0.001. The calculated likelihood ratio with information regarding blood banking is <0.002.

Recommendations for future:-

Based on the findings of the present study the following recommendations were put forward for future research.

1. A similar study can be replicated with larger sample size.
2. A similar study can be conducted for various health workers.

3. An intervention study can be done to enhance the health workers knowledge in relation to stem cells.

Nursing implications

The findings of the present study have implication in the field of nursing education, nursing practice, nursing administration and nursing research.

- The findings of the study have shown that staff nurses and nurse educators are equally competent in level of knowledge on cord blood banking.
- Teaching programs can be conducted for the better understanding on newer research area like cord blood banking and menstrual blood banking.

Conflict of Interest : No conflict of interest

Source of Funding- Nil

Ethical Clearance - Taken

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A Study to Determine the Effectiveness of Mental Health Promotion Programme (MHPP) on Psychological Wellbeing among Students of Selected Pre University Colleges of Udupi District, Karnataka

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ABSTRACT

Introduction: Mental health of each child is important. Many children have mental health problems and these problems are real and painful and can result in serious effects. Adolescents suffer from psychological problems during their development which may lead to health problems in their future life.

Objectives: Assess the Pre University students' psychological wellbeing and evaluate the effectiveness of the mental health promotion programme on their psychological wellbeing.

Materials and Method: Research design adopted for the study was Quasi experimental pre test-post- test control group design. Data were collected using demographic questionnaire and psychological wellbeing scale.SPSS software version 16 was used for data analysis.

Results: Psychological wellbeing of Pre University students was assessed by a rating scale developed by the Carol Ryff in 1984, containing six subscales. There are no specific scores or cut off points for determining high or low wellbeing. Results shown that, there was significant improvement in the post test score of the experimental group.The experimental group, the mean pretest was 236, whereas the posttest mean was 408.(t=201, p=0.001 at 0.05 level of significance) **Conclusion:** Mental health promotion programme was effective in improving the adolescents' psychological wellbeing.

Keywords: mental health promotion, adolescents, pre university students, psychological wellbeing.

INTRODUCTION

Adolescence is the period of growth spurt where maximum changes can be observed in an individual as compared to the other phases of life and as stated by Barbarian and Ganja (2000). Adolescence has been considered as a period marked with identity crisis. There are many factors that affect adolescents' level

of psychological well-being. Several studies have shown that the quality of relationship within families, especially with parents is a major determining factor of psychological well-being in adolescents.¹ The burden of impaired mental health needs extensive and urgent action to promote mental health and to prevent mental disorders. There is a need of evidence-based, cost-effective interventions that can be implemented in parenting, at schools, at the workplace that promote mental health and well-being, reduce mental disorders and lead to improved productivity. This becomes crucial given the need to promote resilience to manage and cope with the global risks and stressors that face humankind over the coming years.²

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A study was conducted to find the prevalence of psychosocial problems and to find out various factors contributing to psycho-social ill health among 500 male adolescents. Subjects were interviewed using a pre-tested structured questionnaire to elicit the information about the psychosocial problems including depression, suicidal thoughts and suicidal attempts. Association of academic performance, family problems, psychological problems and substance abuse was also included. More than one third (39.6%) adolescents were having psychological problems. These problems were significantly higher in middle adolescence (14-16 years), large extended families (> 8 members) and lower socioeconomic status. Residence had no significant relation to psychological problems in the adolescents. On correlation, these adolescents with psychological problems were having significantly more academic problems, family disputes, domestic violence, lesser number of close friends and greater substance abuse.³

A study conducted in Portugal by Luísa C., P. Dias and Filipa. P (2014) aimed at “Finding Space to Mental Health - Promoting mental health”, with a view to develop an intervention which will promote mental health awareness students. The age group chosen was between 12-14 years in which 41.8% were female. The version three of the Mental Health Literacy questionnaire was used in this study. The MHP intervention was developed in 2 sessions which has 90 minute each and which was administered within a week’s interval. There were significant differences between the mean value before (M=3.92; SD=0.30) and after (M=4.29; SD=0.23). Results had shown that there is an increase in the use of strategies. The intervention of promoting mental health was effective.⁴

The purpose of the study was to assess the existing knowledge of students of Pre University towards mental health promotion and their psychological wellbeing. The study would promote their knowledge on mental health promotion and their psychological wellbeing through mental health promotion programme which in turn may help them to reduce stigma, and improve their level of functioning in various areas of their life.

OBJECTIVES

(1) To assess the psychological wellbeing of the pre university students on mental health promotion as measured by psychological wellbeing scale (Carol Ryff

in 1984)

(2) To evaluate the effectiveness of the mental health promotion programme on psychological wellbeing of Pre University students.

MATERIALS AND METHOD

To achieve the objectives, evaluative approach was used. Research design adopted for the study was Quasi experimental pretest-posttest control group design. Socio-demographic proforma and psychological wellbeing scale were used to collect the data. Socio-demographic proforma, consisted the items like age in years, gender, residential area, education of parents, number of siblings, knowledge of mental illness, sources of knowledge, and history of mental illness in family. To establish the content validity socio-demographic proforma was submitted to seven experts. The experts evaluated each item in terms of its relevancy, adequacy and appropriateness. As per the experts suggestion modifications were made. Psychological wellbeing is a rating scale developed by the Carol Ryff in 1984 to assess psychological well being of adolescents. The items of the tool were from the areas of autonomy, environmental mastery, personal growth, positive relation with others, purpose in life and self acceptance . Reliability of the tool is 0.86. (Ryff. Subjective Well Being Psychological Bulletin). This scale consists of 18 items. Each student had to go through the questionnaire and to the right of each statement tick the number that describes how the person ideally want to be. Then again go through again circling the number that describes how the person generally feels about him/herself and their life. Each item has 6 alternatives: strongly disagree, disagree somewhat, disagree slightly, agree slightly, agree somewhat and strongly agree with the scoring of 6,5,4,3,2, and 1 respectively. There are no specific scores or cut off points for determining high or low wellbeing. High wellbeing could be defined as scores that are in the top 25% of the distribution.

Mental Health Promotion Program, the initial draft had three sessions of one hour including activity session. No changes were made in sessions, duration and activity. The language based on expert’s suggestions was simplified.

Pilot study was conducted among 20 subjects with 10 each in the intervention group and the control group

and the design was found to be feasible. The sample size calculated based on pilot study findings was 70. Including both the experimental and the control group each had 35 students from 1st PUC. Ethical clearance was taken from the Dean of Manipal College of Nursing Manipal, Institutional ethical committee of Kasturba Hospital, Principal of the selected Government Pre University Colleges and informed consent was taken from the participants.

Socio-demographic proforma, and Psychological wellbeing scales were administered to both the intervention group and the control group on first day in different schools. Mental health promotion programme was conducted for three days with one hour duration including activity sessions only to the intervention group. Mental health promotion program included content on promoting optimal development, physical, mental, intellectual and emotional development of adolescents so it helps an individual to increase the control over determinants of health and improve their health in all aspects. The post test was carried out on 7th day by administering psychological wellbeing scale. The SPSS statistical package (16 version) was used for analysis of the data. The data was analyzed in terms of objectives of the study using descriptive and inferential statistics.

RESULTS

Table 1 show that among 70 samples 22 (62.9%) and 28 (80%) males were present in the experimental and the control group respectively. In the experimental and the control group 100% of students belong to arts section. Most (51.4%) of students in experimental group belong to semi urban area and in control groups belong to rural area. Fathers of 20 students (57.1%) in experimental group had high school education and seventeen students (48.6%) in control group had primary education. Majority (68.6%) of students mother in experimental group had high school education and where as in control group 48.6% had primary education. Most (40%) in the experimental and the control group had two siblings .In experimental group twenty students (57.1%) and in the control group eighteen students (51.4%) students heard of mental illness before and source of information for ten students (34.5%) was social media in experimental group and for nine (44.4%) in control group.

For eight students (50%) television was the source of information. In both experimental and control group, there was no history of mental illness in family members.

The psychological wellbeing scores were following normality, hence paired t test was used to comparing the pre-test and post- test knowledge score of experimental group.

Table 2 shows, that in experimental group , pretest mean was 236 and standard deviation was 33.87. and posttest mean was 408 with standard deviation of 38.89 (t value-20.14). Since p value is 0.001 difference between mean pre-test and posttest are statistically significant and it is inferred that there is significant improvement in psychological wellbeing scores of students after mental health promotion programme.

Table 3 shows Comparison of posttest psychological wellbeing scores between experimental and control group. Posttest psychological wellbeing scores of experimental and control group were following normal distribution, hence independent sample t test was used to comparing post test scores of psychological wellbeing of intervention and control group. In experimental group post test, mean was 408, with 38.89 standard deviation. In control post test, mean was 225, with standard deviation of 36.75, and t value was 20.3. Since p value is 0.001 difference between mean posttest of experimental and control group is statistically significant. Hence it is inferred that MHPP was effective in improving psychological wellbeing among Pre University students.

DISCUSSION

Present study findings support the study conducted by Namita S. Sahare, (2012) on implementation & impact of life skill development programme among adolescents, in Pune. The sample of the study was 54 students, out of these 30 were males and 24 were females . The sample was collected from the Epiphany English medium School, Pune. Scores of the subjects i.e. pre and post training were compared. It was noticed that after the interactive sessions, there was improvement in developing ability to develop life skills like problem solving, communication skill, Interpersonal skills are improved after the programme.⁵

Table 1: Distribution of Sample characteristics in frequency and percentage n= 35+35=70

Sample characteristics	Experimental group		Control group	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Age in years				
15 – 16	26	74.28	14	40
17 -18	9	25.72	21	60
Gender				
Male	22	62.9	28	80
Female	13	37.1	7	20
Residential area				
Rural	8	22.9	18	51.4
Semi urban	18	51.4	6	17.1
Urban	9	25.7	11	31.4
Education of father				
Illiterate	-	-	7	20.0
Primary	10	28.6	17	48.6
High school	20	57.1	9	25.7
Pre university college	5	14.3	1	2.9
Graduate	-	-	1	2.9
Post graduate	-	-	-	-
Education of mother				
Illiterate	1	2.9	7	20.0
Primary	9	25.7	17	48.6
High school	24	68.6	9	25.7
Pre university college	1	2.9	1	2.9
Graduate	-	-	1	2.9
Post graduate	-	-	-	-
Number of sibling				
Only child	3	8.57	1	2.85
One	11	31.43	9	25.71
Two	14	40	11	31.42
Three	7	20	9	25.71
More than three	7	-	5	14.28
Knowledge of mental illness before				
Yes	20	57.1	18	51.4
No	15	42.9	17	48.6
If yes specify the source				
Television	7	24.1	9	50
Social media	10	34.5	8	44.4
Website	1	3.4	-	-
Others	2	6.9	1	100
Is there any history of mental illness in family				
Yes	-	-	-	-
No	35	100	35	100

Table 2 Mean, Standard deviation, Mean difference, p value and tvalue of pre test and post test psychological wellbeingscores of experimental group. n=35

Psychological wellbeing score	Mean	SD	Mean difference	t value	p value
Pre test	236	33.87	172	20.148	0.001
Post test	408	38.89			

Significance at <0.05

Table 3 Mean, SD, Standard error mean, Mean difference, t value and p value of post test score of psychological wellbeing of experimental and control group. n= 35+35=70

Psychological wellbeing	Mean	Std error mean	SD	mean difference	t value	df	p value
Experimental group	408	6.57	38.89	183	20.30	68	0.001
Control group	225	6.21	36.75				

Significance at <0.05

CONCLUSION

Adolescence is a life phase of rapid developmental change. Developmental progress is governed by the quality of interactions between adolescents and their families, schools, communities and the broader social and cultural environment. Thus awareness programs will help in improving the knowledge towards mental health promotion among pre university students.

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Conflict of Interest: In this study there is no conflicts of interest.

Fund: No funding has been received present study. It is self-fund.

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Effect of Amla Powder on Blood Glucose Level among Type II Diabetic Client

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ABSTRACT

A study was conducted to evaluate the effect of amla powder on blood glucose level among type II diabetic clients in selected areas at Kollam district. The study determines the association between the blood glucose level and selected demographic variable among type II diabetic clients. A quasi experimental nonequivalent control group design was used for this study. The sample consisted of 60 type II diabetic clients in selected community areas at Kollam district. The samples were collected by purposive sampling technique. Data were collected by using glucometer and analyzed by using descriptive and inferential statistics. **Results:** It was found that in pretest among experimental group majority group 15 (50%) of type II diabetic clients were within the range of >200 mg/dl whereas in control group majority 17 (56.7%) were within the range of >200mg/dl. In posttest among experimental group equally 10 (33.3%) were within the range <200mg/dl and >200 mg/dl whereas in control group majority 16 (53.3%) were in the range between >200mg/dl. The calculated 't' value was 4.382 (p<0.000) level of significance shows posttest scores of experimental group were lesser than the control group. The study found no association between the blood glucose level and selected demographic variables except in personal bad habit of control group. **Interpretation and conclusion:** The amla powder was highly effective in decreasing the blood glucose level among type II diabetic clients. This study recommends strongly to conduct awareness campaign programmes and to design education strategies to provide comprehensive teaching method regarding the reduction of blood glucose levels.

Keywords: Effectiveness; Blood glucose level; amla powder; Type II diabetic clients.

BACKGROUND OF THE STUDY

Diabetes mellitus (DM) is a group of metabolic disorders characterized by elevated levels of blood glucose (hyperglycemia) resulting from defects in insulin secretion, insulin action, or both. Long term hyperglycemia may contribute to chronic microvascular complications and neuropathic complications. About 90% to 95% of patients with diabetes have type II diabetes.¹

Amla (Phyllanthusemblica, Emblica officinalis), belonging to the family Euphorbiaceae, is an herbal plant used widely in indigenous medicinal preparations used to treat a variety of diseases. There is some published evidence that E. officinalis has significant antihyperglycemic and antihyperlipidemic effects in diabetic patients².

While in community field posting, the investigator came across many lifestyle diseases in the people of the surveyed area and among them diabetes mellitus was the most common condition. From the knowledge of investigator regarding the use of amla powder as a home remedy for diabetes mellitus and based on the literature survey discussed, the investigator was motivated to conduct a study to observe the effectiveness of amla powder in maintaining the blood glucose level

MATERIAL AND METHOD

Objectives of the study

- 1) To assess the blood glucose level among type II diabetic clients in experimental and control group.
- 2) To evaluate the effect of amla powder on

blood glucose level among type II diabetic clients in experimental group.

3) To find the association between the blood glucose level and selected demographic variables among type II diabetic clients in experimental and control group.

The research approach adopted for this study was quantitative approach. Research design selected for the present study was quasi experimental nonequivalent control group design. The reason for selecting this design for the current study is in order to check the effectiveness of amla powder on blood glucose level among experimental and control group. The sample consisted of 60 type II diabetic clients in selected

community areas at Kollam district. The samples were collected by purposive sampling technique. Data were collected by using glucometer and analyzed by using descriptive and inferential statistics.

FINDINGS

This study was conducted with the purpose of assessing the effectiveness of amla powder on blood glucose level among type II diabetic clients. Descriptive and inferential statistics were used for analysis.

ASSESSMENT OF BLOOD GLUCOSE LEVEL AMONG TYPE II DIABETIC CLIENTS

Table 1: Frequency and percentage distribution of type II diabetic clients according to the blood glucose level. (n=30+30)

Blood Glucose Level	Experimental Group				Control Group			
	Pre Test		Post Test		Pre Test		Post Test	
	(f)	%	(f)	%	(f)	%	(f)	%
<120	00	00	10	33.3	00	00	01	13.3
121-150	05	16.7	08	26.7	06	20	03	10
151-200	10	33.3	02	6.7	07	23.3	07	23.3
>200	15	50	10	33.3	17	56.7	16	53.3

Table 1: shows frequency and percentage distribution blood glucose level of type II diabetic clients. In experimental group, pretest blood glucose level among 30 type II diabetic clients 5(16.7%) of them had the blood glucose within the range of 121-150 mg/dl, 10(33.3%) were within the range of 151-200 mg/dl and remaining 15 (50%) of type II diabetic clients were within the range of >200 mg/dl and in posttest blood glucose level among 30 type II diabetic clients from experimental group 10 (33.3%) were within the range <200mg/dl, 8(26.7%) of them were within the range between 121-150mg/dl, 2(6.7%) were within the range of 151-200 mg/dl and remaining 10(33.3%) were within >200 mg/dl.

In control group pretest blood glucose level among 30 type II diabetic clients 6(20%) were within the range of 121-150 mg/dl, 7(23.3%) were within the range of 151-200 mg/dl and remaining 17 (56.7%) were within the range of >200mg/dl and in posttest blood glucose level among 30 type II diabetic clients 1(13.3%) were in the range <200 mg/dl, 3(10%) were within the range of 12-150 mg /dl, 7(23.3%) were within the range of 151-200 mg/dl, and remaining 16 (53.3%) were in the range between >200mg/dl.

EFFECT OF AMLA POWDER ON BLOOD GLUCOSE LEVEL AMONG TYPE II DIABETIC CLIENTS

Table 2: Mean standard deviation, mean differences and ‘t’ value of blood glucose level in experimental group. (n=30)

Experimental Group	Mean	SD	Mean difference	t value	P value
Pre test	212.533	65.2638	9.9948	4.382	.000 ^s
Post test	168.73	77.416			

^s Significant (p<0.05 level of significance)

Table 2: Results reveals that the mean posttest blood glucose level of experimental group was 168.73 and the mean pretest blood glucose level was 212.533. The obtained mean difference between the posttest and pretest regarding random blood glucose level was 9.9948. The calculated ‘t’ value is 4.382 (p<0.000) and shows that the posttest blood glucose level was significantly lesser than the pretest scores of type II diabetic clients after the administration of amla powder. Hence indicating that the amla powder was effective in reducing the blood glucose level among type II diabetic clients.

CONCLUSION

Findings reveal that the post test blood glucose level was significantly lesser than the pre-test blood glucose level of type II diabetic clients after the administration of amla powder.

Conflict of Interest: the researcher declares that there is no personal and financial problem in writing the study.

Source of Funding: self

Ethical Clearance: ethical clearance for the study was obtained from the institutional ethical committee and written consent from type II diabetic client to maintain privacy, confidentiality and anonymity.

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Power Analysis computed to Determine Sample Size for An Evaluative Study of Video Assisted Teaching Module (VATM) on Home Care of Schizophrenic Patients Developed for Primary Caregivers

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ABSTRACT

Power analysis is an essential procedure for researchers to use before conducting a main study. Researchers need to pay greater attention to statistical power analysis and have to take a serious risk when they design an interventional study with inadequate samples. In an underpowered study, the researcher may be testing a genuinely effective treatment but fail to recognize its efficacy. Researcher can avoid the likelihood of making an error is related to statistical consideration that are used to determine needed sample size for a study. Researchers are strongly encouraged to conduct power analyses when designing studies, and to avoid scattergun approaches to data analysis (i.e. Undertaking large numbers of tests in the hope of finding 'significant' results). when determining a sample size researchers need to consider the desired power, expected effect size and the acceptable significance level. Because reviewing effect sizes are essential for determining the clinical significance of study findings, researchers would better serve the field of medical and nursing studies if they reported and interpreted effect sizes. The present study is an evaluative study of video assisted teaching module on home care of schizophrenic patients developed for primary caregivers. In this present study, caregivers of schizophrenic patients are the samples. A population survey would be impractical for a low prevalence disorder such as schizophrenia by means of this limitation, sample size must be based on an estimate of effect size that is meaningful in this of the study. The aim of this article is to explain sequential steps in estimating sample size of true experimental randomized control trail.

Keywords: Power analysis, statistical power, effect size, sample size.

INTRODUCTION

The planning of research has two steps. The first step is to define problem and it should be operational. The second step is to define research design and appropriate, adequate subjects to generalize the finding. For this reason, power analysis is a procedure that can be used to determine the needed sample size for a experimental study. This procedure is very important in experimental studies¹. Power is the deciding factor in determining an adequate sample size for correlation, quasi experimental and experimental studies². It is the capacity of the study to detect differences or relationships that actually exist in the population. It is the capacity to reject a null hypothesis correctly².

IMPORTANCE OF POWER ANALYSIS

For researchers, understanding the likelihood of achieving statistically significant results is important. It is used to establish whether a study has a good possibility of providing a statistically significant effect if a difference truly exists in the population. Studies that don't achieve such results fail to support the researcher's hypothesis. They may be considered unreliable research and aren't likely to be published. The concept of statistical power is crucial to conducting responsible research. By understanding statistical power, all researchers at all levels will become better consumers of sound scientific studies. The importance of sample

size estimation has two fold. First, there is a high chance of missing a real and important results if the studies are underpowered. The risk of mis-interpretation is very high if the samples are very less to generalize. Second, time, resources, budget and sufficient data to ensure accurate, efficient and credible. Hence, over powered studies waste precious research resources and may delay getting answers. Those two aspects to be considered by estimating power analysis. In the present study, it is related to patient care and power analysis brings out significant findings and when studies are used to shape delivery of patient care, it's the patient who benefit the most.

Elements of power analysis:

The statistical power analysis explores relationships among following four components³:

1. Power ($1-\beta$)
2. Test size (significance level α)
3. Standardized effect size (ES)
4. Sample size (N)

Power: It is complement of beta error and avoiding a type II error. It refers to the probability that the test will find a statistically significant when such a difference actually exist . An additionnaly it is the ability of a test to detect an effect if really the effect is present there. To rationalize the facts that if increase in sample size automatically power increases. When power increased it is easier to reject a null hypotheses in the standard manner. The standardized power is typically 0.80. It means that the findings has 80% or greater chance of significance statistically. In general, ≤ 0.20 is a small power, 0.50 is a moderate power and ≥ 0.80 is a large power⁷. Usually, in an experimental, evaluative and co-relational studies 80% power will be selected, it is standardized as 0.84. Hence in the present study also β is considered as 0.84.

Test size: A significance level is an upper bound for the probability of a type I error. With a slight abuse of terminology and notation, we will use the terms "significance level" and "type-I-error probability" interchangeably, and we will also use to denote the probability of a type I error. When the two are different, such as for tests with discrete sampling distributions of

test statistics, we will make a distinction between them. The probability of rejecting a true null hypotheses, which means making a type I error. Before study begins the alpha (α) is set at a value represents the error rate that a researcher willing to accept. This error occurs when the researcher believes the observed effect in a study was real when it was not and not due to chance when it was. The minimum and most used significance level (α) is 0.05. It means that if null hypotheses is true it would be only be rejected in five out of 100 trials. An alpha of 0.01 may also used. The lowest alpha is rarely used because typeI and type II errors are inversely related. Hence, 0.05 is conventionnaly accepted level of significance. Confusion usually occur is alpha and p-value. Alpha is fixed before study whereas, p-values are calculated from data after data collection. Null hypotheses is rejected and the significance is found if the p-value is lesser than the fixed alpha value (0.05). in the present study the test size is fixed as 0.05. This gives an 80% chance of finding a significant result if there is an effect of specified size in the population from which the sample is taken.

Effect size: How large the effect of one variable on another variable needs to be. The degree to which null hypotheses is false. Effect is a change or changed state occurring as a direct result of action by somebody or something whereas, size is the degree of something in terms of how big or small it is⁴. However, effect size as a quantitative reflection of the magnitude of some phenomenon that is used for the purpose of addressing a question of interest⁵. It is a simple measure for quantifying the difference between two groups or the same group over time, on a common scale and it is one way to measure the effectiveness of a particular intervention⁶.

Effect size for differences in means is given by Cohen's⁷. Cohen proposed rules of thumb for interpreting effect sizes: a "small" effect size is 0.20, a "medium" effect size is .50, and a "large" effect size is 0.80. As Cohen warned, however, these rules of thumb may be different for each field of study⁷.

Sample size : Sample size is usually the main component of interest in power analysis. The sample size required to successfully achieve the objective of a study is determined given a specified significance level, power, effect size, and other study parameters. The higher the power, the larger the sample size. The larger the effect

size, the smaller the sample size. When to compute sample size, the actual power (power corresponding to the obtained sample size) will most likely be different from the power requested, because sample size is an integer. In the computation, the resulting fractional sample size that corresponds to the requested power is usually rounded to the nearest integer.

Determination of sample size for the present study: A pragmatic approach was taken to sample size estimation. This is a common strategy in studies such as this where a singular expected effect size is not known. Sample size calculations need to be undertaken prior to a study to avoid both the wasteful consequences of under-powering. These values are obtained from either previous studies of similar hypotheses or conducting a pilot study. In the present study, the samples are the primary caregivers of schizophrenic patients. It is moreover, hospital base study where the sampling frame was obtained from the selected hospital. An administrative sample was the only feasible way of obtaining index patients. This study was conducted for the award of PhD degree which has no grant or fund from any resources. As a population survey would be impractical for a low prevalence disorder such as schizophrenia and in any case was outside the budget and scope of this study. Within this constraint, sample size must be based on an estimate of effect size that is meaningful in the context of the study.

Ethical Clearance: The population of study were caregivers of schizophrenic patients. The ethical clearance was obtained from Yenepoya University, Mangalore. The administrative permission was obtained from a hospital in Udupi, Karnataka, 21 caregivers of schizophrenic patients were selected through non-probability purposive sampling technique to collect data.. The criteria for selection of the samples were the caregivers of schizophrenic patients who were residing with the patients and were directly involved in the care of their patients, on a regular basis.

The sample size was determined by Estimating Sample Size for Comparison of Two Means

The power analysis formula used to calculate sample size is as follows:

$$n = \frac{2\sigma^2(Z_\beta + Z_{\alpha/2})^2}{\text{difference}^2}$$

Where, $Z_{\alpha/2}$ represents the desired level of statistical significance (typically 1.96), Z_β represents the desired power (typically 0.842 for 80% power), σ represents Standard deviation of the outcome variable, difference represents the effect size. The effect size is the difference in means of experimental and control group.

The pilot study was conducted in the similar setting which resembles same setting with 60 samples i.e., 30 in experimental and control group respectively. The data are analyzed using descriptive and inferential statistics.

The computed findings is as follows:

The variability of standard deviation = 2.7

The mean difference = 1.5

Alpha value = 0.842

Beta value = 1.96

$$n = \frac{2(2.7)^2(0.84 + 1.96)^2}{(1.5)^2}$$

Therefore $n=114.3072 / 2.25$ and the estimated sample size is 50.80. In equal sample size of 1:1 with 80% at 5% level of significance, the total sample size required is 102 (51:51). To be conservative, to ensure that the actual power is atleast as large as the requested power, the sample size is rounded up. It is better to five to ten samples more to increase the power. Hence, in the present study 120 samples were recruited inspite of estimated 102 samples.

DISCUSSION

As scientific and ethical issue go hand-in-hand, the awareness of determination of minimum required sample size and appropriate sampling methods are extremely important in achieving scientific and statistically sound results. This paper explored determination of sample size in evaluative quantitative- case control study. When adequate sample size is used along with quality randomized control clinical trial data collection more.

CONCLUSION

Researchers are strongly encouraged to compute power analyses. Effect sizes are essential for determining the clinical significance of study findings, researchers would better serve the field of medical and nursing studies if they reported and interpreted effect sizes. In the present research work sample size was computed

using cohen's formula and the comparison of two means was computed. The sequential steps of computing sample size determination is described in this article by the authors.

Conflict of Interest: None.

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Travel Health Nursing

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ABSTRACT

Travelers are an epidemiologically important population because of their mobility, the potential for exposure to diseases and other adverse health outcomes outside their country, and the possibility that they will either import nonendemic diseases into their country of origin or export nonendemic diseases to the country they visit. With the decreasing global boundaries and increasing activities, travel medicine has become a rapidly evolving field of medicine. Travel health focuses on individuals traveling to developing countries with prevention and treatment of certain diseases and general vaccinations as its primary goal. This article discusses various aspects of travel health nursing.

Keywords: *travel health, travel medicine, travel health nursing, travel clinic, vaccination.*

INTRODUCTION

Although the medical profession and the travel industry can provide extensive help and sound advice, it remains the traveler's responsibility to seek information, to understand the risks involved and to take the necessary precautions to protect their health while travelling. Geo sentinel surveillance states that International tourist arrivals exceeded 1 billion in 2012 and are projected to increase to almost 2 billion by 2030, so the public health impact of travel will only increase. Increasing travel to destinations in Asia (arrivals up 7% from 2011 to 2012) will place more travelers at risk for a variety of travel-related conditions³.

Travel Health Nursing - Need of the hour

The composition of those traveling continues to become more diverse and medically complex, creating a vastly different perspective on travel-associated medical concerns, preparations, required medical knowledge, and post-travel care precautions.

Travel health nursing is an emerging subspecialty that has evolved in parallel with the field of travel medicine. The travel health nurse assess the traveler's health and their risks in order to implement a customized plan of preventive care that includes immunization, travel medications & supplies, health counseling and referrals for care during travel.

Major components

The travel health can be divided into three major components:

- Pre travel consultation
- Precautions during travel
- Post travel consultation

Pre travel consultation

The pre-travel consultation offers a dedicated time to prepare travelers for the health concerns that might arise during their trips. All individuals planning travel should seek advice on the potential hazards in their chosen destinations and understand how best to protect their health and minimize the risk of acquiring disease. Forward planning, appropriate preventive measures and careful precautions can protect their health and minimize the risks of accident and of acquiring disease. However, whether associated with tourism, humanitarian efforts, globalization of industry, or migrant employment, studies suggest only a small number of travelers seek pre-travel health advice. The travel health nurse plays a pivotal role in pre travel consultation².

The objectives of the pre-travel consultation are

1. To assess the traveler's trip plans and determine potential health hazards;
2. To educate the traveler regarding anticipated

risks and methods for prevention;

3. To provide immunizations for vaccine-preventable diseases and medications for prophylaxis, self-treatment, or both

4. To educate and empower the traveler to manage his or her health during the trip through counseling and prevention messages².

Information necessary for a risk assessment during pre-travel consultations ²

Health Background	
Past medical history	<ul style="list-style-type: none"> • Age • Sex • Underlying conditions • Allergies (especially any pertaining to vaccines, egg, or latex) • Medications
Special conditions	<ul style="list-style-type: none"> • Pregnancy • Breastfeeding • Disability or handicap • Immunocompromised state • Older age • Psychiatric condition • Seizure disorder • Recent surgery • Recent cardiopulmonary event • Recent cerebrovascular event
Immunization history	<ul style="list-style-type: none"> • Routine vaccines • Travel vaccines
Prior travel experience	<ul style="list-style-type: none"> • Experience with malaria chemoprophylaxis • Experience with altitude • Illnesses related to prior travel
Trip Details	
Itinerary	<ul style="list-style-type: none"> • Countries and specific regions, including order of countries if >1 country • Rural or urban
Timing	<ul style="list-style-type: none"> • Trip duration • Season of travel • Time to departure
Reason for travel	<ul style="list-style-type: none"> • Tourism • Business • Visiting friends and relatives • Volunteer, missionary, or aid work • Research or education • Adventure • Pilgrimage • Adoption • Seeking health care (medical tourism)

Travel style	<ul style="list-style-type: none"> • Independent travel or package tour • Propensity for “adventurous” eating • Traveler risk tolerance • General hygiene standards at destination • Modes of transportation • Accommodations (such as tourist or luxury hotel, guest house, hostel or budget hotel, dormitory, local home or host family, or tent)
Special activities	<ul style="list-style-type: none"> • Disaster relief • Medical care (providing or receiving) • High altitude or climbing • Diving • Cruise ship • Rafting • Cycling • Extreme sports

Assess individual risk

Other traveler characteristics that are associated with specific risks include travelers who are visiting friends and relatives, long-term travelers, travelers with chronic illnesses, immuno compromised travelers, pregnant travelers, and travelers with small children.

The following are some of the most common situations in which people would find self-treatment useful. The extent of self-treatment recommendations offered to the traveler should reflect the remoteness and difficulty of travel and the availability of reliable medical care at the particular destination.

- Travelers’ diarrhea
- Altitude illness
- Jet lag
- Motion sickness
- Respiratory infections
- Skin conditions: skin reactions due to allergic or irritant triggers usually respond to topical steroids; discomfort from superficial fungal infections respond to antifungal creams.
- Vaginal yeast infections
- Malaria

Travelers should be encouraged to carry a travel health kit with prescription and nonprescription

medications. Typical medications include malaria chemoprophylaxis, self-management of travelers’ diarrhea, and prophylaxis or treatment for acute mountain sickness. If a traveler anticipates the need to treat motion sickness, jet lags, or severe allergic reactions, consider medications for self-management, such as motion sickness therapy, a sleep aid, and epinephrine².

Vaccination

According to WHO there are few Routine vaccination that travelers must take before international travel which are: Diphtheria, Hepatitis B, Haemophilus influenzae type b, Human papillomavirus, Seasonal influenza, Measles, Mumps, Pertussis, Rubella, Pneumococcal disease, Poliomyelitis (Polio), Rotavirus, Tuberculosis(TB), Tetanus, Varicella⁵.

Precautions during travel

Personal health information should be obtained and carried, including the following:

- Personal health status (eg: age, weight, pregnancy)
- Medications and allergies
- Past medical history
- Medical or physical limitations

Basic health travel kit

A medical kit is an essential item that should be carried by all travelers to developing countries or

where local availability of such resources remains in doubt. The kit should include standard first-aid items, simple medications for common ailments, and any items specific for that traveler. In addition, consider having a list of medications along with a medical attestation signed by a physician authenticating the need of those medications for personal use².

Post travel consultation

Travelers should be advised to have a medical examination on their return if they:

- return with a fever from a country where malaria is or may be present, so that malaria can be excluded as a cause of their illness
- suffer from a chronic disease, such as cardiovascular disease, diabetes mellitus, or chronic respiratory disease or have been taking anticoagulants;
- experience illness in the weeks following their return home, particularly if fever, persistent diarrhoea, vomiting, jaundice, urinary disorders, skin disease or genital infection occurs;
- they received treatment for malaria while travelling;
- may have been exposed to a serious infectious disease while travelling;
- have spent more than 3 months in a developing country².

Travel health nurse

Travel health nurses promote the health and safety of the traveler. Travel health nursing has a unique body of knowledge and skill. Like travel medicine, it is an interdisciplinary practice that employs the knowledge and skills of epidemiology, tropical medicine, vaccinology, public health and health education¹.

Activities of Travel Health Nurse

- Providing travel health clinic services within the scope
- Providing risk assessment, advice, administering vaccinations, malaria prophylaxis and other travel related medicines within the framework

- Ensuring good communication within the clinical team and a safe environment for the delivery of clinical services

- Research activities ⁴

Essential Skills

- Registered Nurse with experience in general nursing and ideally experience in travel health (although not entirely necessary as full training will be given).
- Personal experience of travel and an interest in travel medicine is beneficial.
- An understanding of the regulatory and governance frameworks within healthcare.
- Experience in clinical consultation, vaccine administration including intradermal vaccinations and venepuncture (or willingness to learn).
- Computer literacy is essential as is the ability to work as part of a team, be enthusiastic, conscientious, well organised and have a willingness to learn new skills⁴.

Running a travel clinic:

Issues to be addressed:

- Should be a need

The need should be assessed according to the vulnerability of the population and the felt need of the community

- Location

Accessibility of the clinic to all the people in the community should be ensured.

- Infrastructure

It largely depends on the financial commitment of the organization. It can be a small room with basic drugs to meet the first aid needs of a traveler or multispecialty hospital catering to all the needs of a sick traveler.

- Personnel

Ideally there can be a physician, a nurse, a laboratory technician, social worker and a pharmacist. A travel health nurse can replace an entire team of health personnel. She can serve as nurse practitioner in

remote areas where there are no physicians and help in performing minor investigations and in distribution of drugs.

- Equipments/drugs/vaccine

Drugs pertaining to the treatment of some common travel sickness can be obtained and in case of a nurses' run clinic a standing order need to be obtained.

- Laboratory

A laboratory with basic amenities can be set to rule out commonly occurring travel sickness.

- Storage, Waste disposal

Proper segregation and disposal of the clinic waste is mandatory while setting a travel health clinic. It should not cause a threat to community or the care providers.

- Financial support

A financial commitment largely depends on the type of sector. Whether public, private or partnership with both, availability of resources is success of the programme.

CONCLUSION

International travel can pose various risks to health, depending on the characteristics of both the traveler and the travel. Without proper advice and sufficient protection, travelers can expose themselves to all the health risks and bring back infectious agents to their

countries of origin and become a great threat to the community. By taking the necessary measures, however, it is possible to minimize those risks.

Conflict of Interest - Nil

Ethical Clearance – Not applicable

Source of Funding – Self

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A Descriptive Study to Assess the Level of Stress, Social Support and Life Satisfaction among Parents of Children with Autism Spectrum Disorder at Selected Centres in Delhi

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ABSTRACT

Autistic Disorder has been recently recognized as a major epidemic problem found in all racial and ethnic groups and across the socioeconomic continuum. It is considered one of the most complex childhood developmental disabilities that can devastatingly affect children's communication and social abilities. A substantial body of research has uniformly found that parenting a child with Autistic Disorder can disturb the whole family life and result in several economic, social, physical and psychological problems. Therefore, the quality of those parents' lives is placed in serious jeopardy. **Statement:** a study to assess the level of stress, social support and life satisfaction among parents of children with ASD. **Objectives:** this study aims to (i) assess the level of stress, social support and life satisfaction, (ii) finding the correlation between level of stress, social support and life satisfaction, and (iii) find out the association between level of stress, social support, life satisfaction with selected variable among parents of children with ASD. **Methods:** A descriptive research design was used for conducting the study in selected centers at Delhi. Purposive sampling technique was used to collect the sample. The sample consists of 60 parents of children with Autism. Diagnostic assessments were carried out using Perceived stress scale, Multidimensional Scale for perceived Social Support and Life satisfaction Scale. **Results:** Parents of children with ASD have moderate stress, moderate social support and a neutral life satisfaction. Social supports play a major role on the relationship between stress and life satisfaction. A significant high positive relationship was found between stress, social support and life satisfaction ($p=0.05$ level). There is a significant relationship between social supports with age at the onset of autism. And there is also a significant relationship between life satisfactions with family income and type of family.

Conclusions: Social support is related to the cause of stress and life satisfactions of parents. Moderate social support leads to neutral life satisfaction and moderate stress. From the findings we can know that mothers with ASD have more stress level than fathers Parents who have a high income have a good life comparing to parents with low income. Stress is likely to be associated with high social support and a satisfied life satisfaction.

Keywords: Stress, Social support, Life satisfaction, Autism Spectrum Disorder.

INTRODUCTION

"There needs to be a lot more emphasis on what a child can do instead of what he cannot do."

Dr. Temple Grandin

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Children make the family complete. Whenever a new member arrives in the family they bring more joy. However, when the child has any medical or developmental difficulty the family is influenced in a negative way.¹

Autism Spectrum Disorder is a complex neurological disorder that affects brain function. It is one such developmental condition whose incidence

is increasing rapidly across the globe. This condition was first described by Leo Kanners in 1943 and later studied by many researchers. It is one of the most severe developmental disabilities which appear in the first three years of life. It involves impairments in social interaction and verbal and nonverbal communication. Some people with autism have limited interests, strange sleeping or eating behaviors or a tendency to do things to hurt themselves, such as banging their heads or biting their hands.^(1,2)

ASDs begin before the age of 3 and last throughout a person's life, although symptoms may improve over time. Some children with an ASD show hints of future problems within the first few months of life. In others, symptoms may not show up until 24 months or later. Some children with an ASD seem to develop normally until around 18 to 24 months of age and then they stop gaining new skills, or they lose the skills they once had.^(3,10)

There is no medical test for ASDs and a diagnosis is made after a thorough evaluation. The evaluation might include clinical observations, parent interviews, developmental histories, psychological testing, speech and language assessments, and possibly the use of one or more autism diagnostic tests. The Diagnostic and Statistical Manual of Mental Disorders represents a new, more accurate, and medically and scientifically useful way of diagnosing individuals with autism-related disorders. It is useful in identifying school-aged children with autism-related disorders, as well as diagnosing younger children. Research suggests that both genes and environment play important roles in causing Autism Spectrum Disorder. Having a child with autism in the family may have adverse affects on various domains of family life including marital relationships, sibling relationships and adjustment, family socialization practices as well as normal family routines.⁴

In the individual, Autism Spectrum Disorder affects communication skills, social interaction and behavior; while in the family it affects interactions with the child, between parents and between the family and the community. Studies have reported that parents of children with various developmental disabilities experience heightened stress, overburden and marginalization in society, sense of self blame, tiredness or exhaustion. Parenting children with Autism

spectrum disorder is more stressful than parenting typically developing children or children with other developmental disabilities.³

MATERIAL AND METHOD

RESEARCH APPROACH: SURVEY APPROACH was selected to accomplish the objectives of the study.

RESEARCH DESIGN: Cross-section correlational survey research design.

VARIABLES:

DEPENDENT VARIABLES: The level of stress, level of social support and level of life-satisfaction.

INDEPENDENT VARIABLES: Attribute variable.

SETTING: In this study, settings were Sparsh for Children in Sheik Sarai, PORDAC (Protection Of the Rights of Differently Abled Children) NGO for special school in Vasant Kunj and Action for Autism in Jasolla Vihar at Delhi respectively.

POPULATION: For the study, population consists of parents of children with autism spectrum disorder seeking treatment for their child's behavior development (social and emotional difficulties), intellectual disability, learning difficulties (Dyslexia), and speech and language development.

SAMPLE:

The sample consists of parents of ASD children attending selected centres of Sparsh for children, PORDAC an NGO special school and Action for Autism in Delhi.

SAMPLE SIZE: 60

SAMPLING TECHNIQUE: Purposive sampling technique was adopted for the present study to select parents of children with ASD.

DATA COLLECTION TOOLS AND TECHNIQUE: Self structured Questionnaire technique.

DEVELOPMENT OF TOOLS: The structured questionnaire was developed after:

- i. Reviewing research and non-research

literature.

ii. Consultation with experts and referring to research studies.

iii. Items on the basis of the objectives of the study.

iv. Informal discussion with staff working in Autism centres.

FINDINGS

Major findings of the study were summarized as follows:

1. Description of demographic characteristics:

- Majority 38 (63.33%) were between the age group 31- 40 years.

- The numbers of female parents were higher than male parents i.e. 40 (66.67%).

- Most of the parents 32 (53.34%) have 1 child, the rest have 2 i.e. 26 (43.33%).

- Majority 45 (75%) of the children at the onset of autism was 2-5 years.

- Majority of the children 43 (71.67%) were male while others were female 17(28.33%).

- Most of the children 27 (45%) were in the age group 1-5 years while 20 (33.34%) were in the age group 6-10 years, 8 (13.33%) were in the age group 11-15 years and 5 (8.33%) 16 years and above.

- Majority i.e.22 (36.67%) of the other children of parents was healthy.

- Majority of the parents 51 (85%) were Hindu.

- Majority of the parents were post graduates 38 (63.34%), whereas 18 (30%) were graduates.

- Majority of the parent’s 23 (38.33%) family income were above Rs. 70,001.

- Majority of the parents i.e. 38 (63.33%) belongs to a nuclear family, 20 (33.33%) belongs to joint family.

- Majority 26 (43.33%) were having 4 family members, 21 (35%) were having 5 and 13 (21.67%) were having 3 family members respectively.

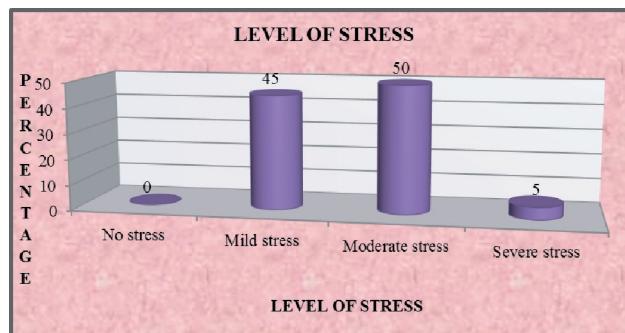
- 27 (45%) of fathers occupations were private employee and the rest were government employee i.e. 21 (35%), and self employee/ business i.e. 12 (35 %).

- Majority of the mother’s 38 (63.33%) were house wife, while 9(15%), were private employee, 9

(15%) were self employed/ business and 4 (6.67%) were government employee.

- Most of the parents live in urban community i.e. 56 (93.33%).

2. Findings related to stress among the parents of children with ASD.



- From the above fig. no. 1 it showed that most of the parents of children with ASD i.e. 30 (50%) had ‘moderate’ level of stress.

3. Findings related to co-efficient correlation between level of stress and level of social support among parents of children with ASD.

Table 1: Co-efficient correlation between level of stress and level of social support N=60

Mean of stress score	Mean of social support score	Coefficient of correlation ‘r’
11.8	27.62	-0.462

‘r’ table value (0.257) significant at 0.05 level of significance at df=58.

- From the above table no. 1, it is found that there is a high significant negative relationship between the level of stress and level of social support among the parents of children with ASD with value of r = -0.462 which was lower than the tabulated value or r = 0.267 at 0.05 level of significance at df=58. Thus it indicates that as the social support decreases stress level increases.

4. Findings related to association between the level of stress and demographic variables.

- The chi-square values computed for age of the parents ($\chi^2 = 3.786$), gender of parents ($\chi^2 = 3.370$), total number of children ($\chi^2 = 3.489$), age at the onset of autism ($\chi^2 = 6.325$), health status of other children ($\chi^2 = 12.23$), sex of the child with autism ($\chi^2 = 0.201$), age of

the child with autism ($\chi^2 = 1.189$), academic qualification ($\chi^2 = 5.796$), monthly family income ($\chi^2 = 2.065$), type of family ($\chi^2 = 2.305$), number of family members ($\chi^2 = 7.780$), occupation of father ($\chi^2 = 0.648$) and occupation of mother ($\chi^2 = 1.467$) were statistically found to be non significant at 0.05 level of significance except for health status of other children and hence concluded that the stress level of parents of autistic children were not significantly associated with the demographic variables.

5. Findings related to social support among the parents of children with autism.

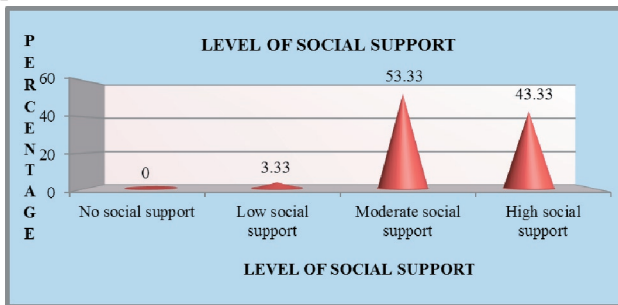


Fig 2: Cone graph showing percentage distribution of level of social support among parents of children with ASD.

- From the above fig. no. 2, it showed that most of the parents i.e. 32 (53.3%) of children with ASD had moderate social support.

6. Findings related to co-efficient correlation between level of social support and life satisfaction among parents of children with ASD.

Table 2: Co-efficient correlation between level of social support and life satisfaction N=60

Mean of Social Support Score	Mean of Life Satisfaction	Coefficient Correlation 'R'
27.62	19.1	0.518

'r' table value (0.257) significant at 0.05 level of significance at df=58.

- The findings in table no. 2 showed that there is a high significant positive relationship between the level of social support and level of life satisfaction among parents of children with ASD with value of $r = 0.518$ which was higher than the table value of $r = 0.257$ significant at 0.05 level of significance at $df=58$. It indicates that as the social support level increases the level of life satisfaction increases.

7. Findings related to association between level of social support and demographic variables.

- The chi-square values computed for age of parents ($\chi^2 = 4.558$), gender of parents ($\chi^2 = 1.2$), total number of children ($\chi^2 = 3$), age at the onset of autism ($\chi^2 = 2.554$), sex of the child with autism ($\chi^2 = 0.082$), age of the child with autism ($\chi^2 = 6.941$), academic qualification ($\chi^2 = 4.5817$), monthly family income ($\chi^2 = 3.172$), type of family ($\chi^2 = 2.105$), number of family members ($\chi^2 = 2.652$), occupation of father ($\chi^2 = 0.199$) and occupation of mother ($\chi^2 = 4.643$) were statistically found to be non significant at 0.05 level of significance and hence concluded that the social support level of parents of autistic children were not significantly associated with the demographic variables.

8. Findings related to life satisfaction among parents of children with autism.



Fig 3: Pyramid graph showing the percentage distribution of level of life satisfaction among parents of children with ASD.

- From the above Fig.no. 3, it showed that most of the parents i.e 32 (53.3%) of children with ASD have neutral life satisfaction.

9. Findings related to co-efficient correlation between level of life satisfaction and level of stress among parents of children with ASD.

Table 3: Co-efficient correlation between level of life satisfaction and level of stress N=60

Mean of Life Satisfaction Score	Mean of Stress Score	Coefficient Correlation 'R'
19.1	11.8	-0.436

'r' table value (0.257) is significant at 0.05 level of significance at df=58.

The findings in table no.3 showed that the co-

efficient co-relation between level of life satisfaction and level of stress among autistic parents is -0.436 which was lesser than the table value of 'r' = 0.257 at 0.05 level of significance, at df=58. Therefore, there was a negative significant relationship between the level of life satisfaction and level of stress. Thus it can be interpreted that as level of life satisfaction increases the level of stress decreases.

10. Findings related to association between level of life satisfaction with demographic variables.

- The chi-square values computed for age of parents ($\chi^2 = 3.352$), gender of parents ($\chi^2 = 0.133$), total number of children ($\chi^2 = 0.185$), age at the onset of autism ($\chi^2 = 0.032$), sex of the child with autism ($\chi^2 = 1.615$), age of the child with autism ($\chi^2 = 1.167$), academic qualification ($\chi^2 = 6.167$), , number of family members ($\chi^2 = 1.055$), occupation of father ($\chi^2 = 6.692$) and occupation of mother ($\chi^2 = 1.045$) were statistically found to be non significant at 0.05 level of significance while there is significant relationship with selected variables i.e. monthly family income ($\chi^2 = 18.135$) and type of family ($\chi^2 = 38.139$). Hence, it can be concluded that the life satisfaction level of autistics parents were not significantly associated with the demographic variables.

CONCLUSION

Autism is a neural developmental disorder characterized by impaired and deviant social interaction and communication affecting children throughout the world. The major findings of the present study concluded that majority of parents have a moderate level of stress as it was a burden for the parents in their life to meet the demands of the child needs, assure them in doing daily activities. Education has a great impact on the stress level of parents, most parents were not aware about the condition of their child due to lack of knowledge. Parents with high qualification have low level stress with a satisfied life. The study found that life satisfaction was positively related with a higher monthly income than less income. And there was a positive relationship between social support and life satisfaction.

It was also found that parents with nuclear family are associated with a satisfied life and high social support. The strongest predictor of life satisfaction for parents of children with ASD was social support.

These findings demonstrate a need for future research and interventions to focus on creating a more positive climate of social support for ASD families, particularly in India. Public education measures should aim to dispel misunderstandings and reduce discriminatory stereotypes by publishing online information and leaflets about ASD. A greater level of public awareness and acceptance of ASD may contribute to more social support, a greater level of life satisfaction, and overall improvements in well being for parents of children with ASD.

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