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Methods to Increase Peripheral Veins Visualization in Patients Getting Chemotherapy

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ABSTRACT

Peripheral intravenous catheter insertion is a common nursing procedure often required for the administration of chemotherapy, antibiotics, blood products, fluids, and other medical therapies. Insertion of intravenous cannula can be extremely difficult, particularly in individuals receiving repeated courses of chemotherapy. Because of the nature of chemotherapeutic drugs, veins may get damage and makes the intravenous cannulation difficult. The current article highlights certain methods which can enhance the visualization of the peripheral veins.

Key words: *Peripheral Veins, Chemotherapy, Methods, Visibility*

INTRODUCTION

Insertion of intravenous cannula is the most common invasive procedure in the hospitalized patients. Usually the insertion is easy and causes only mild distress in the patients. But, sometimes it may be difficult especially in cancer patients requiring repeated courses of chemotherapy. Chemotherapy is the use of cytotoxic drugs in the treatment of cancer. It is one of cancer treatment modalities that provide cure, control, or palliation. Most of the chemotherapeutic drugs are delivered intravenously.[1] Chemotherapeutic drugs are vesicants and irritants which cause skin reactions like tenderness, warmth, redness and itching along the vein or at the injection site. Cytotoxic drugs causing local irritation includes carmustine, teniposide, etoposide, fluorouracil, cyclophosphamide, streptozocin, thiotepa and dacarbazine. Vesicant chemotherapeutic agent capable of causing blistering and frank ulceration with tissue destruction, are dactinomycin, doxorubicin, daunorubicin, idarubicin, mechlorethamine, vinblastine, vincristine and mitoxantrone.[2]

Because of the nature of chemotherapeutic drugs the veins may get damage, which causes the cannulation difficult. Commonly used veins for chemotherapy administration are cephalic, median and basilic veins of forearms and dorsal veins of dorsum of hands.[3] The vein needs to be visible and palpable before cannulation. Bruised or inflamed areas should be avoided. Venipuncture sites must be changed on planned basis every 48 hours to reduce the possibility of phlebitis and infiltration.[3-4]

Repeated insertion of intravenous (IV) cannula often is a source of patient anxiety and discomfort amongst patients.[5-6] About 20% of adults experience a mild to moderate fear of needles and have anxiety leading to bradycardia and hypotension.[7] Sometimes multiple attempts may occur, which can further lead to distress and anxiety in the patient.

METHODS OF IMPROVING VISUALIZATION

Nurses use various techniques to improve the visualization of veins to enhance the success rates of intravenous insertion. As per Mbamalu et al[8] vein visualization can be improved by hanging the limb below the level of the heart to employ gravity to assist in the venous filling and gentle slapping of the skin overlying the vein this causes a minor inflammatory response with histamine release and vasodilatation. The skin has a huge network of small blood vessels. These may become more prominent either due to enlargement of the blood vessels themselves or due to the changes of the supporting tissues within the skin that makes these veins more prominent. Milking the vein from proximal to distal and applying tourniquet 5–10 cm proximal to the selected site. A tourniquet is a constricting or compressing device used to control venous and arterial circulation to an extremity for a period of time. Pressure is applied circumferentially upon the skin and underlying tissues of a limb; this pressure is transferred to the walls of vessels, causing them to become temporarily occluded. Prolonged application of a venous tourniquet, for more than 5 minutes, increases venous tortuosity and fragility and should thus be avoided and even

a sphygmomanometer cuff may be used There are various views on what inflation pressure is best for this purpose but consensus opinion appears to indicate a choice of at or just below diastolic pressure and the use of betadine and alcohol swabs is reportedly helpful in dark skinned patients by improving the vasodilatation.[9]

The topical application of 2% nitroglycerine ointment has shown to decrease the number of cannulation attempts and facilitates insertion.[10] Nitroglycerin relax the vascular smooth muscle and consequent dilate the peripheral arteries and veins However, topical nitroglycerine is systemically active and requires considerably longer producing vasodilatation than local heating.

The application of heat is a routine prescribed therapy in medical practice today. Application of heat at the IV insertion site has been shown to increase the vein visualization. The various warming methods include immersion of patient's hand and arm in warm water and then wrapping the arm with a moist towel, application of dry heat chemical warm pack and use of a microwaved wheat-filled bag.[17] Direct heat may be dry or moist. Keeping the patient warm for the success of IV insertion has also been suggested by Rosenthal.[7] Wagner et al[11] had further supported the fact that warming the arm of the patients for IV cannula insertion had a positive effect on patients' thermal control and well being.

MOIST HEAT THERAPY

Application of a warm compress (pads soaked in lukewarm water) for at least 2–3 minutes will improve venous visibility. This is achieved by increased local blood flow which increases venous distension. The body's physiological response to moist heat is dilatation of the blood vessels causing an increase in the blood flow to the area under treatment. Increased local circulation enhances recovery by flushing away the waste products and bringing the fresh blood cells to the treatment.[12] Moist heat application produces vasodilatation which increases the blood flow to the affected area by bringing more oxygen and nutrients. The temperature elevation appears to have direct effects on the state of dilatation of the capillaries, arterioles and venules. The increased metabolism leads to release of carbon dioxide, lactates and promotes movements of waste products from the affected area.[12, 13]. Moist heat softens crusts and exudates, penetrates deeper than dry heat, doesn't dry the skin, produces less perspiration, and usually is more comfortable for the patient. Devices for applying moist heat include warm compresses for small body areas and warm packs for large areas.[14, 15]

DRY HEAT THERAPY

Dry heat increased blood circulation and improved oxygen supplies to the skin with increased core body temperature and improved exchange of nutrients into cells and the discharge of toxins.[16] By dilating blood vessels and penetrating deeply into the body and strengthens circulation without causing any stress on the system. Heat applications have four main effects on body tissues, including pain relief, muscle relaxation, blood vessel dilatation, and connective tissue relaxation.[17] The dilatation of the blood vessels leads to the increase in blood flow to the injured part. There is increase in the cutaneous blood flow by 70% during the periods of heating. This increase in cutaneous blood flow is attributed initially to withdrawal of sympathetic vasoconstrictor activity and increase in sympathetic vasodilator activity.[14] Dry heat can be delivered at a higher temperature and for a longer time. Devices for applying dry heat include the hot-water bottle, electric heating pad and chemical hot pack.[18]

Fink et al[19] examined the effect of dry versus moist heat application on the improvement of IV insertion rates. They concluded that dry heat was 2.7 times more likely than moist heat to result in successful IV insertion on the first attempt. The type of heat did not have any effect on the patients' anxiety level. Lenhardt et al found that local warming using dry versus no heat prior to intravenous peripheral cannulation facilitated IV insertion and decreased the number of attempts of cannulation.[20]

A study was conducted to find the effect of moist heat application on the visibility and palpability of the veins for the insertion of IV cannula. Using purposive sampling technique, 60 subjects were selected who were scheduled for IV cannulation for the purpose of chemotherapy administration and whose veins were not visible and palpable. Moist heat was applied at the forearm, hands and wrist for 10 minutes prior to IV cannulation. Following the intervention vein assessment was done by using Vein Assessment Scale. Intervention was significantly more effective in the patients with shorter duration of chemotherapy ($p<0.05$). The moist heat therapy in the study was effective in improving the status of veins, though different percentage of subjects had different vein status score. Following the intervention 40% had vein status score of 5 i.e. their veins were clearly visible and easily palpable.[21]

CONCLUSION

The placement of peripheral intravenous lines forms a significant part of the workload of medical

and nursing in a hospital environment. However, peripheral venous line placement can be difficult, especially at the extremes of age or if the patient is obese, dark skinned, in cancer patient, an intravenous drug. It was concluded that above discussed methods were helpful in improving the venous prominence. Thus it may be considered as an option in hospital and day care centers for the visibility and palpability of the veins.

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Problems Faced by Children of Alcoholics Admitted in Selected De-Addiction Centers in Mangalore

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ABSTRACT

Alcoholism is a family disease which affects the children with the same intensity that it affects the wife, in fact even more. Children of alcoholic families are at greater risk for poor psychosocial adjustments like guilt, embarrassment, confusion, anger, depression, poor peer relationship, school problems and health problems. Compared to Western countries Indian literature with regard to the psychosocial aspects of children of alcoholics is scanty. The study aimed to find out the Problems faced by the children of alcoholic fathers attending selected de- addiction centers in Mangalore. An explorative survey approach was adopted for the study. In the present study the sample consisted of 60 children(10 to 14 years) of alcoholic fathers . The data collection tool included Rating scale to assess the problems faced by the children of alcoholic fathers and baseline performa. Among 60 samples 16.6% had severe, 61.7% moderate and 21.7% of them experienced mild degree of problems due to their father's alcoholism. The chi- square values between degree of problems faced by the children and selected variables like age, sex, birth order of children, income of family, duration of father's alcoholism and treatment received for alcoholism were not significant at 0.05. The focus of health practitioners is directed towards primary prevention . The study concluded that nursing personnel, who comes in closer contact with the children of alcoholic fathers, can identify the problems of these children and to cope successfully with emotionally hazardous Experience and to develop a close bond with the caregiver.

Key words: *Children of Alcoholics, Psychosocial Problems, Alcoholic Fathers, Alcoholism, Abuse, Alcohol, Problems.*

INTRODUCTION

Family is the basic unit of the society. A good back ground at home makes children happy and achievers. The background of the family is supported by the culture, values, traditions, beliefs and practices that they hold. Healthy children are the result of a healthy family system, where parenting is seen as a shared responsibility of both parents. In the process of parent child development, the behavior of each influence the other.

Children growing up in households where one or both parents are alcoholic, are the unwilling victims of the disease alcoholism, which generally is the centre of their existence and therefore shapes their personality and behavior as adults. The research findings show that children of alcoholics are about four times more likely than the general population to develop alcohol problems[1].

Alcoholism affect all the age group and especially the pubescent and adolescents. Adolescence is the time when personality is formed and starts to function. The development of a healthy personality is an important requisite for satisfactory adjustment during adult life. If the adolescents are exposed to the advert practices like alcoholism at this key point, they are more prone to get into alcoholism. Children (6 to 18 years) of alcoholic parents showed higher rates of oppositional and conduct disorders but not attention deficit disorder and risk for anxiety[2]. Marked distribution had been found in the children of alcoholics in the area of conduct disorders, anxiety, physical illness with emotional problems as compared to children of non alcoholics[3]. Young children of alcoholics often show symptoms of depressions and anxiety such as crying, bedwetting, not having friends, being afraid to go to school or having nightmares[4].

Parental alcoholism is a strong predictor variable for the student's alcohol and drug use. School performance is worse in children of alcoholics and family situation , as well as family dynamics are disturbed[5]. Nagaraja found physical injuries in children of alcoholic parents in contrast to children of non alcoholics. Malnourishment was also co-existed in almost all injured children of alcoholics[6].

A recent study by Kelley et al. reveals that adult children of alcoholics reported more parentification, instrumental care giving, emotional care giving, and past unfairness in their families of origin as compared to children of alcoholics[7].

The brief review of the literature in the field reveals that while a lot of investigations have been carried out with adult children of alcoholics, those with a specific focus on children are not many. This investigation was carried out against this background primarily from the stress perspective associated with co-dependency, which hypothesizes that the heightened stress of living in an alcohol complicated family environment could have adverse consequences on the personality traits of a children and manifest deficits in their psychosocial functioning.

MATERIALS AND METHODS

Objectives of the study

1. To identify the problems faced by the children of alcoholic father.
2. To find out the association between socio demographic factors and the subject dimensions studied.
3. To find out an association between physical health status and the degree of problems faced by the children.

Hypothesis

H1 : There will be a significant association between father's alcoholism and physical, psychosocial & school problems, faced by their children.

H2 : There will be a significant association between father's alcoholism and health problems faced by their children.

Research Methodology

Conceptual framework: The conceptual frame work developed for this study was based on Betty Neumann system model.

Research approach: An explorative survey approach was adopted for the study.

Research design: An explorative survey design was used in the study.

Study design

The study was conducted in selected de- addiction centers of Mangalore namely Velankanni Ward, Link de-addiction and rehabilitation centre.

Sample and sampling technique

Sample: 60 children between the age group of 10 and 14 years whose fathers were receiving de-addiction and who visit the de-addiction centre for follow- up services.

Convenient sampling technique was used to select the sample.

Tool for data collection

The data for the present study was collected by constructing the following tools.

Baseline Performa

Rating scale to assess the problems faced by the children of alcoholic fathers.

Checklist to assess the physical health status of children

The content validity of the tools was established after modification. The reliability of the rating scale and checklist were established after checking the internal consistency. Pretesting and pilot study were also carried out.

Data collection process and data analysis

The data was collected from 15th December 2003 to 15th January 2004. The data obtained was analyzed through descriptive and inferential statistics.

Description of sample characteristics

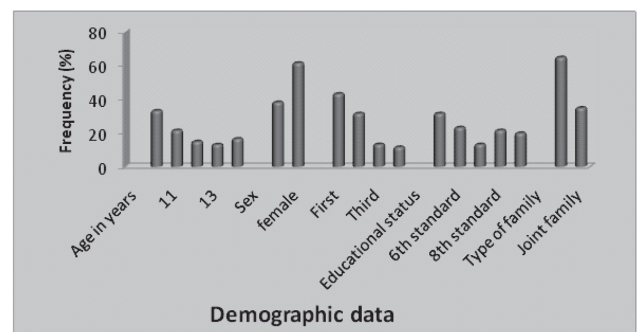

Fig. 1. Bar diagram showing distribution of sample according to their age, sex, birth order, educational status and type of family. N=60.

The data on sample characteristics were analyzed using descriptive statistics. The data in the table shows that most of the children(33.3%) were 10 year old . Among the sample (61.66%) of them were females and 38.3% were males. Majority of the subjects (31.66%) were studying in fifth standard and least (10%) of them were in the ninth standard. The first born child

consisted the majority (43.33%) . More than half (65%) of them belonged to nuclear family.

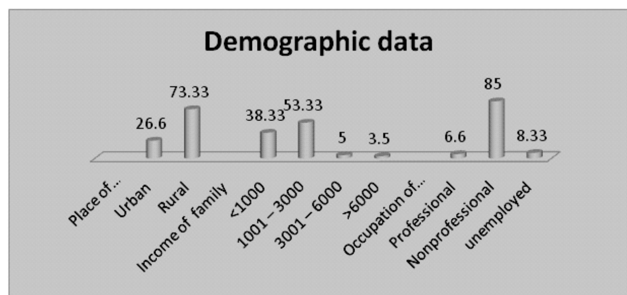

Fig. 2. Bar diagram showing distribution of sample according to the place of residence, income of family and occupation of their father. N=60.

Majority(73.3%) of the children resides in rural areas. And half of the sample (53.33%) had their family an income between one and three thousand rupees per month and (3.3%) had an income more than Rs.6,000/. Majority of sample's fathers were nonprofessionals and 8.33% were unemployed.

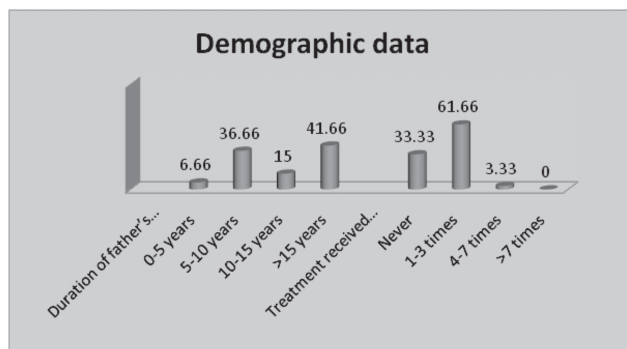

Fig. 3. Bar diagram showing distribution of sample according to their father's duration of alcoholism and treatment received for alcoholism . N=60.

Most of the sample's father's (41.66%)were alcoholic for more than 15 years and 15%had alcoholism for 10 – 15 years. 61.66% fathers had treatment for one to three times. Nobody had treatment for more than seven times.

MAJOR FINDINGS OF THE STUDY

Table 1. Mean score profile of respondents on subject dimensions. N=60

Dimensions	Maximum Possible score	Range	Mean	Standard Deviation	Mean Percentage Score	Category
Physical problems	16	4-16	10.016	13.8	62.6	Moderate
Psychosocial problems	188	64 -153	114.36	21.03	60.829	Moderate
School problems	36	9 -32	18.53	6.054	51.472	Moderate

The data depicted in table 1 shows that, children of alcoholic fathers confronted moderate degree of problems in all the domains : physical problems (62.6%), psychosocial problems (60.829%) and school problems (51.472%).

Table 1 Chi- square values showing the association between degree of problems confronted by the children and selected variables like age, sex and birth order. N=60

Selected demographic variables	≥Problem score ≥ Median	≤ Median	≥ ² Value	df	Inference
Age in years					
10	10	10			
11	7	6			P<0.05 NS
12	6	3	.41	2	
13	2	6			
14	8	2			
Sex					
Male	13	10	0.03	1	P<0.05 NS
Female	20	17			
Birth order					
First	18	12			
Second	9	8	0.1	2	P<0.05 NS
Third	12	4			
Fourth and above	4	3			

≥$^{2}_{0.05(1)}$ = 3.89, ≥$^{2}_{0.05(2)}$ =5.99 **NS = Not Significant, df = degree of freedom**

The calculated chi-square values were not significant at 0.05 level of significance for the variables like age, sex, and birth order. Hence the null hypothesis was accepted and it is inferred that there were no association between degree of problem faced by the children and selected variables like age, sex and birth order of the children.

Selected demographic variables	≥Problem score ≥ Median	≤ Median	≥ ² Value	df	Inference
Income of family					
<1000	13	10			P<0.05 NS
1001 – 3000	17	15	0.03	1	
3001 – 6000	1	2			
>6000	2	0			
Duration of father's alcoholism				1	P<0.05 NS
0-5 years	2	2	2.99		
5-10 years	9	13			
10-15 years	6	3			
>15 years	16	9			
Treatment received for alcoholism			0.059	1	P<0.05 NS
Never	12	9			
1-3 times	20	17			
4-7 times	1	1			
>7 times					

≥$^{2}_{0.05(1)}$ = 3.89, ≥$^{2}_{0.05(2)}$ =5.99. **NS = Not Significant, df = degree of freedom**

The calculated chi-square values were not significant at 0.05 level of significance for the variables like income of family per month, duration of father's alcoholism and treatment received for alcoholism. Hence the null hypothesis was accepted and it is inferred that there were no association between degree of problem encountered by the children and variables like income of family per month, duration of father's alcoholism and treatment received for alcoholism.

Table 3. Chi-square values showing the association between physical health status and selected demographic variables of children of alcoholics. N=60.

Selected demographic variables	≥Problem score ≥ 15 Median	≤ 15 Median	≤ ² Value	df	Inference
Age in years					
10	14	6		2	P<0.05 NS
11	7	6	1.69		
12	5	4			
13	7	1			
14	2	8			
Sex			.063		P<0.05 NS
Male	13	10		1	
female	21	16			
Income of					
family		5			
<1000	18	18	6.08		P >0.05
1001 – 3000	14	-		1	Significant
3001 – 6000	3	2			
>6000	-				
Duration					
of father's					P< 0.05
alcoholism				1	
0-5 years	2	2			
5-10 years	12	10	0.723		
10-15 years	5	4			
>15 years	17	8			
Treatment					P<0.05 NS
received for					
alcoholism				1	
Never	11	9			
1-3 times	24	13	0.9		
4-7 times	2	-			
>7 times	3	-			

$\leq^{2}{}^{0.05}_{(1)} = 3.89$, $\leq^{2}{}^{0.05}_{(2)} = 5.99$. **NS = Not Significant, df = degree of freedom**

The data presented in the table shows no association between physical health status and selected demographic variables like sex, age, duration of father's alcoholism, treatment received for alcoholism except to income of family per months at significance of 0.05 level. The calculated value is 6.08 in the area of income of the family which is greater than the tabled value at 1 degree of freedom, hence there is an association between physical health status and income of family per month.

DISCUSSION

Harter has reported low self esteem in ACOAs and reported that COAs faced difficulties in family relationships, and experienced generalized distress and maladjustment.[8] The study findings also revealed a moderate amount of problems in the domains. There were no association between the degree of the problems encountered by the children and the selected demographic variables like age, sex, birth order, income, duration of father's alcoholism and treatment received for alcoholism. Only significant association found was with physical health status of the children and the income of the family. Selwin reported that paternal alcoholism had a harmful and negative effect on the adjustment patterns of adolescents including their health, home, school, finance and social problems. Thus the alcohol complicated domestic environment of the COAs could account for the problems and maladjustments seen in them in this study and these findings are in consonance with the bulk of the western literature on these issues.[9]

IMPLICATION

Children of alcoholic fathers represent a group at risk and are deserving of more attention in prevention and early intervention.[10] The findings of the study have definite implications for the de-addiction centers in India. The de-addiction centers in India tend to concentrate on the alcoholic to help him recover and how to lead a normal life and the spouse is also counseled for the marital conflict and compliance with the treatment program , but the children are not helped in anyway. The counselors can boost the self esteem of these children by promoting psychosocial adjustments in the deficient areas and helping them improve better school adjustments. The normal dilemmas of the adolescents can also be worked out here. Some of the guidelines stressed by Kumpher & Hopkins include emphasizing the negative consequences of alcohol, developing in youth an increased sense of responsibility for their own success, helping them to identify their talents, motivating them to dedicate their lives to helping society rather than feeling their only purpose in life is to be consumers, providing realistic appraisals and feedback for youth rather than graciously building up their self-esteem, stressing multicultural competence in an ever-shrinking world, encouraging and valuing education and skills training, increasing cooperative solutions to problems rather than competitive or aggressive solutions, and increasing a sense of responsibility for others and caring for others.[11]

CONCLUSION

The focus of health practitioners should be directed towards primary prevention and early prevention. Nursing personnel, who comes in closer contact with the children of alcoholic fathers, can identify the problems of these children and teach on techniques in coping with these situation at and outside. Children of alcoholics should be helped by enhancing self-esteem, providing information about alcohol, and improving emotional and problem focused coping abilities, eventually enhancing their mental health .

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Conflict of Interest: None

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The Effectiveness of Treating Worm Infestation with Medication and Education

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ABSTRACT

Background : Worm infestation is commonly seen in children, had reduced intake of food, retarded in growth rate, cognitive abilities, maldigestion, malabsorption and disturbed metabolism.

Objectives : To evaluate (a) the prevalence of worm infestation, (b) nutritional status (c) knowledge, attitude and practices (KAP) related to worm infestation, (d) asses the effectiveness of deworming, and (e) health education among school children.

Design : Pre experimental, one group pre test-post test design was adopted. Four hundred children, between the ages of 9-10 years were recruited by convenient sampling technique.

Setting : Municipal elementary schools in India.

Methods : Nutritional status, KAP, perianal swab and stool samples were assessed before and after treatment with tablet albendazole 400 mg, tablet ferrous iron 20mg, folic acid 0.1mg and health education on worm infestation. Stool examination was done by using Kato Katz technique.

Results : Overall prevalence of worm infestation was 51%, of which round worm infestation accounted for 28% of the pre test cases, hook worm infestation was 18% and pin worm infestation was 5%. Multiple worm infestation was also observed. Children were appropriately treated. In post test, 4% round worm infestation, 4% hook worm infestation and 1% pin worm infestation was found. Intervention showed significant improvement in nutritional status and health education ($P<0.001$).

Conclusion : Deworming, iron supplements and health education proved to reduce the prevalence of worm infestation and in turn improved the nutritional status of children.

Key words: *Deworming, Health Education, Nutritional Status.*

INTRODUCTION

More than a billion people worldwide are infected with at least one species of intestinal parasites. Of particular worldwide importance are the helminthes like round worms (Ascaris lumbricoides) 807-1221 million, and hook worms (Nectar americanus or ancylostomaduodenale) 576-740 million. In developing countries like India, the helminthes are among the most common infections seen in school age children causing morbidity.[1] Such children suffer from malnutrition, growth retardation, and intellectual retardation, cognitive and educational deficits.[2]

Estimates of annual deaths from soil transmitted helminthes infection vary widely from 12,000 to as many as 1,35,000.[3] Pin worms (enterobius vermicularis) causes loss of appetite, loss of weight, irritability, emotional instability, insomnia, enuresis and pruritus, which is most troublesome at night. [4]

Round worm infection, in an early pulmonary phase is characterized by fever, cough, dyspnea, wheeze, eosinophilic leukocytosis and migratory pulmonary infiltrates may occur. Intestinal manifestations results in abdominal pain, volvulus, intussusception,acute appendicular colic, biliary colic, cholecystitis, cholangitis, pancreatitis and hepatic abscess. Ascariasis has been associated with mild to moderate malabsorption of fat, protein, carbohydrate, vitamin A and possibly other nutrients.[5]

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Each Hook worm is estimated to be responsible for the loss of 0.15ml to 0.3ml of blood per day and lead to iron deficiency anemia.[6] Mebendazole and Albendazole are the drugs most commonly used for the removal of soil transmitted helminthes infections. Both agents are effective against Ascariasis in a single dose. However in Hook worm infection, a single dose of mebendazole has low cure rate. Albendazole is used more effectively against hook worm infections.[7]

Tirupati is a pilgrim town in southern India. It has a floating population of approximately 75,000 per day. So people defecate on the road side, open field, or around the Tirumala Tirupati Devasthanam's choultries (state funded lodging facilities). This could be due to illiteracy, lack of awareness of environmental sanitation or inadequate sanitary facilities which result in greater possibility of worm infection.

This study aims to assess the nutritional status and the prevalence of worm infection and to evaluate the effectiveness of deworming, iron supplementation and health education among fourth grade elementary school children.

MATERIAL AND METHODS

Study Design This prospective study adopts the pre experimental, single group pre test-post test design[8].

Setting This study was conducted at Municipal elementary schools, in a small town of India between September & December, 2005.

Ethical Approval & Consent Ethical approval to conduct the study was obtained from the ethical committee of Sri Padmavathi Mahila Viswa Vidhyalayam (women's university), India. Permission was obtained from the Municipal commissioner of the town and principals of elementary schools to conduct the study. Written consent obtained from the parents/guardians after giving information about the laboratory tests, treatment and health education.

Sample Four hundred children studying 4th grade, whose age ranges between 9-10 years were selected by convenient sampling technique. The target sample size was planned to achieve statistical power of 0.84, based on a moderate effect size and $P<0.05$.

Instruments The study was carried out in vernacular language. The instrument used was divided into five sections given below:-

Section - 1. It consisted of 10 questions to collect socio demographic data.

Section - 2 It consisted of questions on morbidity information related to worm infestation.

Section - 3. This included a check list on general appearance of children related to hygiene.

Section-4. It was a three part questionnaire on knowledge, attitude and practices related to worm infestation. Part-1 knowledge on worm infestation with ten questions related to meaning of worm infestation, morphology, causes, signs and symptoms, diagnosis and treatment related to pin worm, round worm and hook worm.Part-2 Attitude towards hygienic practices: consisted of 5 questions on five point attitude scale related to hygienic practices. Which was constructed as strongly agree, agree, undecided, disagree and strongly disagree. Part-3 Knowledge on hygienic practices:consisted of 15 questions related to hygienic health practices.

Score interpretation Maximum total score for knowledge was 10, attitude 5 and hygienic health practices 15. The scores were interpreted in the following manner: <50%inadequate, 50-75% moderate and >75% adequate. ***Validity:*** The content validity of the tool was done by the experts from the Department of Preventive and Social Medicine, Pediatrics, Microbiology, Community health nursing and Child health nursing. Modifications and suggestions were incorporated in the final preparation of the tool. ***Reliability:*** Pilot study was conducted on 40 children and the reliability was established by using Kuder-Richardson formula 20 (KR-20)[8]. The reliability for questionnaire on knowledge was 0.86, Attitude was 0.93 and practices were 0.90. The tool was considered as highly reliable for the study.

Section-5 It consists of anthropometric measurements: height and weight by stadiometer. The height and weight measurements were made by single observer (eliminating inter observer variability and errors) and were measured to the nearest 0.1 cm and 0.1kg respectively.

Perianal swab Perianal swabs were taken from the children early in the morning who had perianal itching and enuresis and sent to microbiology laboratory.

Fecal samples Samples collected were preserved in formal saline and transported to microbiology laboratory for ova & cysts by Kato Katz technique[9].

Estimation of hemoglobin Testing of blood for hemoglobin was performed by the technician using Sahli's method [10] in the classroom.

Treatment measures Both infested and un-infested subjects were treated with Tablet Albendazole 400mg. Tablet tinidazole 2 gm was administered to children infested with *Entamoeba hystolytica* and *Giardia lambia*[7]

by the investigator. As per WHO, treatment options should offered to all children in schools where more than half the children are believed to be infected with intestinal worms[11].

Iron Supplementation Tablet Ferrous iron 20mg and folic acid 0.1 mg twice a day for 90 days[12] on weekly basis (14 tablets /child/week) was handed over to the Governess of Mid-day-meal program, who was instructed to administer the tablets to the child at 9AM and 4 PM. The teachers and Principal of the school were informed of the same.

Health education on worm infestation was conducted by the investigator using audiovisual aids, preserved worms and a take home study guide. Same pre-test investigations were repeated after 3 months of intervention.

Data analysis Statistical calculations were done with the statistical package for social sciences (SPSS). Descriptive statistics were expressed as frequency, percentage, mean and standard deviation (SD). Inferential statistics involving the paired t-test was used to find out the difference between pre- and post-intervention[13]. Results were considered statistically significant when $p<0.05$. In view of absenteeism, 462 children were selected out of 570, but for statistical purpose only 400 children were considered.

RESULTS

Description of demographic data The study comprised of 400 children with 91% belonging to the age group of 9 years and 9% to 10 years age group. Among them 54% were boys and 46% were girls. Regarding the mother's education, 49% were illiterates and 5% received college education. Among the father, 36% were illiterates and only 5% had received a college education. Evaluation of the employment status showed that 41% of the mothers were housewives, 22% were engaged in agricultural work and a small proportion (4%) was employed. Amongst the fathers, 28% were agricultural laborers and only 5% were employed. Looking into the family income, 9% earned <$250.00 per annum, 69% earned between $251.00 and $375.00 and only 5% earned above $500.00 per annum. Forty three percent of the families were urban dwellers and 57% of the families were residing in the slum area. The water supply was through pipelines in 52% of the houses and 16% used wells as the source of water. Thirty percent of the houses had closed lavatory system for disposal of excreta whereas 61% were defecating in the open fields.

Prevalence of Infestation Prevalence of worm infestation in this study has been shown in Table 1. The overall prevalence of worm infestation among 400 students was 51%. Of which round worm infestation was 28% highest in magnitude followed by 18% hook worm infestation and 5% pin worm infestation. Children also suffered with multiple worm infestation along with *E. histolytica* and *G. lambia* infections. After 3 months of treatment there was a significant decrease in overall prevalence to 9% ($P<0.001$).

Physical and biological characteristics in pre- and post-test subjects

General Appearance Out of these 400 children in pre test, 41% was well groomed, 32% had short clean nails, and only 25% were wearing sandals or shoes. In post test 91% were well groomed, 95% had short clean nails and 63% were wearing sandals or shoes.

Morbidity Information related to worm infestation Out of 400 children, 12% had present history of passing worms and 3% had past history of passing worms, in addition 7% had family history of passing worms. Forty one percent had abdominal pain, 3% had nocturnal perianal itching, 3% had bed wetting, 16% had loose stools, 1% had passed worms through nose and mouth, 37% had loss of appetite and 15% had itching and rashes all over the body.

Nutritional Status Hook worm infested children as shown in Table 2 had moderate anemia and rest of the infested and un-infested children had mild anemia. After 3 months of treatment the weight and hemoglobin levels showed significant improvement ($p<0.001$) (Table 2).

Health education Pre-test scores showed that attitude and hygienic practices were higher than the scores in the knowledge related to worm infestation. After health education knowledge, attitude and practices showed significant improvement ($p<0.001$) as depicted in (Table 3).

Table 1. Distribution of worm infected children by type of worm infection and pre-treatment hemoglobin level n=400

Types of Worm Infestation	Pre-treatment Infection		Post-treatment Infection		Pre-treatment Hemoglobin Level	
	n	%	n	%	Mean	S.D.
Pin Worm	18	5	3	1	10.70	0.32
Round worm	113	28	14	4	10.60	0.25
Hook worm	72	18	16	4	9.40	0.21
Overall prevalence	203	51	33	9	-	-
Uninfested	197	49	-	-	10.70	0.32

Normal : ≥ 12 g/dl Mild : > 10 g/dl to 11.9 g/dl
Moderate : 7 g/dl to 10g/dl Severe : < 7 g/dl [18]

Table 2. Comparison of nutritional status of children between pre- and post- treatment. n=400

	Pre-treatment		Post-treatment		Improvement Score	
Nutritional Status	Mean	SD	Mean	SD	Mean	SD
Height (cm)	126.18	7.19	126.41	7.60	0.24	3.05
Weight (kg)	23.01	3.81	24.61	3.61	1.61	0.79**
Hemoglobin (g/dl)	10.58	0.92	13.21	0.93	2.64	0.65**

* P<0.01 ** p<0.001

Table 3. Distribution of Knowledge, Attitude and Practices (KAP) scores about worm infection in children pre- and post-test. n=400

KAP	Variables		Post-test		Improvement Score	
Variables	Mean	SD	Mean	SD	Mean	SD
Knowledge	34.20	8.75	66.60	11.95	32.40	4.33**
Attitude	74.82	5.10	85.34	6.45	10.52	6.06**
Practice	58.40	6.41	90.58	6.13	32.18	2.73**

*p<0.01 **p<0.001

DISCUSSION

The present study indicates the prevalence in Tirupati is higher than Chandigarh(14.6%)[14] ,and is less than that of Karnataka (68%-71.3%) [15], but study comparison with other countries indicates the prevalence in Tirupati is higher than Nepal (21.3%)[16] and is lesser than Nigeria (77%)[17].

Effectiveness of Treatment In the present study the prevalence has reduced significantly from 51% to 9% (p<0.001) after 3 months of treatment. Results of this study show that treatment had a beneficial impact on the nutritional status of treated population. Children showed significant improvement in mean weight 1.61 Kg and mean hemoglobin 2.64 g/dl (p<0.001). But mean height was only 0.24 cm (not statistically significant). The study findings can be compared with the studies from Nigeria[17]. Anthelmintic treatment and iron supplementation arrested the decline in hemoglobin concentration in anemic children with helminthes infested children.

Effectiveness of Health Education Health education showed a significant improvement in the knowledge, attitude and practices (p<0.001). Behavioral changes were observed after health education. The children who could not change their practices attributed reasons to their mothers coming home very late, general lack of financial resources or lack of money due to expenditure on alcohol by fathers.

Limitations of the study Major limitation of the study is single group design with convenient sampling. Total strength of 4th grade children studying municipal elementary school in Tirupati is only 570 and the prevalence rate showed more than 50% in the pilot study itself. Hence the study could not be done based on a experimental versus and control group design. About 5% of the children did not participate in the study after stool examination confirmed that they were infested. The unpleasantness and practical difficulties of collecting stools were largely responsible for the poor compliance, especially among boys which led to a bias towards girls.

CONCLUSIONS

The advantage of periodic deworming lies in its simplicity (one tablet /child) and safety. Better Knowledge and habit formation regarding environmental sanitation and hygienic practices can help to reduce the incidence of worm infection in population, which in turn improves the health and economic condition of the world

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Problem Based Learning in Clinical Nursing Education

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ABSTRACT

As the trend in Nursing Education is changing, Clinical Nursing Education has become an integral part of academics. In order to enhance the integration of theory into practice, different teaching strategies have been used by nursing educators to facilitate student's learning. Among many strategies, Problem Based Learning is proved to be an effective approach to develop student's understanding not only in terms of problem solving skills but it also enhances self directed learning and critical thinking in them. In Pakistan, the component of Clinical Nursing Education is very challenging because of lack of knowledge, resources, and expertise in building connection between classroom teaching and clinical practice. To overcome these challenges the use of Problem Based Learning approach should be utilized not only in theoretical part of curriculum but also in the clinical aspect. Proper training should be given to educators to develop the skills of facilitating students at clinical site.

Key words: *Problem Based Learning, Clinical Nursing Education, Self Directed Learning*

INTRODUCTION

During recent decades a considerable change has been noticed in Nursing Education at Pakistan. New and innovative teaching learning strategies have been implemented in nursing education. However, a limited interest has been noticed towards the clinical teaching in nursing. Many individuals including nurses, students and faculty members consider clinical teaching as a separate component from Nursing Education. Theoretical aspect of nursing education is thought to be guided by cognitive and intellectual skills. However, the clinical component of nursing education is thought to be guided by practical hands on experience.[1-3] Considering the nature of work a nurse has to perform, the clinical component needs to be intertwined with the theoretical component of nursing education. Clinical experience of nursing students can be elucidated via theoretical knowledge and theoretical knowledge can be further extended and applied via clinical practice.[4] The nurses who are practicing in clinical area focus less on the application of nursing research in clinical practice which leads to a theory-practice gap.[5-7]

During clinical rotation students are expected to practice the learnt nursing skills along with the in-depth knowledge and scientific rationale to deepen the understanding of subject. In order to meet this goal a number of teaching methods and supervision models have been formulated, applied, and evaluated during last decades.[8-10] The need of training the faculty for facilitating student at clinical setting has also been identified.[11,12]

CLINICAL NURSING EDUCATION IN PAKISTAN

The clinical nursing education in Pakistan is one of the challenging parts. The nursing students at clinical site are usually supervised and guided by nursing staff working at hospital site. These nursing staff lacks the scientific knowledge and application of research into practice. The majority of nurses practicing at clinical site hold diploma in nursing based on the previous education system. Therefore, they lack the component of nursing research. In addition, majority of these nurses lack the training of working as preceptor. Thus, the supervision and facilitation provided to nursing student at clinical area is found to be insufficient. In order to bring improvement in clinical nursing education, steps needs to be taken.

PROBLEM-BASED LEARNING

A growing interest has been demonstrated by nursing students and faculty to learn via reflection as it promotes in-depth learning.[13-15] In order to promote in-depth understanding rather than surface learning, Problem-based Learning (PBL) approach is found to be effective.[16] PBL deals with the utilization of triggers that are generated through scenarios and cases. In this approach students are involved in independent and self directed learning before they return to group

for discussing and refining the acquired knowledge pertinent to the case.[17] PBL approach assist in empowering learners to integrate theory into practice. Learners develop skills to put forward solution for the given problem.[18] PBL approach has been utilized in a number of disciplines to foster critical thinking and problem solving skills. However, very limited studies have explored the effectiveness of PBL in clinical nursing education.[4, 19, 20]

CHARACTERISTICS OF PBL

Problem based learning is basically a tool which enables to develop skills like self directed and independent learning in students. It is not only related to solving a problem with the help of group rather it enhances the knowledge and understanding related to the problems.[17] There are some classic characteristics of problem based learning. As it is a student centered approach, they are given liberty and actively involved in finding solution of the problems. It involves integrated learning by analyzing given problem in a holistic manner. Additionally, teachers work as a facilitator or guider for students, which enhance long term learning and understanding future problems.[21]

Problem based learning usually involves real life cases and scenarios that are very effective in developing confidence in students. It also allows making direct association between the problem solving activity at school and in the actual world.[18]

ROLE OF CLINICAL NURSE EDUCATOR IN EXECUTING PBL

In past, PBL was not considered to be the part of clinical setting. However, the nurses have identified immense need to promote continuous and conceptualize form of knowledge into their practice by using problem based learning.[22]

Clinical nurse educator plays an important role in programming and conducting PBL in their own settings. It has been suggested that the primary accountability of educator is to assess learning needs of the group, recognize organizational goals and outcomes, develop objectives and criteria, make clinical scenarios accordingly, assign topics and then at the end evaluate.[23]

ROLE OF STUDENT IN IMPLEMENTING PBL

The responsibility of student in PBL shift from a traditional teacher centered approach to an independent self directed learning approach. It is an active process that sharpens student's analytical and critical thinking skills.[24]

Students assume different roles while investigating problems in groups. They build up their learning and educational skills via collective approach. In PBL students acquire the role of life long learners by solving a problem and exploring different strategies. Additionally, they acquire diverse behavioral characteristics and roles by following group dynamics as well as team building and skills of working under pressure. Furthermore, critical thinker, researcher, team builder and problem analyst are some of the roles of students that they learn to develop by PBL.[21,25]

BARRIERS FOR IMPLEMENTING PBL IN CLINICAL NURSING EDUCATION

PBL now days have become very effective and popular strategy among nursing students. However, there are some barriers that have been identified in literature which obstruct the way of successful implementation of PBL.

According to a study done on Opinions of an Iranian nursing faculty on barriers to implementing problem-based learning, suggest that 95% of the participants thought that lack of knowledge and skills in group work and active interaction are most important barriers. Whereas, other obstacles includes change in role of lecturer to facilitator, cost of implementation and maintenance, too many students and shortage of competent lecturers.[26]

FACILITATING PBL IN CLINICAL NURSING EDUCATION

Since many years preceptorship and role modeling methods have been in practice at clinical sites. However, as trends are changing PBL has been adopted as an integrated system of learning which helps students to implement nursing theoretical knowledge into practice.

PBLs are frequently practiced in theoretical part of curriculum and utilizing it in clinical aspects in nursing is scarce. A study conducted in Sweden on experiences of nursing students and their preceptors on incorporating PBL and new model of supervision in clinical education were encouraged by them. Moreover, it suggests that preceptors need to be trained in the process of PBL by continuous information, training and support.[4]

CONCLUSION

PBL has given a new dimension to Clinical Nursing Education. It helps us to incorporate theory which students learn in classroom setting with the clinical performed in hospital setting. It not only facilitates nursing students to utilize team work and critical

thinking skills in their work but also improves professional development among them.

Conflict of Interest: The authors have declared that no conflict of interest exists

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A Study on Knowledge and Attitude of Mothers Regarding Sibling Rivalry in a Selected Hospital and PHC in Mangalore with the view to Develop a Self Instructional Module

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ABSTRACT

Study Design : Descriptive survey approach and descriptive design was used to study the knowledge and attitude of mothers regarding sibling rivalry.

Objectives : To assess the knowledge and attitude of mothers regarding sibling rivalry. • To find correlation between knowledge and attitude of mothers regarding sibling rivalry. • To find association between knowledge and attitude of mothers and selected demographic variables. • To develop a self instructional module on management of sibling rivalry.

Summary of background data: Sibling rivalry is a common reality of life in families with more than one child. Hence parents play a vital role for preventing as well as reducing fights between the siblings.

Methods : Demographic proforma, knowledge questionnaire and attitude scale were distributed to 300 mothers who were having at least two children below 6 years of age and a self instructional module was given thereafter.

Results : Findings of the study showed that 198 (66%) mothers were in the age group of 26 to 30 years, majority 192 (64%) of mothers completed high school/PUC and 262 (87%) were housewives and 178 (58%) were belonged to nuclear family. Majority 271 (90.3%) of mothers had average knowledge on sibling rivalry and 189 (63%) of mothers had favourable attitude on sibling rivalry. There is a positive weak correlation between knowledge and attitude of mothers regarding sibling rivalry. There is a significant association between knowledge and attitude of mothers regarding sibling rivalry with their monthly family income.

Conclusion : The nurses have a vital role in creating health consciousness among the people and educating the family on improving approaches towards their children. They have to give guidance to parents for managing sibling rivalry.

Keywords : Sibling Rivalry, Mothers, Children at or Below 6 years of Age, Knowledge and Attitude.

INTRODUCTION

In most societies throughout the world, siblings usually grow up together and spend a good time of their childhood socializing with one another. This genetic and physical closeness may be marked by the development of strong emotional bonds such as love or hostility. While many children are lucky enough to become the best of friends with their siblings, it is common for brothers and sisters to fight. Often, sibling rivalry starts even before the second child is born, and continues as they grow and compete for everything from toys to attention. As they reach different stages of development, their evolving needs can significantly affect how they relate to one another. Sibling rivalry usually continues throughout childhood and can be very frustrating and stressful to parents.

About 80% of families are composed of more than one child, means most children have brothers and sisters. Many children get a new sibling during 3 to 5 years. The addition of a new sibling can be a huge transition for young children to go through, as they must start to share attention, affection, and space with another young child for the first time. Sibling rivalry is a common reality of life in families with more than one child.

The aim of the study was to assess the knowledge and attitude of mothers regarding sibling rivalry in a selected hospital and PHC in Mangalore.

MATERIALS AND METHODS

A descriptive survey approach was adopted using descriptive design. The study was conducted in a selected hospital and PHC in Mangalore. The sample comprised of 300 mothers who have at least two children below 6 years of age who came to hospital and PHC in Mangalore. Non probability sampling technique and purposive sampling method was used for selecting the samples for the study. Selection of mothers was done according to the sample criteria.

Data collection tools consisted of Demographic Proforma, Knowledge questionnaire and Attitude scale on sibling rivalry. The tools were submitted to 9 experts to establish the content validity.

Reliability of demographic proforma, knowledge questionnaire and attitude scale was established by administering the tools to 30 mothers who are following the criteria of the study. The reliability of knowledge questionnaire was tested by Split half method and the result was 0.735 and the tool was found reliable. The reliability of Attitude scale was tested by using Cronbach's alpha. Since the reliability is 0.7, the tool was also found reliable. Pilot study was conducted among 30 mothers and the study was found to be feasible.

An informed consent was taken from all the mothers individually after explaining the objectives and purpose of the study. Mothers were explained how to fill the demographic proforma, knowledge questionnaire and attitude scale regarding sibling rivalry. The purpose for the study was also explained to them. The self instructional module was given after completion of the tool and thanked the mothers for their co-operation.

ANALYSIS

The data were analysed using both descriptive and inferential statistics. Demographic characteristics were analysed by frequency and percentage. Level of knowledge and attitude of mothers regarding sibling rivalry were analyzed by descriptive statistics. The correlation between knowledge and attitude of mothers regarding sibling rivalry was analysed by Karl- Pearson's correlation coefficient. Association between demographic variables and knowledge and attitude of mothers were summarized in chi-square. Hypothesis was formulated based on the objectives.

RESULTS

Findings of the study showed that 198 (66%) mothers were in the age group of 26 to 30 years, majority 192 (64 %) of mothers completed high school/PUC and 262 (87%) were housewives. 183 (61%) husbands completed high school/PUC and 216 (72%) were daily wages. 151 (50%) of their monthly income was between Rs. 5000- 10,000 and 178 (58%) belonged to nuclear family. Among those mothers 168 (56%) were Muslims and 257 (85.7%) were having two children below 6 years. 246 (82%) of mothers had previous knowledge on sibling rivalry and most of them gained knowledge from family and also friends.

Table 1 Distribution of mothers according to her age (in years) n = 300

Age of mother (in years)	Frequency	Percentage
1. 20 – 25	32	10.7
2. 26 – 30	198	66
3. 31 – 35	69	23
4. 36 – 40	1	0.3

Table 2 Distribution of mothers according to educational qualification n = 300

Educational qualification of mother	Frequency	Percentage
1. No formal education	0	0
2. Primary school	92	30.7
3. High school/pre	192	64
university	16	5.3
4. Graduate	0	0
5. Post graduate		

Table 3 Distribution of mothers according to educational qualification of fathers n=300

Educational qualification of fathers	Frequency	Percentage
1. No formal education	4	1.3
2. Primary school	84	28
3. High school/pre	183	61
university	29	9.7
4. Graduate	0	0
5. Post graduate		

Table 4 Distribution of mothers according to her occupational status n= 300

Occupational status of mothers	Frequency	Percentage
1. Daily wages	16	5.3
2. Home maker	262	87.4
3. Private worker	22	7.3
4. Others (specify)	0	0

Table 5 Distribution of mothers according to occupational status of fathers n= 300

Occupational status of fathers	Frequency	Percentage
1. Daily wages	216	72
2. Unemployed	1	0.3
3. Private worker	83	27.7
4. Others (specify)	0	0

Table 6 Distribution of mothers according to monthly family income n= 300

Family income/ month (in Rs.)	Frequency	Percentage
1. ≤ 5000	92	30.7
2. 5001 – 10,000	151	50.3
3. 10,001 – 15,000	56	18.7
4. ≥ 15,001	1	0.3

Table 7 Distribution of mothers according to type of family n= 300

Type of family	Frequency	Percentage
1. Nuclear family	175	58.3
2. Joint family	118	39.4
3. Extended family	6	2
4. Single parent family	1	0.3

Table 8 Distribution of mothers according to religion n= 300

Religion	Frequency	Percentage
1. Hindu	93	31
2. Muslim	168	56
3. Christian	39	13

Table 9 Distribution of mothers according to total number of children below 6 years. n= 300

Total number of children below 6 yrs	Frequency	Percentage
1. Two	257	85.6
2. Three	41	13.7
3. Four	2	0.7

Table 10 Distribution of mothers based on previous knowledge on sibling rivalry

a). Previous knowledge on sibling rivalry	Frequency	Percentage
1. Yes	246	82
2. No	54	18
b). If yes, Source of previous knowledge (n= 246)		
1. Family	233	94.7
2. Friends	11	4.5
3. Media	0	0
4. Health personnel	2	0.8

Majority 271 (90.3%) of mothers had average knowledge on sibling rivalry, 26 (8.6%) had good knowledge and 3 (1%) had poor knowledge on sibling rivalry. The mean knowledge score was 10.86 where as the maximum possible score was 20. Majority 189 (63%) of mothers had favourable attitude on sibling rivalry and 111 (37%) of mothers had highly favourable attitude on sibling rivalry. The mean attitude score was 42.84 whereas the maximum possible score was 60.

There was a positive weak correlation between knowledge and attitude of mothers regarding sibling rivalry. There was a significant association between knowledge of mothers regarding sibling rivalry with their monthly family income. There was also a significant association between attitudes of mothers with their monthly income of family.

DISCUSSION

The analyzed data showed that the majority 271 (90.3%) of mothers had average knowledge on sibling rivalry, 26 (8.6%) had good knowledge and 3 (1%) had poor knowledge on sibling rivalry. The above result also justifies a study conducted to assess the knowledge of mothers regarding coping pattern of first child with arrival of second child revealed that majority (63.3%) of mothers had good knowledge regarding sibling rivalry and coping pattern; 36.7% had poor knowledge on sibling rivalry and coping pattern.[7]

In the present study majority 189 (63%) of mothers had favourable attitude on sibling rivalry and 111 (37%) of mothers had highly favourable attitude on sibling rivalry. The present study shows that there is a positive correlation between knowledge and attitude of mothers regarding sibling rivalry.

The present study shows that there is a significant association between knowledge of mothers and selected demographic variables like monthly family income. The findings were contradictory with a study on assessing the knowledge of mothers regarding coping pattern of first child with arrival of second child. It revealed that there was an association between knowledge levels of mothers with their educational status. [7] The present study also shows that there is a significant association between attitude of mothers and selected demographic variables like monthly income of family.

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Knowledge, Attitude, Problems Faced and Remedial Measures Adopted by Menopausal Women

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ABSTRACT

A study to assess the knowledge, attitude, problems faced and remedial measures adopted by menopausal women, to determine the relationship between the knowledge, attitude, problems faced and remedial measures adopted by menopausal women. A total of 100 menopausal women were selected purposively to collect the data using structured interview schedule for knowledge, attitude scale for attitude and checklist for the problems faced and remedial measures adopted. It was found that 65 menopausal women had average knowledge, 72 had moderately favorable attitude, majority of them were facing different problems and adopted various remedial measures to get relieve of the menopausal problems. Although the menopausal women had average knowledge about menopause, every woman was not using the remedial measures; knowledge had influence on the attitude of menopausal women and their perception of menopausal problems. Some menopausal women sought medical treatment for these problems others used some home remedies. Based on the findings, an informational booklet was developed because there is a need to educate the women about different aspects of menopause and its management at different stages, so that they can adapt to the transitional phase in their life in the best manner.

Key words: *Knowledge, Attitude, Problems Faced, Remedial Measures, Menopausal Women.*

BACKGROUND OF THE STUDY

Menopause is a time of great change. It is the adolescence of older age but better than adolescence of youth because menopausal women have confidence and experience. The transition to menopause can be a time of reflection and inspiration. Many women experience a new found sense of freedom and anticipate personal growth[1]. Average age of menopause is 47 years old in India. But there is no way to predict when an individual woman will enter menopause. Majority of the menopausal women spend more than one third of their life span during postmenopausal period. Most women reach menopause between the ages of 45 and 55, but menopause may occur as earlier as the 30s or 40s or may not occur until a woman reaches her 60s. Stress score of whole life was found to be more among women who attained early menopause in both urban and rural settings[2].

Some women may experience few or no symptoms of menopause, while others experience multiple physical and psychological symptoms. The extent and severity of symptoms varies significantly among women[3,4]. As most women approach menopause, their menstrual periods become irregular. Other common signs are achy joints, night sweats, difficulty in concentrating, and changes in sexual desire, headaches, extreme sweating, hot flashes, frequent urination, insomnia, vaginal dryness and mood changes[5]. A study finding revealed that change in menstrual cycle was the hallmark of menopausal phase and included delayed periods, heavy bleeding, scanty periods or a mixed pattern. Diminished acuity of vision was the most commonly reported menopausal symptom. Most women welcomed menopause. Use of hormone replacement therapy was not reported by anyone. Although North Indian women experienced various symptoms at menopause, they largely ignored these, while welcoming the freedom from menstruation-related worries[8]. The decision about hormone therapy is very individual decisions in which the patient and doctor must take into account the inherent risks and benefits of the treatment along with each woman's own medical history.[6] Low Fat, High Fiber Diet & Physical activities make cardio vascular problems less significant. Physical activities, diet high in phytoestrogen & sunlight exposure leads to relatively low Incidence of fractures. Urogenital problems including prolapse are more seen due to lack of hygiene, multiparity & lack of regular check ups[7].

A study conducted in South Delhi revealed that most of the menopausal women (64%) adopted discussion with their husbands or others as remedial measures, 54% of the menopausal women had inadequate knowledge and 51% had positive attitude towards menopause. There was a positive correlation between the knowledge regarding menopause and remedial measures adopted by them whereas negative correlation was found between their attitude and the problems faced by them.[8] Women lack necessary information related to menopause and management of menopausal phase of life. Some women go through a battery of physical and psychological symptoms during their midlife which cannot be attributed to any pathological causes. Yet there are others whose symptoms are due to pathological causes, but fail to recognize them as such and attribute their symptoms to menopause only to discover at a later stage that they were grossly mistaken. Education in this area could help women in distinguishing the symptoms of manifestations of menopause from pathological symptoms as well as to learn to cope the problems. There was a need for preparing written education material for menopausal women because nurses are the main resource persons to disseminate information on health matters in order to help the menopausal women. The present study was thus undertaken with objective to assess the knowledge, attitude, problems faced and remedial measures adopted by menopausal women with a view to develop and validate an informational booklet on 'Living well with menopause'.

MATERIAL AND METHODS

Research approach: Survey research approach

Research design: Descriptive correlational research design.

Setting: This study was conducted in MMIMSR & Hospital, Mullana

Study population: Menopausal women present at MMIMSR & H, Mullana

Inclusion criteria: Menopausal woman who had secondary amenorrhea since past one year, belongs to age group of 45-60 years, who were willing to participate and available at the time of data collection.

Sample and sampling technique: Total sample comprises of 100 menopausal women selected with purposive sampling technique.

Development of the tool: A structured interview schedule and an attitude scale was developed after an extensive review of research and non research literature, taking opinion of experts and the investigator's professional experience into consideration.

Description of the tool: Tool I consisted of demographic characteristics and structured interview schedule included 40 multiple choice items related to menopause. Each item had a single correct answer. Tool II consisted of attitude scale, 30 items i.e. 15 positive and 15 negative items. Tool III consisted of checklist to assess the problems faced by menopausal women and scored as one and zero respectively. According to the problems faced, women responded about the remedial measures adopted by them or not. The minimum and maximum score was 0 and 21. Multiple responses could be responded by menopausal women about the problems faced by them and each was given a score of 1.

The validity of the tool was established by consultation with experts. Reliability of the structured interview schedule and checklist of problems faced with KR 20 was 0.78 and 0.76 respectively. Reliability of attitude scale with Crohn Bach Alpha was 0.84. Pre testing of the tool was done to check the clarity, feasibility and practicability of the items and it was found to be clear and feasible. An informed verbal consent was taken from the study subjects. The data was collected from 9 am to 6 pm and it took 50-55 minutes to complete the structured interview technique. The data was then transferred into SPSS 15.0 evaluation version and was analyzed using descriptive and inferential statistics.

Findings

It was found that maximum numbers of the menopausal women (36%) were in the age group of 53 years and more, 42% were illiterate, 38% were Muslim. Maximum (63%) were unemployed, 64% belong to joint family and the nuclear family (36%). Maximum menopausal women (57%) had monthly income less than 5,000 per month. Most of them were vegetarian (60%), 86% were married, 74% had more than two children, 96% were staying with their children whereas 4% were staying alone. Seventy one percent of them (71%) did not have any exposure to mass media, only 29% had exposure to mass media i.e. newspaper/ magazine (24%), radio (4%), television (1%). (Table 1)

Table 1: Frequency and Percentage Distribution of Subjects by Sample characteristics N= 100

S. No.	Sample characteristics	f (%)
1.	**Age (in years)**	
	45-47	17
	48-50	27
	51-53	20
	53+	36

2.	**Education**	
	Illiterate	42
	Primary	14
	Secondary	19
	Senior Secondary	16
	Graduate & above	09
3.	**Religion**	
	Hindu	28
	Sikh	22
	Muslim	38
	Christian	12
4.	**Occupation**	
	Unemployed	63
	Self employed	15
	Private	13
	Government	09
5.	**Type of family**	
	Nuclear	36
	Joint	64
6.	**Family income (in Rs.)**	
	<5,000	57
	5,000-10,000	29
	10,001-15,000	07
	15,000+	07
7.	**Dietary Habits**	
	Vegetarian	60
	Non- vegetarian	40
8.	**Marital status**	
	Married	86
	Separated/divorced	06
	Widowed	08
9.	**Number of children**	
	Single	01
	Two children	29
	More than two children	70
10.	**Mothers staying with children**	
	Yes	96
	No	04
11.	**Exposure to mass media**	
	Yes	29
	No	71
12.	**Type of mass media exposure**	
	No	71
	Television	01
	Radio	04
	Magazine/newspaper	24

Maximum menopausal women (65%) had average knowledge followed by 30% had adequate knowledge and only 5% menopausal women had poor knowledge about menopause (Table 2).

Table 2: Frequency and Percentage Distribution of Knowledge Scores Obtained by Menopausal Women (N=100)

Level of knowledge	Knowledge Scores	f (%)
Poor	0-13	5
Average	14-26	65
Adequate	27-40	30

Most of the menopausal women (72%) were having moderately favorable attitude towards menopause followed by 27% had favorable attitude and only 1% had unfavorable attitude towards menopause (Table 3).

Table 3: Frequency and Percentage Distribution of Attitude Scores of Menopausal Women (N=100)

Attitude Level	Attitude Score	f (%)
Unfavorable	30-70	1
Moderately favorable	71-110	72
Favorable	111-150	27

Mean and median knowledge scores obtained by menopausal women on structured interview schedule was 23.26 and 23.5 whereas mean and median of attitude score obtained on attitude scale was 102.29 and 89.3 respectively. Standard deviation of knowledge score was ±6.01 and SD of attitude scores was ±12.29 which show that menopausal women had average knowledge but they had variable attitude towards menopause (Table 4).

TABLE 4: Mean, Median and Standard Deviation of Knowledge Scores and Attitude Scores (N=100)

	Mean	Median	Standard deviation
Knowledge Scores	23.26	23.5	6.01
Attitude scores	102.29	89.3	12.29

Table 5 reveals that menopausal women responded about multiple problems related to menopause. Musculoskeletal problems (114) were reported more followed by cardiac problems (73) and skin problems (72). Cardiac problems reported by menopausal women were tiredness (50) and palpitations (23). Skin problems were hot flashes (34), dry skin (25), dry vagina (8) and sensation of butterflies on abdomen. Most of the menopausal women (61) suffered from neurological problems like headache (47), difficulty in sleeping (11) and poor memory (3). Psychological

problems were also reported that were irritability and anxiety (21), mood swings (14), feeling of being unloved (5) and difficulty in decision making (01). Other problems verbalized were weight gain (14) and decreased vision (7). Only 15 menopausal women reported about genitourinary problems i.e. frequency of micturition (09) and descent of genital organs (6) followed by sexual problems (9) like dyspareunia (7) and loss of libido (2). Nearly equal number of menopausal women used remedial measures for dry skin (22), joint pain (21), tiredness (20) and backache (19). Out of thirty four menopausal women (34) suffering from skin problems, only 13 menopausal women used remedial measures for hot flashes followed by 7 women used remedies for headache. None of the menopausal women used any remedial measures for sensations of butterflies on abdomen, dry vagina, difficulty in sleeping, genitourinary problems, loss of libido, psychological problems.

Table 5: Frequency Distribution of Problems Faced, Seeking Treatment and Remedial Measures used by Menopausal Women (N=100)

Sr no	Problems	n	Menopausal women suffering f	Seeking treatment f	Using any remedial measures f
1	**Skin Problems**	72			
	Hot flushes		34	05	13
	Sensation of butterflies on abdomen		05	01	00
	Dry skin		25	01	22
	Dry vagina		08	00	00
2.	**Musculoskeletal Problems**	114			
	Joint pain		61	21	21
	Backache		53	21	19
3.	**Cardiac Problems**	73			
	Palpitations		23	01	03
	Tiredness		50	20	20
4.	**Neurological Problems**	61			
	Headache		47	25	07
	Poor memory		03	00	01
	Difficulty in sleeping		11	00	00
5.	**Genitourinary Problems**	15			
	Frequency of micturition		09	00	00
	Descent of genital organs		06	00	00
6.	**Sexual Problems**	09			
	Dyspareunia		07	00	02
	Loss of libido		02	00	00
7.	**Psychological Problems**	41			
	Irritable & anxious		21	00	00
	Mood swings		14	00	00
	Feeling of being unloved		05	00	00
	Difficulty in decision		01	00	00
8.	**Other**	21			
	Decreased vision Weight gain		07 14	01 01	00 09

Table 6: Frequency Distribution of Remedial Measures Adopted by Menopausal Women (N=100)

Sr no.	Measures taken for problem	n	f
1.	**Skin problem**	35	
	Oil application		9
	Water intake		13
	Cream application		13
2.	**Musculoskeletal problems**	45	
	Frequent rest		16
	Belt users		01
	Massage		12
	Homeopathic/ Ayurvedic		10
	Home remedy (Aloe Vera)		02
	Heat applications		01
	Self medication (pain killers)		03
3.	**Cardiac problems**	36	
	Dietary changes		17
	Rest		19
4.	**Neurological problems**	11	
	Rest		04
	Homeopathic medication		01
	Dry fruits		01
	Self medication		02
	Tea/coffee		03
5.	**Sexual problems**	02	
	Using oil as lubricant		02

Table 6 shows that out of total sample, 45 menopausal women used remedial measures for musculoskeletal problems i.e. frequent rest (16), ayurvedic/homeopathic (10), massage (12), self medication like pain killers (03), home remedies like aloe vera (02), belt users and heat application (1). For cardiac problems, 19 menopausal women used rest as remedial measures, 17 menopausal women modified their diet. Equal number of menopause women (13) used water intake and cream application whereas only 9 menopausal women used oil as remedial measures for skin problems. Nearly equal number of menopausal women used various remedial measures for neurological problems like rest (4), tea/coffee (3), self medication (2), homeopathic medication and dry fruits (1). Only two menopausal women used oil as a lubricant to get relieve of sexual problems.

Table 7: Correlation Matrix between Knowledge, Attitude, Problem Faced and Remedial Measures Adopted by Menopausal Women (N=100)

	Remedial measures	Problems faced	Attitude
Knowledge	-0.003	0.218*	0.551***
Attitude	0.126	0.216*	-------
Problems faced	0.462***	--------	

Table 7 reveals that the dimension of knowledge attained negative correlation level to remedial

measures adopted by menopausal women. So, it shows that although the menopausal women had average knowledge about menopause, they were not using the remedial measures to get relieve of the menopausal problems. Table reveals that dimension of knowledge was found positively significant correlated to problems faced and attitude of menopausal women. Knowledge had influence on the attitude of menopausal women and their perception of menopausal problems.

Attitude was found non significant in correlation to remedial measures whereas there was highly significant positive correlation to problems faced by menopausal women. Menopausal women were suffering from different menopausal problems, they had moderately favorable attitude towards menopause. The third dimension, problems faced was found to be highly significant and positive correlation level to remedial measures. It means the menopausal women who had the menopausal problems, they were using some or the other remedial measures to get relieve of the menopausal problems.

CONCLUSION

It was concluded that menopausal women had average knowledge about menopause in all the content areas. The sample subjects had moderately favorable attitude towards the menopause. Majority of the women had problems during their menopausal period i.e. musculoskeletal problems, skin problems, neurological problems. Some menopausal women sought medical treatment for these problems others used some home remedies. Common home remedies adopted by menopausal women were like drinking plenty of water for hot flashes, use of cream applications for skin problems and for musculoskeletal problems, rest, pain killers, aloe vera and other measures were adopted as home remedies for menopause.

AREA OF CONFLICT- NONE

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A Study to Assess the Knowledge and Attitude of School Teachers Regarding Learning Disabilities Among Children in Selected Schools at Bhilai C.G

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ABSTRACT

Background: School teachers possess very limited knowledge on learning disability among children and have negative feeling towards children with learning disability of the developmental disorders learning disability plays a significant role as a silent handicap among children..

Objective: To determine the knowledge and attitude on learning disabilities among school teachers and develop a 'Self Instructional Module on Learning Disabilities 'for teachers .

Materials and Methods: This descriptive study was conducted among 60 primary school teachers selected by Convenient sampling technique from selected schools at Bhilai. A structured questionnaire for knowledge and attitude scale for attitude assessment was used.

Results: The study revealed that none of teachers had excellent knowledge on learning disability but almost all (98.3%) had highly favourable attitude towards such children. A positive correlation (r = +0.83) was identified between knowledge and attitude of teachers towards children with learning disability. A Self Instructional Module was developed and distributed among the teachers to improve their knowledge on this aspect.

Key words: *Leaning Disability; Attitude; Knowledge; Disabled Children; School Teachers*

INTRODUCTION

"It is our responsibility to ensure bright future for today's children so that tomorrow's society will benefit"

- Dan Offord

Today's children are tomorrow's citizens. They are in a continuous process of growth and development. Any alteration in its course leads on to developmental disorders. Of the developmental disorders learning disability plays a significant role as a silent handicap among children. Devivasigamani reported a prevalence rate of 20-33 % of psychiatric disorders in school children in Indian setting. Among them Learning Disorder constitute 3-7% [2]. According to National Institute of Health, Learning Disability is" A disorder that affect people's ability to either interpret what they see and hear or to link information from different parts of the brain. Such difficulties extent to school work and can impede learning to read, write or do maths"[4]. As there are no specific test to identify children with learning disability, health professionals have to rely mainly on teacher's report for its diagnosis. Previous studies have proved that teacher's attitude towards such children have great influence towards their recovery[1]. Making the child aware of a disability is a great service to the child. Unless such children are identified and properly treated, they may develop secondary emotional, social and family problems[8].

It is in this context, the importance of a teacher become vital in safeguarding and promoting the mental health of children and early identification of deviations from normal. This is especially true in Indian setting where there is considerable shortage in mental health facilities for children[6].

The major constraint faced by Learning Disabled appears to be the lack of proper knowledge and positive attitude exhibited by professionals within the field of education. Many teachers are having a tendency to label these children as being stupid or lazy. Such ill treatment can lead to the development of secondary emotional problem, behavioral problems, and reduction in self-esteem and high suicidal rates[1]. Huntington and Bender concluded that adolescents with learning disabilities experience higher levels of trait anxiety and have higher prevalence of somatic complaints and were more shy in seeking help and

were more victims of bullying[5].

The growth in the number of children with disabilities exceeds the growth in both the resident population and the school enrollment. But according to Prasad M, the Mental Health Services available to provide psychological care to emotionally disabled children in India is very meager[3]. WHO insisted on the fact that, mental health program should utilize trained teachers to improve the psycho social aspect of the school children. Mental Health inputs in the School Health Program are likely to play a major role in the amelioration of social, behavioral and learning problems in school children[7]. Research studies supported the use of teacher ratings for initial screening and identification of students at high risk for social-behavioral problems. As a method of management teacher must assess their ability, interest, creativity and commitment to the specific field areas of the human endeavour[9]. This process utilizes the teacher's knowledge of the child through observations of student behaviors within the learning environment. While dealing with underachievers, this knowledge will help in differentiating children who are lazy and will not do the work or teach disabled who cannot do the work

Samson says, ''Today's children are tomorrow's citizen and leaders. The resources spent on their care is an investment for the future''[10]. So the country should be ready to spend much attention and time to evaluate and give adequate orientation in the early diagnosis of common learning problems of children. Thus teachers will be a dynamic force, instrumental and indispensable to mental health team for promoting and preventing mental disorders.

The researcher during school health programs noticed that all the students were forced to follow the same syllabus irrespective of their difference in the capacity to learn. Students who were weak in their scholastic performance were labeled as lazy .No attempt was made to identify any pathology behind their poor performance which in turn further reduced their confidence. Similarly no attempt was made to identify and foster their capabilities in other fields. These observations inspired the researcher to select this topic for the study.

OBJECTIVES

1. To assess the level of knowledge of teachers regarding learning disabilities among children.
2. To measure the attitude of school teachers towards children with learning disabilities.
3. To associate the knowledge of school teachers with selected socio demographic variables.
4. To associate attitude of school teachers with selected socio demographic variables.
5. To correlate the knowledge and attitude of teachers regarding learning disability.
6. To develop a 'Self Instructional Module on Learning Disabilities 'for teachers.

MATERIALS AND METHODS

A descriptive research design was adapted to conduct the study. Target population was primary school teachers of various B.S.P Schools in Bhilai. This study was conducted in the months of March 2006. Prior permission was sought from concerned school authorities. A structured questionnaire for knowledge and attitude scale for attitude assessment was used. Tool consisted of Socio-demographic Variables, Knowledge Questionnaire, Attitude Statements. The subjects were informed about the study and confidentiality of the responses was ensured. Expert opinion and pilot study was conducted for the purpose of validity and reliability of the tool and was found to be feasible and valid. 60 samples were selected from the target population by convenient sampling. Data was collected in five days and analyzed using inferential and descriptive statistics. Level of significance was set as $p<0.05$.

FINDINGS

a) Socio-demographic Characteristics.

In section (a) the researcher analyzed and categorized the subjects of study into various groups based on the socio demographic variables .

Table 1. N = 60

Sl No	Variables	Frequency	Percentage(%)
	Age in years		
1	25 – 29	16	26.67
2	30 – 34	21	35
3	35 - 39	14	23.33
4	≥ 40	9	15
	Gender		
1	Male	4	6.67
2	Female	56	93.33
	Educational qualification		
1	Teacher's Training Programme	3	5
2	B.Ed	46	76.67
3	M. Ed	2	3.33
4	Others	9	15
	Marital status		
1	Married	52	86.67
2	Unmarried	7	11.67
3	Widow	1	1.66

Knowledge of child psychology			
1	Studied Child Psychology	55	91.67
2	Not Studied Child Psychology	5	8.33
Attended Inservice Education			
1	Attended In service Education	55	91.67
2	Not Attended In service Education	5	8.33
Experience with Learning disabled children			
1	Taught children with Learning Disability	0	0
2	Not Taught children with Learning Disability	60	100

Table 1 shows the distribution of teachers based on their age. Maximum number 21 (35%) of school teachers belong to age group 30 – 34 years of age group and only 9 (15%) were above 40 years. Majority of the teachers that is 56 (93%) were females and only 7% of them were males. 75% of teachers had B Ed , 5% had Teacher's Training Certificate, 3.33% M Ed and remaining 16.66% had other qualifications like Montessori Training ,BA, MA etc. Majority of school teachers 52(86.67%) were married, 7(11.67%) were unmarried and 1(1.66%) per sample was widow. A major proportion 91.67% of subjects had studied Child Psychology in their curriculum and rest of them 8.33% of subjects did not have Child Psychology in their curriculum. Only 8.33% had attended In-service Education on problems of Learning whereas 91.67% had not attended any such programs. Out of 60 samples nobody had an opportunity to teach children with Learning Disability

b) Relationship Between The Selected Socio – Demographic Variables With The Knowledge Scores

The section (b) brings out the association between the knowledge of school teachers regarding Learning Disability and the selected socio demographic characteristics. In order to determine the significance of the relationship, chi – square and Fisher's Exact Test were used. Teachers were divided into two groups based on the knowledge score. Those who scored the below or equal to the median score (20) and those who scored above the median score (20).

Table 2 : Statistical Inference based on Chi Square test between above and below median of knowledge score of the subjects based on each demographic variable

Sl No	Socio demographic variables	Frequency of subjects ≤ median value(20)	Frequency of subjects > median value(20)	Total Frequency	Chi Square	Result
1	**Age in Years**				0.752	Not Significant
	≤ 34 years	18	19	37		
	> 34 years	9	15	23		
2	**Gender**					
	Male	2	2	4	0.641*	Not Significant
	Female	26	30	56		
4	**Education Qualification**					
	B.Ed &M.Ed	19	29	48	0.042*	Significant
	Others	10	2	12		
5	**Marital Status**					
	Married	24	28	52	0.576*	Not Significant
	Others	4	4	8		
6	Studied Child Psychology	32	23	55	0.798*	Not Significant
	Not studied Child Psychology	5	0	5		
7	Attended In service Education	0	5	5	0.05*	Not Significant
	Not Attended In service Education	27	28	55		

* Fisher's Exact Test
Significant at 5% level (P<0.05)

Table 2 presents the substantive summary of Chi- square analysis, which was used to bring out the relationship between knowledge of teachers on learning disability and socio demographic variables. There was no significant association between knowledge and age of teachers (X^2=0.752 P< 0.05. In order to find out the association between knowledge and sex of the teachers Fishers exact test was done. There was no significant association between knowledge and sex of teachers(X^2=0.641P< 0.05). There is significant association between knowledge and educational qualification of the teachers (X^2=0.042 P< 0.05)**.** There was no significant association between knowledge and marital status of teachers(X^2=0.576 P< 0.05).There was no significant association between knowledge and Child Psychology in the curriculum

and between knowledge and in service education of teachers (X^2=0.798 P< 0.05),(X^2=0.05 P< 0.05) respectively.

c) Relationship Between The Selected Socio – Demographic Variables With The Attitude Scores

In this section, the researcher brings out the association between the attitude of school teachers regarding Learning Disability and the selected socio demographic variables using Chi – square and Fisher's Exact Test. The teachers were categorized into two groups based on the median attitude score (80.5) on Learning Disability, namely those who were below or equal to median score and those who were above the median score.

Table 3 : Statistical Inference based on Chi-Square test between above and below median of Attitude score of the subjects based on each demographic variables.

Sl No	Socio demographic variables	Frequency of subjects ≤median value(80.5)	Frequency of subjects >median value(80.5)	Total	Chi Square	Results
1	**Age**					
	≤34 years	22	15	37	4.87	significant
	>34 years	7	16	23		
2	**Gender**				*	
	Male	2	2	4	0.66	Not
	Female	27	29	56		significant
4	**Educational qualification**					
	BEd & MEd	22	26	48	0.27*	Not
	Others	8	4	12		significant
5	**Marital status**				*	
	Married	29	23	52	0.52	Not
	Others	4	4	8		significant
6	Learned Child Psychology	26	29	55	*	
	Not learned Child Psychology	3	2	5	0.46	Not significant
7	Attended Inservice education	1	4	5	*	Not
	Not attended Inservice education	28	27	55	0.36	significant

* Fisher's Exact Test
Significance at P<0.05

Table 3 shows analysis used to bring out the association between attitude of school teachers towards learning disabled children and socio demographic variables. Chi square test and Fisher's Exact Test (where sample size is less than five), were used to calculate the significance in the association between attitude and socio demographic variables. There was significant association between attitude and age of teachers as calculated value of the Chi- square (4.87) was greater than the table value(3.814) at 5% level of significance. As P calculated (0.66) was greater than 0.05 there was no significant association between attitude and sex of teachers. As calculated P value (0.27) was lower than the table value the association between attitude and educational qualification of teachers was not significant. P value is calculated to find the significance in the association between attitude and marital status of the teachers was 0.52. Since it was higher than 0.05, there was no significant association between knowledge and marital status of teachers. As calculated P value (0.46) was greater than 0.05, the association between attitude and Child Psychology in the curriculum of teachers was found to be insignificant. There was no significant association between attitude and in service education of teachers as P value was calculated (0.36) which is greater than 0.05.

d) Level Of Knowledge Of The Subjects

Table 4. Frequency and Percentage distribution of teachers according to the knowledge score on learning Disability

Good knowledge – >75%
Average knowledge – 50-75%
Poor knowledge - <50%

Sl No	Level of knowledge	Frequency	Percentage (%)	Mean score	Mean percentage score (%)	SD
1	Good	0	0	0	0	0
2	Average	35	58.33	24.6	61.5	2.8
3	Poor	25	41.67	16.16	40.4	2.2

Table 4 indicates that, majority of teachers (58.33%) had average knowledge on learning disability. Out of 60 samples,25(41.67%)had poor knowledge regarding learning disability. No teachers possessed good knowledge on the subject. Mean score obtained for average knowledge level was 24.6 and mean percentage score 61.5% with a SD 2.8. For poor knowledge level, mean score was 16.6 and mean percentage score 40.4% with SD 2.2.

Table 5. Frequency and Percentage distribution of subjects according to the Attitude score on Learning Disability

Highly favourable Attitude – >75%
Favourable Attitude - 75-50%
Unfavourable Attitude – <50%

Sl No	Level of knowledge	Frequency	Percentage (%)	Mean score	Mean percentage score (%)	SD
1	Highly favorable attitude	59	98.33	80.71	89.6	6.61
2	Favorable attitude	1	1.67	68	75.55	0
3	Un favorable attitude	0	0	0	0	0

Table 5shows that out of 60 samples 59 (98.33%) had Highly favorable attitude towards problem children. Only 1(1.67%) in Favorable level and none in Unfavorable attitude level. Mean score for highly favourable attitude was 80.71 and mean percentage score 89.6 %with a SD of 6.61.For favourable attitude, mean score was 68 and mean percentage score 75.55%.

Table 6. Mean and Correlation between Knowledge and Attitude score of teachers regarding learning disability

Particulars	Mean	SD	Coefficient of Correlation
Knowledge	21.08	5.93	+0.833
Attitude	80.5	6.59	

Table 6 shows that there is positive correlation between knowledge of teachers regarding learning disability and their attitude towards such children. Correlation Coefficient is found to be +0.833 with test of significance 6.3.

e) Preparation of Self Instructional Module

As per the objective, a Self Instructional Module on Learning Disability based on the knowledge and attitude of teachers was prepared. It can be utilized as an effective self learning material by teachers. It helps to enhance their ability to identify and manage such children or can be properly referred.

CONCLUSION

The study revealed that the level of knowledge regarding learning disability was low among school teachers but in general, most of them had highly favourable attitude towards such children. A positive correlation was identified between knowledge and attitude score of teachers on the subject. A Self Instructional Module was developed and distributed among the teachers to improve their knowledge on this aspect. The findings of the study have implications on the field of nursing education, practice and research. The study concluded that need for providing knowledge on learning disability is an important strategy to utilize teachers as effective contributors towards child mental health services.

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Conflict of Interest: Nil

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Prevalence and Factors Influencing Alcohol Use among High School and Higher Secondary School Students

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INTRODUCTION

(The World Health Organization[1]) estimates that there are about 2 billion people worldwide who consume alcoholic beverages and 76.3 million with diagnosable alcohol use disorders. Globally alcohol causes 3.2% of all deaths or 1.8 million deaths annually and accounts for 4.0% of disease burden. Alcohol consumption has health and social consequences via intoxication. (drunkenness), alcohol dependence, and other biochemical effects. In addition to chronic diseases that may affect drinkers after many years of heavy use, alcohol contributes to traumatic outcomes that kill or disable at a relatively young age, resulting in the loss of many years of life due to death or disability.

Alcohol abuse causes economic social and emotional problems for the addict as well as his family apart from causing medical problem for the individual. Besides severe health problems, accidents also take place while driving after alcohol consumption resulting in head injuries and hospitalizations (Alcohol Atlas of India[2])

Alcoholism can be defined as a chronic and progressive disease characterized by a loss of control over the use of alcohol with subsequent social, legal, psychological and physical consequences (Singh et al[3]).

Key words: *Alcohol use, Prevalence, Instructional Programme, Attitude, Factors*

MATERIAL AND METHODS

Research Design :	Phase I- Descriptive Design &Phase II- Quasi Experimental Design
Setting of The Study :	In selected high school & higher secondary schools in Trivandrum district.
Sampling Technique :	Multistage Sampling
Sample Size :	3000 in phase I & 300 in phase II
Data Collection Tool :	Semi- Structured Questionnaire
Data Analysis	Descriptive statistics & inferential statistics

DATA COLLECTION PROCESS

Prior permission was taken from the Ethical committee, Research committee and School authorities. The data was collected by distributing questionnaire and the subjects filled the answers themselves. The questionnaire were given to the students on a random basis. A week after the pre test, a post test was conducted with the same questionnaire used during the pretest.

In the first phase of the study, 3000 students who were selected as samples were briefed on the purpose of the study after which a questionnaire was administered to them.

In the second Phase of the study the 300 samples that were selected were administered a pre test followed by a short film show and an educational teaching programme. A Post Test was conducted, after a week later with the same questionnaire used for pretest.

FINDINGS

Of the 568 drinking population, the highest percentage of alcohol use in school students were among Christians(22.7%), residing in joint family(20.9%), in urban area (21.9%),staying in their relatives house(32.1%), showed greater tendency towards alcohol use.

The Life Time prevalence of alcohol use among students was 18.9% (95% CI: 16.25-21.84), out of 3000 population. Most of the students were in age group between 13-15(9.2%) years. The age of initiation/ first use of alcohol was at 10-12(7.2%) years. The alcoholic beverages most preferred were beer (8.3%), spirits (mainly whisky and brandy) (4.6%),arrack 1.1%, toddy 1.1% and wine (3.8%). Subjects with family income between Rs.3001-5000 (High income groups) showed greater percentage (25.1%) towards alcoholism compared to mid /low income groups. Also the majority of (13.3%) students were *light drinkers*

consumed ie (less than 150mL), 4.1% were *moderate drinkers* (between 151-350ml).

The current (Past 30 Days preceding the survey) prevalence of alcohol use was 18.3% out of 3000 population. 41.6% (95% CI: 38.15-45.18)of students had one family member with the habit of drinking alcohol, of which majority were (40.7%) of students fathers. 10.0% of students preferred to drink alone. The most preferred places of drinking were (9.5%) at home,6.4% in school, in bars (1%) and 0.8% in outdoors. 15.2% of students quarreled with family, friends and strangers after consuming alcohol, about 1.4% of students attended the class after drinking and about 0.5% of boys were caught by teacher, and 1.2% of subjects met with accident after consuming alcohol.

The factors that influenced students to use alcohol were availability of alcohol at home (10%), the influence of friends (1.9%), during celebrations (1.9%), during personal problems (1.4%), during any school problems (1.0%) and for enjoyment (1.8%).

The overall mean post-test knowledge score (64%) was significantly higher than the mean pre-test knowledge score (68.1%).The computed z value z=14.78,p value 0.0001, ($p<0.05$) showed that there is a significant difference between the two mean knowledge scores.

During the pre-test only 46(15.3%) subjects had Negative attitude towards alcohol use. During post test about 250(83.3%) subjects had Negative attitude towards alcoholism. The computed z value is 11.67and p value is 0.0001($p<0.05$) showed that there is a significant difference between the two mean attitude scores. This shows that the (structured teaching programme) intervention was efficacious to change the attitude of the students against alcoholism.

CONCLUSION

Findings of the study imply that prevention of alcoholism is best accomplished by abstinence. Abstinence, and also heavy and frequent use of alcohol, are common in this population and the latter is likely to have significant public health implications. The knowledge of factors associated with alcohol abuse, and differences in consumption patterns should be taken into account in the development of harm reduction strategies. Hence the school age children require more knowledge regarding the health hazards of alcoholism and it can be achieved by educating the children and the parents by health education through schools and adult education initiatives.

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Ruellia Tuberosa and Wound Healing

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ABSTRACT

India has a rich tradition of plant based knowledge on healthcare. A large number of plants are used for treatment of cuts, wounds and burns. Wounds are the physical injuries that result in an opening or breaking of the skin and appropriate method for healing of wounds is essential for the restoration of disrupted anatomical continuity and disturbed functional status of the skin. According to Biswas and Mukherjee 70% of the wound healing Ayurvedic drugs are of plant origin. Most of the ethnobotanical studies confirmed that leaves are the major portion of the plant used for the treatment of diseases. The reason why leaves are used mostly is that they are easily accessible and are active in photosynthesis and production of metabolites. Ruellia tuberosa is species of Acanthaceae family. In folk medicine, this plant has been used as diuretic, antidiabetic, antipyretic, analgesic, antihypertensive, thirst quenching and antidotal agent. The plant is also used to treat urinary problems and high cholesterol levels and it is also used as anthelmintic. In this article we look at how Ruellia tuberosa leaves paste worked at healing a cut wound on a 27 year old female and review the evidence from research studies to highlight the wound healing effects of Ruellia tuberosa.

Key words: *Ruellia Tuberosa, Wound, Plant, Leaves*

INTRODUCTION

Ruellia tuberosa low growing perennial herb with tuberous roots, growing to a height of a foot or more. Leaves are opposite, elliptic, short petioled, abruptly narrowed at the base, with undulate margins and up to 12 cm long. Flowers are showy, with funnel-shaped, 5-lobed corolla, up to 5 cm across, and mauve or light bluish purple. Fruit is a pod with 7 to 8 seeds, bursting open and hurtling the seeds when it gets wet. The plant is commonly distributed on wastelands in Tamil Nadu, India. In folk medicine this plant roots and leaves are used to treat the common ailments.

CASE STUDY

A 27 year old female presented with bleeding cut wound on left hand ring finger which was inflicted while cutting the grass. The wound was 2.6 cm length, 5mm depth, 3mm breath and the middle phalanx was visible. Gentle pressure was applied over the wound with clean cloth for 10 minutes to control the bleeding. Then the wound was cleaned with clear water. Ruellia tuberosa leaves was prepared as paste and applied over the wound and then the wound was covered with clean cloth. The ruellia tuberosa leaves paste was applied twice daily for 3 days. No other treatment was used and within 4 days the wound healed perfectly.

DISCUSSION

The process of wound healing is promoted by several natural products which are composed of active principles like triterpenes, alkaloids, flavonoids and biomolecules. In this case may be the biochemical content of the Ruellia tuberosa influenced the wound healing.

Ethanol extract of Ruellia tuberosa showed antinociceptive and antiinflammatory activities with maximum time response against thermal stimuli similar to that of diclofenac and significant inhibition in serotonin and egg albumin-induced hind paw edema in rats. The antiinflammatory activirty was comparable to that of indomethacin[1].

The antioxidant activity of Ruellia tuberosa L. (Acanthaceae) was investigated by the 2,2-diphenyl-1-picrylhydrazyl (DPPH) free radical-scavenging assay and the hydrogen peroxide-induced luminol chemiluminescence assay. The methanolic extract (ME) and its four fractions of water (WtF), ethyl acetate (EaF), chloroform (CfF), and *n*-hexane (HxF) were prepared and then subjected to antioxidant evaluation. The results of both methods revealed that R. tuberosa possesses potent antioxidant activity[2].

Investigation of biochemical contents, trace elements, nutritive value evaluation of Ruellia tuberosa leaves confirmed the presence of flavonoids, glycosides, phenols saponins and showed minimum amount of trace elements with moderate nutritive value. Vitamins(E, C), total phenolics, carotenoid content and nutritive value were found to be greater in the leaves of Ruellia tuberosa. Findings suggest that leaves of Ruellia tuberosa. and is endowed with antioxidant phytochemicals and moderate nutritive value could serve as a base for future drugs[3].

Ethanol extract study showed yielded five flavonoids –cirsimarin, cirsiliol 4′-glucoside, sorbifolin, pedalitin, along with betulin, vanillic acid, and indole-3-carboxaldehyde. Some compounds showed cytotoxicity against KB and HepG2 cell line[4]. Study of crude aqueous extracts of Ruellia tuberosa roots in a rat alcohol-induced gastric lesion model showed a strong and dose-dependent gastroprotective activity. The extract also showed mild erythropoetic and moderate analgesic activities[5].

CONCLUSION

Present case study provides evidence that ruellia tuberosa play an important role in the wound healing. Further detailed exploration and collection of ethnobotanical information, chemical studies and screening for medicinal properties will provide cost effective and reliable source of medicine for the welfare of humanity.

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Urinary Incontinence & Kegel's Exercise

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ABSTRACT

Urinary incontinence (UI) is a condition marked by the involuntary loss of urine. Urinary incontinence is a common yet unrecognized problem in society. The magnitude of the problem of urinary incontinence in India is growing as a significant public health issue. Understanding about urinary incontinence and its preventive measures and treatment modalities are important because these factors may help women to receive timely UI care. UI can be prevented with preventive lifestyle strategies like Kegel's exercise, in young adult women in particular. Nurses need to be more proactive in routinely providing instruction about pelvic floor exercises as they are in a position to target the groups of women. Nurses should not assume that pelvic floor exercises are the remit of physiotherapists. Delay in seeking help can lead to a worsening of the incontinence and overall quality of life. In the context of improving health behaviors, women must be aware of the susceptibility to the diseases, the seriousness that the condition presents, and the methods of prevention and treatment of the disease. Accurate knowledge about disease is the foundation for a belief framework that will up hold a lifestyle that incorporates wellness behaviors.

Key words: *Kegel's Exercise, Pelvic floor muscle, Urinary Incontinence.*

INTRODUCTION

Urinary incontinence (UI) is defined by the International continence society as the complaint of any involuntary leakage of urine. UI affects the quality of life of millions of women worldwide and prevalence estimates for UI ranges from 10% to 40%[9]. Approximately 30-40% of middle aged Women in India suffer from UI and the problem increases with age[12].The Asian society of female urology puts the incidence of urinary incontinence in India at 12 percent[6]. It has been said, "Urinary incontinence is a hidden epidemic"[12]. Its magnitude in India is undermined, even though it is well established that it affects the quality of life.

ANATOMY, PHYSIOLOGY OF URINARY SYSTEM & PATHO-PHYSIOLOGY OF UI

Urinary incontinence in women is usually caused by damage to pelvic floor muscles that help to hold and, when required, help to release urine from the urinary bladder. The body stores urine in the bladder, a balloon-like organ, that expands as the bladder fills with urine. The bladder wall muscles contract in response to stimuli, forcing urine out into the urethra, the tube through which urine leaves the body. The sphincter muscle surrounding the urethra relaxes and let the urine pass out of the body. This is the normal process of urination.

Urine leakage occurs when the pressure in the bladder, the expulsive force is greater than the pressure within the urethra, the closure force. At this point the woman loses urine involuntarily. Incontinence also occurs if the bladder muscles suddenly contract, the urethral muscles suddenly relax, or if there is a malfunction of the urethral sphincter. When there is a weakness in the pelvic floor muscles that support the bladder and other pelvic organs, these organs could prolapse and cause additional pressure on the bladder, leading to leakage of urine

RISK FACTORS

Childbearing is an established risk factor for urinary incontinence among young and middle aged women. Key populations identified to be at risk for Urinary incontinence are women in selected occupations, childbearing women, older adults with lifestyle risk factors, older adults with co morbid conditions, and nursing home residents.

PSYCHO-SOCIAL PROBLEMS OF URINARY INCONTINENCE

The women feel ashamed because they believe that they are behaving in a manner that is unacceptable

to society and is only acceptable in the early years of childhood[5]. Urinary incontinence often has a severe negative impact on the daily lives of women and it's rarely improves spontaneously. Urinary incontinence is the most common urogenital health problem amongst Women. But due to the embarrassment, this health problem is kept hidden and not talked about. Studies show that 58% of Women perceive urine loss as a normal consequence of aging and less than 40% will actually talk to their doctors about it. Urinary incontinence is not an area that doctors or other health care providers focus upon because it is not an acute condition. It is, however, an area that needs to be addressed.

There appears to be a stigma attached to urinary incontinence that causes one to suffer in silence. There is general misconception that urinary incontinence is an inevitable consequence of aging and that they will have to live with it for the rest of their lives. Women fear that they are losing control over their bodily functions and there is nothing they can do about it. This feeling of helplessness leads to significant levels of depression, especially in women with urinary incontinence.

Although urinary incontinence is a common symptom, it is often not reported to a doctor, which leads to under treatment. From a public health perspective, there is considerable opportunity to improve women's quality of life by increasing health education about urinary incontinence and its treatment. Urinary incontinence is a common problem that needs to be considered from a broader perspective because of the wide range of morbidities and it effect on social, physical and economic wellbeing.

There is a common notion that Urinary incontinence is less prevalent in India and other developing countries. This probably attributes to the lack of awareness amongst women who consider it to be a "normal" or physiological process and are hesitant to report their problems unless specifically asked for, or unless they perceive a significant deterioration in quality of life[12].

STUDY SUPPORT OF UI & KEGEL'S EXERCISE

A well-recognized treatment for incontinence is the practice of pelvic floor exercise (Kegel's Exercise). Pelvic floor exercises involve repeated contractions of the muscles of the pelvic floor in order to build up strength of the muscles and improve control of micturition[7]. Reviews of the literature have concluded that pelvic floor exercises are effective in treating UI in the general female population. Intensive practice of the exercises also has a preventive effect of urinary incontinence, especially in women who had an instrumental delivery or a heavier baby[2].

Kegel's exercise, first introduced in 1948 by gynecologist Dr. Arnold Henry Kegel (1894-1976). Kegel's exercise is a behavioral technique that requires repetitive active exercise of the pubococcygeus muscle to improve strength and ability to use these muscles to prevent urine loss. It is a non-invasive and safe treatment for urinary incontinence. Growing evidence supports the benefit of pelvic floor muscle training to prevent childbirth related Urinary incontinence

Incontinence is not limited to the elderly. In the study of women's health across the nation report, 3202 women aged 30 to 50 reported incontinence at least monthly[13]. Incontinence in midlife affects work place productivity. In a large survey, 37% of employees reported that they had incontinence and coped with their problem with frequent bathroom breaks. Those who reported the most severe incontinence stated that it had negative effects on their concentration, performance of physical activities, self-confidence and the ability to complete tasks without interruption. These finding re-affirms the significant impact of incontinence on social and emotional wellbeing[3].

A study reported a 29% subjective cure rate for women with UI using a protocol of 10, high intensity PFM contractions three times a day, and additional training with a physical therapist, women in the study also demonstrated significant improvements in gram leakage on a pad test and quality of life after treatment[10].

Other investigators have demonstrated improvements in subjective cure rates and objective measures in women with UI participating in a supervised program of PFM exercises for 3 months. A study found 41% of women with UI performing PFM contractions for 9-12 weeks experienced a 100% resolution of UI symptoms while another 20.5% experienced at least a 75% reduction in symptoms[1]. All these studies reveal that a 3 month regime is effective if sufficient repetitions are included in the program.

Systematic reviews of controlled trials of PFMT have found that women treated with PFMT were more likely to report improvement or cure than control subjects with approximately one less incontinence episode per day. A meta-analysis of randomized controlled trials by the Cochrane Collaboration concluded that "PFMT be included in first-line conservative management programs for women with stress, urge, or mixed, urinary incontinence. The treatment effect might be greater in middle aged women in their 40's and 50's.

IMPLEMENTING PATIENT TEACHING PLAN

Education about Kegel's exercises is provided to improve the patient's knowledge and skill related to pelvic floor exercise, ensuring that the patient learns proper technique and develops a regular habit of doing Kegel exercises. Kegel's exercise can improve mild-to-moderate urge and stress incontinence, prepare the pelvic floor for childbirth, and help to regain muscle tone in areas that are stretched or damaged during pregnancy and childbirth.

Education about Kegel's exercise will vary based on the women's indication and clinical condition. Based on the Association of Women's Health, obstetric and Neonatal Nurses' evidence-based protocol, the following steps are recommended:

- Discuss the overall purpose for doing Kegel exercises (regain continence, prepare for child birth, and repair stretched or torn muscles after pregnancy and childbirth).
- Describe basic pelvic anatomy (Where the pelvic muscles are located and their function).
- Describe how the exercises involve contracting and relaxing the pelvic floor muscles. (One approach is to have the woman pretend she is trying to prevent passage of gas) thereby squeezing the muscles around the vagina, feeling them draw inward and upward.
- Slow contractions should be intense and held for at leat 10 seconds. The muscles should be rested for 10 seconds between contractions to allow the muscle to recover and prepare for the next contraction. In the beginning, women should be encouraged to attempt to do up to 10 contractions twice daily. Guidelines frequently suggest doing between 24-100 contractions per day.
- The woman herself can also palpate the skin over the perineum and feel for an upward and forward movement during the contraction.
- Calendar reminders (Kegel's exercise Log) can be helpful. Once the patient makes the pelvic floor exercise a habit, she will find that she can do them while doing normal activities throughout the day.
- A teach- back method can be used to evaluate leaner understanding. Have the women perform a return demonstration of a skill observe carefully and clarify, as needed.
- Self-efficacy rating can be used to understand how confident the learner is in terms of understanding information or performing a skill.

CONCLUSION

The average life expectancy for female is 66 years worldwide and around 75 years in developed countries. The average life expectancy in India is 66.09 years in 2009. There are about 150 million women in India between the ages of 30 – 60 years. As the life expectancy of female increases, the most significant challenge for contemporary nursing will be to help women preserve their health. The primary responsibility of nurses is to ensure the quality of life of women as they contribute to society in numerous ways. Pelvic muscle training beginning at a young age would prevent or reduce incontinence problems. In order to encourage these desired behaviors, proper knowledge is to be essential. It is important to include incontinence care as part of primary health care, and promote it in communities. Women education and awareness needs to be emphasized. If women are educated about Urinary incontinence and the treatment options that are available to them they will be confident to raise the issue of urinary incontinence.

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Effectiveness of Structured Teaching Programme on Nursing Students Regarding Care of Alcoholics

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ABSTRACT

In many regions, nurses are the only individuals knowledgeable about health promotion and illness care. Because nurses and midwives are the largest group of providers, they are uniquely positioned to deliver interventions for drug use, treatment of addictions and health implications of substance use.

Objective: To assess the knowledge & attitude of students regarding care of alcoholics before and after administering STP.

Design: Quasi experimental design.

Setting: The study was conducted in PSG College of Nursing, Coimbatore.

Participants: 40 BSc (N) III Year students

Intervention: An structured teaching programme (STP) on care of alcoholics, which contains information through lecture, education through audiovisual material.

Measurements and tools: The level of knowledge was assessed by structured questionnaire and attitude was assessed by modified 5 – point Likert scale. Descriptive and inferential statistics was used to analyze the data.

Findings: The findings of the study revealed that structured teaching programme on knowledge and attitude regarding care of alcoholics among BSc (N) III Year students. The improved mean value for knowledge was 6.95 with 't' value of 16.65 and the improved mean for attitude was 9.3 with 't' value 14.96 which shows high statistical significance at $p<0.001$ level.

Conclusion: The study concluded that there was a significant improvement of knowledge and attitude among students on care of alcoholics in posttest after administration of structured teaching programme.

Implications: The community mental health nurse practitioners should attempt educating the students regarding the periodically organize and conduct mass education programme on Alcoholism, using appropriate role play to create awareness.

Key words: *Structured Teaching Programme, Care of Alcoholics, Knowledge, Attitude.*

INTRODUCTION

Nurses and midwives are frontline providers of basic and speciality health care worldwide. In many regions, they are the only individuals knowledgeable about health promotion and illness care. Because nurses and midwives are the largest group of providers, they are uniquely positioned to deliver interventions for drug use, treatment of addictions and health implications of substance use.

In the face of growing worldwide nursing shortage health care initiatives which expand the scope of nursing activities may be viewed as unwelcome challenges by practitioners who already feel overburdened by multiple demands and too few personnel. Therefore, competencies in other areas of nursing for health promotion and illness care. When the overriding competencies exist, adding knowledge about alcohol, tobacco and drugs can expand the scope of practice.

Nurses in general practice are an under-utilized resource for the detection and management of patients

with alcohol misuse. However, little is known about their knowledge and attitudes towards alcohol use and misuse. The knowledge and skills gap exists in the delivery of effective advice on alcohol-related issues. Only one in two women and one in three men are receiving correct advice on sensible limits of alcohol consumption, this despite the fact that alcohol histories are taken. Further training was requested by many nurses to develop their screening and health promotion roles, and to become involved in the management of patients with alcohol-related problems in primary care. The student nurses & staff nurses should be encouraged to become involved in screening for, and management of, alcohol-related problems. However, it is important to ensure that the nurses receive appropriate training and have adequate back-up facilities from college faculties & doctors and other workers involved in the care of patients with alcohol-related problems.

OBJECTIVES OF THE STUDY

Objectives of the study were to:

- To assess the knowledge & attitude of students regarding care of alcoholics before and after administering Structured Teaching Programme.
- To assess the effectiveness of Structured Teaching Programme by comparing on knowledge and attitude of Students regarding care of alcoholics.
- To associate the after administering Structured Teaching Programme level of knowledge and attitude with selected demographic variables.

HYPOTHESES

The hypotheses will be tested at 0.05 level of significance.

H_1: There will be significant difference in the level of knowledge and attitude of students regarding care of alcoholics before and after administering Structured Teaching Programme.

Projected Outcome

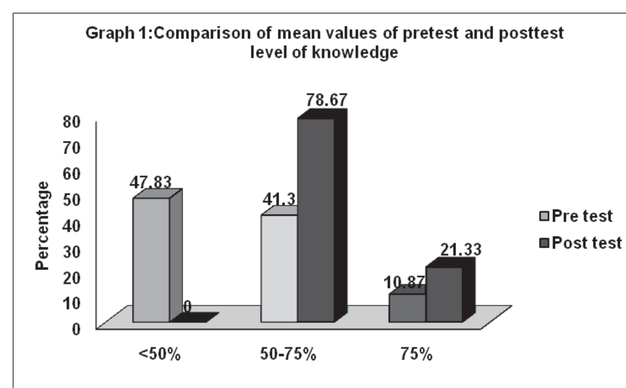
- Improves the learning abilities of the student and develop confidence in caring the alcoholics.

Material and Methods

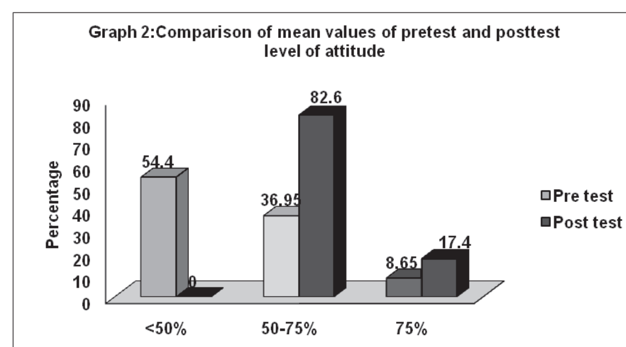
The research design used in the study is pre experimental one group pre-test – post-test design. The population of the present study comprises of the BSc (Nursing) III year 47 students of PSG College of Nursing, Coimbatore. The accessible populations are those available at the time of conducting study. Tools and instruments Structured knowledge questionnaire on alcoholics, Modified EAFAAA scale of attitudes towards alcohol, alcoholism, and alcoholics**.** The sample of the study comprises all the BSc (N) III Year students studying in PSG College of Nursing, and who fulfil the inclusive criteria that has been included in the study. Both descriptive and inferential statistics were used for data analysis.

FINDINGS

1. Overall students knowledge of pretest, 5(10.87%) had adequate, 19(41.3%) had average & 22(47.83) had inadequate level of care of alcoholics & posttest, 10 (21.33%) had adequate, 36 (78.67%) had average level of care of alcoholics.



2. Overall students attitude of pretest, 4 (8.65%) had adequate, 17(36.95%) had average & 25(54.40) had inadequate level of care of alcoholics & posttest, 38 (21.33%) had adequate, 8 (17.4%) had average level of care of alcoholics.



3. Comparison of pre and posttest attitude to determine the effectiveness of stp.

Table 1 : Effectiveness of pre and posttest level of attitude. n = 46

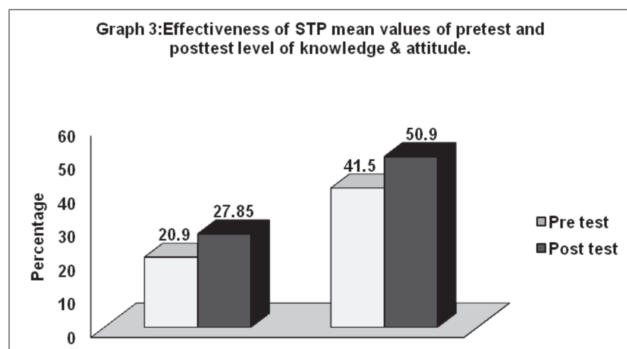
	Pre test		Post test		't' test
	Mean	S.D	Mean	S.D	
Knowledge	**20.9**	**3.67**	**27.85**	**1.94**	16.65***(S)
Attitude	**41.5**	**3.85**	**50.9**	**3.29**	14.96***(S)

***p<0.001, S – Significant

The table 1 shows the comparison of pre and posttest level of knowledge & attitude to determine the effectiveness of STP.

It shows in the knowledge pretest, mean value was 20.9 with S.D 3.67 and in the posttest the mean was 27.85 with S.D 1.94 & attitude pretest, mean value was 41.5 with S.D 3.85 and in the posttest the mean was 50.8 with S.D 3.29.

The calculated Knowledge 't' value was 16.65& Attitude 't' value was 14.96, which indicates there was high level of significance at p<0.001 level between the pre and posttest level of knowledge & Attitude showing the effectiveness of STP.



4. Demographic variable influence by Do you like to see the favourite Heroes using the substances in film shows moderately significant association with $\chi^2 = 12.47$ at $p<0.01$ level.

NURSING PRACTICE

The community mental health nurse practitioners should attempt to educate the students periodically and to organize and conduct mass education programme on Alcoholism, using appropriate role play to create awareness among public.

RECOMMENDATIONS

The study can be replicated in various settings.

CONCLUSION

The study concluded that there was a significant improvement of knowledge and attitude among students on care of alcoholics in posttest after administration of structured teaching programme.

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Conflict of Interest: Nil

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Reflective Practice in Nursing

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ABSTRACT

Reflective practice has been described as an unstructured approach directing understanding and learning, a self regulated process, commonly used in health and teaching professions. Reflective practice is a learning process taught to professionals from a variety of disciplines with the aim of enhancing abilities to communicate and making informed decisions.

Key words: *Reflection , Reflective Practice, Reflection on action, Reflection in-action, Critical reflection.*

INTRODUCTION

Reflection is undoubtedly an important concept in nursing. Current thinking in nursing advocates the need for nurses to be educated in ways that develop their autonomy, critical thinking, sensitivity to others and their open-mindedness. Reflective education could certainly be a way of achieving this. It provides the nurses with a vehicle through which they can communicate and justify the importance of practice and practice knowledge, thus legitimizing the knowledge that derives from the realities of practice rather than purely from more traditional form of knowing.

WHAT IS REFLECTION?

Reflection is the examination of personal thoughts and actions. Reflective practice is the capacity to reflect on action. So as to engage in a process of continuous learning. Reflective practice can be an important tool in practice based professional learning settings where individuals learning from their own professional experiences, rather than from formal teaching or knowledge transfer, may be the most important source of personal professional development and improvement.

There are two forms of reflection. Reflection-on-action and Reflection-in-action.

Reflection-on-action

It can be defined as thinking back on what we have done in order to discover how our knowing in action may have contributed to an unexpected outcome. It involves carefully rerunning in your mind events that have occurred in the past . The aim is to value our strengths and to develop different, more effective ways of acting in the future.[1]

Reflection-in-action

It means examining your own behaviours and that of others while in a situation. It is the ability of a practitioner to think on their feet : otherwise known as felt-knowing. For example, you may be attending a ward meeting and contributing fully to what is going on. At the same time, a 'fly-on-the wall' part of your consciousness is able to observe accurately what is going on in the meeting. It is something that can be developed with practice.[1]

CRITICAL REFLECTION

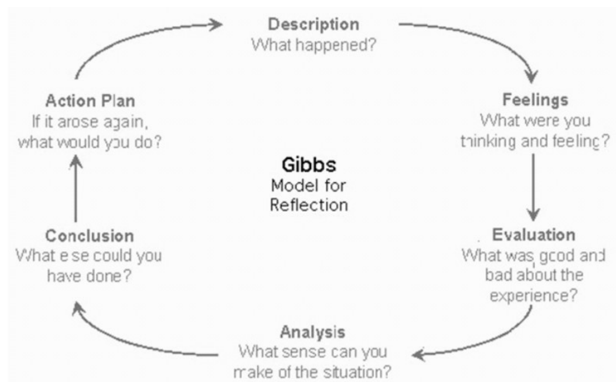
This is another concept. It refers to the capacity to uncover our assumptions about ourselves. Other people, and the workplace. it can be surprising to hear two people's descriptions of the same event. Each may be astonished to hear how the other experienced the situation. Critical incident analysis offers useful tools to facilitate critical reflection.

MODELS OF REFLECTION

Reflective models describe how we should look back our experiences and learn from them. Models of Reflection help us to look at an event- understand it- learn from it.[4]

Broad frameworks for reflection have been offered by theorists such as Benner and Wrubel (1989), Gibbs (1988) and Johns (2000).

Gibbs model is a circular process of reflection [1]



Why reflective practice is so important in nursing?

Nurses are responsible for providing care to the best of their ability to patients and their families. They need to focus on their knowledge, skills and behavior. Keeping a portfolio offers considerable opportunity for reflection on ongoing development. Annual reviews enable nurses to identify strengths and areas of opportunity for future development. Nurses should consider the ways in which they interact and communicate with their colleagues. Nurses should aim to become self-aware, self-directing and in touch with their environment.

Engaging in reflective practice is associated with the improvement of the quality of care, stimulating personal and professional growth and closing the gap between theory and practice. Reflection has the potential to help nurses to develop and learn from their practice. Skills necessary for reflection are selfawareness, description, critical analysis, synthesis, judgement and evaluation.[3]

HOW TO BE REFLECTIVE?

Here are a few ideas, tips and activities that will enrich your experience of reflection.

1. Feedback

It is central to the process of reflection. We receive feedback from others about our behavior, our skills, our values, the way we relate to others and about our identity.

Asking the simple question " Can you give me some feedback on what I did?" will provide valuable information. The clinical supervisor may challenge your thoughts in a supportive and nonthreatening manner in order to maximize the learning that can occur. You may wish to ask for feedback from more than one person who has participated in the same experience. In this way, you obtain a variety of perspectives on your behavior.[2]

2. Ask yourself

This is a positive approach. Ask yourself regularly; " What have I learnt today?" you can also say to other people whom you know well; "What have you learnt today?" . This should be done sensitively and at the right time and in the right circumstances.

3. Valuing personal strengths

Take time regularly therefore to review the many satisfying things that you have achieved in the recent past. It is a way of celebrating the positive contributions you make to the workplace. When you identify something that you wish to change for the better, at the same time think of five positive things you have achieved in the past 24 hours.

4. Viewing experiences objectively

Looking back on an experience can help you develop reflection-in-action skills. Being a participant observer in your own experience enable you to process the underlying elements of a personal experience.

5. Empathy

Adopt an empathic position to try to see, hear and feel what the other person might have experienced. It can add new perspectives to the analysis of your experience.

6. Keeping a journal

Keep a private journal to log your reflections. Record your thoughts, feelings and future plans. You can also use drawings and cut out pictures that represent your experience. You might find it easier to speak your thoughts aloud and record them.

7. Planning for the future

Planning and carrying out a small change in your behavior is extremely effective. First, making small changes may take less effort and courage than making big changes. Preserve with your plans until you see whether or not they are having an effect.

CONCLUSION

Reflection depends on factors such as motivation, time, career commitment and commitment to patients and their families. As a reflective practitioner you will look at events in your everyday practice and think: " How could I have done that?". Planning and carrying out a small change in your behavior can be extremely effective. Finally preserve with your plans until you see whether or not they are having an effect.

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Effectiveness of Progressive Muscle Relaxation Therapy on Quality of Sleep among Patients Admitted in Medical Ward of a Selected Hospital in Mangalore

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ABSTRACT

Objective : To evaluate the effectiveness of progressive muscle relaxation (PMR) on quality of sleep of hospitalized medical patients of a selected hospital in Mangalore.

Method : Randomized control trial was used to test the effectiveness of Jacobson's Progressive Muscle Relaxation Technique on quality of sleep (QOS) among 60 medical patients. The experimental group was subjected to the intervention (PMR) for 30 minutes daily for a period of 5 days. Both the groups (Experimental and Control) were observed with pretest and post test. The conceptual framework for the study was based on Systems Model developed from the General Systems Theory. Demographic proforma, Modified Pittsburgh sleep quality index and 3 point rating scale on assessing factors affecting Quality of sleep were used to collect data from the sample.

Result : Nearly half of the subjects 28(46.6 %) were above 41 years, both male and female constituted equal proportion 30 (50%) of the sample. All the respondents were literates (60%).Among the subject's majority 26 (43.3%) were Hindus, 40 (66.7%) had monthly income of <5000 rupees, majority belonged to nuclear family 53 (88.3%). Highest percentage of the subjects 23 (38.3%) were house wife and daily wage earners. More than half of the respondents 40 (66.7%).were diagnosed with renal, cardiac and other medical problems. None of them were practicing any form of alternative therapies, 31 (51.6%) of the sample were neither alcoholics nor smokers. The QOS was assessed in 84 patients admitted in medical ward out of which 60 (71.4%) had poor QOS and 24 (28.6%) had good QOS. The mean pre test score of QOS in the experimental (30) and control group (30) were 16.667 and 16.70 respectively. Psychological factors (74.137%) affected QOS more than the environmental factors (65.989%). Repeated measures ANOVA revealed a significant difference in the QOS from Day 1 to Day 5(. F cal=378.38>F tab (1, 4) = 7.71, p<0.005). The Bonferri multiple comparison test revealed a significant improvement in the QOS from day 2 onwards. The calculated t-value of QOS was 17.892, was more than the table value t tab (58) = 2.00, p<0.05. Hence, the study revealed a significant improvement in the QOS in the experimental group after PMR. No significant association was found between QOS and selected demographic variables.

Conclusion : Sleep complaints are common during hospitalization and include delayed sleep onset, frequent awakening, restlessness and daytime sleepiness .Sleep is essential for health and quality of life. Practice of progressive muscle relaxation increases quality of sleep. The present study revealed that 5 days of progressive muscle relaxation therapy was very effective for medical patients with poor quality of sleep. Thus nurses have to be trained in providing cost effective, non pharmacological therapies like PMR to enhance the comfort of the client.

Key words: *Effectiveness, Quality of sleep (QOS), PMR.*

INTRODUCTION

I Sleep is an essential component of health and quality of life. It is an essential physiological process. Although, almost one-third of our life is spent sleeping, only in the last 50 years have researchers begun to better understand the body's need for sleep. The researchers identified that an adult requires a minimum of 7 hours of continuous sleep to maintain behavioral and physiological homeostasis. It is a well recognized fact that hospitalization can significantly disrupt sleeping patterns due to stress. Stress related

to hospitalization can be attributed to unfamiliar environment, changes in the routine, anxiety and depression. Non pharmacological techniques such as relaxation, music and back massage have been proved effective in promoting sleep in hospitalized patients. One can be relaxed without sleep but sleep rarely occurs until one is relaxed. Progressive muscle relaxation is another effective and widely used strategy for stress relief. It involves a two-step process in which one systematically tenses and relaxes different muscle groups in the body.[1]

Various strategies have been researched to promote sleep among hospitalized clients. Borkovec and Fowles (1973) compared the effects of progressive, hypnotic, and self relaxation on a sample of insomniacs selected on the basis of questionnaire responses. Both progressive and hypnotic relaxation were more effective than no treatment in improving sleep-onset time, in reported feelings of rest, and in reported number of awakenings. Nicassio and Bootzin (1974) found progressive relaxation and autogenic training to be significantly better than self-relaxation or no treatment in reducing sleep onset time and improving general satisfaction with sleep.

To reduce the stress related to hospitalization, progressive muscle relaxation is an effective method for the stress reduction. If the stress level is reduced sleep pattern becomes normal. With this view the investigator was interested to assess the effectiveness of PMR on quality of sleep with the help of cause and effect strategy.

OBJECTIVES

To identify quality of sleep among patients admitted in medical ward.

To identify the factors affecting the quality of sleep among patients admitted in medical ward.

To determine the effectiveness of progressive muscle relaxation therapy on quality of sleep.

To compare the effectiveness of progressive muscle relaxation on quality of sleep in experimental and control group.

To find the association between quality of sleep and selected variables.

HYPOTHESIS

H1- There will be a significant improvement in the quality of sleep among patients admitted in medical ward after PMR.

H2- There will be a significant difference in the quality of sleep among control and experimental group after PMR.

H3-There will be significant association between the quality of sleep and selected demographic variables.

METHODOLOGY

An experimental approach with randomized control clinical trial design was selected for this study. The study was conducted in K S Hegde charitable hospital,Derlakatte. The population comprised of patients who were admitted in the medical ward with poor quality of sleep. Sample consisted of 30 patients each in the control and experimental groups. The sampling was done in two phases. In the first phase hospital was selected for the intervention using convenient sampling technique. In the second phase, the medical patients who had poor quality of sleep and fulfilled the inclusion criteria were selected by purposive sampling technique. The selected samples were randomly allocated, 30 in experimental and 30 in control group for the intervention of PMR.

The data collection instruments consisted of a demographic Performa, Modified Pittsburgh sleep quality index and rating scale on factors affecting quality of sleep. Reliability of the modified Pittsburgh sleep quality index and rating scale on factors affecting quality of sleep was determined by Cronbach's alpha and the reliability coefficient was found to be 0.85 and 0.8 respectively. Pilot study was conducted from 25.07.2011 to 30.07.2011. The researcher underwent training on Jacobson's progressive muscle relaxation technique for a period of 10 days under supervision and was found eligible to administer the relaxation technique. A formal permission was obtained from the medical officer and Head of the medicine department of Justice K S Hegde Medical hospital, Derlakatte. The patients admitted in medical ward with poor quality of sleep were identified. The patients with poor quality of sleep for the pilot study possessed the same characteristics as that of the sample for the final study. The control and experimental group were selected by simple random assignment. An informed consent was obtained after explanation of the study. Quality of sleep was measured in both the groups to assess the quality of sleep. After the pretest the experimental group underwent progressive muscle relaxation therapy for a period of 5 days for 20minutes. Each day progress was assessed with Pittsburgh sleep quality index in the experimental group and after 5 days post test were administered to both experimental and the control group to identify the effectiveness of the Jacobson's Progressive Muscle Relaxation technique.

RESULTS AND DISCUSSION

The collected data were analyzed using descriptive and inferential statistics.

Section 1 comprised description of sample characteristics and was presented in frequency and percentage. (**Table 1**)

Table-1 -Distribution of sample according to demographic characteristics. n=30+30

Demographic Variables	Frequency	%
Age(in years)		
<21	4	6.7
21-30	6	10.0
31-40	22	36.7
Above 41	28	46.6
Gender		
Male	30	50
Female	30	50
Literacy level		
No formal education	-	-
Primary school	26	43.3
Secondary and higher secondary	34	56.7
Graduate	-	-
Post graduate	-	-
Religion		
Hindu	26	43.3
Muslim	19	31.7
Christian	15	25.0
Income (in rupees)		
<5000	40	66.7
5001-8000	20	33.3
8001-11000	-	-
>11000	-	-
Type of family		
Nuclear family	53	88.3
Joint family	7	11.7
Extended family	-	-
Occupation		
Daily wages	23	38.3
House wife	23	38.3
Government employee	14	23.4
Number of children		
One	11	18.3
Two	26	43.4
Three	21	35
Four and above	2	3.3
Diagnosis		
Hypertension	13	21.6
Diabetes mellitus	7	11.7
Others	40	66.7
Practice of any other alternative therapies		
Yoga	-	-
Music	-	-
Personal habits		
Smoking	16	26.7
Alcoholism	13	21.7
Tobacco chewing	-	-
Nil	31	51.6

Data in **table 1** shows that most of the patients 28 (46.6%) were above 41 years and also revealed that more than half of the subjects 34 (56.7%) had secondary and higher secondary education. Similar findings were reported in a study conducted in China to determine the Sleep quality and sleep disturbing factors of in-patients in a Chinese general hospital. The study revealed that 38% of the patients were in the age group of 36-55yrs and 57.2% of the patients had secondary and higher secondary education.[2]

The demographic characteristics of the present study revealed that there were equal numbers of male and female subjects 30 (50%).

Section II- comprised of assessment of quality of sleep among patients admitted in medical ward and the data is represented in (**Table 2**)

Table 2 Mean and standard deviation of pre test score (quality of sleep) of experimental group and control group. n=30+30

Experimental Group		Control Group	
Mean	Standard deviation	Mean	Standard deviation
16.667	1.028	16.70	1.383

Among 84 medical patients randomly selected for the study, majority 60(71.4%) experienced poor quality of sleep and 24(28.6%) had good quality of sleep.

The findings of the present study were consistent with various studies conducted in China and a Prevalence study on sleep disturbances in patients with end stage renal failure on maintenance hemodialysis. These studies revealed that patients reported poor sleep quality (45.6%, 74% respectively) during hospitalisation[2, 3].

Similar findings were reported in a study to examine the association between habitual duration and quality of sleep in older adults, and to test if this association varies with health status, as approximated by self-rated health, quality-of-life and functional limitation. The findings revealed that the older adults had poor quality of sleep and the duration of sleep also was less[4].

Section III -dealt with the factors affecting quality of sleep of patients admitted in medical ward and is presented in the (**Table 3**)

Table 3 Frequency and percentage distribution of factors affecting Quality of sleep. n=60

Factors	Maximum score	Mean	Mean Percentage
Environmental factors	27	17.817	65.989
Psychosocial factors	27	20.017	74.137

The data presented in **table 3** shows the mean percentage score of environmental factor was 65.99 and psychological factors was 74.14.

These findings were contrary to the findings of a cross sectional study carried out to estimate the occurrence rate of sleep deprivation and to identify the environmental, staff-related and patient-related factors associated with sleep deprivation among general ward patients of a tertiary care hospital in Pakistan. The results revealed that 68% of the subjects had sleep deprivation due to noise and 41.7% had sleep deprivation due to physical discomfort and presence of cannula[5].

The findings of the present study are supported by various studies conducted on Jordanian patients' perception of stressors in critical care units and noise and sleep quality in two hospitals in Brazil. The results highlighted that psychological and environmental stressors were affecting the quality of sleep in medical patients.[6]

Section IV dealt with the effectiveness of Jacobson's progressive muscle relaxation on quality of sleep in the experimental group and is presented in (**Table 4, Table 5 and Table 6)**

Table 4 Mean and standard deviation of quality of sleep on each of the day given below. n=30

Days	Mean	Standard Deviation
Day 1	16.6667	1.02833
Day 2	16.4333	.93526
Day 3	14.5667	.97143
Day 4	12.5667	1.30472
Day 5	10.3000	1.57896

Table 5 Repeated measures ANOVA table of quality of sleep between days and within the samples n=30

Source of variation	df	Sum of squares	Mean sum of squares	F-ratio	LOS
Between days	1	29849.707	29849.707	378.378	.000 P<0.05 HS
Within the samples	4	871.227	217.807		

F_{tab} (1, 4) = 7.71 HS-highly significant

Table 6 Pair wise comparison of quality of sleep of each of the day

DAYS		Mean Difference	P -Value
Day1	Day2	0.233	0.169 p>0.05 NS
Day2	Day3	1.867	.000 P<0.05 Significant
Day3	Day4	2.00	000 P<0.05 Significant
Day4	Day5	2.667	000 P<0.05 Significant

Data presented in table 4, table 5 and table 6 indicates that the mean pretest scores of clients in the experimental group were 16.67 whereas after the fifth day of intervention the mean post test scores were 10.30. Since F calculated value (F_{cal} =378.38,p<0.05) is greater than F table value (F_{tab} =7.71) by using repeated measures ANOVA it is found that there is a highly significant difference in the quality of sleep among patients admitted in medical ward after PMR.

The effectiveness of PMR on quality of sleep is supported by another pre experimental study in which majority of the subjects (73.3%) had moderately adequate sleep and 26.6% had inadequate sleep before progressive muscle relaxation therapy whereas after the therapy, most of them had adequate sleep (66.6%) and none had inadequate sleep.[1]

The present study findings are further supported by a study conducted on the effect of PMR on subjective sleep variables in migraineurs. The number of PMR exercises showed a significant positive influence on subjective sleep quality (p=0.013), sleep-onset latency (p=0.009) and total PSQI score (p=0.002).[7]Hence PMR can be considered as one of the effective interventions for improving the quality of sleep in sleep disturbed clients.

Section V- dealt about the comparison of the quality of sleep between the experimental and control group and is presented in (Table **7**)

Table 7 Difference of quality of sleep of experimental & control group n=60

Variable	Mean	S D	Mean difference	df	t-value	LOS
Control Group	0.700	0.877	5.667	58	17.892	.001 p<0.05 HS
Experimental Group	6.367	1.497				

$t_{tab}(58) = 2.00$ HS-highly significant

Data in table 7 indicates that there is a significant difference between mean and standard deviation of quality of sleep of experimental and control group ($\bar{X}$= 6.37, $\bar{X}$=0.70 & SD=1.497, SD=0.877 respectively) after PMR. The calculated t value of quality of sleep was (t_{cal}=17.89, p<0.05) more than the table value. Hence, it can be concluded that there is a significant difference

in quality of sleep between the experimental group and the control group after PMR.

A similar type of comparative interventional study was conducted on the effectiveness of a back massage and relaxation intervention on sleep in critically ill patients. Post hoc testing with the Duncan procedure indicated a significant difference between the back-massage group and the control group; patients in the back-massage group slept more than 1 hour long than patients in the control group.[8]

Section VI dealt with the association between the quality of sleep and selected demographic variables. Chi- square test was computed in order to determine the significance of association between quality of sleep and selected demographic variables. Statistically no significant association was found between the quality of sleep and selected variables. (age, gender, literacy level, religion, income, type of family, occupation, number of children, diagnosis, practice of other alternative therapies and personal habits).

CONCLUSION

Good sleep is essential to healing. When we don't sleep well, our bodies' immune system and ability to heal wounds and other types of tissue damage is reduced. The adequacy of sleep is important factor in caring for clients with acute and chronic illness. Some sleep disturbances are temporary and related to the stress of hospitalization. PMR is a drug-free technique that could help to relax muscles and put our body and mind in a better state to get a good night's sleep. Nurses are involved with patients across the spectrum of care, from outpatient and homecare to critical care and the hospice setting. Better management makes a difference in people's lives and will be a fulfilling role for many nurses as a care giver. The nurse can motivate the common man to practice this as a part of their daily routine.

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Prevalence of Needle Stick Injuries and Factors Associated with it among Nurses of a Tertiary Care Hospital in Bhubaneswar, East India

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ABSTRACT

Background: Health care workers particularly nurses are exposed to blood, blood products and body fluids through needle stick injuries.

Objective: This study aims at assessing the prevalence and other factors associated with needle stick injuries among nurses in a tertiary care centre.

Methods: A cross-sectional study among nurses was conducted at Pradyumna Bal Memorial hospital attached to Kalinga Institute of Medical Sciences, Bhubaneswar, East India. A structured, anonymous, self-administered questionnaire was used.

Results: Out of 139 participants, 94(66.7%) had needle stick injuries in the last one year. Most of these needle stick injuries were caused during loading (38.3%), cleaning (28.7%) and recapping (14.8%) a needle. Out of all those who had needle stick injuries, only 43% reported it. The major reason for not reporting being unaware of whom/where to report (55.3%).

Conclusion: Needle stick injuries among nurses are common and not reported to employee health service.

Key words: *Needle Stick Injury; Tertiary Care Centre; Nurses; Reporting; Cross Sectional.*

INTRODUCTION

Health care workers are exposed to blood, blood products and body fluids by inoculation of blood by a needle, contamination of broken skin, swallowing blood, blood splashes, and bites and so on. Since a majority of these exposures are due to inoculation of blood by a needle, these injuries are commonly referred to as needle stick injuries (NSI).

People working in health care i.e. health care workers (HCW) are more prone to NSI. Among all these HCW, nurses are most prone to these NSI as they are involved in direct patient care and they also administer various injections.

NSI can be caused during use, disassembly or disposal of needles. Various instruments pose different degrees of risk of exposure. As many as twenty diseases are known to transmissible by NSI. The most important diseases that can be transmitted by NSI are HIV/AIDS, Hepatitis B and Hepatitis C.[(1)] The subsequent health consequences and psychological stress are immense. These transmissions are easily preventable. There are many factors which determine NSI like lack of training skill, improper working conditions etc.

Another issue is the reporting of NSI and the follow –up pattern. Many NSI go unreported. An US estimate showed that about 6, 00,000 to 8, 00,000 NSI occur in US annually and half of them go unreported.[1] According to a WHO study, the annual estimated proportion of HCW exposed to blood borne pathogens globally were 2.6% for Hepatitis C, 5.9% for Hepatitis B and 0.5% for HIV[(2)].

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Timely reporting of NSI to employee health service is needed to ensure counseling and to facilitate early prophylaxis or treatment.[1,3] Reporting is also needed to establish legal prerequisite for worker's compensation[1-3].

In India there are limited studies on NSI. As a consequence, the information regarding prevalence of NSI and various attitudes and behavior associated with NSI are scarce. We conducted this study to, assess the prevalence of NSI and the knowledge, attitude and practices associated with it among nurses working in the tertiary care hospital.

MATERIALS & METHODS

The study was conducted among the nurses of Pradyumna Bala Memorial Hospital attached to Kalinga Institute of Medical Sciences in Bhubaneswar (Orissa). This is a 500 bedded tertiary health care centre.

Approval of the institutional review board and ethics committee was taken prior to the study. A questionnaire was prepared and pilot tested on 10 numbers of nurses. After incorporating the necessary feedbacks the final questionnaire was framed. This was a structured self administered questionnaire with most of the questions being close-ended.

Each nurse was contacted and explained about the nature and scope of the study. After assuring anonymity the questionnaire was administered.

The NSI was defined as a prick by a needle with visible blood, blood or body fluid in contact with broken skin and blood splashes on eye/mouth, sustained during work within the hospital premises.

Data analysis was done using EPI INFO version 3.5.1. Descriptive analysis was done using percentages, means and medians.

RESULTS

In total there are 175 nurses employed in the hospital. Out of this 139(79.4%) participated in the study. Out of the rest 36, 19 did not give consent and another 17 could not be contacted. The mean age of the nurses was 24.4 yrs.

Majority, 41(29.5%) are newly appointed with less than one year of service. Most of the nurses, 108(78.7%) have less than 5 years of service.

Out of 139 participants, 32(25.2%) are unaware of UNIVERSAL PRECAUTION (UP) guidelines which is an important requirement of preventing NSI.

In the last one year, 94(66.7%) nurses had one or more NSI with 20(14.3%) having more than 3 NSI. (Table 1) Immediately after the NSI, 80(85.1%) developed fear and 8(8.5%) developed a feeling of guilt.

Of all those who had NSI, 36(38.3%) had it during loading a needle and 27(28.7%) during cleaning. Another 14(14.8%) had NSI during recapping. (Table 2)

When asked for the reasons for the NSI, 26(27.7%) said it was due to lack of required skill and fatigue. Another 10(10.7%) said it "could not have been prevented".

Of the 94 nurses who had NSI, only 32(34%) reported it. Of those who did not report 52(55.3%) said they don't know where or whom to report. Another 18(19.1%) feel there is no utility in reporting and 12(12.8%) feel that it takes too much time to report. (Table 3)

Of all the participants, 65(62.5%) said that they always follow UNIVERSAL PRECAUTIONS guidelines and 52(37.4%) said they always use gloves before doing any procedure.

DISCUSSION

NSI pose a significant risk for nurses. In our study, 66.7% of the respondent nurses had NSI in the last one year. This high figure is consistent with other studies which showed similar high prevalence of NSI in health care workers (HCW)[4-6]. In another study in rural North India, the prevalence of NSI among health care workers, ever in working lifetime is stated to be 73%[7]. A study done in a tertiary care hospital in Delhi showed that the prevalence of NSI among nurses in last one month recall to be 27%[8]. In an Iranian study, 75% of nurses sustained at least one NSI in last 12 month recall period[6].

Awareness about UNIVERSAL PRECAUTIONS among nurses was found to be low with 1/4th of nurses unaware about it. Keeping in view that a majority of the nurses are new to their job, there is an urgent need to orient them about UNIVERSAL PRECAUTIONS GUIDELINES.

Immediately after the NSI, 85% of those who had it developed fear. This reaction is quite unusual, more so if they are not aware of NSI protocol and prophylaxis available.

When enquired about the circumstances that led to the NSI, 38.5% said it was during loading a needle. About 15% said the NSI was caused during recapping a needle. This again highlights the fact that we need safety training programme so that practices like cleaning and recapping a needle can be avoided.

Several studies have shown that recapping is an important cause of NSI[3,6-8].

Among all those had NSI, only 28% said it was due to "rush" during work and 21% each due to "fatigue" and "lack of required skill". This calls for modification of working conditions and work hour.

Reporting NSI to the employee health service will help in getting counseling regarding the risk of exposure and also ensures post exposure prophylaxis and treatment. HIV,HBV and HCV infections have implications for personal relationship, future employment and insurance coverage.[9] Under-reporting of NSI is common finding in many other studies. Very few, 34% NSI were reported to the employee health service in our study.

Our study identified several factors associated with non-reporting of NSI. The most important among all these factors is the lack of knowledge about where/whom to report(55%).Other reasons for not reporting, like it takes too much time(13%) and there is no utility in reporting(19%) also merits attention. There should be a well functioning employee health service facility in each hospital with round the clock consultation and counseling services. Each and every health care worker in the hospital must be made aware of these services. The facility must provide prompt and adequate services so that employees can rely on them.

Other measures like appropriate IEC strategies to make HCW aware of UP guidelines and NSI protocol should be developed and displayed at strategic places. Ongoing safety training program are a must to prevent NSI.

One important limitation of our study is the self-reporting nature of the questionnaire due to which misclassification is possible. We hope that since the questionnaire was anonymous in nature, accurate reporting will be facilitated.

In summary, NSI among nurses are common and usually not reported to employee health service. The findings of this study highlighted the fact that specific strategies should be made to prevent NSI among nurses and improve the reporting system. This will help in initiation of post exposure prophylaxis and treatment.

Table 1 Number of NSI in last one year

Number of NSI	Total	Percentage
Nil	45	33.3
1-2	74	53.4
3-5	12	8.6
More than 5	08	5.7
	139	100

Table 2 Factors leading to the NSI

Factor	Total	Percentage
Passing a needle	10	10.6
Loading a needle	36	38.3
Suturing	4	4.3
Recapping	14	14.8
Cleaning	27	28.7
Others	3	3.3
	94	100

Table 3 Reasons for not reporting NSI

Reason	Total	Percentage
Don't know where/whom to report	52	55.3
It takes too much time	12	12.8
No utility in reporting	18	19.1
Fear of disclosing	5	5.3
Others	7	7.5
	94	100

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Conflict of Interest: None

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Nursing and Midwifery in India: Issues and Challenges

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ABSTRACT

Health and poverty are closely related. Improving health is the fundamental goal of economic development. Nurses and Midwives play a major role in the health care system. The main function of a nurse is health promotion, prevention of diseases, nursing therapeutics and rehabilitation. Qualified nurses can contribute to achieving positive health outcomes such as reducing mortality, morbidity and disability, promoting healthy lifestyles, improving maternal and child health, to achieve the Millennium Development Goals. This article attempts to identify how nurses and midwives can contribute to health care.

It reviews existing situations of nursing and midwifery in India. Discusses the major issues and what is the future of Nursing? and how to meet the challenges.

Key words: *Nursing and Midwifery Services, Major issues in delivery of Health Care Services*

INTRODUCTION

Nurses and midwives play a major role in the health care delivery system. The main function of nurses are health promotion, and prevention of diseases. Qualified nurses only contributes in achieving positive health, such as reducing mortality, morbidity and disability, promoting healthy lifestyles. To attain this, policies are required on an effective nursing workforce, appropriate distribution, deployment and utilization, and strong political leadership and commitment of the government, professional organization and nurse leaders.

MATERIAL AND METHODS

Not applicable since it is non research article

Major issues

According to the existing situation in India, major issues that need to be solved are as follows:

1. **Insufficient contribution of nurses and midwives to health care development due to following reasons.**
   - Few positions for nurses and midwives at the State and national levels
   - Inadequate nursing leadership and strategic management
   - Inappropriate nurse to population/patient ratio
   - Inadequate preparedness of nurses and midwives
   - Inadequate recognition of the nurse's status in the health care system
   - Limited active involvement of professional organizations.

2) **Shortage of nurses and midwives leads to poor quality of nursing and midwifery care due to**

   i. Inadequate number of nursing positions as per the recommended staffing norms
   ii. Migration
   iii. Insufficient number of nurses with Bachelors' and Master's degrees and in clinical specialties.

   - **Limited competency of nurses and midwives due to**
     a. Too many categories of nurses and midwives with overlapping roles
     b. Unclear roles and responsibilities of nurses and midwives
     c. Ineffective clinical preparation and supervision during training
     d. Inadequate continuing education system
     e. Limited utilization of evidence and research
     f. Insufficient clinical nurse specialists and nurse practitioners
     g. Inadequate facilities and opportunities for clinical nurse specialists
     h. Non-creation of posts for clinical nurse specialists.

iv. Inadequate standards and guidelines for nursing practice
v. Ineffective regulation of nursing and midwifery practice
vi. Inadequate infrastructure for nursing and midwifery practice
vii. Inadequate motivation to provide effective care.

3. **Poor quality of nursing education to produce qualified graduates for service due to**

- An inadequate national nursing and midwifery education plan and development
- Limited involvement of nurses and midwives at the policy level
- **Shortage of qualified nurse educators due to**
- Inadequate infrastructure for nursing education
- Too many categories of nursing and midwifery personnel
- Limited production of academic work and research.

4) **Limited role and authority of the INC in nursing development due to**

- Limited roles prescribed in the Indian Nursing Council Act, 1947
- Inconsistency in the Indian Nursing Council and State Nursing Council Acts
- Insufficient information systems in nursing and midwifery services
- Shortage of staff at the INC and State Nursing Councils.

Future of nursing and midwifery in India

Nurses and midwives in India should play a major role in improving the health and quality-of-life of people. The Millennium Development Goals can be achieved with their active work in the community. Infectious diseases such as HIV/AIDS, TB and malaria can be prevented and health promotion strengthened for all ages, especially maternal and child health. There should be a sound research base, strong leadership, policy formulation and unity of professional organizations with the strong commitment and continuous support of policymakers and the government. Nurses and midwives should be deployed in the hospital and community as per the recommended staffing norms. Roles, responsibilities and competencies for each category of nurses and midwives are to be clearly defined and implemented. Nurses and midwives should actively provide care based on evidence or research and implement nursing practice standards. They will have to pursue continuing education for self learning. There should be nurse specialists in various clinical areas. The working conditions for nurses and midwives should be good and their safety should be ensured. Nurses and midwives should be active members of the health care team and work in collaboration to provide holistic and comprehensive care for the patient and family.

The gap between nursing and midwifery staff and nurse educators needs be bridged. They should work together to improve nursing services and provide a suitable setting for students to practice clinical nursing. Nursing education programmes must be strengthened. Nurses and midwives should have Bachelors ‘degrees and those with diplomas or certificates must be upgraded. Masters’ programmes aimed at producing advanced practice nurses in various clinical areas need to be strengthened and expanded. Doctoral education in nursing must produce good researchers and leaders. Students can learn in an environment equipped with qualified teachers, adequate classrooms, libraries, information technology systems and nursing laboratories. Student-centred learning, self-learning and lifelong education must be emphasized. A quality assurance system for nursing services and education should be implemented.

Meeting the challenges

a. **Strengthen involvement of nurses in health and nursing policy formulation and planning**

Nurses need to study policy formulation and planning at all levels of education. The INC should take the lead and actively participate in health policy formulation, especially policies that will affect and impact the nursing profession. More positions for nurses are needed at the policy-decision level.

b. **Empower nurse leaders**

There should be a nursing division led by a nursing director in hospitals. The nurse director has to develop leadership and management skills to enhance the quality of the nursing workforce and nursing care to improve the health of the people and achieve the Millennium Development Goals.

c. **Establish a quality assurance system for the nursing service**

A quality assurance system comprises vision, mission, objectives strategic and operational, plans, nursing service activity, nursing manpower management, roles and responsibilities, nursing standards, nursing indicators, nursing research, nursing administration and management resource

allocation and financial support. The objective of this system is to ensure quality care and nursing outcomes as expected by clients (less suffering, shorter duration of hospital stay, and reduction of health care costs, infection, complications and mortality), and according to professional standards. It also indicates the commitment of the care provider towards providing the best care to consumers. If possible a hospital QA system should have nursing as an integral part and involves nurses in a surveyor team.

d. Ensure nursing workforce management as an integral part of human resource planning and health system development

An essential component of the nursing and midwifery development plan is manpower planning. Planning can prevent shortage of nurses and increase efficiency in deployment, utilization and development. It is important to include nursing workforce management in human resource and health system development.

e. Enhance nursing autonomy in practice

In India, there are a number of care activities that nurses can undertake because of their educational background but cannot carry out because doctors do not delegate responsibility to them. Having nurses take on some of the care that they are trained for independently will be cost-effective. Nurses with a Master's degree in advanced nursing practice can deal with complex health problems, have a better clinical judgment and can select the proper option for the patient by using evidence- based practice. They can also provide education and consultation.

f. Enforce implementation of recommended norms on nurse to patient ratio.

The quality of nursing care also depends on the number and categories of nurses who provide care. In hospitals and community settings, there should be a norm or standard for nurse to patient ratio. Norms recommended by the Health Manpower Planning, Production and Management Committee in 1986 and INC for different wards and outpatient departments should be reviewed. The INC must propose to the government the need for more posts and develop mechanisms to enforce the recommended norms for quality of care.

g. Create posts for professional nurses at the community level and strengthen the competency of the auxiliary nurse-midwife

In India, there is a doctor and nurse at the community health centre but at the primary health centre and sub centre, only the female health worker, ANM and LHV are there. One ANM has to take care of 5000 people, which prevent her from providing effective health promotion activities, maternal and child care; conducting home visits and preventing illness. ANM's sometimes cannot provide comprehensive care or make proper judgment due to their limited training.

To ensure quality of service at all community level, a public health nurse (PHN) should work with an ANM. The ANM should be qualified to provide effective maternal and child care to reduce maternal and infant mortality rates, and be able to replace the TBA. A PHN, who is a graduate in nursing, should learn more about epidemiology, health promotion, disease prevention, primary medical care, alternative medicine, health and culture, and community nursing. Community nursing should include community assessment, family health care, school health, home health and long-term care.

The capacity of PHNs and ANMs should be strengthened so that they can provide health information and education, which are important means to improve the health behavior of individuals, family and the community.

h. Produce advanced practice nurses

Advanced practice nurses (APNs) are prepared at the Master's level. An APN can be categorized into a clinical nurse specialist (CNS), nurse practitioner (NP), nurse anaesthetist and midwife. The roles of the APN are clinician expert, educator, researcher, consultant and manager. APNs have the competency of clinical judgement, leadership skills, are an agent of change, and help in collaboration and communication.

In the United States, it has been found that the APN can make an early diagnosis so that the patient receives proper treatment in time, with a shorter length of hospital stay, reduced complications and high patient satisfaction. In Australia, NPs are required to work at the community level as case managers and may have an independent practice as well. To expand the role of nurses in India, APN programmes should be established and should be included in manpower planning. The scope of practice should be clearly identified by the INC.

i. Ensure appropriate facilities and adequate medical equipment and supplies.

Facilities, medical equipment and supply form the infrastructure required for providing health service. The health care facility should have a standard for rooms and space for outpatient departments and

inpatient wards, and a standard for essential medical equipment and supplies. Good environmental sanitation and waste management can reduce the outbreak of infectious diseases such as hepatitis B and C, and reduce injuries and health risks such as needle stick injury. Adequate medical equipment and supplies provide the patient with proper treatment and care, reduce nursing time and the rate of infections. However, there should be a good maintenance and control system.

j. Promote evidence-based practice and nursing research

Nurse educators should develop a short-course training on evidence-base and research or to supervise research activity. Resources such as journals and books can be shared. Joint research between nurse educators and clinical staff should be encouraged to strengthen the capacity of both groups and improve education and practice. The INC can be a part of nursing research development.

The INC should set nursing research priorities in collaboration with nursing and non-nursing organizations to provide research funds and promote nursing activities for policy formulation. Establishment of a nursing research information system is encouraged to monitor research work, areas of research and researchers. Dissemination of nursing research and models for best practices should be established.

k. Establish a continuing nursing education system

Continuing education stimulates nurses to keep up with new knowledge and technology, to increase their skills and competency, and to be able to contribute to the health care team. The nursing service department or hospital should formulate a policy on staff development and set aside a budget to strengthen their competency in providing quality nursing care. This is an incentive for nurses.

The existing continuing nursing education programmes should be strengthened or new units established. The appointment of responsible persons for continuing education activity is needed. Continuing education programmes should get approval from the INC

l. Strengthen payment scales, incentive systems and working conditions

The payment scales of nurses in many countries are low compared to other health care workers. Payments should reflect education, type of work, roles and responsibilities, and work load. A nurse's job requires good knowledge, skills, hard work and commitment. In India, the payment scale was adjusted in 1996 but is still low compared to other professions; it should be increased. An incentive system for nurses could include allowances, uniform, housing, reimbursement for health care services, extra payment for working in the evening and night shifts or overtime, or working at remote or unsafe areas, and opportunities for continuing education. Transportation and safe housing for nurses who work in the community or remote areas should be provided for the convenience and safety of home care service. Recognition should be given to good workers at the institutional, local and national levels. Opportunities to obtain a higher degree, short-course training or to attend nursing conferences or workshops should be given to each nurse at least once a year for self-improvement and career advancement. Potential nurses should be encouraged to study for a higher degree and take study leave with pay. Career ladders for promotion of nurses should be established at the national level. Therefore, each nursing service must have a human resource development plan and implement it effectively. Good working conditions including adequate and appropriate working facilities, cleanliness and safety can also facilitate productive work and the quality-of-life of nurses.

m. Ensure quality of nursing education by strengthening nursing programmes, increasing qualified nurse educators and allocating appropriate resources to maximize efficiency and effectiveness.

The INC has set standards and syllabi for all nursing programmes. However, the roles and responsibilities of nurses at each level should be clearly defined, and the curriculum structure and training experience may have to be revised. Inspections for nursing education institutions are being carried out by the INC. A workshop for inspectors should be held to discuss common issues in nursing education, review the inspection process and revise the inspection criteria and guidelines.

The quality of education depends on the quality of the educators. The teacher for the BSc programme in nursing should be at least a Master's degree holder and have teaching experience as prescribed by the INC. The teacher at the graduate level should do research and publish at least one article every two years. Educators should coordinate closely with the nursing staff in hospitals to achieve education that is relevant to the needs of the service. Educators should collaborate with the nursing service in research and nursing service development. The teaching-learning activity should emphasize participatory learning and cultivation of lifelong education. Infrastructural needs such as a library, information technology system and nursing

laboratory should be of good quality. In addition to learning activity in the classroom, students should participate in extracurricular activities such as sports, music, student clubs, social work and community development projects. The curriculum should be revised regularly, and alumni and stakeholders should be involved in the process so that the curriculum meets the demands of society.

n. Expand the role and authority of the Indian Nursing Council on nursing development by revision of the Act, Restructuring and Networking.

To maintain control of the quality of practice, the Indian Nursing Council Act and regulation may be reviewed and revised. Standards of implementation should be enforced. Control over the State Nursing Councils should be considered and a clear line of command initiated. Networking with other nursing professionals is necessary and should be strengthened to create unity and power for nursing development. Strategies should be developed to work with the Ministry of Health &Family Welfare, Division of Nursing Service or other organizations both within and outside the country to improve the quality of nursing and of nurses themselves.

CONCLUSION

Nurses and midwives can make major contributions to health care development and achieve the Millennium Development Goals. Strong commitment and close collaboration between professional organizations, nursing service institutes and educational institutes are needed in planning, implementation and evaluation of nursing workforce management. Maximal use of resources within the country is essential. Nurses and midwives should commit themselves to continuously improve the quality of nursing services by strengthening their competencies.

Nutritional Adequacy in Intensive Care Patients- A Pilot Study

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ABSTRACT

Background of the study: Inadequate nutritional intake in critically ill patients can lead to complications resulting in increased mortality and healthcare costs. Several factors limit adequate nutritional intake in intensive care unit patients given enteral feedings.

Material and Methods: This observational prospective study was performed in a 8-beded intensive care unit at a Multi Specialty Hospital at Puducherry with the objective of, To examine the adequacy of enteral nutritional intake and reason for interruptions. 25 patients were included in the study. Consecutive patients receiving mechanical ventilation and with no contraindication for initiation of enteral nutrition were considered for inclusion in the study. The patient's case sheet was prospectively followed to assess the Prescribed Versus Received Volume of enteral feed and interruption in enteral feeding. The amount (ml) of enteral feed prescribed and the amount actually delivered were recorded daily. The study was approved by the institution's review board.

Results: mean age of the patients participated in the study were 49 years. Also this study included majority of males only (65%). 70% of the subjects were mechnically ventilated. All of the subjects had naso gastric tube for enteral nutrition. Mean prescibed volume was 1908 ml± 258ml, but the received volume was only 1658 ml± 210ml. It is significant at <0.1 level. The enteral feeding was not interrupted in 10 patients but in 7 patients it's interrupted for airway management and in 3 patients for GI Intolerance (vomiting and diarrhea), in 5 patients for surgical intervention.

Key words: *Nutritional Adequacy, Nutrition in icu Patients.*

INTRODUCTION

Nutrition support is commonly used as supportive care in critically ill patients, either to treat existing malnutrition or to prevent development of nutritional deficiencies.[1-4] Critical care nurses are important in this supportive therapy because they administer nutritional formulas to critically ill patients. A number of clinical trials indicated the benefits of providing nutrition support, particularly enteral feedings, to critically ill patients. Important outcomes such as rates of infection, lengths of stay, and costs can be decreased by the early initiation of enteral feedings.[1–4] Despite knowledge of these benefits, the actual nutrition support received by patients in the intensive care unit (ICU) is not always optimal for various reasons.In critically ill patients enteral nutrition (EN) is frequently associated with underfeeding and intolerance, whilst parenteral nutrition (PN) has been associated with a greater risk of infectious complications and overfeeding.[4-6]

MATERIAL AND METHODS

This observational prospective study was performed in a 8-beded Medical intensive care unit at a Multi Specialty Hospital at Puducherry with the objective of, To assess the adequacy of enteral nutritional intake and reason for interruptions. 25 patients were included in the study. Consecutive patients receiving mechanical ventilation and with no contraindication for initiation of enteral nutrition were considered for inclusion in the study. The patients' case sheet was prospectively followed to assess the Prescribed Versus Received Volume of enteral feed and reasons for interruption in enteral feeding. The amount (ml) of enteral feed prescribed and the amount actually delivered were assessed. . The study was approved by the institution's review board.

RESULTS

Table.1: Demographic characteristics

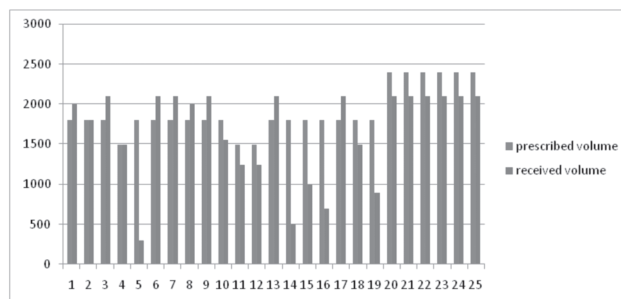
Variables	n(25)	%
Age (Mean)	49±8 yrs	
Sex		
• Male	15	64.5
• Female	10	35.5
Category of Patients		
• Surgical	8	32
• Medical	12	48
• Neuro	5	20
Mechanical ventilation:	17	68
Naso gastric tube	25	100%

The above table shows that mean age of the patients participated in the study were 49 years. Also this study included majority of them were males (65%). 70% of the subjects were mechanically ventilated. All of the subjects had naso gastric tube for enteral nutrition.

Table-2 : Feeding adequacy in ICU patients

Variable	Mean	sd	P value
Prescribed volume	1908 ml	± 218ml	< 0.1
Received volume	1658ml	± 210ml	

This table shows that mean prescribed volume was 1908 ml± 258ml, but the received volume was only 1658 ml± 210ml. It is significant at <0.1 level.



The above picture shows that 28% of the days overfeeding (in volume) 56% of the days unserfeeding (in volume) occurred to the patients.

Table-3 Reason for interruption of enteral feeds

Variables	n	%
Not interrupted	10	40
Airway management	7	28
GI Intolerance	3	12
surgical intervention	5	20

The above table shows that, the enteral feeding was not interrupted in 10 patients but in 7 patients its interrupted for airway management and in 3 patients for GI Intolerance(vomiting and diarrhoea), in 5 patients for surgical interventions

RESULTS

1. Mean age of the patients participated in the study were 49 years.also this study included majority of males only(65%). 70% of the subjects were mechnically ventilated. All of the subjects had naso gastric tube for enteral nutrition.
2. Mean prescibed volume was 1908 ml± 258ml, but the received volume was only 1658 ml± 210ml. It is significant at <0.1 level.
3. The enteral feeding was not interrupted in 10 patients but in 7 patients its interrupted for airway management and in 3 patients for GI Intolerance(vomiting and diarrhoea), in 5 patients for surgical interventions.

DISCUSSION

This study found that , the patients received less than prescribed volume through enteral route which is significant at < 0.1 level.Most critically ill patients receiving mechanical ventilation who are fed enterally do not receive their requirements, primarily because of frequent interruptions in enteral feedings. Our results replicate those of others. Graves et al (2009) found in 65 United States (US) burn care centres that enteral nutrition was withheld prior to surgery and for dressing changes in 83% of participating centres.Recent studies[7,8] indicated that repeated interruptions of enteral tube feeding result in significant underfeeding in critically ill patients. Adam and Batson[7] found that ICU patients received only 76% of the patients' daily energy requirements with enteral tube feeding, primarily because of gastrointestinal intolerance and elective withholding of feedings for procedures. In a similar study, McClave et al[8] found that ICU patients received only 52% of the patients' energy requirements with enteral tube feeding and that 66% of the interruptions in tube feedings were avoidableNutrition support is commonly used as supportive care in critically ill patients, either to treat existing malnutrition or to prevent development of nutritional deficiencies. Critical care nurses are important in this supportive therapy because they administer nutritional formulas to critically ill patients.

IMPLICATIONS FOR PRACTICE AND FUTURE RESEARCH

Multiple interruptions of enteral tube feedings limit the adequacy of enteral intake in ICU patients receiving mechanical ventilation. Gastrointestinal intolerance is often the most common cause of inadequate delivery of enteral feedings early on. However, interruptions for tests and procedures become a more significant factor after patients have reached their goal rates for tube feeding. Tube feeding protocols can help standardize tube feeding practices

and limit unnecessary interruptions in the feedings. Continued development of such protocols is an important direction for future ICU research.

CONCLUSIONS

An inadequate delivery of enteral nutrition and a low rate of nutrition prescription resulted in low caloric intake in our intensive care unit patients. A large volume of enterally administered nutrients was wasted because of inadequate timing in stopping and restarting enteral feeding. A number of studies[9-12] indicated the benefits of providing nutrition support, particularly enteral feedings, to critically ill patients. Important outcomes such as rates of infection, lengths of stay, and costs can be decreased by the early initiation of enteral feedings[1–6]. Despite knowledge of these benefits, the actual nutrition support received by patients in the intensive care unit (ICU) is not always optimal for various reasons. Overfeeding by any route of nutrition support can be detrimental, and inadequate provision of nutrition support or underfeeding, which is more common in tube-fed patients, can also be harmful[7, 8]. Therefore, clinicians often implement protocols for critically ill patients to improve the adequacy and timeliness of nutrition support[13,14]. All members of the multidisciplinary team contribute to adequate and timely provision of nutrition support, but the skill and experience of critical care nurses in caring for critically ill patients is pivotal to the success of nutrition support.

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Students' knowledge of a Problem Based Course Compared with the Same Course Utilizing Group Discussion

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ABSTRACT

Background: Helping students to develop problem solving skill is a frequently cited goal of science education. This method involves students to think about operations of analysis, synthesis and evaluation.

Material and Methods: This study a comparative study from simple sampling on the students of 6th semester whom 38 of them were randomly divided into two groups and trained by two methods of PBL and group base learning in psychiatry field. Each group was trained by two methods. Each group was self-control. Data was gathered by multiple choice question in two part of study. Analysis was done by T-test and paired T-test with SPSS.

Overall both methods increased students' knowledge in two groups but the mean score of learning from group base learning was higher than problem base learning. Comparison between the mean score of learning from two methods showed that before training which was not significant. But after training that was significant. (P=0.02)

Regard to the result and without preferring one method to the other one ,We recommended that using critical method inside the common teaching can provide effective learning for the students and also participating students in learning as a group base learning can increase effective learning.

Key words: *Students Learning; Problem Based Learning; Group Base Learning; Active Learning*

INTRODUCTION

It is important that not only the college be able to train doctors of chiropractic who are equipped with scientific and technical knowledge, critical thinking skills, competency based and communication skills essential in clinical practice, but also, through the course of their educational experience, the graduates grow to be lifelong learners who are able to meet the needs of changing health care of society [1].

Trends in medical education have shifted away from didactic and traditional teaching toward problem-based learning (PBL) which is justified by studies showing the superiority of PBL in improving reasoning, inquiry, competencies and communication skills[2].

The use of problem-based learning (PBL) methods in medical education has been increasingly employed. Problem solving in education explains that how a wide spiral curriculum coordinated can help students master thinking skills and transfer these skills to professional environment[3] .

"Problem based learning (PBL) students use "triggers" from the problem case or scenario to define their own learning objectives". They work in small groups in a classroom setting, apply previously learned information to solve the problem and identify the knowledge and skills which they lack to solve the problem accurately [4,5].

Hughes, Ventura and Dando & Camp state that Problem-based learning satisfies many key principles of adult learning and fosters development in the lifelong learning. PBL are being employed in the

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curriculum as a method to meet the needs of the adult learner by an expanding number of educational settings and disciplines[6-7].

In this method the discussion about the subjects should be taught to the students is based upon areal clinical case and participation of the attending students. In contrast, in the method of problem solving, multiple student groups participate in learning skills. In this method, students were divided to multiple subgroups and discussed about titles and subtitles that teacher determined to them. Dormans D, Schmidt HG[8].

Different studies have shown that PBL increases the motivation and encouragement for personal studying , promoting self learning skins , emphasizing on the importance of learning basic science inorder to use them in clinical setting and promoting the analysis capabilities and clinical competence of the students at the time of the professional medical practice[9,12].

"Problem Base learning emphasizes on a clinical problem as the axis of teaching and on participation of the student in multiple step. step1: problem presentation , step 2 : terminology, step 3 : Defining the problem , step 4 : Brain storming , step 5 : Assembling , step 6 : presentation, step 7 : final[13].

Interest in active methods of learning has accelerated in recent years. There has also been an interest in developing student center approaches[13,6].

With regard to the importance of group based teaching in recent years, students must be able to interpret, relate, and in corporate new information with available knowledge and apply the new information to solve novel problems. Peer instruction is a cooperative learning technique which promotes problem solving, critical thinking and decision making skills [14].

Felder &Brent reported in cooperative learning students work in teams on problems and projects under conditions that assure both positive interdependence and individual accountability. This method is a successful teaching strategy in which small teams, each with students of different level of ability, use a variety of learning and activities to improve their understanding of a subject. Each member of a team is responsible for learning what is taught and also for helping teammates learn, thus creating an atmosphere of achievement[15].

Other researchers also claim that use of this method improved academic achievement , improved attendance and behavior, increased self confidence and motivation and increased linking of school and classmates. Cooperative learning is also relatively easy to performance and is inexpensive[16].

According to the Harvard community college's teaching ," elements of cooperative learning conclude : 1- positive interdependence 2- Face to face interaction 3- individual and group accountability 4- interpersonal and small group skills 5- group processing"[17].

We tested students' learning by using two methods in group instruction or group learning and problem based learning .That is the comparison of two methods of personal and group learning in classroom.

METHOD

This study is a comparative study on 38 nursing students on psychiatric field.

38 students were randomly divided into two groups and were trained two methods of teaching PBL and group learning respectively. Each group of students was trained through specified method within 7 weeks. Parallel questions were designed through multiple choice. After 3 weeks free period (due to decrease interactive teaching process), students were trained common training method as a lecturing , then by crossing over type, method of teaching changed in two groups (Each group was considered as self control). Exams in two stage of study was performed by parallel questions and scores were calculated from 15.

In order to determine contents in problem based learning sessions students were asked to:

- share experiences about the subjects event anddescribe desirable outcomes about content presented.
- share best practices or known instances of consistent achievement of the desired outcomes

  Strategies expected to lead to successful outcomes preparation of group discussion was from:

- forming an atmosphere of guidance and direction about activities in the group.
- determine the subject and brain storming about content
- cohesion, sharing, trust building and then creativity
- completion of the task and conclusion from team activities

Proportions of learning from different types of teaching were compared by using independent T-test and paired T-test with SPSS (13.5).

RESULTS

All together 38 students participated in this research. mean score of learning from two methods showed that, mean score of students' learning from group of base learning was higher than problem based learning group.

Comparison between mean score of student's learning from two methods in two stage of program was significant. (p>0/05)(Table 1).

Table 1: The comparison between mean score of learning from two methods in two stage of teaching

State	Group	Method	Mean	T
T1	Group 1 Group 2	PBL Group learning	9.21 +1.85 9.90 + .93	-0.93
T2	Group 2 Group 1	PBL Group learning	8.84+ 1.92 10.57+2.40	-2.45*

*P=<0.05

DISCUSSION

Recent results showed the both active method affect students' knowledge, but comparison mean score of trainer showed mean score of group base learning was significant that this result may be related to advantages of student participation in group process and increase cooperative learning together ,increase self esteem and involvement of all student in learning process.

Ironsides in study to working together showed that working together is a creating excellence and shaping the future of education[18].

This finding confirmed by Dollman in study with aim of evaluation of practical skills of student from two method of peer group learning compared with a traditionally instructed method showed that there were no differences between traditional instructed and peer group learning on intra tested (P= 0.24). But the peer group learning had a higher inter tested from traditional method[8].

Murphy & Adams approved our research in the study to explore the benefits of user education described three different approaches to mediated training for medical students and clinical provided by peer , Juniors and information specialists and considers the benefits to the participants showed user education or peer group education is a indirect , long- term benefits relating to more social issues and provides evidence of direct benefits (time saved, quality of service, skill acquired and financial saving[19].

Other researchers as Visschers, Pleijers, Dormans, et al, approved other researches and explored that in the students' opinion, the interaction process in the tutorial group can improve and provide useful information to detect short coming in group learning interaction[20].

And Kelly & Haidet supported these findings by using the strobe classroom observation tool to compared patterns of engagement behaviors among learners in class session across 3 distinct instruct method from lecture ,problem based learning (PBL) and team learning in this research were observed in PBL and team learning. The amount of learner to learner engagement was similar in PBL and team learning and much greater than in lecture presentation . Also learner to instructor engagement appeared greater in team learning than in PBL method[21]

CONCLUSION

We recommended that using critical method as a problem base learning or group – base learning inside lecturing can provide effective learning for students and also participating students in group learning can increase effective learning that would remain in students 'memories. Therefore we suggest using new teaching method as a group base learning in future in classroom.

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The Added Value of 3D Simulations in Healthcare Education

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ABSTRACT

This article describes a grant-funded collaborative faculty initiative to develop a prototype of a virtual learning environment through a 3D virtual platform, Second Life. It identifies and discusses benefits and challenges educators face in adopting a 3D simulation environment in instruction. Thirty-three study participants reported the interdisciplinary educational experience was positive. They perceived the 3D learning environment supported the needs of visual learners, promoted self-paced learning, and provided more realistic scenarios for application to clinical practice than the print case study. Although our pilot study was time-limited and used a small number of students, the results suggest 3D simulation appears to be an exciting, promising, affordable pedagogy to engage health care students in problem solving and critical reasoning. The focus was on lessons learned through promoting 3D simulation-based learning in higher education to inform future research on effective ways of evaluating achievement of student learner outcomes when using virtual reality.

Key words: *Nursing Education, Technology, Simulation, 3D, Second Life*

INTRODUCTION

Virtual simulations have been incorporated into nursing education to provide students with experiences they may not be exposed to in actual clinical settings. There is increased competition for a declining number of actual clinical experiences. Additionally, there are some patient situations that are not appropriate for students because of potential patient risk. Simulated patient scenarios allow students to experience high-risk clinical situations such as treatment of cardiac arrest in a safe non-threatening atmosphere. Anxiety is decreased because no harm will come to a live patient. Students can learn from errors without putting the patient at risk. Certain patient situations lend themselves well to simulation and permit faculty to insert opportunities for students to problem solve in a calmer atmosphere. The Agency for Healthcare Research and Quality and the Institute for Medicine advocate integrating simulation into basic nursing education as well as for continuing professional education[1,2].

The use of simulation in other disciplines is also documented. Oishi et al.[3] and Malone et al[4]. reported on the benefits of simulation in physician education. Additionally, support has been provided for the incorporation of simulated learning for physician interns[5,6]. Kallonis and Sampson[7] described the use of a 3D virtual classroom for teacher continuing education. Leung et al.[8] investigated the effects of virtual industrial training on mental workload during task performance in the manufacturing and service industries.

Simulations can be used to validate the competency of health care professionals[11]. Simulation allows for repeated student practice and remediation. Competence occurs with repeated exposure, and critical thinking skills are gained through exposure to differing situations. As a teaching methodology, a clinical simulation experience is an active event with students engaged in realistic clinical environments. During this authentic clinical experience learners

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integrate and synthesize core concepts and knowledge and apply appropriate interpersonal and psychomotor skills. Students incorporate decision-making skills using the nursing process involving assessment, diagnosis, planning, implementation and evaluation. Hospitals have adopted the use of simulation to validate skill competency[11].

Paige et al.[12] studied the impact of simulated operating room experiences on the development of teamwork, reporting significant gains in role clarity, anticipatory response, cross-monitoring, and overall team cohesion. These skills are essential for emergency response teams. New York City has held multiple mock disaster situations involving police, fire, and other groups since 911. Schmidt and Stewart[13] reported on their incorporation of Second Life to actively engage students in an accelerated nursing program. However, there was no indication of the impact on student success. Bai and Fusco[14] support the use of simulation in collaborative education across disciplines.

What has not yet been documented is a positive impact of simulation on student test scores. Kardrong-Eddren, Anderson, and Michaels[15] reported no significant differences in pre or post-test scores between three groups (lecture only, low-fidelity simulation, and high-fidelity simulation) when teaching nursing management of congestive heart failure. Sutton [16] describes his plans to examine if second life simulations improve student learning and retention as compared to traditional teaching modalities. The results have not yet been published. Campbell[17] focused on using 3D virtual worlds to teach decision-making to a group of pre-graduate teachers. He reports there was mixed evidence of the benefits, though many students did comment that they found it engaging. Increased opportunities for teachers incorporating virtual reality and Second Life into the classroom have also been discussed widely[18].

Radhakrishnan et al.[19] reported no significant differences in the areas of focused assessment, interventions, delegation, communication or mean individual score in a study evaluating the effects of simulator practice on the clinical performance of second-degree BSN students. They noted that their sample was very small. Kardong-Edgren and Adamson[20] found that no student groups could remember or perform the steps of CPR, but all could correctly use the automated external defibrillator. Conversely, Ackermann[21] reported that when comparing knowledge acquisition and retention of CPR skills between groups exposed to simulation and without this treatment, both groups' knowledge retention decreased. However, the participants who experienced the simulation scenario had better retention. Further, participants who had CPR experience with a live person had the best scores.

Brown and Chronister[22] compared students who received a didactic-only ECG course with another group who had simulation scenarios. They reported that critical thinking was not significantly increased from the control group, but self-confidence increased with simulation. Decker et al.[23] suggest that a combination of simulation and concept mapping by students promotes critical thinking and reflective thinking. Pauly-O'Neill[24] used simulated experiences incorporating pediatric case scenarios that included high-risk drugs and built-in prescribing error and found an improvement if safe medication administration.

The benefit of using various types of simulation to enhance skill, safety and self-confidence has been noted in nursing literature[22,30,31]. Additionally, several studies report that a student preference for simulated learning experiences over traditional lecture format[25,26]. However the impact of simulation on cognitive aspects of learning has not been delineated and remains an important focus for future research. Alfred and Fountain[25] compared individual student learning styles in a high-fidelity simulation environment and found a positive correlation between social and introverted learning styles and the student's satisfaction with simulation. Saleeb and Dafoulas[27] noted that student satisfaction from a 3D educational space is highly dependent on the architectural characteristics used to design the space. Koh et al.[28] found that the incorporation of 3D simulation resulted in increased motivation and satisfaction among engineering students. Wang et al.[29] reported that their training has shown positive effects in improving novice drivers' abilities to anticipate, recognize, and deal with hazards in simulated driving. Another type of simulated learning can be found using 3D virtual worlds such as Second Life. Many students are very familiar with this modality through gaming. This environment can provide a more interactive experience based on teacher-developed case scenarios. It is predicted that the use of 3D simulation through second life will provide an interdisciplinary, collaborative learning environment as determined by a measureable change in attitude.

MATERIALS AND METHODS

3D Simulation Design and Development

An interdisciplinary team of faculty members developed an immersive virtual clinical environment, in which students assume the roles of doctors, nurses, patients, social workers, and family members. Students observe or immerse themselves in a 3D virtual world

to learn about complex issues (e.g., patient symptoms, health history, race) (Figure 1) and how stakeholders (e.g., doctors, nurses, psychologist, social workers) respond and make decisions to deal with those issues.

Fig. 1. A screen shot of a virtual clinic with a patient being treated.

The faculty created a prototype of a virtual learning environment through the 3D virtual platform Second Life (http://secondlife.com), which is available for public use. The virtual environments include a virtual hospital and a virtual patient residence. Additionally, two teaching vignettes in this 3D virtual learning environment were created. These vignettes demonstrate the interconnectedness of health care practices across disciplines. Faculty served as domain experts; and designed stories and scripts modeling real-life patient situations to be used as teaching instruments. In these vignettes, it is both possible and likely that multiple practitioners enter the story line, sometimes concurrently, to support safety and overall patient well-being. Such an approach recognizes that patient health and safety often requires a team approach, particularly at times of crisis. We envision supporting the development of culturally competent care through teaching vignettes, which embody multilingual/multicultural actors. This space serves as a pre-clinical learning environment to support the clinical reasoning of students. A technique called machinima, which is a method for making movies in virtual worlds, was adopted. The vignettes were recorded as movies by controlling the avatars acting out the scripts. The resulting raw video clips were edited in a process similar to how a movie is made – selecting the scenes and adding verbal scripts as well as voiceover.

A virtual Center for Interdisciplinary Health Practice was created to house these two teaching vignettes. The Center is designed to promote interaction between faculty and students from different allied health and social science disciplines. Figure 2 is a screenshot of our virtual environment which allows students to engage in role-play and collaborate with experts, instructors, and peers. Different learning skills are required when students interact in such a learning environment. For instance, practicing in a simulated real-life situation requires students to use critical-thinking and clinical-reasoning skills. Performing the scenarios in conjunction with other participants enhances communication and delegation skills.

Fig. 2. Screen shots of a virtual hospital and a patient's house. (Medical devices: oxygen mask, blood pressure monitor, inhaler, cane are stored in the inventory for students to retrieve. Scripts that enable such behaviors as holding hands, using an instrument, fainting, or washing hands were embedded in the environment for users to trigger. Students can role-play in the virtual hospital anytime anywhere (ie a patient can lay in bed with a nurse measuring the blood pressure or administering oxygen.)

PROCEDURE

Thirty-three students participated in a one-day workshop including Occupational Therapy, Physician Assistant, and Nursing students recruited from a senior college in New York City. The study started with a pre-test evaluating students' prior knowledge of home patient care. Next was a brief orientation on the topic of Home Patient Care instructed by a workshop leader. Then the students were randomly assigned to two groups. One group read a text-based case study (the control group) and the second group (the experimental group) watched a 3D video-based case study in separate rooms. The same patient situation was included in each modality. Each group then constructed concept maps in response to the question, "*What are some cultural factors that health care providers need to consider when caring for a patient at home?*" The control group (16 participants) and experimental group (17 participants) filled out an anonymous survey (Survey 1) and took a post-test afterwards. The 3D simulation environment was then introduced to both groups. A researcher demonstrated a few main features in Second Life. The students then watched a 3D video of a case study on substance abuse. A second anonymous survey (Survey 2) was administered to all the participants towards the end of the workshop. Both surveys focused on students' attitudes toward the different formats through a 5-point Likert scale as well as open-ended questions.

FINDINGS

Quantifying the attitudes toward case studies in Survey 1 and 2

Statements in Surveys 1 and 2 were designed to quantify the attitudes of participants toward their learning experience (e.g., "The case study was easy to follow"). Survey 1 was designed to assess attitudes after the initial presentation of the case study (via text to the control group; via 3D vignettes to the experimental group). Survey 2 assessed attitudes after participants viewed the demonstration of the 3D interactive simulation. Participants indicated their agreement with statements made in the questions using Likert scales ranging from 1 to 5, where 5 indicates maximal agreement with the statement. Half of the statements indicated a positive experience with the case studies (e.g., "The case study was easy to follow") and half of the statements indicated a negative experience (e.g., "The case study was NOT easy to follow"). Attitudes toward the statements were computed by summing the Likert scale responses within and across observers. The difference between the responses to positive (L_{POS}) and negative (L_{NEG}) phrased statements was computed to yield a difference score that indicated the overall attitude toward the case study ($L_{POS} - L_{NEG} = L_{TOTAL}$).

Within-Subject Reliability

A split-half reliability test was conducted to determine whether individual participants demonstrated a consistent pattern of responses to Surveys 1 and 2. If a participant's attitude toward the case studies is consistent, they should demonstrate a statistically significant difference between answers to positively (L_{POS}) and negatively (L_{NEG}) phrased statements about the case studies. For the sum of responses across all participants, there was evidence to suggest a significant difference between responses to L_{POS} and L_{NEG} statements for Survey 1 (χ^2,1 df, $p < 0.0001$) and Survey 2 (χ^2, 1 df, $p < 0.0001$). Overall, the responses of the participants indicated a consistent attitude toward the case studies in Survey 1 and 2.

Differences in attitude toward the case studies between control and experimental groups

Across observers, the number of positive responses (L_{POS}) was statistically greater than the number of negative responses (L_{NEG}) for Survey 1 (χ^2, 1 df, $p < 0.0001$) and Survey 2 (χ^2, 1 df, $p < 0.0001$). The statistically greater number of positive responses was maintained within each group for Survey 1 (χ^2, 1 df, Control, $p < 0.0001$; Experimental, $p < 0.0001$) and Survey 2 (χ^2, 1 df, Control, $p < 0.0001$; Experimental, $p < 0.0001$). Participants clearly enjoyed their experience of the case studies and the presentation of the interactive 3D simulation regardless of whether they received the initial case study via text or 3D virtual simulation.

It was predicted that the experimental group (3D simulation) would demonstrate a greater number of positive responses (L_{POS}) toward the case study than the control group (text-based), which was not the case. For Survey 1, the sum of all Likert scale responses to positively phrased questions (L_{POS}) was 413 for the experimental group, and the sum of responses to negatively phrased questions (L_{NEG}) was 154. Responses to positively phrased questions (407) and negative questions (183) for the control group were similar. The difference between the positive and negative phrased questions (L_{TOTAL}) indicates the overall attitude toward the case study (259 for the experimental group and 224 for the control group), which was not significantly different between groups (χ^2, 1 df, $p > 0.10$). A similar pattern of results was observed for Survey 2 (χ^2, 1 df, $p > 0.10$).

Post hoc analysis was conducted on individual survey questions, which were designed to measure different psychological constructs *a priori* (i.e., usability, motivation, emotion, self-efficacy, meaningful learning, and confidence). It is not typically appropriate to conduct multiple post-hoc comparisons without using a Bonferroni correction to adjust the familywise alpha criterion. However, a liberal familywise error rate was adopted to increase the sensitivity of the post-hoc tests to explore which psychological constructs were most affected by the introduction of 3D simulations. After adopting a liberal familywise alpha criterion, there was evidence to suggest a significant difference between experimental and control groups in Survey 1 for questions designed to measure motivation (χ^2,1df: $p < 0.05$). However, there was no evidence to suggest a difference between groups for the remaining questions designed to probe emotion, self-efficacy, meaningful learning, and confidence (χ^2,1 df, all $p > 0.10$). There were also no significant differences between experimental and control groups for any of the questions in Survey 2. Because of the sensitivity of our post hoc analysis, it is possible that the significant post hoc test could be a false alarm. Therefore, independent replication of our study will be required to confirm these findings.

CONCLUSION

All students reported that this interdisciplinary educational experience was positive. A majority of students were highly motivated by this experience and were excited to participate in 3D virtual reality educational experiences. Students overwhelmingly preferred engaging in the 3D virtual simulation case study or learning within a clinical setting over

the traditional print case study. Student comments indicated that the 3D learning environment supported the needs of visual learners, promoted self-paced learning, and provided more realistic scenarios for application to clinical practice than the print case study.

Although this pilot study was time-limited and used a small number of students, the results suggest 3D simulation appears to be an exciting, promising, affordable pedagogy to engage health care students across disciplines in problem solving and critical reasoning. Student's motivation and technological affordance are most important today given the challenges of providing students with diverse opportunities for clinical observations across the health care continuum. Use of technology is not meant to supplant clinical education but appears to offer an enriching student-centered methodology that can be incorporated within traditional health science education to support diverse student learning styles and address realistic complex problems students will encounter in practice. Additional exploration of use of 3D simulation with diverse case scenarios and larger numbers of students is recommended to further explore the benefits of using this relatively new educational pedagogy. The feasibility of 3D simulation should continue to be considered when conducting this research.

There are several improvements that could be made in future implementations of 3D virtual simulations. First, nursing faculty should be encouraged to develop case scenarios that can be converted to the virtual reality modality. These scenarios should include fundamental situations as well as more complex scenarios that require the learner to analyze patient data and choose interventions. These patient situations can be used to assist learners in developing critical thinking skills as well as for remediation and preparation for licensure examination. Although our study proves that 3D simulations are technically and financially feasible tools to develop case studies, faculty/student training is still needed to allow the participants to teach or learn in this environment. Second, efforts should be made to evaluate a learner's performance of various skills. Evaluation can be very useful for nursing education as well as nursing practice as competency-based testing. Online courses and programs in nursing education are rapidly increasing. Such a model can be very helpful in ensuring that these learners actually develop patient care skills. Another crucial focus for future research is how best to evaluate achievement of student learner outcomes when using virtual reality.

Clearly, simulation offers educators opportunities to engage students in real-life situations for learning, practicing skills, and evaluating performance. Less clear is the impact on cognitive student learning outcomes as well as the duration of skill retention. For instance, can simulation help improve higher-order thinking skills such as critical think or problem solving? Can simulation help students memorize declarative knowledge over longer period of time? Can simulation help students transfer what they have learned to a new real life setting? More research targeted at these outcomes is indicated.

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Conflict of Interest- nil

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A Comparative Study on Emotional Maturity among Adolescent Boys and Girls

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ABSTRACT

In adolescents, emotional development refers to the attainment of emotional capabilities as they grow. In this study Emotional maturity was assessed and compared among adolescent boys and girls using Modified Emotional Maturity Scale. 300 adolescent boys and 300 adolescent girls were selected by simple random sampling. The study findings revealed that 78.7% of adolescent girls had high emotional maturity, while 64% of adolescent boys had high emotional maturity. This is indicating that adolescent girls are having higher emotional maturity than adolescent boys. There was significant association between emotional maturity and selected variables like gender, aggregate marks in previous year, educational status of fathers, educational status of mothers, occupation of mothers and monthly family income.

Key words: *Emotional Maturity, Adolescent Boys and Adolescent Girls*

INTRODUCTION

In the present day adolescents are facing enhanced difficulties due to fierce competition, peer pressures and parental expectations in addition to daily rigors of life. These difficulties are giving rise to many psychosomatic problems such as anxiety, tensions, frustrations and emotional upsets in day to day life.

The term emotional maturity means acknowledging and managing one's feelings, understanding other's feelings, responding appropriately and effectively, so that adolescents can work smoothly and fulfil their desired goals[1].

Adolescents have difficulty in regulating emotional reactions or impulsive behaviour, as they are temperamentally over-reactive or lack of emotional skills. So they are likely to experience difficulties in adapting to school, work and society[2].

According to 2008 statistics among adolescents of 12 to 17 years, 4.4% had serious emotional disorders [3]. Drug abuse, alcohol and drug consumptions are also a sign of poor emotional health in adolescents.

NEED FOR THE STUDY

Adolescence is the stage where extreme emotions are expressed or experienced with the intensity of adulthood but devoid of adult perspective. At no stage this emotional energy is as strong and dangerous as in adolescence. It is very difficult for an adolescent to exercise control over their emotions. The sudden functioning of sexual glands and tremendous increase in physical energy makes them restless. Emotions during this stage fluctuate very frequently and quickly.

Adolescence is the bridge between childhood and adulthood. It is a time of rapid development of growing to sexual maturity, discovering one's real self, defining personal values and finding one's vocational and social direction. Adolescence is a time when psychiatric conditions such as depression and other mood disorders become apparent, leading to a risk of suicide. Eating disorders such as anorexia nervosa and bulimia nervosa are particularly common in adolescents[4].

So adolescents who are highly emotional in their dealings need to be studied. Considering this stage as a crucial stage of emotionality, the researcher felt a need of assessing and ruling out the differences in emotional maturity among adolescent boys and girls in selected Higher Secondary Schools.

OBJECTIVES

The objectives of the study were:-

1. To assess the emotional maturity among adolescent boys.
2. To assess the emotional maturity among adolescent girls.

3. To compare the emotional maturity between adolescent boys and girls.
4. To find the association between emotional maturity of adolescents and selected demographic variables.

HYPOTHESES

H1: There will be significant difference in emotional maturity among adolescent boys and girls.

H2: There will be significant association between emotional maturity of adolescents and selected demographic variables.

CONCEPTUAL FRAMEWORK

The investigator adopted the Newman's (1995) system model theory for this study.

Stressors:

Positive and negative factors which affect emotions are termed as stressors in this study. The stressors are classified as intra, inter and extra personal stressors.

Intra personal stressors:

These factors are capable of producing system instability like age, gender, lack of communication skill, emotional instability, social maladjustment, lack of independence, etc.

*The interpersonal factors***:**

This includes conflict between teachers, students, parents, siblings, lack of rewards and support, etc.

Extra personal factors:

This includes social responsibilities, family income, stress in the family, type of family, place of stay, etc.

System:

The adolescent is considered as open system that interacts with school and family. Adolescent has a core consisting of basic structure that comprises the factor or energy resources necessary for his/her survival.

Flexible line of defense:

In adolescent flexible line of defense includes support from family, peer and teachers.

Normal line of defense:

It represents adolescent's usual wellness level. In adolescent normal line of defense includes the amount of sleep, nutritional status and physical health.

Line of resistance:

If the line of resistance is effective, the system can reconstitute. In adolescent line of resistance includes intelligence, attitudes, problem solving, psychological strength and coping abilities.

Reaction to stress:

An adolescent who is in a situational crisis, utilize the coping mechanism which is further divided into positive and negative coping. Positive coping mechanism means the adolescent is able to cope with the negative emotions by adopting positive emotions. So they will attain good emotional maturity and can succeed in their life. Negative coping mechanism means that the adolescent is unable to cope with the present situational crisis and has poor emotional maturity.

Prevention:

Primary prevention as intervention is used to retain, attain and maintain system balance. It occurs before the adolescents reacts to stressors which include assessment of emotional maturity under different headings; emotional instability, emotional regression, social maladjustment, personality disintegration, lack of independence.

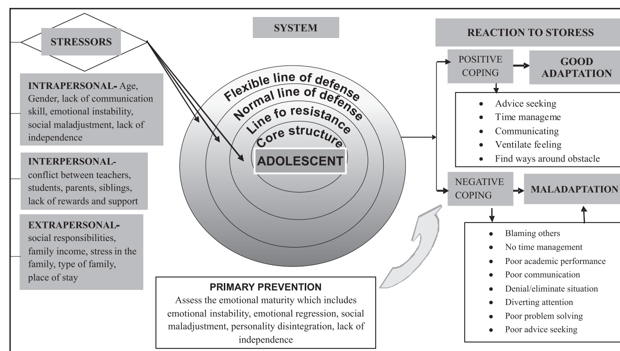

Fig. 1. Modified Newman's System Model, 1995

MATERIAL AND METHODS

A descriptive survey approach and comparative descriptive design were used to conduct the study. A convenient sampling method was used to select higher secondary schools in rural areas of Mangalore Taluk. A simple random sampling technique was used to select 600 adolescents (300 boys and 300 girls) of 13-18 years. Demographic proforma and Modified Emotional Maturity scale were used to assess the emotional maturity. The data gathered were organized, tabulated and analyzed using descriptive and inferential statistics.

The tool was administered to 60 adolescents in the selected higher secondary schools of Mangalore taluk. Reliability was established by Cronbach's alpha and Reliability coefficient was 0.77, indicating that tool was reliable.

The pilot study was done in 60 adolescents who were selected by simple random sampling from Higher Secondary Schools of Mangalore taluk. Among them, 30 boys and 30 girls had same characteristics as that of adolescents for final study. The study purpose was explained and confidentiality was assured. Written consent was taken. And the design was found feasible by the investigator.

During main study simple random sampling by lottery method with replacement was used to select adolescent boys and girls. An informed consent was taken from all the subjects individually after explaining the objectives and purpose of the study. Subjects were explained how to fill the demographic proforma, and the rating scale. They took 20 minutes to fill up the tool.

ANALYSIS

Analysis was done by both descriptive and inferential statistics on the basis of objectives and hypotheses of the study. The plan for data analysis was:

1. Demographic proforma was presented using frequency and percentage.

2. Emotional maturity among adolescent boys and girls were compared by independent t test.

3. The association between emotional maturity and selected demographic variables were analyzed by chi-square test.

RESULTS

Table 1: Distribution of emotional maturity scores in adolescent boys and girls n=600 (300+300)

Category	Boys		Girls	
	Frequency	Percentage	Frequency	Percentage
High emotional maturity (45-104)	192	64.0	236	78.7
Average emotional maturity (105-164)	107	35.7	61	20.3
Low emotional maturity (165-225)	1	0.3	3	1

236 (78.7%) adolescent girls had high emotional maturity, while 192 (64%) adolescent boys had high emotional maturity. 107 (35.7%) adolescent boys had average emotional maturity, while 61 (20.3%) adolescent girls had average emotional maturity. 3 (1%) adolescent girls had low emotional maturity and 1 (0.3%) adolescent boy had low emotional maturity.

There was significant association between emotional maturity and selected variables like gender, aggregate marks in previous year, educational status of fathers, educational status of mothers, occupation of mothers and monthly family income.

Majority of the adolescents 296 (49.3%) got 51-70% of aggregate marks in the previous year. Majority of their fathers 222 (37%) had only high school education. Most of their mothers 235 (39.2%) had only high school education. Majority of their fathers 310 (51.7%) were businessmen. Most of their mothers 459 (76.5%) were home makers. Most of their 167 (27.8%) monthly family income was Rs. 2001-5000. Most of the adolescents 389 (64.8%) belonged to nuclear family. Majority of the adolescents 261 (43.5%) had 2-3 siblings. Most of the adolescents 250 (41.8%) had birth order one. Majority of adolescents 523 (87.2%) were living in home with their parents.

It is recommended that the same study can be replicated using a larger sample size. A study can be conducted on the relationship of emotional maturity and adolescent misbehaviour.

DISCUSSION

The present study revealed that, 236 (78.7%) adolescent girls had high emotional maturity, while 192 (64%) adolescent boys had high emotional maturity. These findings were supported by another study which was conducted by Lakshmi S on the Emotional Maturity of Higher Secondary Students in Coimbatore District. Female students had mean score of 95.36 and male students had mean score of 98.60. Since minimum score indicates emotionally stable condition, female students proved higher Emotional Maturity than their male counterparts[5].

The present study revealed that there was a significant association between emotional maturity and occupation of mothers. This result was justified by a study which was conducted by Suneetha Hangal to assess the impact of maternal employment on the self concept, emotional maturity and achievement motivation of adolescents. There was a significant association between emotional maturity and occupation of mothers. Children of employed mothers had significantly high emotional maturity than their counterparts[6].

The present study revealed that there was a significant association between emotional maturity and aggregate marks in previous year. A study done by Johnson B on Emotional intelligence and adolescents suggested that emotional health was fundamental to effective learning[7].

The present study revealed that there was a significant association between emotional maturity and monthly family income and educational qualification of parents. A study done by Saima in Kashmir on gender role and various personal and familial variables in emotional maturity concluded that there was a significant association between emotional maturity and selected variables like monthly family income and educational qualification of parents[1].

CONCLUSION

To improve our emotional skills, we have to increase our self-awareness so as to make ourselves emotionally matured and stable. It will guard us from self created unwanted frustrations and problems in day to day life. Mental or emotional health refers to our overall psychological well-being. Emotional maturity is not only the effective determinant of personality pattern, but it also helps to improve adolescents' growth. Children, who are emotionally healthy, will succeed at school and throughout life.

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Health Related Quality of Life of Maintenance Hemodialysis Patients

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ABSTRACT

The present study was aimed to assess the prevalence of "Selected components of Health Related Quality of Life" (HRQoL) among maintenance hemodialysis patients (MHD) in selected dialysis units of Mumbai and Navi Mumbai. Simple descriptive design using structured interview schedule to collect demographic characteristics and medical characteristics and hemodialysis symptom inventory to assess symptoms/problems were used.Content validity and reliability of the tool were established. Data was collected from 110 MHD patients meeting inclusion criteria after obtaining ethical and administrative approval. The data was analyzed using descriptive statistics.

Sample constituted 60.91% males and 39.09% females and 84.55 %of them were married and living with their spouses. Majority of the samples were in the age group of 50-69 years (63.64 %) and 31.82 % had graduate level education.

The prevalence of selected components of HRQoL among them were: breathing difficulty 63.64%, excessive thirst and dry mouth 87.27%, loss of taste and appetite 70.91%,constipation 51.82%, body pain 81.82%, cramps during and after dialysis 79.5%,weakness after dialysis 88.18%, disturbed sleep 68.18%,dry skin and itching 69.09%, restricted mobility 92.73% and clotting or problem with access site 27.27%. Out of the 93 samples who were married and living with their spouses, sexual dysfunction reported was 61.3%.

Key words: *Chronic Kidney Disease, (CKD) Maintenance Hemodialysis(MHD), Health Related Quality of Life(HRQoL), Selected Components.*

INTRODUCTION

Maintenance Hemodialysis (MHD) is the most practical technique of renal replacement therapy (RRT) given to chronic kidney disease(CKD) patients to manage electrolyte imbalances, fluid overload and uraemia arising out of the disease. The number of patients undergoing MHD in India is 12,500 out of the 20000 requiring RRT[1]. This number is growing very rapidly[2].

The patients who are on MHD suffer from numerous symptoms that are due to the disease and also the hemodialysis itself. Maintaining an acceptable quality of life is challenging for hemodialysis patients, with thrice weekly dialysis sessions, frequent surgical revisions of arterio-venous accesses, increased symptom burden, dietary restrictions, and complicated medication regimens[3].

The rigors of thrice-weekly dialysis, the metabolic derangements common in those with end stage kidney disease /CKD and the psycho-social and vocational impact of dialysis dependence likely contribute to the many symptoms that are known to occur in patients on hemodialysis and to the decrements in Health Related Quality of Life (HRQoL) observed in this patient population.[4]

Quality of life can be defined as a composite measure of physical, mental, and social wellbeing, as perceived by an individual or a group of individuals[5]. Health-Related Quality of Life (HRQoL) encompasses emotional, physical, social and subjective feelings of wellbeing that reflect an individual's subjective evaluation and reaction to his/her illness. When the focus is on the impact of a disease or medical condition on functional health status and wellbeing, as perceived and reported by the patient, HRQoL is considered

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the most appropriate aspect of quality of life.[6]In the present study the researcher assessed the prevalence of 12 selected symptoms/problems as they determine their HRQoL.

According to Sathvik BS [7] due to cost constraints in India, patients often request for a reduction in the frequency of dialysis sessions, the use of less expensive dialyzers, dialyzer reuse, and do not typically receive erythropoietin therapy. The concepts of QOL and quality-adjusted life years in chronic diseases are still emerging concepts in India.

The researcher could locate very few studies related to quality of life in hemodialysis patients in India.

Abdel Khader etal[8] studied 90 patients with end-stage renal disease (stage 5 of CKD), and 87 with CKD. The symptoms noted were fatigue, pain, muscle cramps, difficulty with sleep, and sexual dysfunction, affecting half or more of patients receiving chronic (maintenance) dialysis. The other symptoms noted were dry mouth, dizziness, bone or joint pain, headache, muscle soreness, chest pain, constipation, swelling in the legs, decreased appetite, nausea, shortness of breath, cough, numbness or tingling feet, vomiting, and feeling sad, nervous, or irritable.

Murtagh[9] undertook a systematic review of 59 studies which addressed symptoms experienced by persons on hemodialysis.The top-reported symptoms were: fatigue (71%), pruritis (55%), constipation (53%), anorexia (49%), pain (47%), sleep disturbances (44%), anxiety (38%), dyspnea (35%), nausea (33%), restless legs (30%), and depression (27%).

Patients' perceptions of symptoms should be routinely assessed as part of clinical care to improve self management strategies[10]. The ability to predict future morbidity and mortality is key factor to reducing the burden of CKD. To this end, monitoring a patient's functional and subjective status of well-being, collectively known as HRQoL, is of particular importance in CKD patients[11].

Kidney Disease and Quality of Life (KDQoL) and the Dialysis Symptom Index are specifically used to assess the health outcome of patients with kidney diseases. Kidney Disease Quality of Life deals with items such as symptom, effects of kidney disease, burden of kidney disease, work status, cognitive function, and quality of social interaction, sexual function, sleep, social support, dialysis staff encouragement and patient satisfaction. A revised version of KDQoL- KDQoL TM-36[12] deals with health, general status, physical health status, emotional problems, pain, energy, depression, and social activities. The symptoms/problems specific to kidney disease which are included in the instrument are soreness in muscles, chest pain, cramps, itchy skin, dry skin, shortness of breath, fainting or dizziness, lack of appetite, feeling washed out or drained, numbness in hands or feet, nausea or upset stomach and problem with the access site. Items related to the effects of kidney disease on daily life include fluid restriction, dietary restriction, ability to work, travel, being dependent of doctors and other medical staff, stress or worries caused by kidney disease, sex life and personal appearance[12].The content of these instruments were the basis for choosing the selected components of HRQoL for the present study.

S. N. Davison et al [13] conducted a cross sectional study on 507 dialysis patients to assess the symptom burden using a modified Edmonton Symptom Assessment Scale and the most frequently reported symptoms were tiredness (92.1%), decreased well-being (91.5%), poor appetite (83.2%), and itching (77.3%).The findings are similar in the study population. Symptom burden is high and adversely affects HRQL. According to him clinicians wanting to provide comprehensive care and improve dialysis patients' HRQL should pay greater attention to self-reported physical and psychological symptoms. Better assessment and treatment of patients' symptoms would seem to have the potential to exert a positive effect on dialysis patients' HRQL.

Assessment is the first step for achieving an individualized and appropriate nursing care. Luckmann J. and Sorenson K.C.[14] state that nursing assessment is a systematic collection and ordering of information to identify unmet human needs and a person's responses to actual or potential health problems.

An exploratory study using a symptom inventory developed by the researcher consisting of the 12 most common symptoms was used to survey the prevalence of the most common symptoms of MHD patients in selected dialysis units as symptoms determine their HRQoL. By reviewing studies done abroad, related to the symptoms/problems and content analysis of the subscales of instruments measuring HRQoL in hemodialysis patients, the researcher conceptualized the symptoms/problems as selected components of HRQoL.

MATERIAL AND METHODS

Problem Statement : Assess the prevalence of Selected Components of Health- Related Quality of Life (HRQoL), among maintenance hemodialysis patients in selected dialysis units.

Simple descriptive design using structured interview schedule to collect demographic characteristics and medical characteristics and hemodialysis symptom

inventory to assess symptoms/problems were used. This design is also consistent with the intent of the study to describe the average patient's symptoms. Content validity and reliability of the tool were established and r value was 0.78 .Data was collected from 110 MHD patients meeting inclusion criteria after obtaining ethical and administrative approval. Symptoms/problems were elicited only from those samples that experienced the same within one week of the time of data collection due to the transient nature of the symptoms.

The data was analyzed using descriptive and inferential statistics.

FINDINGS

Sample constituted 60.91% males and 39.09% females. Among them, 84.55 % were married and living with their spouses.

Majority of the samples were in the age group of 50-69 years (63.64 %) and 31.82 % were graduates

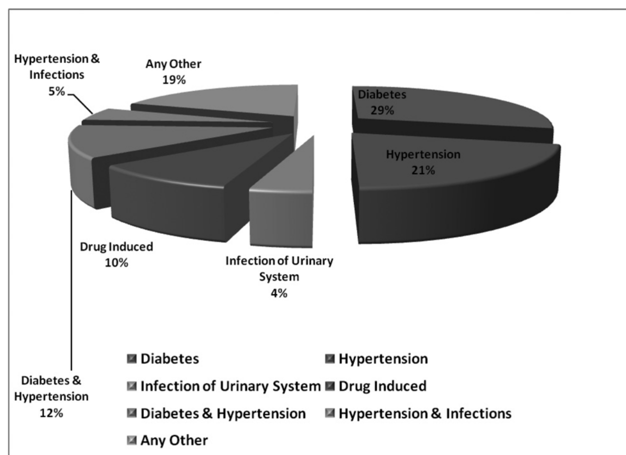

Fig. 1. Distribution of hemodialysis patients based on primary cause of CKD shows in 41% of them it was diabetes ,either alone or combined with hypertension and in 38% it was hypertension ,alone or combined with diabetes and infections.

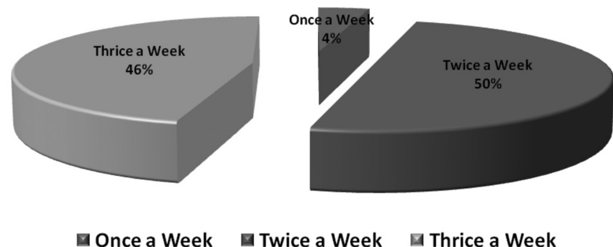

Fig. 2. Distribution of hemodialysis patients based on Hemodialysis schedule shows 50% of were attending hemodialysis twice a week and 46% thrice a week.

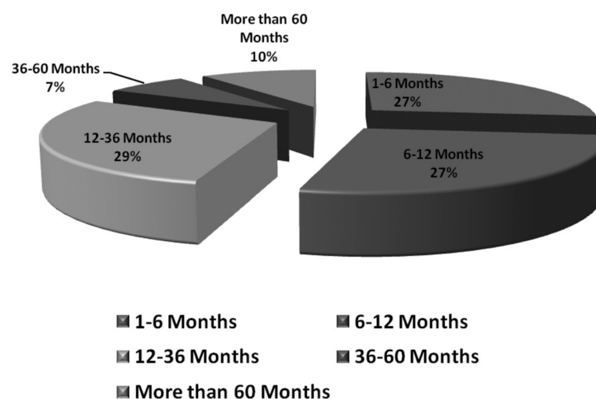

Fig. 3. Distribution of hemodialysis patients based on length of time on hemodialysis treatment illustrates 54% were on hemodialysis

for less than one year and 29% for 1-3 years and only 17% of the subjects were on dialysis for more than three years.

Table 1. Distribution of Hemodialysis Patients based on selected Medical Characteristics. N=110

Medical Characteristics	F	%
Blood Transfused in the past one month		
Yes	12	10.91
No	98	89.09
Taking Erythropoietin as prescribed		
Yes	98	89.09
No	12	10.91
Hospitalization in the last 30 days		
Yes	17	15.45
No	93	84.55
Presence of Bleeding from any part		
Yes	1	0.91
No	109	99.09

Table 1 shows that 98 M H D patients (89.09%) did not receive blood transfusion in the past one month prior to the study. Most of them (89.09 %) were taking erythropoietin as prescribed, 84.55% were not hospitalized and 99.09% had no bleeding from any parts of the body in the same period.

Table 2. Distribution of Hemodialysis Patients based on Prevalence of symptoms/problems or selected components of HRQoL

Selected components	N	F	%
Breathing difficulty	110	70	63.64
Excessive thirst and dry mouth	110	96	87.27
Loss taste and loss of appetite	110	78	70.91
Constipation	110	57	51.82
Body pain	110	90	81.82
Cramps during and after dialysis	110	87	79.09
Weakness after dialysis	110	97	88.18
Disturbed sleep	110	75	68.18
Dry skin and itching of skin	110	76	69.09
Restricted mobility	110	102	92.73
Clotting or problem with access site	110	30	27.27
Sexual dysfunction	93	57	61.3

Table 2 depicts the number of subjects presenting with the selected components of HRQoL. The distribution of subjects were: regarding breathing difficulty63.64%, excessive thirst and dry mouth 87.27%, loss of taste and appetite 70.91%, constipation 51.82%, body pain 81.82%, cramps during and after dialysis 79.5%, weakness after dialysis 88.18%, disturbed sleep 68.18%, dry skin and itching 69.09%, restricted mobility 92.73%, clotting or problem with access site 27.27% Out of the 93 samples who were married and living with their spouses, sexual dysfunction reported was 61.3%.

CONCLUSION

The present study findings are consistent with the survey report of fifteen centre randomized sample of 1978 hemodialysis patients to assess HRQoL by Unruh et al.[15] The most common symptoms affecting at least 60% of subjects were dry and itchy skin, lack of strength, excessive thirst, fatigue and weakness, feeling drained or washed out, dry mouth, muscle soreness, trouble sleeping, cramps during dialysis, and sleepiness during the day.

Stacey et al[16] collected data on Sleep Quality (SQ) from 11,351 patients in 308 dialysis units and assessed the prevalence of pruritis. The patients' self-reported SQ scale showed that nearly half (49%) of the patients experienced poor SQ. Pruritis was associated with poor outcomes and a higher mortality risk, probably attributed to poor sleep quality. In the present study 69.9% had dryness and itching of the skin and 68.18% suffered from disturbed sleep.

Jablonsky[17] conducted a descriptive, cross-sectional research study on a convenience sample of 281 patients on MHD. The tool assessed the intensity, frequency, duration, and distress associated with 11 physical symptoms commonly experienced by MHD patients, including tiredness, itching, headache, problems of sleeping, joint pain, cramps, shortness of breath, chest pain, nausea/vomiting, abdominal pain, and muscle weakness .It was found that these symptoms/ problems were present in the population which are similar to the present study findings.

Weisbord etal[4] conducted a cross-sectional, observational study of 162 long-term hemodialysis patients. Dry skin, fatigue, itching, and bone/joint pain each were reported by about 50% of patients. The same symptoms were reported in these samples also.

The present study reveals the prevalence of the most common symptoms /problems/ of MHD patients. The information helps the nurses to prepare standardised nursing care plans which would greatly improve the quality of nursing care. Similarly, it would help the nurse educator, researcher and administrator to plan the time and resources effectively.

Recommendations of the study are that it can be conducted with a larger sample, a prospective study can be done to study the change in morbidity and mortality rates of MHD patients following patient education and that a similar study can be conducted on peritoneal dialysis patients.

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CONFLICT OF INTEREST

There is no conflict of interest.

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Evidence-Based Practice- the Future of Nursing and the Role of Nurse

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ABSTRACT

During the 1980s, the term "evidence-based medicine" emerged to describe the approach that used scientific evidence to determine the best practice. Later, the term shifted to become "evidence-based practice" as clinicians other than physicians recognized the importance of scientific evidence in clinical decision-making. Various definitions of evidence-based practice (EBP) have emerged in the literature, but the most commonly used definition is, "the conscientious, explicit, and judicious use of the current best evidence in making decisions about the care of individual patients". Evidence-based practice helps nurses provide high-quality patient care based on research and knowledge rather than because "this is the way we have always done it," or based on traditions, myths, hunches, advice of colleagues, or outdated textbooks. For example, when clinical questions arise, should one look to a nursing textbook for the answers? Remember that books are not published every year, and new information may not be included in the edition you have.

Key words: *Evidenced Based Practice, Future of Evidence Base Practice, Role of Nurse.*

INTRODUCTION

Anything that provides material or information on which a conclusion or proof may be based; used to arrive at the truth, used to prove or disprove the point at issue. It is a conscientious, explicit and judicious use of current best evidence with clinical expertise, and patient values to make decisions about the care of patients. It's the process of shared decision-making between practitioners, patient and significant others, based on research evidence, the patient's experiences and preferences, clinical expertise, and other robust sources of information. Ultimately EBP is both a process and a product… requiring that the evidence which is produced – is also applied to practice.

EVOLUTIONS OF EBP

- 1991 – Evidence-based medicine -first described in the American College of Physicians Journal Club.
- 1992 – the Evidence-based Medicine Working Group described it as a "paradigm shift" in JAMA
- Early 1990's – US Prev. Services TF – began developing EB Guidelines for Screening and Prevention
- 1992 – AHCPR (now AHRQ) – started publishing systematic reviews and consensus statements in the form of Clinical Practice Guidelines, starting with the guideline for Acute Pain, 19 guidelines were produced from '92-'96
- 1993 - the first annual Cochrane Colloquia was held at the New York Academy of Sciences
- 1993 – Online Journal of Knowledge Synthesis for Nursing
- 1997 – Jan 2011 – 198 Evidence Reports published by the EBP centers
- 1998 – *Evidence-Based Nursing* journal debuted
- 1999 – The UK Department of Health stipulated that, to enhance the quality of care, nursing, midwifery, and health visiting practice must be evidence-based
- 2002 - JCAHO begins requiring monitoring of evidence-based core measures
- 2004 – Worldviews on Evidence-Based Nursing
- 2004 – AACN began publishing "Practice Alerts"

DEFINITION OF EBP

Evidence-based practice can be thought of as requiring "the integration of the best research evidence with our clinical expertise and our patient's unique values and circumstances." (Straus, et al., 2005) "

Why is EBP important to nursing practice?

- It results in better patient outcomes
- It contributes to the science of nursing
- It keeps practice current and relevant
- It increases confidence in decision-making
- Policies and procedures are current and include the latest research, thus supporting institutional readiness

- Integration of EBP into nursing practice is essential for high-quality patient care and achievement of institutional goals.

Factors Contributing to Emphasis on Evidence-Based Nursing Practice
- Scientific knowledge expansion
- Knowledge availability -- The Internet
- Highly educated nurses in clinical settings
- Aggressive pursuit of cost-effectiveness
- Focus on quality of care, Risk & error reduction
- Highly educated consumers
- Accreditation expectations
- Increased attention to institutional image

Moving Toward our Destiny:

Evidence-based practice is every nurse's responsibility and what can you do to make this goal a reality?

1. Educator's Role
- Encourage inquisitive minds
- Promote risk-taking and flexibility in the clinical environment
- Incorporate EBP activities into performance evaluations
- Provide time & resources – unit internet access
- Provide support personnel
- Empower staff to make EB practice changes
- Acknowledge and reward EB improvements

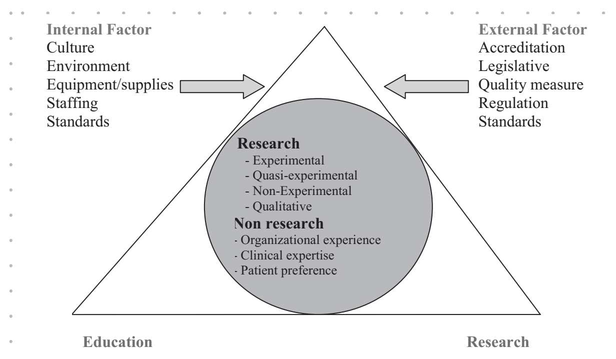
2. Researcher's Role
- Remain clinically in touch
- Conduct clinically useful studies
- Support clinicians in accessing and synthesizing the evidence
- Collaborate with clinicians and patients
- Disseminate findings that are understandable and accessible
- Emphasize clinical implications

3. Nurse Clinician's Role
- "Worry and Wonder"
- Be the Inquiring Mind
- Question clinical traditions
- Stay abreast of the literature - guidelines
- Find your niche – and become the expert
- Collaborate with clinical nurse practitioners & researchers
- Be an advocate for evidence-based changes
- LISTEN to your PATIENTS – to guard patient & family preferences

What are the barriers to implementing evidence-based practice?
- Lack of value for research in practice
- Difficulty in changing practice
- Lack of administrative support
- Lack of knowledgeable mentors
- Insufficient time to conduct research
- Lack of education about the research process
- Lack of awareness about research or evidence-based practice
- Research reports/articles not readily available
- Difficulty accessing research reports and articles
- No time on the job to read research
- Complexity of research reports
- Lack of knowledge about EBP and critique of articles
- Feeling overwhelmed by the process

Nursing Evidence practice Model

Practice



The Future of Nursing Leading Change, Advancing Health: Recommendations
1. Remove scope-of-practice barriers
2. Expand opportunities for nurses to lead and diffuse collaborative improvement efforts
3. Implement nurse residency programs
4. Increase the proportion of nurses with a baccalaureate degree to 80% in 2020
5. Double the number of nurses with a doctorate by 2020
6. Ensure that nurses engage in lifelong learning
7. Prepare and enable nurses to lead change to advance health
8. Build an infrastructure for the collection and analysis of inter professional health care workforce data

The Problem – Transition to Practice: Promoting Public Safety
- 35 to 60% new nurses leave position in first year of practice, estimated replacement cost $46,000 to $64,000 per nurse
- 10% typical hospital's nursing staff comprised of new graduates
- New nurses' experience increased stress 3-6 months after hire, increased stress levels are risk factors for patient safety and practice errors.

CONCLUSION

Senior nurses are developing skills in evidence-based practice. However, the nursing culture seems to dis-empower junior nurses so that they are unable to develop autonomy in implementing evidence-based practice. Nurses face a real challenge when translating best evidence into clinical practice. For example, the relevant research-based databases are not comprehensive in many areas. Also, there is an ongoing explosion in the amount and type of information available. Bridging the gap from research to clinical practice can be accomplished by multiple means. One of the most common is incorporating evidence-based research into an organization's policies and procedures. There are also issues to consider when asking colleagues for advice—specifically, be mindful that their responses may be based on their personal experiences, their observations, what they learned in school, what was reviewed during nursing orientation, or myths and traditions learned in clinical practices.

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Curriculum Alignment: Teacher's Guide

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ABSTRACT

Alignment among the components of a curriculum is imperative, as it is the key to success in education. Well aligned course objectives, content, teaching strategies and evaluation criteria inculcate a certain level of cognition among learners; it is also fair to evaluate the students onto the level of content taught to them through appropriate strategies. Curriculum objectives must be specific, measurable, achievable, relevant and time based; content must be though provoking; in addition, teaching strategies and evaluation criteria must be pertinent to the objectives and the content.

Key words: *Curriculum, Alignment, Objectives, Content, Teaching Strategies, Evaluation Criteria*

INTRODUCTION

Curriculum alignment refers to the harmony between course objectives, course content, teaching strategies and evaluation criteria. Synchronization and alignment between the components of a course, is essentially important; this harmony ensures students' progress towards the intended outcomes of the course.[1]

COURSE DESCRIPTION

The course description must be comprehensive; and it should provide the entire picture of what is to be gained by the course. This is quite useful for the students in determining the overall goal and outcome of the course. The course description should reflect the course objectives.

COURSE OBJECTIVES

Behavioral objectives are a combination of audience (A), behavioral verb (B), condition (C), and degree (D). Each course and unit objective should be evaluated based on ABCD model.[2] However, non inclusion of condition and degree in the course objectives is acceptable, as these are general behavioral objectives used for stating broader course or program outcomes. Condition and degree must necessarily be included in specific behavioral objectives like unit objectives.[2] Objectives should represent the level of cognition that is intended to be inculcated in the students, according to their level in the program of studies. In higher education, the intent is to make the students better clinicians; therefore the expectation is for them to 'evaluate' and 'apply' the basic concepts learnt in previous, years rather than just 'understanding' and 'comprehending'.[3] This gives an opportunity for the students to enhance their higher order thinking skills. Moreover, use of objectives from affective and psychomotor domains, is also important, as it promotes development of certain attitudes, values and skills among students.[2] In addition, objectives must be 'SMART' i.e. specific, measurable, achievable, relevant and time based.[4]

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CONTENT

The course content must be relevant, thought provoking, and informative. It should be well aligned with the course description and course objectives. Moreover, the content should also match with the level of understanding of the students; very basic or very complicated content may lead to students' disinterest.

TEACHING LEARNING STRATEGIES

Several teaching learning strategies can be used in the classroom teaching such as lectures, group discussions, self directed learning activities, small group activities, presentations, and reflective logs. Small group discussions and group activities are good approaches to ensure sharing of ideas and co-operative learning.[5] Use of these strategies promotes students' confidence and their ability to argue and question on each other's opinion. Moreover, self directed learning is also a good strategy for promoting independent learning in adult learners, which helps them in taking up the responsibility for their own learning.[6] Lectures are used to deliver newer content knowledge, and hence these are not very useful in instances whereby learners already possess background knowledge.

EVALUATION CRITERIA

Setting evaluation criteria is one of the most

difficult steps of curriculum alignment. Evaluation criteria is the most crucial determinant of students' learning, as most students learn whatever they will be tested on.[7] Assessment and evaluation should be equally divided throughout the term of studies because if major part of the evaluation will be done towards the end, then students will be deprived of the opportunity to improve, based on the faculty's feedback.[6] Finally, some form of control should be given to the students in terms of evaluation. Absolute lack of control and choice in terms of assessment leads to a sense of lesser control and decreased self efficacy among students.[7] For the evaluation of assignments, rubrics are important, so as to provide them an account of the faculty's expectations and that of the grading scheme[6-8]. It also guides the students in addressing the specific points in required depth, in the assignment. Some of the evaluation criteria, which may help in enhancing the critical thinking skills of the students, have been discussed below:

REFLECTIVE LOGS

Reflections are the most popular assessment criterion among nursing students.[9] Reflecting on their thoughts and attitudes towards relevant issues, helps students in increasing their self awareness of those issues, thus enabling them to tackle those issues more appropriately, in future.[6]

ANALYTICAL PAPERS

Analytical paper enhances scholarly writing skills of the students, as well as helps them in integration of the concepts learnt in class. It enhances students' higher order thinking skills like analysis, evaluation, and synthesis.[6]

SELECTED RESPONSE QUESTIONS

Providing students with a question stem and three or four correct options, and asking them to choose the best one, is a good strategy to assess their reasoning and inference.[10] The challenge for the students is to identify the BEST answer from amongst all the correct ones.

CONCLUSION

In conclusion, ensuring alignment among the above mentioned course components will ensure enhanced learning of the students. Learning objectives need to be supplemented with those teaching learning strategies that promote the intended level of cognition to be inculcated. As well as, objectives must be evaluated with such methods that promote analysis, evaluation, and creation of the content.[7] It should also be taken care of, that the most important unit objectives should be given more emphasis and time in the content and should be given more weightage in the assessment as compared to the other objectives.

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Childbirth in Supported Sitting Maternal Position

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ABSTRACT

Objective: To compare the effects of supported sitting versus the supine- lithotomy maternal birthing position in healthy primigravidae on the obstetrical , perinatal outcome and maternal birthing experiences.

Design: Two groups randomized interventional design.

Setting: Municipal Maternity Corporation Hospital, Bangalore, Karnataka.

Methods: Healthy primigravidae [n=200] randomly allocated to supported sitting [n =100] & supine-lithotomy[n =100] maternal birthing position during the second stage of labor. Analysis was performed by SPSS version-15, relevant descriptive and inferential statistics computed for data presentation.

Main outcome measure: Duration of second stage third stage, rate of instrumental delivery, intensity of intrapartal pain, FHR pattern, APGAR scores of the newborn, amount of blood loss and maternal birthing experiences.

Results: Supported sitting position during second stage of labor was associated with a shorter duration of second , third stage of labor, fewer reports of excruciating intrapartal pain, fewer rates of instrumental delivery, irregular FHR pattern, higher APGAR scores, minimal blood loss and favorable maternal birthing experiences.

Conclusion: In healthy primigravidae supported sitting position was associated with beneficial obstetrical, perinatal outcome and favorable maternal birthing experiences.

Key words: *Supported Sitting, Supine- Lithotomy, Obstetrical and Perinatal Outcome.*

INTRODUCTION

The appropriateness of maternal birthing position in healthy primigravidae during the second stage of labor has been a controversy and debated while the evidence on which to have recommendations remain inconclusive. Most previous studies evaluating the effects of upright maternal birthing position versus the supine- lithotomy position during labor suggest the advantages of upright position in terms of shorter duration of labor, less intrapartal pain, increased pelvic diameters, more efficient uterine contractions, minimal risk of aorta caval occlusion, fewer rates of instrumental delivery, irregular FHR pattern, higher APGAR scores and increased incidence of postpartum hemorrhage.[1,2]

In a randomized control trials by Gupta[1], Dejonge[3] and Bomfim[4] who compared upright versus supine-lithotomy/birthing position concluded that the upright position resulted in shorter duration of labor, less intrapartal pain, with insignificant difference in instrumental delivery, fetal heart rate pattern, episiotomy, postpartum hemorrhage and recommended the use of upright position during labor. Current knowledge on comparing the upright versus horizontal position on duration of second , third stage of labor and maternal subjective delivery experiences is limited. Increased knowledge sought in this upright versus horizontal maternal birthing position on obstetrical, perinatal outcome and maternal experience may be of importance for individual counseling of parturients, their families and health personnel practicing obstetrics. The primary objective of this

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study was thus to compare the obstetrical, perinatal outcome and maternal birthing experiences in the supported sitting versus supine-lithotomy maternal birthing position groups.

MATERIAL & METHODS

The study was conducted in Municipal Maternity Corporation Hospital labor room , Bangalore, Karnataka, from April 2008 to September 2009. Formal written permission and ethical clearance were obtained from the concerned authorities of Municipal Maternity Corporation hospitals{MMCH}; Bruhat Bangalore Maha Nagrae Palike {BBMP} and the study center before conducting the study. A priori power calculation determined that a sample size of at least 100 participants in interventional group{supported sitting maternal birthing position} and 100 in control group {supine-lithotomy position} would be able to detect a 25% difference in the outcome of labor between the two groups, with 80% power and an alpha level of 0.05{two tailed}. Totally 200 normal low risk term primigravidae between 38-42 weeks of gestation with spontaneous onset of labor, single vertex fetus in anterior position, adequate pelvis presenting in active phase of labor and who have had minimum five antenatal checkups, admitted for normal delivery in the Yediur {MMCH}, labor rooms were selected by purposive sampling technique. Primigravidae with obstetrical, medical & surgical, gynecological, psychiatric risk factors complicating pregnancy, maternal fetal complications during pregnancy and labor were excluded. After a detailed discussion and actual demonstration of both the position, they were randomly assigned by coin toss method, head to the supported sitting birthing position {experimental group} and tail to supine lithotomy position {control group} and an informed consent was obtained from the participants of both the groups. Participants in both the groups were mobile during the first stage of labor . Baseline maternal and fetal parameters were monitored and the onset of the second stage was confirmed by vaginal examination for full [10cm] dilatation and effaced cervix with occiput internal rotation complete along with the presumptive signs of second stage of labor and the participants were placed in their assigned birthing positions.

In the experimental group, during the second stage of labor, the participants' upper back were elevated to 60^0 angle to assume upright supported sitting birthing position by the simple backrest attached adjustable standard delivery cot as felt most comfortable and desirable by the participants. While in the control group, the participants assumed the supine lithotomy- lying flat on their back position. Intensive monitoring of their progress and constant encouragement, physical and emotional support were given to the participants by the researcher to boost their confidence and cooperation to achieve positive effects and active participation in labor process . Fetal heart rate was monitored by Doppler fetal heart rate monitoring device.

Once the birth was imminent, right medio lateral episiotomy was given and delivery was conducted in their allotted position The woman continued to remain in the same allotted position during the third stage of labor. After the delivery of the placenta and the membranes the women were placed in the lithotomy position for the repair of episiotomy by lowering the backrest to a horizontal position.

The main outcome variables measured were the duration, frequency, strength of the uterine contractions, maternal blood pressure, bearing down efforts, duration of second and third stages of labor, method of vaginal delivery, amount of blood loss by the observational rating scale, quality of fetal heart rate pattern by the Doppler fetal heart rate monitoring device , intensity of labor pain perceived by the primigravidae by Visual Analogue Pain Scale{VAS-100mm}, Apgar scores of the newborns at 1 and 5 minutes of birth by Apgar Scoring Index and maternal birthing experiences by woman's post partum opinnionaire.

FINDINGS

The two groups were homogenous with regard to all demographic and obstetrical variables [Table-1] as analyzed by Chi-square and Fishers exact test . This indicated that random assignment was valid and the selection bias could not have influenced the outcome variables.

The student "t" test was used to compare the mean differences on the obstetrical and perinatal outcome in the supported sitting versus lithotomy position groups. The findings of the study revealed that the supported sitting position was generally associated with efficient uterine contractions 92 Vs 66{92% Vs 66%} "t"=21.052, spontaneous bearing down efforts{92% Vs 66%} "t"=18.714, absences of supine hypotension 0 Vs 17 {0%Vs 17%}; a fewer reports of excruciating intrapartal labor pain 15 Vs 58 {15% Vs 58%} "t"=10.390, decreased need for oxytocin 8 Vs 27{8%vs 27%,}, analgesics 15 Vs 58 {15% Vs 58%}, shorter duration of second stage of labor {56 Vs 67 minutes} "t"=14.403, third stage of labor, {12 Vs 22 minutes} "t"= 23.872, a fewer instrumental deliveries 8 Vs 42{8%vs 42%} "t"= 4.255, insignificant amount of blood loss{340 Vs330ml} "t"=1.649, a fewer irregular fetal heart rate pattern 7 Vs 13{ 7% Vs 13%} "t"= 4.320, higher Apgar scores 9 at 1minute 74 Vs 51{74% Vs 51%}

"t"= 3.450 and 10 at 5 minutes of birth 87 Vs 71 {87 % Vs 71%} "t"= 3.240 . [Table-2]

Table:1. Baseline Characteristics of the Participants: N=100+100= 200

Baseline characteristics	Mean ± SD	
Maternal birthing position	Supported Sitting	Supine-Lithotomy
Maternal Age {Yrs}	21.4 ± 2.02	21.3 ± 1.94
Gestational Weeks	40 ± 1.07	40^{+1} ± 1.14
Maternal Weight{Kgs}	62 ± 4.97	63 ± 5.42
Maternal Hb {gm%}	10.7 ± 0.43	10.6 ± 0.41
Newborn Weight{Kgs}	2.920 ± 0.24	2.930 ± 0.25

Table:2. Maternal birthing Positions On Obstetrical & Perinatal Outcome. N=100+100= 200

Obstetrical & Perinatal Outcome	Supported Sitting		Supine -Lithotomy		"$t_{"[198]}$ value
	f	%	f	%	
Efficient Uterine contraction	92	92	75	75	21.052**
Drop in Baseline Blood pressure	-	-	17	17	4.989**
Intensity of labor pain	16	16	58	58	10.390**
{Score >90mm in VAS}	93	93	87	87	4.320**
Regular FHR pattern	100	100	72	72	14.403**
Duration of 2nd stage <70 mts	100	100	51	51	23.872**
Duration of 3rd stage <20 mts	8	8	42	42	4.255**
Assisted Vaginal Delivery--	74	74	51	51	3.450**
{Forceps/Vacuum/ }	84	84	71	71	3.240**
Apgar Sore 9 at 1 minute.	75	75	74	74	1.649NS;p>0.001
Apgar Sore 10 at 5 minutes.					
Estimated Blood Loss {300-500					

Table 3: Association between the selected variables and the outcome of labor. N=100+100= 200

Variables	Maternal birthing position	
	Supported Sitting	Supine- Lithotomy
	Chi-square/ Fisher's exact probability test [df1]	
Maternal Weight	0.090** NS	0.165**NS
Maternal Hemoglobin	0.319 ** NS	0.335 **NS
Neonatal Weight	3.050**NS	3.470** NS
Use of Oxytocin	0.661** NS	0.548** NS
Use of Analgesics	0.717 ** NS	0.837 ** NS

NS = Not significant

Regarding maternal birthing experiences majority of the participants in the supported sitting maternal birthing position group reported that they experienced the position more comfortable for giving birth 92 Vs 54 {92% Vs 54%}, more perceived feelings of being safe while pushing 94 Vs60{94%Vs 60%}, increased perception of their active participation during pushing 92 Vs 23 {92% Vs 23%}, a fewer perception of prolonged second stage of labor 21 Vs 89{21% Vs 89%}, reduced perception of their delivery process more difficult 35 Vs 77{35%Vs 77%} and higher preference 93 Vs 61 {93% Vs 61%} of their assigned position for their next childbirth.

The Chi square and Fisher's exact probability test were used to find out the association between the outcome of labor in the supported sitting and the lithotomy maternal birthing position and the selected variables such as the maternal weight , hemoglobin level, neonatal weight, the use of oxytocin and the analgesics. The result revealed no significant association between the outcome of labor in the supported sitting and the lithotomy position at p>0. 01 level and the selected variables such as the maternal weight X^2= 0.090 Vs X^2= 0.165; neonatal weight X^2=3.050 Vs X^2= 3.470; maternal hemoglobin gm% X^2=0.319 Vs X^2=0.335; use of oxytocin X^2= 0.717 Vs X^2=0.837 and analgesics X^2= 0.661Vs X^2= 0.548. [Table-3]

DISCUSSION

The most important finding of the present study was that the supported sitting maternal birthing position during the second and third stages of labor was generally associated with a beneficial obstetrical and perinatal outcome with regard to shorter duration of second and third stages of labor, efficient uterine contractions and spontaneous bearing down efforts. These clinical benefits are presumed to be due to the effects of gravity in upright birthing position that augments the force of contractions, rapid descent of the fetus and widening of the pelvic diameters. Consistent findings were reported by a randomized trials by Gupta JK[1]{2004}, Nikodem VC [2]{2006} and Bomfim H [4] that the use of any upright position during second stage of labor results in shorter duration of labor due to efficient uterine contraction.

All the participants in the supported sitting position [100%] maintained the normal baseline blood pressure throughout and where as 17[17%] of the participants in the supine lithotomy position had a drop in their baseline blood pressure by 5 % . This could be possible because in supine position , the weight of the gravid uterus compresses the major abdominal blood vessels resulting in supine hypotension. Similar findings were reported by Ariel [5] who evaluated the effects of supine versus non supine position on the maternal blood pressure by the ultrasound estimation of blood flow in the right branch of the uterine artery among normal primigravidae that the maternal blood volume fell rapidly from upright to supine position resulting

in supine hypotension.

In supported sitting position group there were a fewer reports of excruciating intrapartal labor pain as compared to supine lithotomy position group. There was statistically a significant reduction in the labor pain scores by 12mm in VAS-100mm in the supported sitting position group, which is consistent with the findings of Adachi [6] who evaluated the effects of upright versus supine lithotomy position among low risk term primigravidae, that the upright posture during labor resulted in significant reduction of labor pain intensity by 13mm in VAS.

The present study revealed a significant reduction in the rate of instrumental delivery among the supported sitting position group participants as compared to supine lithotomy, which could be presumed to be due to increased pelvic diameters and spontaneous bearing down efforts in the upright birthing position. Similar findings were reported by Dejonge [3] that the use of upright maternal position during labor significantly reduces the rate of instrumental delivery.

Supported sitting position was associated with a beneficial fetal and neonatal physiological parameters in terms of fewer irregular FHR pattern and higher Apgar scores of the newborns as compared to supine lithotomy position. Similar findings were reported by Cito [7] who evaluated the effects of upright versus supine lithotomy position on the FHR pattern among low risk term primigravidae, that the supine lithotomy position during labor was associated with a greater number of variable deceleration of FHR pattern than the upright maternal posture.

There were insignificant difference in the estimated average amount of blood loss between the two groups[340 Vs 330ml] which is consistent with the findings of Terry RR [8]{2006} and Bodner A [9] {2003}. This indicates that the upright supported sitting position is a safe alternative maternal birthing position in terms of blood loss during labor.

A supported sitting maternal birthing position was associated with a more favorable maternal birthing experiences in terms of fewer reports of excruciating intrapartal labor pain, greater level of comfort, more ease in pushing , greater perception of their active participation during pushing, more perceived feelings of being safe and greater degree of satisfaction. This may be explained by the supported sitting position being more flexible when it comes to moving the lower back, diverting some of the pressure to lower spine may result in lower level of pain and greater level of comfort . Consistent findings were reported by Mayberry [10] who compared women's preferences for upright versus supine posture during labor, without exception more positive responses from women using the upright posture. The results showed that women were able to maintain the upright posture throughout the second stage following the epidural analgesic administration with no adverse effect on maternal and neonatal outcome.

The strengths of this study was homogenous characteristic of the study participants with regard to demographic and obstetrical variables, random assignment of the participants to the groups, strict inclusion criteria and low attrition rate of participants from the assigned delivery position {0.02%}. A limitation of the present study may be the limited ability to generalize the findings to a population including pre , post maturity, multiple pregnancy, malpresentation, malpositions of the fetus and labor induction.

CONCLUSION

In short the findings of the present study suggest that supported sitting maternal birthing position during labor results in beneficial obstetrical and perinatal outcome and a favorable maternal birthing experiences without any risk to mother and fetus.

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Conflict of Interest: None

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Patient Safety and Nursing Education

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ABSTRACT

The primary responsibility for all nursing professionals as patient advocates, is delivering safe, effective and prudent care. Creating a culture of safety in healthcare systems is the goal of leaders in the patient safety movement. Quality and Safety Education for Nurses[1] (QSEN) recommended that nurses are to be prepared with essential quality and safety competencies such as patient-centered care, evidence-based practice, teamwork and collaboration, quality improvement and informatics. Educators of both pre and post-licensure nurses are challenged to prepare nurses to match with the competencies needed to integrate quality and safety with systems approach in creating a patient safety culture. Inclusion of Human Factor Theory (HFT) and Human Factors Analysis and Classification System (HFACS) in the nursing curriculum could act as a foundation towards quality education, to produce competent safe practitioners. Nursing education system ensures patient safety by modifications to curricula content, facilitation of multi-disciplinary processes, inclusion of educational methods facilitating the core competencies and faculty development. Educators are encouraged to engage in a culture shift whereby student error is considered from an education systems perspective. Educators and schools are challenged to look within and systematically review how program structures and processes may be contributing to student error and undermining patient safety. Graduates prepared with necessary competencies will become leaders in shifting the healthcare culture to strengthen patient safety thus nursing education act as catalyst for the patient safety movement.

Key words: *Patient Safety; Safety Culture in nursing Education; Human Factor Theory*

INTRODUCTION

In preparing future nurses, nurse educators have an important role in developing the knowledge, skills and attitudes among nursing students related to patient safety. The Joint Commission[2] has clearly identified and approved National Patient Safety Goals such as improving the accuracy of patient identification, communication among caregivers, safety in using medications, reducing the risk of patient harm resulting from falls and risk of health care-associated infections and prevention of health care-associated pressure ulcers. Patient safety is the key performance indicator for the healthcare agencies to get accredited by Joint Commission on Accreditation of Healthcare Organizations (JACHO). Patient safety is an attribute of health care systems that minimizes the incidence and impact of adverse events to patients. According to National Patient Safety Agency (NPSA)[3] patient safety incidents include any unintended or unexpected incident which could have or did lead to harm for one or more patients receiving national health service funded care. Education is the essential bridge for achieving quality and safety improvements in health care. Nurse educators are challenged to prepare nurses to match with the skills and competencies needed to ensure safety in health care settings. Many health care professionals lack the knowledge, skills and attitudes to change the systems in which they work, calling for radical redesign of nursing education to integrate new safety and quality science[4]. The nursing education system has a responsibility to alert nursing students to the realities of healthcare systems and to prepare them to practice with the competencies necessary to make surveillance, reporting and analyzing common practice with a scope of safety culture.

STEPS TO PATIENT SAFETY

Patient safety is a crucial element of quality. Patient safety tips for hospitals published by Agency for Healthcare Research and Quality (AHRQ)[5] recommended steps such as developing active networks of patients and providers, sharing experiences, learning from failure and pro-active risk assessment, facilitating effective evidence-based care, monitoring improvement, empowering and educating patients and the public as partners in the process of care.

Seven steps to patient safety guide [3, 6]

- Building a safety culture
- Lead and support your staff
- Integrate your risk management activity
- Promoting reporting

- Involve and communicate with patients & the public
- Learn & share safety lessons
- Implement solution to prevent harm

The QSEN[1] faculty members derived six core quality and safety competencies from the Institute of Medicine (IOM)[7] report. Though these competencies are not new concepts for nurses but have new visions reframed with knowledge, skills, and attitudes needed for shifts in nursing practice on the magnitude of systems-based errors than individual errors and the urgency to identify and prevent these errors[1].

IOM Core Quality and Safety Competencies

- Patient centered care
- Team work and collaboration
- Evidence based practice
- Quality improvement
- Safety
- Informatics.

Building a Culture of Patient Centered Care. The National Patient Safety Foundation[8] (NPSF) calls on hospitals to build a culture of patient-centered care. According to the NPSF "To improve safety is to improve the partnership between patients and providers at every level." Nurse-patient relationship is a pivotal component of any patient safety program. Five tips for creating a culture of patient-centered care and a steady shift in the culture of the organization toward a systems approach to patient safety are the following[8].

1. Teach and encourage effective communication skills between clinicians, patients and their families.
2. Engage leadership in promoting and training providers in open communication about medical errors.
3. Use trained patient representatives as advocates for patient safety.
4. Implement patient and family advisory councils.
5. Incorporate patient and family representation on the board.

ROLE OF EDUCATION

Creating a patient safety culture in the nursing curriculum is significant towards ensuring patient safety. New graduates are expected to seamlessly transfer what they have learned in a classroom into clinical practice and operate within the system to meet quality and safety benchmarks[4]. The major factors influencing changes in nursing education are mandates for improvements in patient safety and quality of health care, technological advances, and health care systems that affect clinical education[9]. Education has role in building safety lessons, learn and share safety lesson and implement solution to prevent harm, which are the three guiding steps to patient safety[3,6]. A successful safety culture in learning environment is an ideal total work environment that strives to be safety conscious in every aspect. Safety culture constitute the management, organizational structure, staff training, trust, free communication, blameless appraisal, self-criticism, awareness, readiness and pay rises all that reinforce and reward safe operations.

Nursing education system has to prepare students and faculty with the requisite competencies for patient safety. The regulatory bodies must ensure that all pre-licensure graduates have exposure to IOM core competencies. It became evident that there is a need for faculty development and establishment of clinical partnerships to enable implementation of these competencies. The integration of patient safety core curriculum modules for competency development is needed. It involves modifications to curricula content, facilitation of multidisciplinary processes, and inclusion of theory and practice that reflect critical inquiry into healthcare and nursing education systems to ensure patient safety.

On the context of patient safety, educators are encouraged to address the discontinuities between the educational and practice sectors. The policy for reporting adverse events and near misses must be thread in education system. In addition, the student-focused reporting tool, the results and the implications for teaching in the clinical setting are to be discussed. Processes used to engage faculty are also to be addressed.

CURRICULUM ENHANCEMENTS

Traditional nurse education programs that do not prepare nurses for their evolving role within the hospital setting towards culture of patient safety and quality care are challenges to nurses. From first-year of nursing program the topic of safety are to be introduced. Due attention should be given to include examination questions relevant to patient safety. It is mandatory that patient safety criteria could be taken as a landmark for pass or fail in clinical examinations. Inclusion of Human Factor Theory (HFT) & Human Factors Analysis and Classification System (HFACS) in the nursing curriculum could act as a foundation towards quality education leading to produce competent safe practitioners. According to Frank J[10] using the HFACS allows teaching to be tailored to the experience level of the student, it might be used with

new students to facilitate a focus on the different types of unsafe acts (Fig. 1) and the pre-conditions of unsafe acts. With more senior students and qualified staff it might be more appropriate to concentrate on issues of supervision (Fig. 2) and organisational factors (Fig. 3), especially the place and use of policy and procedure.

Brief analysis of Human Factors Theory & Human Factors Analysis and Classification System (HFACS) in safety

The role of education in creating a safety culture through the inclusion of human factors theory from the outset of practitioner preparation program is highly appreciated in many profession especially in aviation. Wiegmann & Shappell[11] explained that HFT focuses on human performance and interaction with equipment, system & organization with the goal of enhancing performance, increasing safety & improving user satisfaction. Human Factors Analysis & Classification System is a model used to illustrate the origin of error in healthcare.

To Err is Human, is inevitable that error will occur in health care because they are an intrinsic human trait.[12] If it is accepted that people are liable to make errors, system and equipment design, training and other aspects of the work environment are given priority in terms of initiating change to minimise the risk. HFACS is a retrospective investigation for various types of healthcare errors. HFACS identified four levels of failure such as unsafe acts, preconditions of unsafe acts, unsafe supervision and organizational influences.

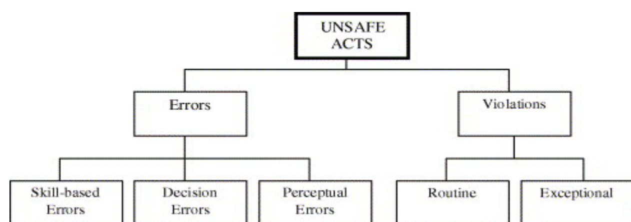

Fig. 1. Categories of unsafe acts. (Wiegmann & Shappell, 2003)[11]

The Preconditions for Unsafe Acts level is divided into three categories - environmental factors, condition of operators and personnel factors.

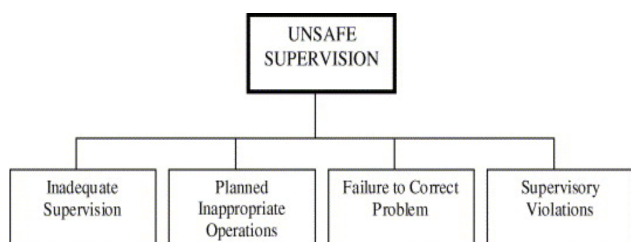

Fig. 2. Categories of unsafe supervision (Wiegmann & Shappell, 2003)[11]

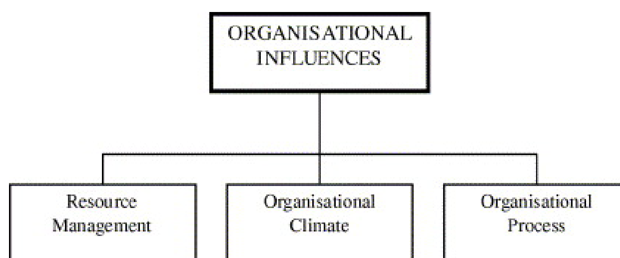

Fig. 3. Organisational factors influencing accidents (Wiegmann & Shappell, 2003)[11]

Structures & Processes to maximize effective supervision & avert patient harm

Legislated Acts that governs the profession, Institutional Deed of Agreement both Health Service sector deed of agreement and Higher Education Institution deed of agreement and also the curriculum structures must be well established to enhance patient safety. When working with the students the health professionals needs to accurately assess the students' ability. Direct supervision is essential to ensure that students do not inadvertently causing patient harm through their lack of knowledge or expertise. The degree of direction in supervision is also critical. Students can only develop a level of professional independence when they are provided with appropriate clinical practice opportunities under direct supervision. Sharing and familiarizing policies and procedures that are available in both practice and education set up, especially those of mandatory one to both pre and post-registration nursing students is also important to enhance patient safety.

Clarity in communication toward safe and professional practice

Strong networks between the higher education providers & health sector must be established. Greater communication & collaboration can maximize safety through enhancing greater understanding between all parties involved in teaching and supervision. Feedback from the academic staff to clinical staff through regular meetings can provide insights into areas where students frequently experience difficulties and areas where it is difficult to supervise students. The No. 1 driver of patient safety is communication.

Placement of clinical staff to facilitate supervision of students in clinical area can improve communication. Preceptorship model of clinical teaching will enhance more collaboration and communication with teaching faculty. Working along with preceptors will ensure students to identify all the safety precautions each staff carry out as a part of their routine care. Clearly delineated structures and processes enhanced through strategic and effective collaboration is required by all those personnel involved in the clinical learning

experience so as not to put patients at risk while a student is attending to their care needs, yet, also maximising independence in clinical learning opportunities.

The use of simulation enhances patient safety on a system level.

Quality and Safety Education for Nurses project team recommended the use of simulation to enhance patient safety on system level. Simulation enables students to practice and rectify mistakes without risk to patient. It reduces the 'theory-practice gap. Patient simulation is an efficient method of teaching content and critical-thinking skills & to develop competence in clinical skill required for fitness, safely without fear of causing harm to actual patients[13]. Current approach of Objective Structured Clinical Examination (OSCE) on clinical learning outcomes is more holistic and has gained acceptance as a benchmark for clinical skills assessment[14]. The choice of OSCE by educators ensures patient safety. Research indicates that simulated clinical experiences in nursing education have positive outcomes on skills and knowledge acquisition, remediation, educational experience, critical thinking, and competency levels[15].

Innovative approaches to integrate quality and safety content into clinical practice.

Faculty must be well oriented with the safety goals of the healthcare agencies. Clinical practice should aim to ensure safety goals are being observed and practiced by each student. Students and faculty can be considered as parts of patient safety auditing leading to clear communication and collaboration between two agencies.

1. **Shifting from individual focus to a system focus in acute care.**
   (a) Data Mining of Interpretations (Informatics, Quality improvement and Evidence Based practice)
   (b) Web-Site Evaluation (Informatics, Patient centered care)
   (c) Evaluation of Staff work-around (Evidence-Based Practice, Safety, teamwork and collaboration, Quality improvement)

2. **Clinical Site considerations**
   (a) Prolonged placement in single unit
   (b) Independent student access to patient care information
   (c) Inclusion of students in ongoing quality projects at the unit and Institutional level

3. **Faculty Development**

   Faculty members maintain close and reciprocal professional relationship with clinical site. Faculty participation on clinical agency committees and councils involved with quality and practice issues. Inviting nurses from the institution to participate in curriculum and course planning. Updating faculty on current movements on patient safety, informatics and clinical focus is essential.

4. **Informatics is crucial & central to IOM Core competencies.** All students will be exposed to current use of informatics in patient care. They must be familiarized with system utilization.

5. **Educational methods facilitating the core competencies**

- Evidence Based teaching and Problem based learning
- Reflective papers & case studies to deepen understanding of values & attitudes
- Interdisciplinary education enhances core competencies
- Distance education and web-based learning opportunities for worldwide collaboration in informatics' education.
- Interactive approach like workshops, field observations in variety of settings, discussion with experienced staff, networking both locally and internationally

CONCLUSION

Nursing education being a catalyst for patient safety can focus shifting from individuals to a system approach and incorporating evidence based education towards enhancing patient safety. Nursing faculty & nurses hold commitment to patient- centered care and safety central to their professional identity. Integrating quality and safety content into the pre-licensure nursing curriculum ensures that students develop the desired competencies and new graduate nurses are committed to provide the highest quality healthcare. Teaching approaches must be aimed to develop the core competencies essential for safety & quality. Enhance patient safety through evidence based education and practice, interdisciplinary collaboration in nursing education, simulation training, faculty development, use of informatics in all areas of education and health care to reduce errors & enhance communication, faculty involvement with inter -professional team on patient care unit and greater communication and collaboration between all parties involved. Educators hold key role in preparing nurses to deliver safe care to patients. One could agree that

the entire curricular and supervised hours of clinical practices are designed with future safety for patients. Graduates who have the foundational competencies relevant to the systems approach to patient safety will make a difference to the quality of patient care.

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Impact of Occupational Stress on Musculoskeletal Pain and Morbidities in the Nursing Population Working at Government Tertiary Care Hospital, Mumbai – A Survey Based Study

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ABSTRACT

Background: Staff nurses working in the government tertiary care hospital have to face variety of occupational stresses. They have to be alert and answerable to higher authorities as well as to the anxious relatives of the patients. Since past many years large numbers of staff nurses have been visiting the physiotherapy department with various musculoskeletal problems most of which are chronically present. Nurses working in government tertiary care hospital care experience high rates of occupational stress because of high patient load and therefore are vulnerable to emotional exhaustion and occupational burnout[1-3].

Aims: Survey based study to find out the impact between occupational stress on musculoskeletal pain and morbidity in the nursing population working at government tertiary care hospital.

Results: The survey based study consisted of 110 subjects divided equally in control group which had subjects who didn't have any musculoskeletal pain or had <25% pain and study group who had subjects complaining of significant musculoskeletal pain and scored >3 on VAS, having mean age of 37.38+/-6.035 and 39.65+/-6.473 respectively. 72.7% nurses in study group were doing shift duty while 53.7% nurses in control group were doing fixed duty (P=0.005). The commonest site of pain was low back followed by knee and neck. The mean length of service in study group was 16.38 and in control group was 12.05 years. The nurses in study group had longer duration of length of services compared to that in the control group. Stress scores in control group had lower rating as compared to study group. 1 year increase in service length increases the risk or odd of morbidity by 1.38 times. 1 score increase in stress score increases the risk or odds of morbidity by 3.3 times. Fixed duty reduces the risk or odds morbidity by 0.168 times.

Conclusion: There is association between occupational stress and musculoskeletal pain and morbidities.

Key words: *Occupational Stress, Nurses, Government Tertiary Care Hospital, Musculoskeletal Morbidity.*

INTRODUCTION

Nursing is a highly stressful occupation and high levels of occupation stress are believed to affect the physical and mental state of nurses[1]. Occupation stress among the nurses is the result of exposure to a combination of working environment and personal factors[1].

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Staff nurses working in the government tertiary care hospital have to face variety of occupational stresses. They have to be alert and answerable to higher authorities as well as to the anxious relatives of the patients. In today's scenario of increasing patient input, lack of funds and proper infrastructure, there is alarming rise in amount of occupational stress that nurses are subjected to who are working in government tertiary care hospital. This affects their performance and in turn affects the patient care, thus nurses either take retirement early or remain absent on the job with reason of citing illness[2].

Thus nurses working in tertiary care hospital care experience high rates of occupational stress and

therefore are vulnerable to emotional exhaustion and occupational burnout[1,3].

The inflow of nurses with various musculoskeletal problems in the physiotherapy department of tertiary care hospital has been persistent over the years.

The nursing profession was selected for the study as they are easily identifiable and their motivation and understanding of the subject are above average.

The total nursing population was 678 in the selected government tertiary care hospital, its distribution was;

Matron: 1
Senior assistant matron: 1
Sister tutors: 20
Public health nurse: 2
O.T. superintendent: 2
Housekeeper: 1
Red belts (sister in charge) 60
Blue belt (staff nurses) 551
Ward assistant: 20
O.T. assistant: 20

Out of the total nursing population, the blue belts form a major lot and have following duties[6]

1. Responsibilities of total patient care
2. Assisting the sister in charge in maintaining the physical environment of the ward
3. Maintaining the reports and records of the patient.

Hence the blue belt nurses (all were females) were targeted as they were considerably occupationally stressed.

The duty hours of the blue belt nursing population is as follows:

Fixed duty hours: working hours are fixed (8 hours) daily either morning or evening duty.

Shift duty hours: the duty hours (8 hours daily) keep on changing daily from morning to evening to night [4,5].

AIM

To study the association between occupational stress and musculoskeletal morbidity in female nursing population of government tertiary care hospital.

OBJECTIVES

1. To study the prevalence of musculoskeletal pain and morbidity in the nursing population of government tertiary care hospital.
2. To study the association of musculoskeletal morbidity with the length of the service, type of the duty, occupational stress.
3. To study the association between occupational stress, length of the service and type of the duty.

MATERIALS AND METHODS

Research Design: It was a survey based cross sectional study.

STUDY PERIOD: Study period was 4 months.

Study area:

This study was carried out among female nursing population (Blue Belt) working in a government tertiary care Hospital, Mumbai.

SAMPLE SIZE : There were total 551 staff nurses (blue belt female) working in the government tertiary care hospital. For convenient sampling 10% of this number constituted sample size in each group. i.e. 55 female nurses in study group control group respectively.

SAMPLING PROCEDURE : There are four government tertiary care hospitals in Mumbai with attached medical colleges. For the study purpose one Tertiary care hospital was selected. The entire Blue belt nursing staff working in the hospital was listed out. Total 551 Nursing staff was working at the time of study period in the given hospital. The nurses who were willing to be the part of the study were randomly selected. The permission to carry the study was obtained from the matron of the government tertiary care hospital.

This group of nurses were administered a VAS for assessment of Musculoskeletal pain and divided in two groups study population (VAS score >3) and control population (VAS score 0-3)[7]. These two groups are then enlisted.

The required number of subjects for the study 55 each from study population and Control population was then chosen by random sampling (Random number table method).

So the study participants include:

1. **Study group:**

Consisting of nurses 55 Staff nurse who had complaint of significant musculoskeletal pain and scored >3 on VAS.

2. **Control Group:**

Control group of 55 staff nurses who either don’t

have any musculoskeletal pain or had <25% pain (i.e. VAS score 0-3).

DATA COLLECTION: Data was collected by the investigator using predesigned, pretested and validated questionnaire by personal interviews.

The questionnaire was divided into three parts

1. Personal data: general information like age, marital status, number of children and length of service.
2. Factors measuring musculoskeletal morbidity.
3. Questions to assess the occupational stress.

A total of 44 questions were selected and noted down after consulting few senior nurses. This questionnaire was subjected to strict validation by team of 5 senior staff and validity experts through series of meeting with respective faculty members: 1 senior physiotherapist, 1 matron, 1 senior psychiatrist, 1 lecturer from preventive and social medicine department, 1 professor from biochemistry department and 1 clinical psychologist.

The tool was then finalized considering the suggestion of experts and total 21 questions were selected.

Each item was graded as
0 – no pain / stress
1 - < 25% pain /stress
2 - 25-50 % pain / stress
3 - > 50% pain / stress

A pilot study was conducted in 25 subjects and relevant modifications were done accordingly. The test re test reliability was done in 15 subjects. The reliability was found significant.

STATISTICAL ANALYSIS

Data collected will be compiled in Microsoft Excel worksheet and analyzed using Statistical Software "SPSS Version 16.0" with appropriate statistical tests of significance i.e. Chi square and binary logistic regression.

RESULTS

Table 1. Demographic data

	Group	N	Mean	Std. Deviation	Std. Error Mean
Age	Study	55	39.65	6.473	.873
	Control	55	37.38	6.035	.814
No. of Children	Study	54	1.54	.745	.101
	Control	55	1.40	.760	.102
Length of Service	Study	55	16.38	7.020	.947
	Control	55	12.05	5.652	.762

	t-test for Equality of Means		
	t	df	Sig. (2-tailed)
Age	1.905	108	.060
No. of Children	.950	107	.344
Length of Service	3.561	103.294	.001

Study group subjects were older (P=0.030 1-tail). Study group subjects have longer service (P=0.0005 1-tail).

The mean age of control group is 37.38+/-6.035 while of the study group is 39.65+/-6.473. Both the groups are statistically comparable.

The p value for the age and number of children is not significant, while that for length of service is significant.

Binary logistic regression was done using SPSS software version no. 16.

The accuracy and sensitivity of the model was 89.1%. Nagelkerke R square coefficient of determination was 79.6%. Therefore R square value was 0.796.

EQUATION FOUND WAS

Log (odd ratio of morbidity) = -12.432+0.321* service length + 1.194* stress score – 1.787 * fixed duty.

Odd ratio = P (more than 25% pain)/ P (no or less than 25% pain)

Therefore;

- 1 year increase in service length increases the risk or odd of morbidity by 1.38 times
- 1 score increase in stress score increases the risk or odds of morbidity by 3.3 times.
- Fixed duty reduces the morbidity by 0.168 times.

On further analysis of length of service, where length of service is divided as <10 years, 11-20 years and more than 20 years.

Table 2. Chi-square for linear trend using EpiInfo version 3.4.3

	Pain (morbidity) Study group	No pain or less than 25% (no morbidity) control group	Odds ratio
<10 yrs	4 (7.2 %)	16 (29.09 %)	1
11-20 yrs	19 (34.54%)	26 (47.2%)	2.92
>20 yrs	32 (58.15 %)	13 (23.63 %)	9.85

Chi-square statistic 16.05; p= 0.0006

There is a significant association between length of service and risk of morbidity. As the length of service increases the morbidity increases significantly.

Table 3. Association between stress score and length of service.

Length of service	Stress score in Control group	Stress score in Study group
< 10 years	3.69 +/- 1.96	8.0 +/- 2,58
11 – 20 years	5.23 +/- 2.03	9.21 +/- 21.44
> 20 years	3.0 +/- 1.0	8.41 +/- 2.51

From further analysis of the length of the service, we see the stress score is seen maximum in those who have service length between 11 - 20 years.

DISCUSSION

Our study consisted 110 female blue belt nurses working in government tertiary care hospital situated in Mumbai was divided equally in control group which had subjects who didn't have any musculoskeletal pain and study group who had subjects complaining musculoskeletal pain having mean age of 37.38±/-6.035 and 39.65±/-6.473 respectively. 90.9% were married in study group while 92.7% were married in control group.

The work profile included either fixed duty or shift duty. Nurses of study group were more in shift duty while that in control group were in fixed duty[6,7]. The major site of pain in blue belt nurses was low back[2,9,12,14] followed by knee and neck. This study was supported by the study done by Lloyd et al. Common manifestations of musculoskeletal disorder include low back pain, sciatica, rotator cuff injury and carpal tunnel syndrome[15]. Since the type of the duty requires continuous standing for long hours, the weight bearing structures are the ones to be affected first. Also the occupation demands manually moving patient around the bed or lifting the patient between bed and chair[10]. Also number of nurses in study group had longer duration length of services as compared to the control group, which can be attributed to age resulting into various biomechanical and degenerative changes in disc [11, 12].

Fixed duty reduces the risk or odds morbidity by 0.168 times. This could be explained, in continuous changing duty hours i.e. shift duty, various factors like availability of subordinates and coworkers, amount of vigilance and responsibility keeps on changing from morning duty to evening duty to night duty. This might have produce considerable amount of occupational stress as the nursing population did not get the time to adapt to a particular time and duty, on other hand the nurses who were doing fixed duty were getting enough time to adapt and were accustomed to a particular level of occupational stress when on duty. Thus the level of occupational stress in population doing shift duty was more as compared to the nurses doing fixed duty. Thereby the stress scores in control group showed lower rating as compared to study group.

1 year increase in service length increases the risk or odd of morbidity by 1.38 times. The nurses whose length of service was less than 10 years were new in the profession and were of younger age group and this could be the contributing factor towards the lesser pain score observed. The pain score is significantly higher in those whose length of services increases and when they were in range of 11- 20 years, both the age factor and the type of duty they have to do were the contributing factors. The nurses in this category are mainly in pre or perimenopausal age and at the same time they have to do all standing jobs like changing the bedding, giving feeds, injections etc. The senior nurses who had put more length of the service i.e. is greater than 20 years had number of subordinates to help them and particularly their work pattern involves more of administrative duties. Also as age advances biomechanical and degenerative changes advances, other risk factors like decrease muscle mass, strength and elasticity of soft tissues also contributes to the pain[16].

Also, 1 score increase in stress score increases the risk or odds of morbidity by 3.3 times and on further analysis with the length of the service it was observed the stress score had an inverse relationship with the length of the service. The population having lesser length of the service i.e. less than 20 years, in this group there was added responsibility as staff nurses were now senior and they were answerable to their senior staff nurses as well as to patients relatives, thus they have to strike a balance between their roles of junior and senior staff nurses. They are also subjected to significant amount of administrative work like documentation, supervising the junior staff. They were also subjected to added responsibility from family front i.e. home or child care which consumed significant outside paid work [14] as compared to nurses with length of services more than 20 years[13]. Also nurses who had put more than 20 years of service were less as their children had grown up. Thus the nurses had less time to rest or exercise or perform activities that could mitigate the health cost of their paid work [14].

The junior staff nurses were mainly involved in executing the orders given by the staff (senior staff) and hence they were not always answerable to others as they are working under the supervision and guidance of the senior staff.

The nurses with the length of duration of more than 20 years were mainly responsible for administrative work rather than executing mechanical duties and hence are occupational less stressed. In addition they had fixed day duty. Unlike nurses who had length of

service between 11- 20 years who had shift or circle duty responsibilities.

CONCLUSION

Thus, concluded that there is association between occupational stress and musculoskeletal morbidity.

There might be other associated factors which could be responsible for the increasing musculoskeletal morbidity in the nursing population like age, obesity, poor physical fitness, household stress, and interpersonal relationships at domestic or occupational front which should be further investigated. Therefore further study of global stress on musculoskeletal morbidity should be carried out.

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A Study to Assess the Impact of Child-to-Child Programme on Knowledge, Attitude, Practice Regarding Water and Noise Pollution among Selected Rural School Children in Udupi District, Karnataka

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ABSTRACT

The Quazi experimental two group pre-test post-test study was done to identify the Impact of Child-to-Child programme on Knowledge, Attitude, Practice regarding Water and Noise pollution among Selected Rural School Children in Udupi District. The main objective of this study was to find the effectiveness of Child-to-Child programme in increasing the Knowledge, change in Attitude, and Practice with respect to water and noise pollution among selected rural school children. A total of 33 younger children were participated in Child to Child programme which was conducted by 33 older children. Results: Child-to-Child programme had made significant improvement in the knowledge, change in attitude and it was found that Child-to- Child programme had made no significant change in practice among younger children. Thus, it is concluded that the Child-to-Child programme on water and noise pollution is an effective strategy to spread simple health massages and change in attitude among younger children in rural community.

Key words: *Older Children, Younger Children, Child-to-Child programme, School Children.*

INTRODUCTION

The World Health Organization estimates that between 25% and 33% of the global burden of disease can be attributed to environmental risk factors. Children, due to their reduced immunity, their immature physiology, and the fact that they are growing and developing at a rapid rate, are even more vulnerable than adults to the adverse health effects of chemical, physical and biological hazards. Throughout the world, children are the future caretakers of the environment and will become stewards of their own health and that of others. One effective way for students to learn about their environment is for them to become active participants in environmental health education.[1]

Health education to school children in their formative age is the most effective method for protecting and promotion of their health. Health education of school children can be carried out in different ways and settings through formal and informal teaching in school. Innovative approaches to education for health are essential to gain the interest, support, involvement and commitment of the students.[2]

In India almost 74% of people live in rural areas[3]. It is observed that, people of rural areas have developed undesirable health attitudes and practices because of illiteracy, poverty, ignorance, misconception and superstition[4]. About 30-50% of rural school children suffer from morbidities like anaemia, worm infestation, under nutrition and dental caries[5] and other water borne diseases. The vast population in rural area could be approached through Child–to-Child programme, for imparting health education to protect against common illness.

It was identified that the children do not possess basic knowledge on the various aspects of water and noise pollution. Hence, the present study is felt-necessary to empower school children with knowledge on water and noise pollution, So that they can impart health information to the entire community.

LITERATURE REVIEW

Phinney R, Evans J says that the older children commonly care for their younger siblings while parents work to provide for the household. Through play, dance, and talk, children tend to interact with each other more intensely than do adults. In doing

so, messages and awareness are exchanged more effectively.[6]

Although child survival programs may help to increase the life span of poor children in developing countries such as India, the quality of life will remain unchanged unless the value of involving children in health education efforts is recognized. The primary health care strategy seeks to involve children and communities in making decisions and taking actions to improve their health. Children can be engaged in the learning process through activities such as helping to care for younger siblings, educating children of their own age who are not attending school, and spreading preventive health messages to their homes and communities.[7]

A study (experimental control approach) was done at Belfast to assess the effectiveness of a Child-to-Child approach to promote healthier snacking in primary school children. A total of 55 schools in north and west Belfast were matched for socio-economic status (SES). Ten schools were randomly selected and allocated into intervention and control groups. The results showed that the older intervention children had greater increases in their mean knowledge scores compared with control group children and older intervention had greater decreases in mean snacking scores compared with control children. Younger children attending higher SES schools had significant decrease in mean snacking score compared with children attending lower SES schools. The researcher concluded that the child-to-child approach provided an avenue by which children improved their dental health knowledge and modified their snacking habits during break –time at school.[8]

Child-to-Child programme has now become an international programme and the concept is now extended for it to be called "Child- to- Mother", "Child -to -Family", and "Child- to- Community programme". In this era, children being utilized by commercial advertising agencies for selling their products. Before the commercial industry exploits these important child resources, the health care providers can utilize them for much better purposes like teaching about environmental sanitation. Thus, when a child becomes a teacher for spreading health messages, it encourages the children of school age to concern themselves with health, welfare and general development of their younger pre-school brothers and sisters, neighbors', their families etc. and the community at large is benefited from these activities.[9]

To live in clean surroundings is the right of every individual and to make it clean is the duty of everyone. Developing countries like India is faced with many environmental problems related to air, water and soil. Every day in Bombay, over 1200 metric tons of pollutants are released by vehicles which are 60% of the total load of pollutants. Seventy three million working days are lost every year because of water related diseases all over the world. Loss of trees, native plants and animals contribute towards soil pollution and air pollution.[10]

OBJECTIVES

To find the effectiveness of Child-to-Child programme in increasing Knowledge, change in Attitude and Practice with respect to water and noise pollution among selected rural school children.

MATERIAL AND METHODS

The present study was a quazi-experimental two group design. Purposive sampling technique was used for selecting older children and random sampling technique was used for selecting younger children. Pre tested, pre designed knowledge questionnaire, attitude scale and practice questionnaire on water and noise pollution was used for collecting data. This Study was conducted in Two Phases.

In phase I, Pre Test Knowledge, Attitude and Practice related to water and noise pollution was done for the older children (35 children studying in 9th standard participated in the study), followed by that the Educational Package was administered. The investigator had given the proper guidance to them and also a handout with same content of the teaching session, copy of pamphlets and handout on water borne diseases also were given to each child at the end of the session in order to prepare themselves as an educator to younger children. Post Test was taken from older children who attended the teaching session after seven days of teaching (8th day). The children were selected based on their performance in Post Test for transforming the knowledge. Among 35 older children, 33 had good knowledge, favorable attitude and healthy practice in post test which were the eligibility criteria for transforming the knowledge on water and noise pollution to the younger children in this study. So, 33 older children were oriented to the formal setting where the AV Aids were displayed for conducting Child-to-Child programme and guidance was given by the investigator.

In 2nd phase, Pre-test was administered to the younger children and On 9th (first day for younger children) day, transformation of the knowledge on water and noise pollution occurred in the ratio of 1:1 in formal setting by using audio visual aids which was displayed by the investigator. On 17th day (after seven days of Child-to-Child programme) post-test

was administered to younger children. A total of 66 school children completed the study (33 older children and 33 younger children).

Data were entered in SPSS 11.5 windows and analyzed. Paired 't' test statistical method was used to analyze the data.

RESULTS

The SPSS (Version 11.5) was used to analyze the collected data of this study. The descriptive and inferential statistics was used to interpret the findings.

I. Demographic characteristics:

Maximum number of older children (97.14%) was in the age group of 14-15years; 51.4% were male. Majority of them (82.9%) belong to nuclear family. All younger children (100%) were in the age group of 12-13years; 66.7% were male. Majority of them (84.8%) belong to nuclear family.

II. Effectiveness of Child-to-Child Programme on Water and Noise Pollution:

A. Effectiveness of Educational Package on water and noise pollution among older children.

In posttest, 94.3% older children had Good Knowledge when comparing to 37.1% in pretest. Hundred percent of older children had Favorable Attitude and Healthy Practice in pretest and posttest, The obtained paired 't' test value of pretest and posttest Knowledge (-10.070), Attitude (-2.528) and Practice (-2.249) Scores of older children was found to be significant at 0.05 level (Presented in table 1).

Table 1. Mean, SD, Mean Difference and 't' Value of Pre Test and Post Test Knowledge, Attitude and Practice Scores of Older Children N=35

Sl.No	Variables	Mean		SD		Mean Difference	't' Value	P Value
		Pre Test	Post Test	Pre Test	Post Test			
	Knowledge	18.77	23.03	3.919	3.120	4.26	-10.070	.000*
2.	Attitude	58.00	61.17	7.004	7.054	3.17	-2.528	.016*
3.	Practice	35.37	36.54	3.200	3.311	1.17	-2.249	.031*

*P< 0.05 level

B. Effectiveness of Child-to-Child Programme in terms of gain in Knowledge scores among younger children

In posttest, 75.8% younger children had good Knowledge comparing to 27.3% in the pretest. There was a significant difference between the mean Posttest knowledge scores of younger children (20.88) and mean pretest Knowledge scores (18.30); $t_{(32)} = -4.227$, $p<0.05$. Thus, it is inferred that the Child to Child programme is effective in enhancing the knowledge on water and noise pollution among the younger children (Presented in table 2).

Table 2: Mean, SD, Mean Difference, and 't' Value of Pre Test and Post - Test Knowledge Scores of Younger Children. N=33

Test	Knowledge Scores					
	Mean	SD	Mean Difference	df	't' Value	p-value
Pre test	18.30	2.456	2.58	32	-4.227	.000*
Post test	20.88	2.826				

*P< 0.05

C. Effectiveness of Child-to-Child Programme in terms of gain in Attitude scores among younger children

Hundred percent of younger children had favorable attitude in pretest and posttest. There was significant difference between mean posttest attitude scores of younger children (59.18) and the mean Pre Test score (56.45); $t_{(32)} = -2.329$, $p<0.05$. Thus, it shows that the Child-to-Child programme was effective change in attitude among younger children (Presented in table 3).

Table 3: Mean, SD, Mean Difference, and 't' value of Pre Test and Post Test Attitude Scores of Younger Children. N = 33

Test	Attitude Scores					
	Mean	SD	Mean Difference	df	't' Value	p-value
Pre Test	56.45	6.456	2.73	32	-2.329	.026*
Post Test	59.18	8.263				

*P< 0.05

D. Effectiveness of Child-to-Child Programme in terms of gain in practice scores among younger children

Hundred percent of younger children had healthy practice in pretest and posttest. There was no significant difference between mean posttest practice scores of younger children (39.27) and the mean pretest score (38.15); $t_{(32)} = -1.916$, $p>0.05$. Hence, it shows that the Child-to-Child programme was not significantly effective change in practice among younger children (Presented in table 4).

Table 4: Mean, Median, Range, SD, Mean Difference, and 't' value of Pre Test and Post Test Practice Scores of Younger Children. N = 33

Test	Practice Scores					
	Mean	SD	Mean difference	df	't' value	p-value
Pre test	38.15	3.063	1.12	32	-1.916	.064
Post test	39.27	3.394				

DISCUSSION

Many studies have been done to assess the effectiveness of Child to Child programme. The present study supports the findings with respect to Knowledge, Attitude and contradicts the findings with respect to Practice of the following studies.

The controlled trial (interventional study) was done to assess the impact of child to child programme on Knowledge, Attitude, Practice regarding diarrhea among rural school children by Walvekar P R, Naik V A, Wantamutte A S, Mullapur M D**.** The results showed that the overall improvement in the knowledge of the study group students, Pre Test mean score was 1.44 and Post Test mean was 25.57 respectively. Whereas Pre Test mean was 4.04 and Post Test mean was 3.20 in control group. Maximum improvement occurred among study group students in positive attitude and practices regarding treatment of diarhoea (from 46.25% to 100%).[1] This study supports the present study findings with respect to Knowledge, Attitude and contradicts the findings related to Practice.

Another study was conducted to assess the knowledge, attitude and practice in 3 villages of Bekily District in southern Madagascar to the implementation of a health education programme with children. The participatory learning concept of the Child-to-Child approach was followed to involve the children in the planning and implementation of the programme. It involved a total of 55 school aged children (14 years) along with 21 mothers and 34 fathers, representing different ethinic group and educational backgrounds. Results show's that children's knowledge, attitude and practice related to health and nutrition strongly reflect those of adults.[11] This study also supports the present study findings with respect to Knowledge, Attitude and contradicts the findings related to Practice.

The limitations of present study are, this study confined to a small sample size from a selected school in Udupi District, Karnataka, the present study excluded two older children from the study because they had fair knowledge score in Post Test rather than reinforce them, The practices of older and younger children were not observed, but only administered self-reported practice questionnaire on water and noise pollution.

The findings of the study has implications of nursing education, nursing practice, nursing administration, nursing research, general education and national health care delivery system.

The study recommendations are the replication of the study on a large sample can be done, a similar study can be conducted to other age group of children and also among anganwadi's children.

CONCLUSION

The children participated in this study were very much interested in learning new topics and enthusiastic to transfer their knowledge to others. The 't' test was computed between mean pretest knowledge, attitude

scores and mean posttest knowledge, attitude scores indicate significant gain in knowledge and attitude scores among younger children. Thus it is concluded that the child-to-child programme on water and noise pollution is an effective strategy to spread simple health messages and change in attitude among younger children in the rural community. The't' test was computed between mean pretest practice scores and mean posttest practice scores indicate no significant gain in practice scores among younger children. Thus it is concluded that the child-to-child programme is not significantly effective in change in practice among younger children. The educational package on water and noise pollution used for the study were collectively effective in teaching and learning of the older and younger children.

Special and continuous health education of school children, like Child to Child programme in their formative years improves their Knowledge and helps to develop Positive Attitude and Healthy Practices[1]. Therefore, health education to school children in their formative age is the most effective method for prevention of water and noise pollution.

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Socio-Cultural and Norms Factors Influencing Contraception use among Adult Female in Urban Areas of Dakshina Kannada District

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ABSTRACT

The descriptive study was done to examine the influence of socio-cultural and norms factors on contraceptive use. The purposive sampling technique was used to select the adult female residing in Mangalore. The demographic proforma and the rating scale on socio-cultural and norms factors were used to collect data. The descriptive and inferential statistics were used to analyze the data. The results indicated that significant relationship existed between Socio-cultural factors and contraceptive use ($r=0.208$; $p=0.011$) and there is no significant relationship between norms factors and contraceptive use ($r=0.142$; $p=0.084$). The results further indicated that the age of the women, education, religion, type of family and age at marriage are independent of socio- cultural and norms factors. Based on the results of this finding, the study concludes that the contraceptive use is influenced by socio-cultural factors among the urban women.

Key words: *Socio-Cultural and Norms Factors, Gender Roles, Religion, Social Networks, Local Beliefs, Myths, Socio-Economic Factors and Contraceptive.*

INTRODUCTION

Family planning assists "families in achieving the number of children desired with appropriate spacing and timing, ensuring optimal growth and development of each family member"[1,2]. Failure to plan a pregnancy can adversely affect the health of the mother, the child and the families as a whole. Most people's family planning decisions also reflect a range of outside influences which are Social and cultural norms, gender roles, social networks, religion, and local beliefs factor etc.

It is often not enough to talk about contraceptive use without understanding the context of cultures and traditions. Community and culture affect a person's attitude towards family planning, desired sex of children, preferences about family size, and family pressures to have children[3,4,5]. Community norms also prescribe how much autonomy individuals have in making family planning decisions. The larger the differences in reproductive intentions within a community, the more likely that community norms support individual choices[3,6]. Household and community influences can be so powerful that they can obscure the line between individual desires and community norms. For instance, in some culture, many women reject contraception because bearing and raising children is the path to respect and dignity in the society[7-9].

This survey was carried out to assess, how certain socio-cultural and norms factors influence the contraceptive use among adult female in urban areas of Dakshina Kannada District.

LITERATURE REVIEW

A person's social environment usually has more influence on family planning decisions than do the attributes of specific contraceptives. For example; in Kenya, when new clients were asked to give a single reason for their choice of a specific family planning method, most cited the attitudes of their spouse or their peers, or their religion or value[10].

The role of social networks in the diffusion of new ideas about family planning has been recognized for several decades[11]. As more and more people decide to use family planning, it has become increasingly acceptable for others to choose to do so[12].

Bivariate and multivariate analyses of the influence of demographic and sociocultural factors on contraceptive knowledge, attitudes and practice among currently married respondents in Uganda show that: Secondary or higher education, discussion

of family planning with spouse and urban residence strongly influenced contraceptive use[13].

Muslim couples are encouraged to have children, who are referred to as their 'wealth'; furthermore, Muslims believe that every baby comes with his own provision. Muslims are influenced by the Prophet Mohammed's call to 'get married and multiply', and believe that procreation is one of the most important objectives of marriage[14] Islam approves the use of contraceptives for birth spacing not for limiting births[15].These findings reflected the importance of the preservation of one's lineage through marriage, family formation, and procreation as stated in Islam. The Qur'an states: "Wealth and progeny are the allurements of this world" (18:46). On the other hand, modern methods of contraception are permitted by religious authorities, provided that they are temporary, safe, legal and are used only in the context of marriage[16,17]; any device that does not induce abortion, and is reversible may be used[15-18]. Justifiable reasons for contraceptive usage include life-threatening health risks, economic reasons, preservation of the woman's appearance and improving the quality of off springs[15].

The consent of the marital partner is essential for the use of any contraceptive method, including withdrawal because the husband's or wives' unilateral decision may jeopardize the rights and interests of the other partner, including the right to full sexual enjoyment 19 Khalaf, et al., explored perceptions of women, living in the south of Jordan regarding their needs for family planning services and found that the women's husbands discouraged the use of available family planning services provided at the health centers[22].

The socio-cultural and traditional values and beliefs consist of pressure to have children, male preference, number of children, education, and age of the mother remain important factors in their avoidance of contraception use[14, 20, 21].

OBJECTIVES

- To examine the influence of socio-cultural and norms factors on contraceptive use among the adult female.
- To find the association between the socio-cultural and norms factors and selected demographic variables.

MATERIAL AND METHODS

The Descriptive design was used in this study. Purposive sampling technique was used to obtain the data from a total of 150 adult female aged 19 to 45 years residing in selected areas (i.e., (Chillimbiguddae, Boloor, Bokappatna, Lady hill, Bejai, Kapikad, and Sulthanpatheri) of Mangalore city, Dakshina Kannada district. The study included only the adult female those married and living with their husband.

Based on the review of literature, the demographic proforma and rating scale (r = 0.841) was developed to assess the socio cultural and norms factors influencing contraceptive use. The selected parameters under the rating scale were religion, local beliefs, myths and cultural factor, socio-economic factors, gender role and social network. After obtaining the written consent from study participants, the tool was applied to get their opinion.

RESULTS

The SPSS (Version 16.0) was used to analyze the collected data of this study. The descriptive and inferential statistics was used to interpret the findings.

I. Demographic characteristics

Majority of the adult female (46.7%) belonged to 28 – 36 years of age group, 42% had secondary education, 58% were housewife, 81.3% were belonging to Hindu religion, 66% of the adult female married between 15-25years of their age, 71.3% of them desired to have only two children. Most of the adult female (72.7%) were belonging to nuclear family and 78.7% were not used any contraceptives.

II. Influence of socio-cultural and norms factors on contraceptive use among the adult female

A. Influence on socio-cultural factors and contraceptive use

Pearson correlation coefficient was computed to find the correlation between the socio-cultural factors and contraceptive use and presented in table 1.

Table 1. Correlation between socio-cultural factor and contraceptive use

Variable	Pearson correlation (r)	Significance (p)
Socio - cultural factors	.208	.011
Contraceptive use		

The data presented in table 1 shows that there is significant relation between socio - cultural factors and contraceptive use ($p<0.05$). Hence, it is interpreted that the Contraceptive use of adult female is influenced by Socio - cultural factors.

B. Influence on Norms factors and contraceptive use

Pearson correlation coefficient was computed to find the correlation between the Norms factors and contraceptive use and presented in Table 2.

Table 2. Correlation between norms factors and contraceptive use

Variable	Pearson correlation (r)	Significance (p)
Norms factor	.142	.084
Contraceptive use		

The data presented in table 2 shows that there is no significant relation between norms factors and contraceptive use (p>0.05). Hence, it is interpreted that the Contraceptive use of adult female is not influenced by Norms factors.

III. Association between the socio-cultural and norms factors and selected demographic variables.

The chi-square test was computed to analyze the association between socio-cultural and norms factors and selected demographic variables and presented in Table 3.

Table 3: Association between Socio cultural norms factor and selected variables such as age, religion, education, type of family and women age at marriage. N = 150

Variables	High level influence (173-235)	Moderate level influence (110-172)	lower level influence (47-109)	df	^{2}	p-value
Age in years						
19 - 27 years	2	25	1	4	2.996	.558
28 – 36 years	4	61	5			
37- 45 years	7	41	4			
Religion						
Christian	4	21	1	4	2.404	.662
Hindu	9	104	9			
Muslim	0	2	0			
Education						
Degree and above	1	26	3	8	10.408	.238
Higher secondary education	3	22	0			
Secondary education	4	56	3			
Primary education	4	21	4			
Illiterate	1	2	0			
Type of family						
Nuclear family	11	90	8	2	1.412	.493
Joint family	2	37	2			
Age at Marriage						
15-25	10	81	8	2	1.844	.398
26-35	3	46	2			

p>0.05 level of confidence.

The data presented in table 3 shows that there is no significant association between socio-cultural and norms factors and age of the women, religion, education, type of family and age at marriage (p>0.05). Hence, it is interpreted that the age, education, religion, type of family and age at marriage are independent of socio- cultural and norms factors.

DISCUSSION

The current study reveals that there is significant relation between socio- cultural factors and contraceptive use. This finding is supported by the study done by Bosveld in 1998 which reveals that the Social and cultural factors, religion, and local beliefs influence peoples' choices of contraception.

The present study reveals that there is no relation between norms factors and contraceptive use.

Dixon Muller R, Bosveld describes that the Community norms also prescribe how much autonomy individuals have in making family planning decisions.

The larger the differences in reproductive intentions within a community, the more likely that community norms support individual choices. Household and community influences can be so powerful that they can obscure the line between individual desires and community norms.

The Present study found that the age of the women, education, religion, type of family and age at marriage are independent of socio- cultural and norms factors. Kridli S, Greene M E, and Srikanthan M., says that the socio-cultural and traditional values and beliefs consist of pressure to have children, male preference, number of children, education, and age of the mother remain important factors in their avoidance of contraception use.

CONCLUSION

The present study concludes that the socio-cultural factors have higher influence on contraceptive use among the urban women. Certain programs and interventions can be recommended for development and implementation within a framework of empowering young women to make informed decisions about their reproductive health as they learn to understand social and cultural influences on contraceptive use.

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Loss and Grief Response and Perceived Needs of Parents with the Experience of Having their Newborn at Neonatal Care Units

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ABSTRACT

Objective: To determine and assess the loss and grief response, and perceived needs of parents who are having their newborns in neonatal care units.

Material and Methods: Qualitative, phenomenological, hermeneutic study was conducted at Neonatal care units (neonatal intensive care unit NICU/ neonatal surgical intensive care unit NSICU) AIIMS, New Delhi. Sixteen parents participated in study In-depth interview of twenty to seventy five minutes duration were conducted and documented systematically. The data were analyzed following 12 steps based on Van Manen's analysis.

Results: The study found that the loss of parents was 'Anticipated' and 'Actual' related to separation from baby, loss of baby etc. Grief responses were 'psychological' e.g. tension, anger, crying, denial, bargaining, confusion, preoccupation, and 'physical' e.g. loss of appetite, sleep etc. The perceived needs were mainly, to have a 'Friendly visiting policy', 'Proper information' and 'Communication'.

Conclusion: The parents of neonates admitted to neonatal care units do have loss and grief reaction, and special needs, which a nurse needs to identify and meet in order to help parents cope with the grief.

Key words: *Neonatal Care Units, Loss and Grief, Perceived Need, Coping.*

INTRODUCTION

The birth of a preterm/critically ill infant can alter transitions to parenting and has long-term implications for both parents.[1] Fortunately, advances in technology have helped to improve the care of sick newborns. This improvement in survival, however, is accompanied by long periods of time in the NlCUs for infants and their parents.[2] The experience of separation, critical illness, loss of organ, loss of functional capacity and death of newborn takes parents to a journey of loss and grief. Loss and grief are universal experiences that every person experience from birth till death. The definition of grief includes emotions and sensations that accompany the loss of someone or something dear to you.[3]The environment of the NICU serves as a significant source of stress for the parents. [4] Parents have some special needs to be fulfilled to reduce their stress. These needs are called as perceived needs. The nurse's ability to differentiate between a need and a stressor of NICU parents is important.[5]Loss of the parents that goes unacknowledged or unattended can result in disability. But grief that is experienced and expressed has a potential for healing that eventually can strengthen and enrich life.

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In recent years, qualitative research methods have been used to document in more detail the experiences of loss and grief response of parents whose child/ infant is disabled, died[1,7-11]. Very few studies have focused on the parents' experiences of having baby in NICU and psychological adjustments of parents having critically ill neonate in NICU, and the results have indicated that the stress among mothers was related to loss of parental role, they were poorly adjusted, more anxious, hostile and depressed than

fathers[12,13]. According to Ward et al top priorities of parents whose babies were in NICU were hope, honesty, best care, information - how, what, when, understandable etc, accessibility - to be with child.[4] The result of this study supported that parents of the newborns have unmet needs, which are important to be recognised properly so that appropriate action can be taken to meet them.

One of the studies has indicated that health care providers, and especially nurses, can have a major role in reducing parental distress by maintaining ongoing communication with parents and providing competent care for their infants[12]. In Indian setup, from where no review is available on these issues there was a need to determine the loss and grief responses and perceived needs of parents so as to provide appropriate nursing care.

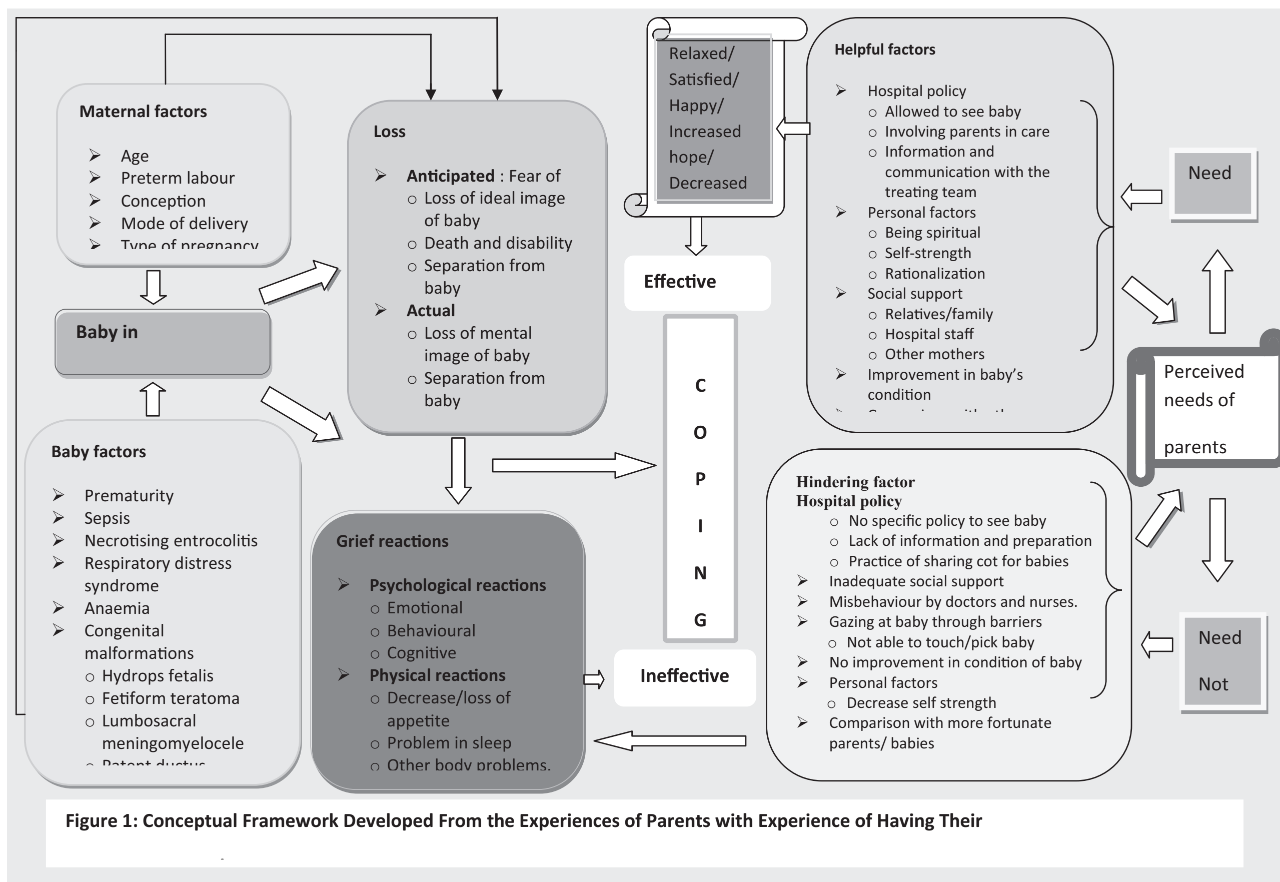

Fig. 1: Conceptual Framework Developed From the Experiences of Parents with Experience of Having Their Newborns in NICU/NSICU

MATERIAL AND METHODS

A qualitative, phenomenological, hermeneutic approach was used with a purposively selected sample of sixteen parents (both mothers and fathers) of newborn admitted to neonatal care units i.e NICU/ NSICU for more than 48 hours. Parents who were able to speak and understand Hindi / English/ Punjabi were enrolled. The parents who could not be called to study centre for interview, had psychiatric illness, / postpartum depression /serious illness or eclampsia (in mothers) as per the records, had adopted the newborn were excluded. Eight parent pairs of nine babies (seven singletons and one Twin) were enrolled. One of twin baby died before interview. Ethical clearance was obtained from the ethics committee of AIIMS. Meeting was held with parents and informed written consent was taken particularly about the recording of interview and verbally before writing field notes.

The tools comprised of subject data sheet, in-depth interview schedule, and General health Questionnaire (GHQ). In-depth interview schedule tool was developed in Hindi and then converted to English and again translated back to Hindi, and then converted to Punjabi. The content validity index (CVI) was 0.89. It included four broad questions each followed by triggers. General health Questionnaire (GHQ) 12 was used to assess the psychological distress and the cronbach's alpha is 0.92[14-16]. Parents were visited daily to find out the appropriate time for interview.

The data were collected in a separate room. GHQ-12 was completed before the interview and parents having high distress scores were asked again for their willing to give interview, and were informed regarding facility for consultation with psychologists. None of the parents refused to give interview. Interviews were taken and recorded, and field notes were maintained. Probes such as, 'ummm, yes, what else, anything else', were used to encourage the participants to tell more about their experiences. Non verbal encouragement and support used were, maintaining eye contact, therapeutic touch to mothers when they were crying.

Credibility was ensured by prolonged engagement, persistent observation, member checking, on the other hand data and person triangulation was done by multiple data sources e.g interviews, field notes and by collecting data from both, mother and father respectively. Confirmability was assured by audit trail whereas for dependability the data was given to four external experts and consensus was obtained if there was difference in opinion.

Data analysis was done by using 12 steps which were developed by selective/highlighting approach of Van Manen's (1990) method. The categories, sub-themes and themes were developed. Final coding was done against each significant statement. Conceptual framework was developed from the themes Figure 1.

FINDINGS

The mean age of mothers and fathers was 27 and 30.125 yrs respectively. Five parent pairs were Hindu; seven were living in urban area. Six participants lived in nuclear family. Seven participants were educated up to senior secondary. Total of 11 participants including, 8 fathers were employed and out of mothers, 3 were employed, four were house wives, and one was student. Seven mothers had present conception without treatment, and only one had with treatment. Three deliveries were normal and 5 were caesarean sections. Out of all the deliveries, 4 were term and 4 were preterm. Three babies had undergone surgery. Three babies weighed less than 1000 gms, 3 babies weighed between 1000-2000 gms, and 3 babies weighed above 2000 gms. Gestational age of 3 babies was between 25-30 weeks, one baby had gestational age between 30-35 weeks, and 4 babies had gestational age of 35-40 weeks. Mean age of babies at the time of interview of mother and father was 12.125 days and 17.5 days.

Out of all five mothers were admitted in maternity ward and fathers used to visit them and baby daily. Two fathers lived within the city (Delhi) and had to travel for 30-45 minutes, two had to commute daily for about 4 hours from their own home to reach the hospital. Two parents (both father and mother) were resident within the city and used to commute for about one hour 30 minutes. One parent pair was from very far off place and initially they had no place to live but later, they got accommodation at "Lodge (Dharamshala)".

Loss: There were two types of losses experienced by parents i.e '*Anticipated*' and '*Actual*'. Anticipated loss is the loss which was experienced by parents before and after the delivery of baby. Actual loss is the loss which was experienced by parents over what has happened.

"We had imagined a normal and healthy baby after 8-9 months. We never thought of a baby at seven and half month. I was apprehensive"………(father)

"I have cared for her (first twin) just for 3 days. I developed lot of affection for her. I felt as if I have lost a lot. The other one (second twin) was of less weight, so I left her care, because whenever I used to go into nursery, I used to control myself even then tears use todrop down. I used to feel as if I will lose her too (spoke in heavy voice and was crying"….. (mother).

The fear of having physically handicapped baby was only expressed by parents of NSICU

Grief reaction of parents in response to loss

The grief responses of parents were '*Psychological*' and '*Physical*'. The '*Psychological*' reactions include emotional, behavioral, and cognitive. '*Physical*' reactions include loss of appetite, difficulty sleeping, and other physical problems. The GHQ-12 scores were greater than 4 among both mothers and fathers; it shows that the parents were in distress.

Psychological reactions like 'Fear/ tension/ sadness/ repeated questioning / anxiety' were commonly related to survival and infection of baby, in addition to this NICU parents had feeling of fear after seeing baby attached to ventilator tubings, fear of touching the small babies, fear of unauthorised person touching the baby, and fear of infection from other baby or from his parents due to doubling of babies in incubator/ warmer. Desire to see and touch the baby was reported by both parents; whereas among mothers, desire to see the baby was intense when she was not able to go to ICU for first 3-5 days after delivery. Guilt/ self blaming were due to inability to know about diagnosis and to do something earlier, some had guilt over the past deeds. Some of the parents were blaming health care team for not taking action on time.

"The mother of the other baby….. I should not use the word 'dirty', but I did not like her. There was a fear that she may spread infection to my baby."…. (father)

"Whenever I used to go to nursery, I try to control myself even then tears use to drop down. I used to feel as if I will lose her too (spoke in heavy voice and was crying" ….. (mother)

"I feel very weak because of my health. I have gone very weak. I feel a lot of pain in my head, eyes and body. For the last three to four days I have been feeling pain in my chest. Now I don't know whether it is because of breasts or due to some other reason.

I don't know whether I feel it because I get very emotional or I think too much about the baby. I feel that pain has started in my chest, and pain is felt on touching thchest."…. (mother)

Coping

The coping factors were categorized as *'Helpful factors'* and *'Not so helpful/ hindering factors'*. In relation to *'Helpful factors'* parents from both ICU's reported that they feel good/ satisfied/ relaxed/ consoled after 'seeing/ touching the baby'. NICU parents feel good, happy, relaxed and satisfied after providing KMC, applying oil, changing nappy. Mothers have shown desire to care for baby on their own. Regarding 'communication' parents of both the ICU's have reported that they feel satisfied/ hopeful after conversation with doctors, some reported they need assurance from hospital staff, involving mother by giving information help her to face situation. Mental preparation and information to keep baby in nursery helps parent to feel relaxed. Awareness of the problem and 'Improvement in baby's condition' help parents of both ICU's to feel relaxed.

"Now when I go there, I change their nappy, clean them, and massage them with oil, and make them wear cap, socks and I feel happy. They open eyes smile, sleep and I feel very happy looking at them. I don't feel like coming back from there." ….. (mother)

"After seeing I felt that they are my babies and got relaxed." ….(father)

On other hand *'Not so helpful/ hindering factors'* parents have reported that they feel dissatisfied/ sad/ unhappy/ distressed if 'not allowed to see the baby' and there is lack of information and preparation about the nursery and keeping baby there. NICU parents have reported the environment of the nursery was very strange and fearful when they went to see the baby first time. Sometimes mother compares their present pregnancy with previous normal pregnancy or both parents compares themselves with more fortunate ones which brings jealousy, and inferiority among them.

"We didn't know anything about nursery. We thought baby will stay inside for 2-3 days and then will come out. We knew nothing"…. (father)

"I felt envious looking at other babies who were going home after recovery"…. (father).

"Now it is out of our control, now I am losing my patience after seeing baby in no of needles how one can relax and can smile they just say keep smiling be happy and don't tell anything properly. Why pneumonia occurred, baby was alright yesterday and they were saying to take her out but now why she is put on to the ventilator again? …. .crying. (mother)

PERCEIVED NEEDS: The perceived needs of the parents were *'Friendly visiting policy'*, *'Need for information and communication'*, and *'Expectation of the parents'*. Related to *'Friendly visiting policy'* parents of both the ICU's have desired some change in visiting policy, to have transparency/ glass to see the baby and to allow to visit in case of emergency i.e some procedure is being done e.g blood exchange etc.

"It is better if a glass or crystal is fixed to see the baby so that the staff can show the baby by lifting the curtain and let us know the condition of baby. Because if the parents will see their baby without going inside, there will be no danger to him and they will also be satisfied".. (father)

'Need of information' from doctors and nurses was equally expressed by the parents of both the ICU's. 'Characteristics of information' required from nurses were complete and correct and answer to all queries on a regular basis. 'Content of information' required from nurses were, needs of the baby, feed taken/not taken, lactation counseling, activities of baby, number of problem and their reasons, reason of putting baby on ventilator, improvement, chances of recovery, equipment and their attachment.

'Characteristics of information' required from doctors include providing information without asking, at set time, at the proper place i.e. in cabin/ nursery, in detail by senior/head doctor, in calm/unhurried manner, to mother during round in the maternity ward, and at the time of discharge to both parents. 'Content of information' required were, condition of baby, improvement/ deterioration, problems of baby, and plan of treatment.The information was desired more from nurses than doctors because parents feel at ease with nurses and feel they are available all the time, but it was reported that nurses don't provide any information. Parents have also reported that they feel good if they hear it from doctor.

"Doctors should call the father or mother at least once in a day and should tell that your baby has done this, she is well, this was the deficiency seen or this good thing is seen in her.".. (father)

The sisters have all information about babies. In the absence of the doctors we have to wait for them, if they are inside, even then they make us wait…….. When we ask from *the sister they do not tell us and direct us to ask from the doctors…* (mother)

Expectation of parents included**,** *'physical and comfort facilities for parents'* like waiting room/ sitting arrangement, canteen facility, admission of mother of baby, need of comfort/ privacy of admitted mother' such, separate room, sufficient space for breast milk expression, easy KMC chair, etc. Expectation of parents was also to *'Consider convenience of parents'* i.e disable friendly environment, arrange blood and other necessary medication for emergency and replace them later on. The parents of both ICU's want everybody to strictly follow 'rules and regulation' e.g the rule of wearing separate slippers in and outside nursery , not to feed their baby with other mothers' milk and their milk should not be given to other baby. Parents of both ICU's desired that nurses' behavior should be polite and cooperative, understanding towards parental feelings, attentive for baby's/parents/attendants. Doctors should be sensitive, prompt, efficient this is because sometimes doctors also scold; they don't attend on time and give information.

"The nurses inside nursery instead of teaching how to hold baby and feed they scold by saying you don't even know how to feed, how you will take care of baby. I have become mother for first time they should teach." ….(mother)

Doctors should understand the emotions of the parents and guardians, should pay attention towards the permission to allow them to visit and should fix the time earlier by understanding their problems…. (father)

There were certain needs which were met and certain needs which were not met. The *'met needs'* were like being allowed to see baby, involving parents in care, and improvement in baby's condition etc. 'Needs not met' were like policy to see baby , information and preparation related to nursery admission, practice of keeping baby in single cot, social support, good behaviour by doctors and nurses, able to touch/pick baby(in NSICU) etc. These 'met' and 'unmet needs' are the special needs of parents, for few of the parents they were fulfilled and for others they were not, which has implications for nurses and health system.

CONCLUSION

In present study the loss was reported by both parents which was followed by psychological and physical reactions like sadness/ anxiety' whereas as per GHQ-12, the distress was higher among mothers as compared to fathers but the reactions were almost similar among both parents. Doering LV et al [17] also reported that mothers were more poorly adjusted and were more anxious, hostile, and depressed than fathers, but both parents of NICU experienced levels of emotional distress. Miles MS et al[18] also reported greatest stress among NICU parents. Parents of both ICU'S have reported that seeing, visiting baby, providing care and communication, information about baby give them satisfaction. Lam LW[19] also highlighted that the Chinese parents' also desired participation in care, assurance, information from both doctors and nurses mentioning some specific areas like condition, improvement, treatment plan, feeding, lactation counseling etc from the health personnel. Ward, K[4] described that the parents choose assurance needs as being of the greatest importance. Holditch-Davis D et al[12] also indicated that health care providers especially nurses, can have a major role in reducing parental distress by maintaining ongoing communication with parents and providing competent care for their infants. Kirschbaum[20] also reported that the important needs of parents included knowing the child's treatment plan, prognosis, and having questions answered honestly.

LIMITATION

Single centre study and few of the grief responses may have been missed as parents were not interviewed every day. Time duration was less, and member checking could not be done Transferability of the finding can't be assured.

CONFLICT OF INTEREST

This paper has not been published in any other journal nor the authors are interested to send to any other.

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A Study of Factors Influencing Episiotomy Wound Healing

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ABSTRACT

A descriptive study was conducted to examine the factors influencing episiotomy wound healing among 60 postnatal women in Government Taluk Hospital, Kundapura. Purposive sampling technique was used to select the sample. Demographic proforma of postnatal women and an observational check list on episiotomy wound healing was used to collect the data. Age of the women, no of vaginal examination done during labour, head circumference of the newborn, Hb level before delivery and Hb level after delivery had no effect on the episiotomy wound healing score. The study concludes that episiotomy wound healing is influenced by parity, frequency of self perineal care, length of episiotomy wound and no of episiotomy sutures present.

Key words: *Episiotomy Wound Healing, Postnatal Women, Perineal Care, Parity.*

INTRODUCTION

Episiotomy cause considerable distress and discomfort to many women following childbirth. Its severity is frequently under-estimated and many women suffer unnecessarily. A delay in healing may increase the duration of perineal pain[1]. In India, there is a reduction in performing episiotomies, due to the increase incidence of caesarean deliveries, however infections and poor wound healing after episiotomies is still high[2].

A prospective study conducted on 33 early puerperal women to look for the probable causes of disturbed healing of episiotomy. The study concluded that the process of episiotomy healing is not influence by: age of me women, parity, duration of labor, the weight of the neonate. For the episiotomy outcome is important the experience of the obstetrician. The shorter time between ROM during labor and delivery and use of cat-gut stitches on the skin of the perineum show tendency of poor healing of the episiotomy[3].

Perineal healing was compared between 181 women with episiotomies and 186 women without episiotomies at one to two weeks after delivery at United States. Subjects were medically indigent low-risk women who had normal spontaneous vaginal deliveries. Maternal age, race, parity, and birth weight did not have an independent effect on perineal healing[4].

Increased age is a major risk factor for impaired wound healing. Many clinical and animal studies at the cellular and molecular level have examined age-related changes and delays in wound healing. It is commonly recognized that, in healthy older adults, the effect of aging causes a temporal delay in wound healing, but not an actual impairment in terms of the quality of healing[5]. Delayed wound healing in the aged is associated with an altered inflammatory response, such as delayed T-cell infiltration into the wound area with alterations in chemokine production and reduced macrophage phagocytic capacity[6].

A comparative study of sitzbath versus self perineal care on episiotomy wound healing among postnatal mothers in jayanagar general hospital, bangalore south, Karnataka concluded that there is no association found between episiotomy healing, age and heamoglobin level[7].

OBJECTIVE

To examine the factors influencing episiotomy wound healing.

MATERIAL AND METHODS

Descriptive design was used in this study. Purposive

sampling technique was used to obtain the data from 60 postnatal women admitted in Government Taluk Hospital, Kundapura. Sample comprised of postnatal women in the age group above 18 years with right or left mediolateral episiotomy.

DESCRIPTION OF THE TOOL

Based on the review of literature and experts suggestion the demographic proforma and observational check list on episiotomy wound healing was developed. Demographic proforma was designed with 9 items like age of the women, parity, and frequency of self perineal care, no of vaginal examination done during labour, length of episiotomy wound, no of episiotomy sutures present, head circumference of the newborn, Hb level before delivery and Hb level after delivery. The observation checklist consisted of five domains with 23 sub items. The domains included in the tool were redness, edema, ecchymosis, discharge from the episiotomy area and approximation of the episiotomy wound edges. The measurement was done with a standard paper centimeter scale which had ten subdivisions of one millimeter each for redness, edema, ecchymosis and approximation of the wound edges. For each postnatal woman separate scale was used. The minimum score was 0 and maximum score was 18. To ensure the content validity, the tools along with the blue print and objectives of the study were given to fifteen experts from the field of nursing and obstetrics medicine. The experts were requested to give their suggestions and opinions regarding the relevancy, accuracy and appropriateness of the items. There was 100% agreement. Reliability was established by using Inter rater reliability. The calculated reliability coefficient was 0.89.

DATA COLLECTION PROCEDURE

The investigator obtained written permission from the concerned hospital authority prior to the study. Ethical clearance was obtained from Institutional Ethics Committee (IEC). Once the eligible postnatal women got admitted in the postnatal ward, on the first day of delivery the purpose of the study was explained, confidentiality was assured and informed written consent was obtained. During recruitment, the researcher emphasized that participation was voluntary and any time women can withdraw from the study without their care being affected. Demographic proforma was used to collect information and Daily assessment of the episiotomy wound was recorded by using observation checklist.

FINDINGS

Data was analyzed using statistical package for social sciences (SPSS), version 11.5.

I. Association between degree of episiotomy wound healing and selected variables.

Table 1. Association between Degree of episiotomy wound healing and selected variables such as Parity and Frequency of self perineal care. N = 60

Variables	Good wound healing	Mild wound healing	df	χ^2	p-value
Parity					
One	15	7	1	**7.706**	**.009**
Two	36	2			
Frequency of self perineal care					
After each voiding	25	21	1	**4.673**	**.031**
In between changing pad	3	11			

Table 1 show that parity and frequency of self perineal care is significantly associated with degree of episiotomy wound healing.

II. Correlation between episiotomy wound healing score and selected variable.

Table 2. Correlation between episiotomy wound healing score and selected variable such as age of the women, no of vaginal examination done during labour, length of episiotomy wound, no of episiotomy sutures present, head circumference of the newborn, Hb level before delivery and Hb level after delivery. N=60

Variables	Correlation coefficient (r)	Significance (p)
Age of the women and episiotomy wound healing score	.105	.426
No of vaginal examination done during labour and episiotomy wound healing score	.138	.293
Length of episiotomy wound and episiotomy wound healing score	**.341**	**.008**
No of episiotomy sutures present and episiotomy wound healing score	**.397**	**.002**
Head circumference of the newborn and episiotomy wound healing score	.094	.478
Hb level before delivery and episiotomy wound healing score	.040	.763
Hb level after delivery and episiotomy wound healing score	.019	.886

The data presented in the table 2 shows significant relationship of episiotomy wound healing score with length of episiotomy wound and no of episiotomy sutures present. Age of the women, no of vaginal examination done during labour, head circumference of the newborn, Hb level before delivery and Hb level after delivery had no effect on the episiotomy wound healing score.

DISCUSSION

This present study examined the factors influencing episiotomy wound healing. The study result indicates that parity has the influence on episiotomy wound healing. This is contradicted by a prospective study conducted on 33 early puerperal women which shows no relation between parity and episiotomy wound healing[3]. The present study shows that there is no significant relation between women's age and episiotomy wound healing. This findings supported by the study done in United States which shows no association between age and episiotomy wound healing[4]. This present study reveals that episiotomy wound healing is not influenced by hemoglobin level. This is supported by the study done in Bangalore which reveals that hemoglobin level is not having any effect on episiotomy wound healing[7].

CONCLUSION

The present study concludes that episiotomy wound healing is influenced by parity, frequency of self perineal care, length of episiotomy wound and no of episiotomy sutures present.

IMPLICATION

These study findings suggest a need for nurses to provide more thorough and consistent information for all mothers during pregnancy and after giving birth about perineal hygiene. The current study provides valuable information to health care providers who need to consider the influential factors in the treatment of episiotomy wound.

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Comparison of Stress and Coping Mechanisms of Fathers and Mothers of Children Admitted in The Intensive Care Unit

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ABSTRACT

Parents wish and expect their child to be normal. But when such is not the case, the parents are disturbed emotionally, but their response differs. Hence a descriptive comparative study was conducted to identify the stress and coping of fathers and mothers admitted in the Pediatric Intensive Care Unit (PICU) of Christian Medical College, Vellore. Consecutive sampling technique was used to select 50 fathers and 50 mothers. Stress scale developed by the investigator and the modified version of Folkman and Lazarus coping scale were used to collect the data using interview technique. The study findings revealed that 56 % of the fathers and 52% of mothers experienced moderate stress. The difference between the fathers' and mothers' stress level was found to be significant only for family stress (p= 0.02). Among study subjects 74% of fathers and 70% mothers adopted moderately effective coping. While comparing the mean rank in various aspects of coping the difference was not significant. The findings of this study enable the nurse to understand the stress and coping of both the parents of children admitted in PICU in order to help them and teach them about the changes to expect in them and the ways to adapt.

INTRODUCTION

Taylor, (2005) stated that stress is part of life; every one feels stress at one time or the other. The experience of stress and the ways one respond to it are unique to each individual. The perception of the stress and the response to it is highly individualized (Potter & Perry, 2005). In Indian culture verbalization of stress of the females are accepted whereas male's emotions are not well accepted. Men are taught to be strong and crying is thought to be a sign of weakness and they are assumed to cope with stress better.

Hospitalization of the child aggravates the stress of the parents. The experience of having a child with a critical illness drains parent's physical and emotional reserves (Ball and Bindler, 1995). As mothers are involved with the direct care of the child they are presumed to undergo more stress and the fathers are thought to have lesser emotional insult. Fathers have an equal role to play in the care of a sick child and also undergo stress in all aspects which goes unnoticed in most of the circumstances due to the cultural norms. Therefore this study was undertaken to identify the stress and coping of the fathers and mothers of children admitted in the Pediatric Intensive Care Unit (PICU).

OBJECTIVES

The objectives of the study were to

- assess and compare the stress levels of the fathers and mothers of children admitted in PICU
- assess and compare the coping mechanisms of the fathers and mothers of children admitted in PICU

METHODS

A descriptive study design was used. The study was conducted in the PICU of Christian Medical College, Vellore. The study population included the fathers and mothers of children admitted in PICU. The consecutive study sampling technique was used and 50 fathers and 50 mothers of children admitted in PICU for more than 36 hours and parents who could comprehend Tamil or English or Telugu or Hindi were included.

Instrument

The investigator used the demographic proforma, the stress scale and the modified version of Folkman & Lazarus coping scale (1984). The demographic

proforma was used to assess the demographic variables of the fathers and mothers such as age, education, occupation, income, type of family and child's birth order. The stress scale developed by the investigator is a four point Likert scale with 30 items that assessed the physical, psychological, family, financial, social and environmental stress experienced by the fathers and mothers. The responses were scored as never, sometimes, often and always. The obtained scores were interpreted as mild (upto 33), moderate (33.1 to 67), and severe stress (67.1 to 90). The modified version of Folk man & Lazarus coping scale, (1984) consists of 30 items to assess physical, psychological, spiritual and social coping adopted by the subjects. The responses were rated as never, some times, often, and very often. The scores were interpreted as ineffective (upto 33), moderately effective (33.1 to 67), and effective (67.1 to 90) coping.

The instrument was translated into Tamil, Telugu, and Hindi languages and was back translated in to English. The content validity was determined by obtaining the opinions of experts in both the medical and nursing fields. The content validity index of the instrument was 87.4.

Data Collection

The data was collected for a period of six weeks. The investigator approached the fathers and mothers of children admitted in PICU who fulfilled the criteria. The investigator established a good rapport with the fathers and mothers and explained the nature and the purpose of the study, assured confidentiality of the subjects and obtained a verbal consent from them. The demographic variables were collected following which the stress and coping scales were administered individually to the fathers and mothers.

Data Analysis

Collected data was analyzed using statistical package for social sciences (SPSS) version 12 computer programme. Descriptive statistics was used to present the demographic variables of the subjects. Mann-Whitney test was used to compare the stress and coping between fathers and mothers.

RESULTS AND DISCUSSION

Majority of the mothers (62 %) were less than 29 years old and fathers were (50%) in the age group of 30 to 39 years. Among the subjects 52% lived in a joint family and 72% of them were Hindus. Majority (70%) of the fathers were unskilled workers and mothers (72%) were house wives. The stress level was assessed based on the perception of the fathers and mothers. The findings revealed that both fathers and mothers experienced stressful events during their child's hospitalization and their stress level is presented in Figure 1.

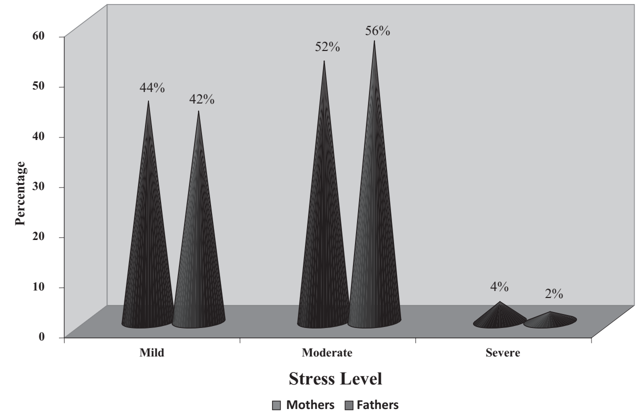

Figure 1. Distribution of fathers and mothers of children admitted in PICU based on their stress level.

Delaune and Ladner (2003) stated that the factors which contribute to stress are physiological, psychological, cognitive, environmental and socio cultural. Present study also analyzed and compared these factors between the fathers and mothers of children admitted in the PICU that are presented in Table 1.

Table 1. Comparison of stress level of fathers and mothers of children admitted in PICU

Aspects	Mothers (n=50)	Fathers (n=50)	Mann-Whitney	p value
	Mean Rank	Mean Rank		
Physical	54.96 20.96	46.04 20.20	1027.00	0.12
Psychological	49.38 11.59	51.62 12.25	1194.00	0.69
Family	44.32 21.45	56.68 22.08	941.00	0.02*
Financial	46.39 16.52	54.61 18.46	1044.50	0.15
Social	51.38	49.62	1206.00	0.76
Environmental	52.17	48.83	1166.50	0.55

* $P < 0.05$

The study findings reveal that mothers had higher mean rank (54.96) than the fathers (46.04) in the physical stress. This could be because the mothers stay with their children and care for them for longer duration compared to fathers. Similar findings by Yeh, Gung, Chang, San and Yuen (2002) identified that majority of the mother's experienced severe physical stress than fathers. Regarding family stress, the mean rank of father (56.68) was higher than mothers (44.32) and the difference was statistically significant. But a study by Miles Funk and Kasper (1992) revealed that majority of the mother's experienced severe family stress than fathers. This may be as head of the family, the fathers have to take more family responsibilities.

Findings also revealed that mean rank of financial stress was high among fathers (54.61) than mothers (46.39). It could be true because in Indian culture fathers mainly deal with financial aspect and mothers are thought to be dependent on fathers for money. Cimete (2002) also identified that the reasons for having financial difficulties were additional expenses of the sick child and low income of the fathers.

The mean rank of environmental stress was almost equal among fathers (48.83) and mothers (52.17). Majority of the parents expressed that they only worry about their child's condition than the environment. Contradicting to these findings, Board and Wenger-Ryan (2003) identified that 95% of mothers experienced environmental stress than fathers in relation to sudden sounds of monitor alarms, looking at the heart rate of the child on monitors and the presence of tubes in the child.

The fathers' and mothers' coping were categorized into ineffective, moderately effective and effective based on the scores obtained from the coping scale that is presented in Figure 2.

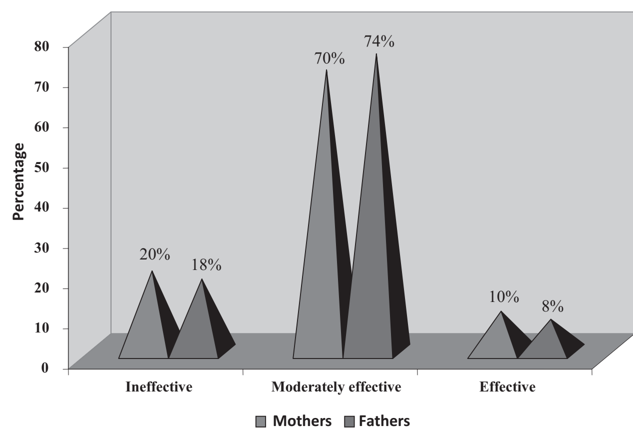

Fig. 1. Distribution of fathers and mothers of children admitted in PICU based on the coping adopted.

Coping adopted by the Fathers and mothers in various aspects and the comparison is presented in Table 2.

Table 2. Comparison of coping levels of fathers and mothers of children admitted in PICU. (n=50)

Aspects of coping	Mothers	Fathers	Mann-Whitney	p value
	Mean Rank	Mean Rank		
Physical	48.34	52.66	1142.00	0.45
Psychological	47.72	53.28	1111.00	0.33
Spiritual	52.43	48.57	1153.50	0.50
Social	46.67	54.33	1058.50	0.18

While comparing the coping between fathers and mothers it was found that the mean rank of physical coping among fathers (52.66) was higher than mothers (48.34). Probably fathers went home and took rest, whereas mothers did not want to leave their child to take rest. Opposed to this finding, Little (2002) identified that majority of the mothers sought medical help during their illness. It was also identified that mean rank of fathers (53.28) was higher than mothers (47.42) related to psychological coping. This result is contrary to the findings of Katz (2002) who stated that mothers used their contact with the medical team treating the child as a coping behavior more frequently than fathers.

In social coping the mean rank was high among fathers (54.33) than mothers (46.67). This may be because of the men's nature to go out and spend the time with their friends compared to mothers. However statistically there was no significant difference between fathers and mothers related to physical, psychological, social and spiritual coping.

LIMITATIONS

Expression of stress and coping are subjective. Stress scale used in this study is not a standardized tool. Child's clinical diagnosis and severity of illness is not considered in assessing the stress and coping of parents.

CONCLUSION

Study finding reveal that parents of critically ill children are subjected to multiple stressors during hospitalization such as physical, psychological, family, financial, social and environmental stressors. It also affects the integral part of the overall health of the individual. Very often fathers and mothers of children are neglected in health care settings. Nurses need to assess the stress level and coping of fathers and mothers of children admitted in PICU. Nurses have a major role in accomplishing its end by providing timely and appropriate information. Counseling and supporting them will enable the fathers and mothers to cope better with the stress related situations.

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Strategies in the Promotion of Nursing as a Career among Second Level Students: An Irish Perspective

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ABSTRACT

The world is currently experiencing one of the worst nursing shortages in the last 50 years. The reasons are multi-faceted, however one factor is a lack of structured collaborative, promotional initiatives among career guidance counsellors (CGCs), universities and established health professionals. In order to enhance recruitment emphasis must be placed on developing innovative promotional initiatives, materials and events which accurately portray the role and function of the nurse in the 21st century. The aim of this study is to identify second level CGCs preferred strategies for the facilitation of accurate and current information on nursing as a career option. The results suggest that CGCs very frequently engage with students and their parents regarding nursing as a career and emphasise the need for increased collaboration between health care professionals and CGCs in the promotion of nursing as a career.

Key words: *Guidance Counsellor, Nursing, Recruitment, Careers*

INTRODUCTION

There is a global shortage of health care professionals which has the potential to worsen over the coming years as demands for health service personnel increase.[1, 2, 3] While the international shortage in health care professionals includes various professions and occupations, the deficit within nursing is of particular concern given that the demand for nurses is on the rise and outpacing production and retention rates.[4-6,3] A recent report on nurse shortages in OECD countries suggests that the crisis is likely to persist or even increase in the future unless action is taken to increase flows into and reduce flows out of the workforce or to raise the productivity of nurses.[3] This reflects one of the worst nursing shortages in the last 50 years[10] with the potential to be exacerbated by a steady decline in the number of potential nursing candidates and accessible undergraduate training places.

INTERNATIONAL NURSING SHORTAGES

The UK's Royal College of Nursing[5] labour market review cautions that urgent action is needed to avoid a return to the chronic nursing shortages experienced in the early 1990's. A comparable situation is facing the US with approximately 126,000 unfilled nursing positions across the country.[4] Indeed this national shortage is projected to increase to more than 1 million 'Full Time Equivalent' RNs by 2020 if current trends continue, meeting only 64% of projected demand.[9] The sustainability of the Irish nursing workforce is similarly under threat[11] and is manifest by a falling number of domestically trained nurses registering with the Irish Nursing Board and a dramatic drop in the number of internationally trained nurses working in Ireland.[12]

Despite the ominous outlook for the future of nursing, such shortages are a recurrent phenomenon in most countries, primarily due to an increasing demand for nurses outpacing a languishing supply.[8] Historically, numerous factors have contributed to nursing shortfalls such as growing populations, work dissatisfaction and burnout[13] which are still pertinent today, however additional factors suggest a new dimension to the current problem. The registered nurse (RN) workforce is ageing, for example in Canada 50% of nurses employed today will retire within the next 15 years, and in Australia 90,000 nurses are expected to retire between now and 2020.[10] These are very disturbing statistics for countries who have become increasingly reliant on the recruitment of overseas nurses to meet the domestic nursing shortfall. The sustainability of such recruitment drives must be questioned given the current and projected international nurse shortages.[14] Additionally, many

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nurse graduates never register to practice. In the UK one third of newly qualified nurses do not register[20] and in Australia 66% of new graduates reported that they seriously contemplated leaving nursing during their 1st year of practice.

The work environment for nurses is also changing whereby the greater life expectancy of individuals with acute and chronic conditions will require more nurses and more complex nursing care. By 2050 there will be a greater number of older people in the world and in the EU alone half the population will be older than fifty years of age.[14] Additionally underinvestment in nursing education in developed countries, poor work environments including excessive workloads, inadequate support staff, violence, stress, burnout, wage disparities and little autonomy contribute to the current shortfall.[14]

PROMOTING NURSING

To achieve an adequate and sustainable workforce, developed countries must stabilize their domestic nursing supply and promote efforts to meet projected international demands. However the nursing shortfall is not easily rectified as labour market forces are complex and the nursing workforce is sensitive to changes in work patterns, education and training arrangements, demographic trends and wider economic factors.[15] In order to address the current crisis and restore the diminishing workforce emphasis must be placed on the effective recruitment of school leavers considering health related programmes such as nursing. The recruitment of suitable candidates is central to the sustenance of the nursing and health care workforce not only in Ireland but worldwide.[16-18]

An Irish survey explored key factors in the career decision making process of undergraduate nursing students[18] and found that the majority (90%) became aware of nursing as a career during their second level education. CGCs were identified by 23% of respondents as the primary source of information, a factor well established in the literature.[19, 20] School CGCs are in ideal positions to offer students sufficient direction and accurate information about careers in health care to allow them make informed career decisions. International studies point to the effectiveness of collaboration between CGCs, universities and clinical staff in the development of effective promotional resources to support students in their decision to pursue a career in nursing.[16, 20] However from an Irish perspective little research has been conducted to identify the extent to which CGCs promote nursing as a career and the initiatives and promotional resources used.

STUDY AIM

1. To establish how frequently CGCs in Ireland discuss nursing as a career with senior cycle second level students and/or their parents.
2. To determine secondary school CGCs preferred mechanisms in providing accurate information on nursing as a career for senior cycle second level students.

METHODS

Data were collected using an adaptation of a previously validated questionnaire survey,[21] originally developed to establish high school CGCs perceptions of nursing as a career. Modifications were made to include questions addressing CGCs perceptions of nursing within an Irish context. Part 1 of the questionnaire focused on demographic details of CGCs Part 2 sought to identify the frequency of requests from parents and students relating to nursing and CGCs preferred mechanisms for promoting nursing as a career. The survey generator 'survey monkey' was utilised to adapt Bolan and Grainger's [31] work for use online. By means of convenience sampling participants were accessed through 'Qualifax', (http://www.qualifax.ie/) a website providing comprehensive information on further and higher education and training courses in Ireland. The website also offers support, advice and a discussion forum for CGCs.

Descriptive data were analysed using the Statistical Package incorporated in 'Survey Monkey' and inferential statistics were analysed using the Statistical Package for the Social Sciences (SPSS). The sample population were all CGCs working in second level schools in Ireland (N=700). Ethical approval to conduct the study was granted by the relevant institutional ethics review board.

FINDINGS

A total of 121 CGCs completed the questionnaire representing a response rate of 17.2%. Of those 24.2% (n=29) were male and 75.8% (n=91) were female, with the majority of respondents over 50 years of age. The majority of respondents had more than 10 years experience as CGCs, (38.3%, n=46), 30.8% (n=37) had between 6-10 years experience and 30.8% (n=37) had less than five years experience (see Figure 1). The majority of respondents were Irish (95%, n=117) with the remaining 1.7% (n=2) identified as EU nationals.

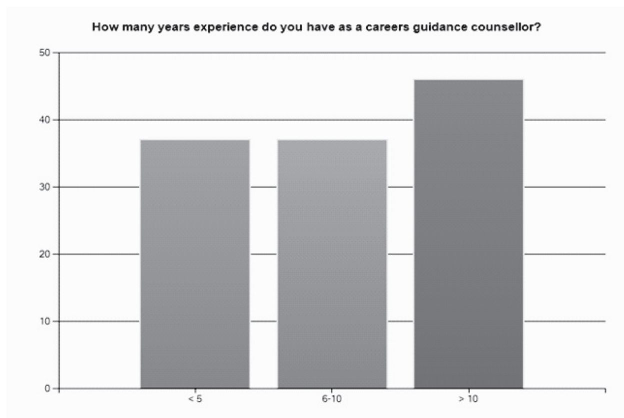

Figure 1: Years of experience

The majority of respondents (47.0%, n=54) stated that information was requested occassionally by parents with 10.4%, (n=12) stating that parents requested information relating to careers in nursing very frequently, (see Table 1). In relation to requests from students the majority of CGCs (44.4% n=52) stated they were frequently asked for information relating to careers in nursing (see Table1).

Table 1: Parents/ students requests for information relating to nursing

Requests for info on nursing	Very frequently	Frequent	Occasional	Never	Rating Average	Response count
Parents	10.4% (12)	15.7% (18)	47.0% (54)	27% (31)	2.90	115
Students	42.7% (50)	44.4% (52)	12.8% (15)	0% (0)	1.7	117

CGCs (29.1%, n=34) very frequently recommended a career in nursing, with 56.4% (n=66) frequently recommending nursing, 12 %(n=14) occassionally recommended nursing and 2.6% (n=3) never recommended nursing as a career. A total of 91.5% (n=107) of respondents believe that increased collaboration is required between health care professionals and CGCs to provide students with accurate and current information. Of the remainder, 3.4%(n=4) did not believe increased collaboration was required, and 5.1% (n=6) were unsure. When asked how best to facilitate the provision of accurate information to students, CGCs identified a range of options, with school visits by professionals being the most popular at 69.8%(n=74) followed by the use of promotional booklets and DVD's (56.9% n=58). Structured university based programmes identifying the roles of health professionals were considered useful by 50% (n=49) while school visits by faculty were considered useful by 46% (n= 46) of respondents **(**See figure 1).

Respondent's qualitative feedback supports the above findings and include 'work experience programmes' in hospital settings as a underutilised and valuable resource. Respondents also suggested that school visits by recent graduates and final year nursing students would be beneficial.

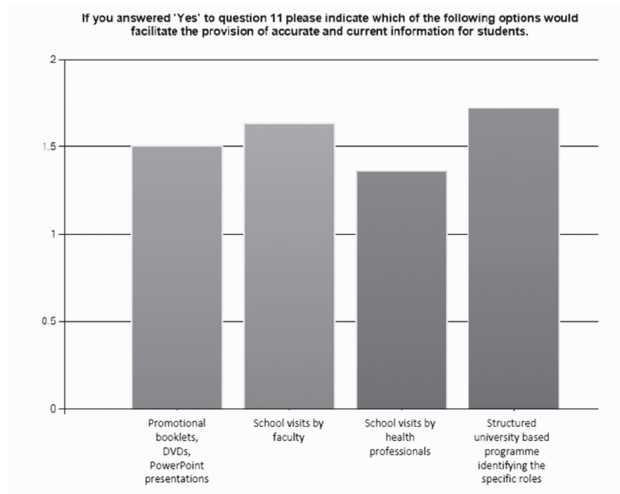

Figure 2: Provision of information

DISCUSSION

Respondents to this study have accumulated a wealth of professional experience, with the majority having in excess of 10 years' practice of working as a CGC. Findings suggest that the majority of CGCs are at pace with developments within nursing and recognise the professional standing of the nurse, placing them in an ideal position to confidently support students. According to respondents there is a very high level of interest in nursing as a career with the majority indicating they are very frequently asked for information relating to nursing (85%). A point of concern however is that 2.6 % of CGCs never recommend nursing to students. The reasons for this are unclear however a qualitative comment suggests that respondents working in all boy schools tend not to recommend nursing as a career choice. This trend is reflected in other studies suggesting that nursing is still perceived as women's work[22] due to preconceived social stereotypes and misconceptions. Such stereotypes need to be challenged through the promotion of nursing as a non-gender specific career offering good income, status and upward mobility.[23] The future promotion of nursing must include strategies to encourage the recruitment of groupings that are traditionally underrepresented such as males and minority ethnic groups.[24]

In keeping with the findings of international studies, the majority of respondents (91%) believe that increased collaboration is required between health care professionals and CGCs in order to provide students with accurate and current information.[20]

Such collaboration could be facilitated through school visits by clinical professionals and faculty, structured university based programmes and the use of promotional materials.[20, 24] A study by Campbell–Heider et al [20] concluded that faculty collaboration with CGCs is an excellent mechanism to uncover and address barriers to nurse recruitment at a local level.

The development of faculty led university based programs for potential nursing students was also considered important by 50% of respondents in this study. University led programs typically take the form of 'nursing camps' run over a number of days where participants engage in a variety of activities including field trips, site visits, job shadowing as well as attending lectures and demonstrations.[24] In Australia and the US such initiatives have been associated with positive outcomes, particularly in relation to social perception of nursing as a career[24] While the concept of 'nursing camps' has not yet gained any significant momentum in Ireland and Europe generally, the results of US and Australian studies that have explored the benefits of such initiatives suggest positives outcomes, particularly in relation to social perception of nursing as a career[24]. This is encouraging and reinforces the idea that the provision of accurate information to young people regarding nursing can untangle the reality of careers in nursing from media influenced perceptions and result in substantial dividends. Their ultimate success however is dependent upon the ability and willingness of CGCs, universities and established health professionals to fully engage in the initiative[23, 19]

CONCLUSION

An acute shortage of nurses has currently been identified internationally with medium and long term projected shortages reflecting one of the worst nursing shortages in the last 50 years[1, 2, 3, 7]. Given the magnitude of the current crisis a comprehensive international approach is required to address the situation including the development of appropriate nurse recruitment strategies. Strategies identified in this study concur with international findings such as the use of promotional tools including DVD's and educational packs for schools; clinician led seminar sessions, and structured tours of hospitals and schools of nursing. In particular emphasis is placed on enhanced cooperation between CGCs and faculty staff in developing innovative and timely promotional materials and activities to attract second level students into nursing.

Going forward, it is evident that collaboration between vested parties is the foundation for the sustained recruitment of nursing students who have realistic expectations of their future careers. Commitment between all parties may positively impact on the provision of a sustainable nursing workforce capable of meeting the healthcare needs of the 21st century.

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Weight prediction using anthropometry in Indian subjects

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ABSTRACT

Introduction : Prediction of body weight is many times required for bedridden patients, for calculation of their nutritional requirements and drug calculations. The objective of this study was to check the adequacy of formula suggested in the literature developed from Brazilian population, in the Indian population and if found inadequate ,to develop appropriate formula for prediction of weight for the Indian population, based on simple anthropometric measurements.

Materials and Methods : Healthy human subjects who volunteered to participate in the study were subjected to anthropometry and weight measurement using weighing scale, and methods to estimate weight were developed by multiple linear regression analysis.

Results : The formula for weight prediction developed from Brazilian population was found inadequate to predict the weight in Indian subjects. Fifty persons were evaluated by anthropometry and weight calculation formula was developed. The formula thus developed is weight =(1.196 * arm. circ) + (0.395 * abd.circ) + (0.753 * calf.circ) + (-7.296 * gender) - 21.714 .The estimates thus calculated did not differ significantly from actual measurements ($p = 0.97$).

Discussion : We suggest that this equation developed from Indian population can be used to estimate the weight of bedridden patients when this parameter cannot be measured using a weighing scale.

Key words: *Weight Prediction, Immobile Patients, Anthropometry*

INTRODUCTION

Body weight is one of the most useful elements of the physical examination for the assessment of nutritional status. Weight loss is a reliable indicator of nutritional compromise and can be used to diagnose nutrition-related problems, such as malnutrition[1]. It helps in the calculation of energy expenditure and the amount of proteins, lipids and fluids required for a person. Body weight is fundamental in planning drug therapy in both clinically stable and critically ill patients. Most often in critically ill patients who are bedridden, visual observation is the commonly used method used for estimating weight. Visual estimation of weight is found to be inaccurate in predicting the actual weight of bed ridden pateints.[2]

More reliable methods for estimating body weight in bed ridden patients can be devised using anthropometric measurements[3-4]. Anthropometry is simple, safe and can be easily applied at the bedside. Moreover it is objective and non invasive. The use of anthropometric measurements in predicting weight of immobile patients has been reported in the literature[4]. However since it was developed on Brazilian adults, its generalizabilty to other populations especially to the Indian population is yet to be tested.

Thus, the objective of the present study was to check the adequacy of formula suggested in the literature from Brazilian adults, in the Indian adults and to propose a suitable formula based on the anthropometric measurements of Indian adults that would be most appropriate to predict body weight.

MATERIAL AND METHODS

Fifty individuals who volunteered to participate in the study were selected by convenient sampling method. The sample included patients, and relatives of patients who are admitted in the hospital. An informed consent was obtained from the study subjects. Adults of both genders and who were able to walk were included in the study. Those with amputated or immobilized limbs, pregnant women, individuals

with edema and/or ascites were excluded. Intrarater reliability for anthropometric measurements was obtained prior to data collection. (r=0.987)

Individuals were subjected to anthropometry and weight measurement using standard weighing scale. The anthropometric indices measured were Mid upper arm circumference(MUAC), Abdominal circumference and Calf circumference. Each measurement was done three times using a non stretchable tape and the mean of these three measurements was taken. MUAC is the circumference of the left upper arm, measured at the mid-point between the olecranon process and the acromium. The abdominal circumference or the waist circumference is measured by placing a measuring tape in a horizontal plane around the abdomen at the level of the iliac crest. The measurement is made at the end of a normal expiration. The maximum horizontal distance around the left calf was measured as the calf circumference.

With the anthropometric measures obtained form the study sample, the weight calculation was done according to the formula (developed from Brazilian population)[4] suggested in the literature, and these were compared with the actual weight measurements to study its adequacy in Indian setting. Having found it inadequate, the next step was to determine whether the above variables were correlated with weight. Since all the variables strongly correlated with weight, a new formula was established using the present data employing multiple linear regression analysis. The means of the actual measurements (weight using weighing scale) and the estimated measurements were compared using the paired"t" test

RESULTS

The study was conducted among 50 individuals who volunteered for the study. The age of the subjects ranged from 20 to 60, with an average age of 31 years (SD -12years) and 26% were males and 74% were females. (table 1). In the anthropometric measurements, all the variables ie, abdominal circumference, calf circumference and mid upper arm circumference showed a significant ($p<0.05$) positive correlation with weight.

Table 1. Anthropometric characteristics and weight (mean and standard deviation)

Characteristic	mean±SD / No(%)
Age (years)	31.26±12.14
Gender(males)	13 (26%)
Abdominal circumference (cm)	86.20±11.53
Arm circumference(cm)	26.20±3.91
Calf circumference (cm)	31.87±3.71
Weight (kg)	54.97±11.53

Weights of the study subjects were predicted using the formula suggested in the literature, and these were compared with the actual measurements to study the adequacy of the formula in Indian setting. It was found that the estimated weights were significantly different from the actual weights (58.75 vs 54.97, p-value =0.001) (Table 2).

Using the anthropometric measurements ie, abdominal circumference, calf circumference and mid upper arm circumference, a formula was developed to predict the weight of the study subjects using multiple linear regression analysis.The formula thus developed is weight =(1.196 * arm.circ) + (0.395 * abd.circ) + (0.753 * calf.circ) + (-7.296 * gender) - 21.714 . [Male gender was denoted by 1 and female by 2]. It was noticed that the weights calculated using the formula suggested in literature differed significantly from those calculated using the formula developed in the current study, the latter more close to the actual weights (58.75 vs 54.98, p-value =0.001) (Table 2).

It was also noticed that weight calculated using the formula developed in the current study did not differ significantly from the actual weight measurements (54.98 vs 54.97, p=0.970).

Table 2. Weights – actual and estimated measurements

Characteristics	Actual weight (using a weighing scale)	Weight Measurements	
		Using the formula suggested in literature	Using the formula developed
	Mean ± SD		
Weight (kg)	54.97 ± 11.5358	58.75±11.46	54.98±10.94
	difference	3.78	0.01
	p-value	0.001	0.97

DISCUSSION

Visual estimation of weight is reported to produce erroneous reading and moreover it is very subjective. Other methods of accurate body weight for a bedridden patient like an electrical bioimpedance and adipometers are not possible to be procured for most hospitals. For the purpose of prediction, the variables used in the formula developed in the current study is easily measurable and does not require any special equipments other than a measuring tape.

The formula developed in the Brazilian study by Rabito et al was found to be inadequate in predicting weight in Indian subjects. This could probably because of the difference in the physical characteristics of the subjects across different population.

CONCLUSION

Weight prediction using a measuring tape as the

only tool is a viable, simple and safe alternative for the estimation of weight of bedridden individuals. Complementary studies are needed to evaluate the applicability of this formula to the estimate of weight, involving larger sample.

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A Study on Nurses' Acceptability for Utilization of Theory based Nursing Assessment Tool

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ABSTRACT

The utility of a nursing model as a framework to understand and explain a health phenomenon is fundamental to guide nursing practice. Health assessment is a process whereby a nurse obtains information that delineates clients' responses to health problems, thus facilitating the planning of appropriate care. Nurses use various types of assessment tools in the hospitals. In the present study, authors studied the acceptability for utilization of Roy Adaptation theory based nursing assessment tool by nurses. A cross-sectional survey design was used to assess the acceptability of nursing assessment tool. A sample of 200 nurses was selected by purposive sampling. mean score of acceptability ranged from 2.90 to 5.00 with mean 4.029 ± 0.436, which showed overall high acceptability of nursing assessment tool. Dimension-wise mean scores revealed that the dimension 'Nursing Assessment' had highest mean score (4.21 ± 0.57) followed by 'Usefulness in Nursing Care' (4.18 ± 0.47) and 'Easy to use and understand' (3.80 ± 0.46, which shows high acceptability of the tool in 'Nursing Assessment' and 'Usefulness in Nursing Care' and moderate acceptability in 'Easy to use and understand'. Therefore It was concluded that the nurses had high acceptability for utilization of Roy Adaptation theory based nursing assessment tool.

Key words: *Nursing Assessment Tool, Roy Adaptation Theory, Acceptability*

INTRODUCTION

An essential characteristic of advanced practice nurse is the use of theory in practice. Clinical nurse specialist apply theory in providing or directing patient care, in their work as consultants to staff nurses, as leaders influencing and facilitating system change.[1] Nursing has for many years striven to enhance the quality of patient care through education, practice and research. Part of this development has focused on production of a collection of so called nursing theories/ models.[2] It is supposed that the utilization of nursing models in clinical practice gives design to nursing process itself a systematic cycle designed to give a semblance of structure to deliverance of nursing care.[3]

Nurses are being called upon to care for clients with increasing complex needs. The ability of nurses to care for these clients necessitates a way to organize the hundreds of data bits that are encountered in the day to day care of clients. Theory provides a logical way to organize this information, resulting in purposeful and proactive practice. Theories provide the practitioner with a view client situation and thus serve as a vehicle for the interpretation and organization of information. Theory allows nurses to focus on important information while setting aside unimportant data. Theories direct interpretation of relationships among the data and predict outcome necessary to plan purposeful and systematic care.[4] Researchers[5,6,7] state that theory must be useful for and give direction to nursing practice. When nurses use a theory as a base for their practice, they are able to systematically identify, label, aggregate and synthesize phenomenon. Nurses need a theoretical perspective to help them understand which data are important, how these data relate, what can be predicted by these relationships, and what interventions are needed to deal with specific relationships. In short nurses need to know what they will do with data after theses are collected in order to collect meaningful data. Without this understanding, data are often collected and left un-interpreted or never collected at all.

Nurses are very busy and have little time to spend on activities that do not convey specific meaning. Nurses do not have time to learn everything there is to know about a client; thus they collect data, interpret, analyze, diagnose and plan care based on their perception of what is important. A theoretical perspective helps the nurses to focus in on the important and meaningful data. This gives nurses a way to understand the data, to interpret the relationship among phenomenon, to predict outcomes given these relationships, and to plan and implement care purposefully and

proactively. When nurses practice purposefully and systematically, they are more efficient, have better control over outcomes of their care, and are better able to communicate with others. Therefore purposeful, systematic care requires that practice be based in theory.[4] Smith[8] states that nurse will become more autonomous and subsequently more accountable in what they do if they use nursing theory/ model in practice. But in order for a nursing theory/model to be rendered useful within a practice area, it must first be examined and defined in such a way that makes it clear that its uses will benefit nursing practice and patient outcomes.[9]

In the present study, researcher decided to study the application of Roy Adaptation theory for the nursing care of patients. Because many research studies have been done to analyze or test the application of Roy's theory in nursing practice and it has been found that Roy Adaptation theory holds the potential to positively effect patient care and nursing practice in various fields of nursing.[10] Moreover researcher found that all the studies for the application of Roy's theory have been conducted in foreign countries. No study has been conducted in India. Roy adaptation theory paints a philosophical picture of nurse assisting a patient in adapt to a current life difficulty whilst maintaining health and living patterns. Therefore the objective of the study was to assess the acceptability for utilization of Roy Adaptation theory based nursing assessment tool.

MATERIAL & METHODS

Research Design

Researcher used the cross-sectional survey design to assess the acceptability for utilization of the nursing assessment too by nurses.

Sample & Sampling Technique

The sample consisted of 200 nurses working in selected hospitals of Punjab by using purposive sampling technique.

Method of data collection

The Nursing assessment tool based on Roy Adaptation Theory was given to staff nurses working in selected hospitals. A lecture to staff nurses for the understanding of the concepts of Nursing Assessment tool based on Roy adaptation theory was given by researcher. Staff nurses were asked to use the assessment tool for their patients. Nurses used the assessment tool for one month. Researcher was available to nurses' everyday and clarified the doubts of staff nurses regarding the nursing assessment tool if they had any. After utilization of tool, Nurses were asked to give their opinion regarding acceptability for utilization of Nursing Assessment tool for cardiac patients on a five-point likert scale containing twenty one items. The options ranged from 'Strongly agree' to 'Strongly disagree'.

Content Validity & Reliability of the Instrument

The instrument for the assessment of acceptability was validated by five experts from the nursing education and practice field. And the reliability of the instrument was found by split half method, the Cronbach alpha was found to be 0.81.

Findings

- Table no.1 shows the frequency distribution of the demographic variables such as age, qualification, experience in nursing and cardiac nursing experience. Majority of the respondents were in the age group of less than 25 years (61%), followed by age group of 25 – 35years (24%) and age group 35 – 45 years (08%). Minimum number of respondents was in the age group of more than 45 years (07%). Qualification-wise majority of the subjects had done B.Sc. Nursing (75%) followed by General Nursing and Midwifery course (25%).
- Experience in nursing –wise, majority of respondents had less than 5 years experience (69.5%), followed by 5 - 10 years experience (21.5%) and 10 - 15 years experience (7.5%). Minimum number of respondents had more than 15 years experience. When frequency distribution of cardiac experience was calculated, it was found that majority of subjects had less than 1 year cardiac experience (58.0%), followed by more than 5 years experience (20.5%) and 3 - 5 years experience (13.5%). Minimum number of respondents had cardiac experience 1 – 3 years (08.0%).
- Respondents were asked to indicate their opinion on Five Point Likert scale ranging from 'Strongly Agree' to 'Strongly Disagree' regarding each item depicting acceptability of nursing assessment tool. Mean scores were calculated by assigning scores; 5, 4,3,2,1 to strongly agree, agree, neutral, disagree and strongly disagree. However reverse scores were assigned to negative items. Further, all the items of nursing assessment tool were categorized into three dimensions i.e. Easy to use and understand, Usefulness in Nursing care and Nursing Assessment. The frequency distribution of each item on five points likert scale, mean score of each item and mean score of each dimension have been shown in the table no. 2
- Table no. 2 shows that vast majority of respondents were either agree or strongly agree with positive items of the tool, similarly they were either disagree or strongly disagree with negative items. Mean

scores of items ranged from 3.02 ± 1.08 to 4.55 ± 0.62, which shows moderate to high acceptability of the tool. Dimension-wise mean scores reveal that the dimension 'Nursing Assessment' had highest mean score (4.21 ± 0.57) followed by 'Usefulness in Nursing Care' (4.18 ± 0.47) and 'Easy to use and understand' (3.80 ± 0.46, which shows high acceptability of the tool in 'Nursing Assessment' and 'Usefulness in Nursing Care' and moderate acceptability in 'Easy to use and understand'.

- Table no. 3 shows that mean score of acceptability ranged from 2.90 to 5.00 with mean 4.029 ± 0.436, which shows overall high acceptability of nursing assessment tool. Frequency distribution of acceptability level in table no.4 shows that majority of respondents had high acceptability of the tool (53.7%) followed by moderate acceptability (45.0%). Very less number of respondents had low acceptability (1.50 %), whereas none had rated the tool as not acceptable.
- Respondents were asked regarding the overall impression of the nursing assessment tool with options; 'I disliked it very much', 'I disliked it', 'I liked it somewhat', 'I liked it', and 'I liked it very much'. Table no.5 shows the frequency distribution of respondents' opinion of overall impression of the nursing assessment tool. Majority of the respondents (51.0%) opted 'I liked it', followed by 'I liked it very much' (32.5%) and ' I liked it somewhat' (16.5%). None of the respondents opted for overall impression of nursing assessment tool as 'I disliked it very much' and I disliked it'.

DISCUSSION & CONCLUSION

The study findings suggest that the Roy's theory based nursing assessment tool is highly acceptable to nurses for utilization in nursing practice by nurses (mean score 4.02±0.43). and Dimension-wise mean scores reveal that the dimension 'Nursing Assessment' had highest mean score (4.21 ± 0.57) followed by 'Usefulness in Nursing Care' (4.18 ± 0.47) and 'Easy to use and understand' (3.80 ± 0.46, which shows high acceptability of the tool in 'Nursing Assessment' and 'Usefulness in Nursing Care' and moderate acceptability in 'Easy to use and understand'. In a similar type of study Wegner P tested the feasibility of the Roy's Model for practice and concluded that "the model provided a good framework for ordering a variety of observation" and using the model for nursing enhanced assessment and intervention as well as the overall nursing process and supported the notion that the conceptual Model currently applies to practice and that it does have relevance for the way nursing is practiced today.[11] Therefore it is concluded from the results that Nursing assessment tool based on the Roy Adaptation theory has high acceptability for utilization by nurses in the nursing practice.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/ or publication of this article.

Table 1. Frequency distribution of Demographic Variables N= 200

Demographic Variable	Frequency	Percentage(%)
Age Categories(years)		
less than 25	122	61.0
25 – 35	48	24.0
35 - 45	16	08.0
More than 45	14	07.0
Qualification		
General Nursing &Midwifery	50	25.0
B.Sc Nursing	150	75.0
Experience in Nursing (years)		
Less than 5	139	69.5
5 - 10	43	21.5
10 – 15	15	7.5
More than 15	03	1.5
Cardiac Nursing experience (years)		
Less than 1	116	58.0
1 – 3	16	08.0
3 – 5	27	13.5
More than 5	41	20.5

Table 2. Frequency Distribution of Item-wise opinion of Nurses regarding Acceptability for Utilization of the Nursing Assessment Tool for cardiac patients. N = 200

Dimensions	Items	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree	Mean scores ± SD	Mean scores ± SD (Dimensions)
Easy to Use and Understand	I found this Nursing Assessment tool easy to use.	49 (24.0)	115 (57.5)	36 (18.0)	0 (0.0)	0 (0.0)	4.07 ± 0.65	**3.80 ± 0.46**
	All items in Nursing assessment tool were easy to understand	42 (21.0)	130 (65)	25 (12.5)	3 (1.5)	0 (0.0)	4.06 ± 0.63	
	It took too much time to complete the nursing assessment tool	14 (7.0)	58 (29)	53 (26.5)	61 (30.5)	14 (7.0)	3.02 ± 1.08	
	The Nursing assessment tool was difficult to use	04 (2.0)	43 (21.5)	40 (20.0)	96 (48.0)	17 (8.5)	3.40 ± 0.98	
	The Nursing assessment tool was difficult to understand	03 (1.5)	36 (18.0)	33 (16.5)	99 (49.5)	29 (14.5)	3.58 ± 0.99	
	The nursing assessment tool was comprehensive.	46 (23.0)	124 (62.0)	30 (15.0)	0 (0.0)	0 (0.0)	4.08 ± 0.61	
	The items in Nursing assessment tool followed a logical sequence.	82 (41.0)	99 (49.5)	19 (9.5)	0 (0.0)	0 (0.0)	4.32 ± 0.64	
	The Nursing assessment tool was designed for easy to use and there was enough space between the items to write the assessment done.	63 (31.5)	88 (44.0)	33 (16.5)	16 (8.0)	0 (0.00	3.99 ± 0.90	
	The flow of items of nursing assessment tool was confusing.	04 (2.0)	17 (8.5)	38 (19.0)	104 (52.0)	37 (18.5)	3.77 ± 0.92	
Usefulness in Nursing Care	Assessment through this tool was helpful in developing the Nursing care plan for patients	108 (54.0)	74 (37.0)	18 (9.0)	0 (0.0)	0 (0.0)	4.45 ± 0.66	**4.18 ± 0.47**
	The information gathered through Nursing assessment tool was useful.	123 (61.5)	64 (32.0)	13 (6.5)	0 (0.0)	0 (0.0)	4.55 ± 0.62	
	The items in Nursing Assessment tool were redundant	05 (2.5)	23 (11.5)	49 (24.5)	57 (28.5)	66 (33.0)	3.78 ± 1.10	
	I learnt more about the Nursing assessment through this tool than I would have with my standard assessment	84 (42.0)	93 (46.5)	23 (11.5)	0 (0.0)	0 (0.0)	4.31 ± 0.67	
	The Nursing care plan developed through this tool helped me to address the specific needs of my patient.	103 (51.5)	74 (37.0)	23 (11.5)	0 (0.0)	0 (0.0)	4.40 ± 0.69	
	The time spent completing the nursing assessment tool was worthwhile.	35 (17.5)	80 (40.0)	64 (32.0)	13 (6.5)	08 (4.0)	3.61 ± 0.98	
Nursing Assessment	The first level assessment under physiological mode covered all the important aspects	58 (29.0)	102 (51.0)	38 (19.0)	02 (1.0)	0 (0.0)	4.08 ± 0.72	**4.21 ± 0.57**
	The first level assessment under self concept mode covered all important aspects	75 (37.5)	93 (46.5)	32 (16.0)	0 (0.0)	0 (0.0)	4.23 ± 0.70	
	The first level assessment under Role function mode covered all important aspects	79 (39.5)	82 (41.0)	39 (19.5)	0 (0.0)	0 (0.0)	4.20 ± 0.74	
	The first level assessment under interdependence mode covered all important aspects.	70 (35.0)	101 (50.5)	29 (14.5)	0 (0.0)	0 (0.0)	4.21 ± 0.67	
	The second level assessment covered all aspects of nursing problem identification and related stimuli	74 (37.0)	86 (43.0)	31 (15.5)	09 (4.5)	0 (0.0)	4.13 ± 0.83	
	Assessment the Nursing problems through Nursing assessment tool helped me to plan the nursing interventions appropriately.	105 (52.5)	78 (39.0)	17 (8.5)	0 (0.0)	0 (0.0)	4.44 ± 0.65	

Table 3: Mean scores of acceptability for utilization of nursing assessment tool for cardiac patients. N = 200

Variable	Minimum	Maximum	Mean	SD
Acceptability	2.90	5.00	4.029	0.436

Table 4: Frequency distribution of acceptability level for utilization of nursing assessment tool for cardiac patients. N = 200

Variable	Frequency	Percentage
No Acceptability	0	0.00%
Low Acceptability	3	1.50%
Moderate Acceptability	90	45.0%
High acceptability	107	53.7%

Table 5: Overall Impression of the Nursing Assessment Tool. N = 200

Variable	Frequency (n)	Percentage (%)
I disliked it very much	0	0.00%
I disliked it	0	0.00%
I liked it somewhat	33	16.50%
I liked it	102	51.00%
I liked it very much	65	32.50%

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A Study on Effectiveness of Meditation on Subjective Wellbeing, Anxiety and Study Habits of Undergraduate Nursing Students

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ABSTRACT

The purpose of the study was to determine the subjective wellbeing, anxiety and study habits of undergraduate nursing students. The study aimed at teaching Rajayoga Meditation. Practicing Rajayoga Meditation reduces anxiety and helps in improving concentration. The projected outcome of the study was attainment of high subjective wellbeing, reduced anxiety and very good study habits by the nursing students. Attaining high subjective wellbeing, reduced anxiety and very good study habits enable them for better academic performance. The conceptual framework of the study was based on J.W.Kenny's open system model.

Design: Pre-experimental approach, with one group pretest posttest design.

Setting: Manipal College of Nursing, Karnataka District, India.

Sample: First year B Sc Nursing Students.

Outcome Measures: Premeditation and post meditation subjective wellbeing status, anxiety level and study habit scores were measured using the Modified subjective wellbeing inventory (modified SUBI □=0.787), Spilberger's State Trait Anxiety Inventory (STAI), and study habits questionnaire (r=0.82) respectively.

Results: The major findings of the study revealed that meditation is effective in improving subjective wellbeing status, reducing anxiety and improving study habits among the nursing students.

Key words: *Subjective Wellbeing, Anxiety, Study Habits, Raja Yoga Meditation, Undergraduate Nursing Students.*

INTRODUCTION

Undergraduates belong to the adolescent age group. This is a period of rapid growth and extensive personality reorganization. According to planning commission population project (2000), adolescence account for one fifth of the world's population. The adolescent's age is one of the most important life span of human beings. It's the time when the surge of life reaches its highest peak. This transition period involves physical, emotional, mental, socio-sexual changes, as well as educational and intellectual changes [10]. The present increased complexity of the social and economic system has raised many problems and this leaves full scope for arouses of behavior problems in adolescent pupils. The possibility of developing feeling of insecurity due to stress /conflict, and pressure from personal, family, social and school environment is more (Patel, H.P-2003)[11].

According to Columbo (1986), as cited by Mahon, Scoloveno & Yarcheski (1994) adolescent general wellbeing is a multi-dimensional construct incorporating mental, physical, psychological and social dimensions. Maintaining equilibrium among the dimensions of wellbeing is very essential. One of the easiest and practical ways to maintain this equilibrium is practicing meditation[10]. Practicing meditation enables the individual to understand the real self, to generate positive thoughts and also to improve concentration. Meditation helps to achieve a relaxed mind, free of tensions and worries [1]. This in turn helps in promoting subjective wellbeing, reducing anxiety and to improve the study habits in students.

Hegge, Melcher and Williams (1999) conducted a study among 222 nursing students using a survey approach. Survey tool consisted of demographic data, two questions on help seeking behavior, two questions on academic performance, the Norbeck Social Support

questionnaire and personal views of survey. Study findings revealed a list of ten factors believed to affect the academic performance like finance, children at home, care of dependants, spousal expectation, family problems, distance from class and clinical experience, job obligations, community and religious activities, health and transportation. The factors which significantly correlated with students' academic performance negatively were distance from class and clinical, transportation and finance. This study finding suggests that sensitive timely interventions are needed to lessen the impact of external factors on academic performance[9].

There are a number of meditation techniques in practice. In this study, the meditation technique selected was "Rajayoga Meditation" by Prajapita Brahmakumari's Iswareeya Viswavidyalaya". It is an international Spiritual Education Centre, with its Headquarters in Mount Abu, Rajasthan, India. Rajayoga Meditation is the practice back to inner peace, the act of creating quality thoughts and feelings. It's a simple technique, easy to practice and studies had proven that Rajayoga Meditation is useful in achieving relaxation[4].

MATERIAL AND METHODS

The design selected (Pre-experimental approach, with one group pretest posttest design), does not have a control group and randomness in selection of sample. Although this design has several weaknesses as history, maturation, instrumentation and testing as factors jeopardizing internal validity, the design is still widely used in the field of education for its practicability in the real life situation[3].

The sample selected for the present study was 44 first year BSc Nursing students from Manipal College of Nursing, Karnataka, India, who fulfilled the sampling criteria. Non- probability purposive sampling was used. The eligibility criteria included first year BSc Nursing students staying in the Hostel and students who are willing to participate in the study. The first year students were selected, since they are exposed to the new situation away from home, they have adjustment problems and tension which can affect their wellbeing.

The pretest was done on Day one followed by teaching and supervised practice of Rajayoga Meditation from day two to day twenty five (for 21 days excluding the three weekends (Sundays) in between), daily for half an hour in the morning and the post test was done on day twenty six. The investigator attended the basic course on Rajayoga Meditation before the commencement of the study. The study sample practiced meditation under the guidance of qualified Rajayoga Meditation trainers. All the tools used were valid and reliable.

The modified SUBI consists of 40 items (α=0.787) measuring 11 factorial dimensions of wellbeing. The dimensions are general wellbeing positive effect, expectation-achievement congruence, confidence in coping, transcendence, family group support, social support, primary group concern, inadequate mental mastery, perceived ill health, deficiency in social contacts and general wellbeing negative effect. The maximum score is 123 and the minimum is 40. The mean score for normal adult Indian sample is 90.8 with standard deviation of 9.2. The concurrent and construct validity and reliability of the Spielberger's State Trait Anxiety Inventory were already established. The study habits questionnaire developed by the investigator has 47 items, content validity and reliability established (r=0.82). The health status inventory consisted of 11 items (α =0.711) and the tool on religious practice consisted of eight items (r=0.718), both were found reliable.

FINDINGS

Major findings of the study were: Majority (77.27%) of the students were of age group 17-18 years, based on the per capita income per month, the students were almost equally distributed between below median and above median (52.27% & 47.73%) respectively. Based on the number of members in the family also the students fall into the same distribution, i.e., 3-4 members (52.27%) and 4.5-7 members (47.73%). The mean pre meditation SWB score was 92.07. The mean post meditation SWB score was 101.45. The mean difference between premeditation and post meditation SWB score was 9.39 $p<0.01$. (Table-1) The mean premeditation state anxiety score was 6.26. The mean post meditation state anxiety score was 5.57, the mean difference obtained was 0.69$p<0.01$. The mean pre and post meditation trait anxiety scores were 6.66 and 5.97 respectively, the mean difference obtained was 0.69$p<0.01$ level (Table-2).

Table:1 Mean, standard deviation, mean difference, and standard deviation difference and *t* value of premeditation and post meditation SWB scores of students (N=44)

SWB Score	Mean	SD	MD	SDD	SEMD	t Value
Pre meditation	92.07	9.70	09.39	19.35	2.91	3.22*
Post meditation	101.45	16.71				

$t(40) = 2.02, p<0.05, t(40) = 2.71, p<0.01$

Table:2 Mean, standard deviation, mean difference, and standard deviation difference and *t* value of premeditation and post meditation anxiety scores of students(N=44)

Anxiety Score	Mean	SD	MD	SDD	SEMD	t Value
State Anxiety						
Pre meditation	6.26	0.74	0.69	0.93	0.14	4.96
Post meditation	5.57	0.68				
Trait Anxiety						
Pre meditation	6.66	0.74	0.69	0.75	0.11	6.08
Post meditation	5.97	0.63				

$t(40) = 2.02$, $p<0.05$, $t(40) = 2.69$, $p<0.01$

Seven areas/elements of the study habits were assessed. The mean and mean percentage of premeditation and post meditation study habits score was computed (Table: 3). The mean premeditation study habit score was 102.50, whereas post meditation study habit score was 115.56. A mean difference of 13.05, p<0.01 was obtained.

Table: 3 Mean and mean percentage scores of premeditation and post meditation study habit score (N= 44)

Sl. No.	Areas/elements of Study Habit	Maximum Score	Mean Score		Mean Percentage Score	
			Pre	Post	Pre (%)	Post (%)
1.	Active participation In reading, listening & note taking	45	32.16	37.06	71.27	82.82
2.	Time management	24	15.98	19.75	69.17	82.08
3.	Motivation	30	22.50	25.05	76.77	83.33
4.	Memory	09	06.50	07.52	72.56	82.56
5.	Handling stress and Worries	09	06.20	07.43	68.89	81.11
6.	Concentration	15	12.36	13.52	83.53	88.67
7.	Vocabulary	09	06.82	07.11	76.33	78.56

In the present study findings, the chi-square association between premeditation SWB and selected variable like financial status revealed no significant association between the variables. Pearson's product moment correlation computed between premeditation SWB and selected variables like Health status and religious practice were not significant, suggesting that premeditation SWB and the selected variables were independent of each other.

Students opinion on meditation was collected by administering a semi structured opinnionaire, out of five items, three had 100% agreement, whereas the remaining two had 97.73% & 90.9% agreement. Responses given by the students are summarized as: meditation helps to concentrate more in studies and to raise interest in studies, helps to control anger and to adjust with others, helps to control mind and to take good decision, helps to relax mind and to keep mind away from external thoughts, meditation gives self trust. The statements given by the students revealed that practicing meditation was helpful for them.

Since all the students were unable to attend the meditation regularly for whole three weeks, ANOVA was computed among the three groups of students, those who attended meditation for 1-7 days, 8-14 days, and 15-21 days respectively. The findings showed that there was no significant mean difference among these groups, suggesting that all the three groups were drawn from the same sample.

DISCUSSION

The present study findings revealed that Rajayoga Meditation is effective in improving subjective wellbeing of the students. The mean premeditation SWB score was 92.07, whereas the mean post meditation SWB score was 101.45, the mean difference 9.39 was significant at 0.01 level (*t* value= 3.22). Damodaran, Malathi, Patil & Shah (2000) investigated the effect of yogic practice on subjective wellbeing among 48 staff members of one medical college in Mumbai. The subjects participated in Yoga practice including different Asanas, breathing exercises and "Aum" chanting for a period of four months. SWB of the subjects were assessed before and after yogic practices. There was significant improvement in positive factors of wellbeing and significant reduction in negative factors of wellbeing (p<0.01) [7]. This study finding is in support of the present study findings that suggest that practice of meditation is effective in improving SWB.

The present study findings showed that meditation was effective in reducing anxiety among students. The mean premeditation state anxiety score was 5.57, the mean post meditation state anxiety score was 5.57, the mean difference 0.69 was significant at 0.01 level (t= 4.96). Similarly the mean premeditation trait anxiety score was 6.66, the mean post meditation state anxiety score was 5.97, the mean difference 0.69 was significant at 0.01 level (t= 6.08). Damodaran and Malathy (1999) investigated the benefit of yogic practice on anxiety status during routine activities and prior to examination. The study findings revealed significant reduction in anxiety of the yoga group (p<0.01)[6]. Desiraju and Telles (1993) conducted a study to determine the changes in autonomic and respiratory variable during the practice of Brahmakumari's Rajayoga Meditation. Sample consisted of 118 males in the age group 20-52 yrs. Group analysis showed an increase in heart rate during meditation period, which was considered to be a sign of psycho physiological arousal[8].

In the present study, the mean premeditation study habit score was 102.50, and the mean post meditation

study habit score was 115.56, the mean difference of 13.05 was significant at 0.05 level (t value= 4.76). Pre meditation and post meditation mean and mean percentage scores of different elements of study habits were also computed. The results showed improvement in the post meditation scores. Rani & Rao (1998), conducted a study among 39 students had proven that transcendental meditation is effective in attention regulation. The effectiveness was assessed using Star Counting Test (SCT). The meditators obtained a mean score of 13.05 and non-meditators obtained a mean score of 10.00. The mean difference was significant at 0.05 level (t value=1.81)[12]. This study finding is in support of the present study findings.

The investigator identified the following limitations of the study like self-construction of the tool on self-reported health status and religious practices have limited the areas assessed by these two tools. The research design had no control group to compare the findings and also the duration of the meditation was only 21 days.

RELEVANCE TO CLINICAL PRACTICE

a) Nursing education: Studies conducted among nursing students revealed that students undergo stress during their study. The present study findings reveal the need to incorporate meditation or such relaxation techniques into the nursing curriculum. Practice of meditation helps in attention regulation, improving concentration and memory and also in reducing anxiety**.**

b) Nursing practice: Nurses are in continuous interaction with the clients in providing comprehensive care, in order to understand the needs of the patients and to respect the individual's identity, nurses must understand themselves first, their strengths and weaknesses, which is best possible through meditation. Practicing meditation is one of the ways to spirituality. The present study findings have shown that meditation is effective in improving subjective wellbeing, and reducing anxiety.

CONCLUSION

The present study findings is in support of the fact that meditation helps in improving subjective wellbeing, reducing anxiety levels, and improving the study habits of nursing students. Further studies are to be conducted among large sample and using more controlled design so as to generalize the findings.

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Conflict of Interest: There is no interest of conflict.

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Knowledge & Attitude of Diabetic Patients Regarding Diabetic diet, Exercise and Foot care

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ABSTRACT

Diabetes mellitus is a major non communicable disease affecting about 180 million people in the world in 2003, and expected to reach 330 million in 2025. The recent reports from the world health organization rates India as the country with the largest number of diabetes (40 millions) in the world. The reason for high prevalence of diabetes in India could be attributed to a combination of genetic factors and environmental factors due to urbanization and industrialization.

"A Study to assess the knowledge and attitude of Diabetic patient regarding Diabetic diet, Exercise and Foot care in selected hospitals of Pune city."

The conceptual framework selected for present study was based on the Wellness-illness continuum, which explains the effect of knowledge and attitude on the health of a diabetic patient regarding diabetic diet, exercise and foot care.

The design adopted for this study was simple descriptive survey design; total 251 samples were selected.

A polished self-structured questionnaire was the tool, developed by investigator to explicit information from diabetic patients. The data were collected through a structured interview & self reporting technique. The value of reliability coefficient (0.89) was suggested that the tool is highly reliable. The pilot study was done and feasibility of the study was established.

Based on the objectives and the assumptions the collected data was analyzed by using descriptive and inferential statistics.

Objectives of The Study : • To assess the knowledge of the diabetic patient regarding diabetic diet, exercises and foot care. • To assess the attitude of the diabetic patient regarding diabetic diet, exercises and foot care. • To correlate the knowledge score and attitude of Diabetic patient regarding diabetic diet, exercise and foot care. • To correlate the knowledge score with selected demographic variables. • To correlate the attitude with selected demographic variables.

Major Findings : Demographic description of samples by frequency and percentage shows that 73% of patients were above 50 years of age. Self-employed were 43.42%. On the basis of residential place 72.11% patients were from urban community. According to Abdominal Girth Overall 76% patients were obese. 44% patients had 0 to 4 year duration of diabetes. 13.54% patients had the history of sign and symptoms of foot problem with amputation.

Distribution of knowledge scores regarding diabetic diet, exercise and foot care shows that 43.42% patient had poor knowledge regarding diabetic diet, exercise and foot care. However 58.56% had average knowledge regarding Diabetic diet; 47.41% had average knowledge regarding Exercise and 62.54% had poor knowledge regarding foot care.

Attitude scores regarding diabetic diet, exercise and foot care shows that 74.9% had positive attitude. However the mean value of attitude score showed these patients had average attitude towards the Diabetic diet, exercise and foot care. In which 67.33% had positive attitude towards the diet, 62.15% patient had positive attitude towards the exercise and 55.77% had positive attitude towards foot care.

Knowledge and attitude were highly correlated ($r = 0.600366$).

Correlation between knowledge score and selected demographic variables shows that there was significant association between Knowledge score and Age, Sex, Occupation, Residence, Body mass index, Duration of diabetes, Family history of diabetes.

There was significant association between attitude and Residential place, Body mass index, Duration of diabetes, Type of diabetes.

Key words: *Attitude, Diabetic Patient, Diabetic diet, Exercise, Diabetic foot care.*

INTRODUCTION

From the ancient period sweet is a sign of success, victory and love regardless of casts and religions, but something which is not allowing eating delicious sweets and fruits as wish that is Diabetes mellitus.

A HEALTH NEWS was published by IBNlive. in.com[1] On Wednesday 15 November, 2007, at New Delhi, "Is India the new capital of diabetes?" as November 14 was World Diabetes Day, and India has the largest number of diabetics in the world. A hard-hitting fact is that four diabetics are detected every minute across the globe.

According to Ramchandran A[2] (2005), India has 40.9 million diabetics; By 2025 India will have 69.9 million diabetics.

Pune city has 4 Lac diabetics in which juvenile diabetics are one Lac.

Veena Sriram, GR Sridhar, K Madhu[3] studied (August 2001) that type 2 diabetes is the major form of diabetes prevalent in India.

The study by Sadikot SM et al 2004[4], PODIS (The prevalence of diabetes in India study -1999) the prevalence of diabetes was 4.7 percent of the urban population compared to the 2.0 percent of the rural population.

According to V. Mohan[5], (Epidemiology of type 2 diabetes) 2007, The National Urban Diabetes Survey (NUDS), study revealed that the prevalence in the northern India (New Delhi), 11.6 percent; and western India (Mumbai), 9.3 percent.

A review article given by V. Mohan, Z. Medan, R.Jha[6] in year 2004, The rising prevalence of diabetes could be attributed to a combination of genetic factors and environmental factors due to urbanization and industrialization which had led to sedentary lifestyle, physical inactivity, stress and obesity arising from energy and fat rich diets the long term complications of diabetes occurring during the most productive years of their lives which poses an economic and social burden both at the individual and national level.

Jali MV, Kambar Sanjay[7] (Nov.2006) fined the prevalence of diabetes among family members, stronger the family history, the greater is the tendency to get diabetes.

According to Hoongworf BJ[8], the associated acute Complications of Diabetes mellitus are Hyperglycemia, Diabetic ketoacedosis and chronic complications are Coronary artery disease, Cerebrovascular, Hypertension, Peripheral vascular disease, Infection; Retinopathy, Nephropathy ; Sensory motor neuropathy, autonomic neuropathy ; Leg and foot ulcers.

Mehta RS et al[9] (2005) (Professor College of Nursing, B.P. Koirala Institute of Health Sciences, Nepal) conducted a exploratory study to find out the demographic profile of the subject, identify the known risk factors, assess the associated health problems, find out the reasons for admission and explore the knowledge profile of the patients admitted with diabetes. The type -2 DM (71.4%) was common. About 28.6% subject had a history of DM in their brother or sister; 21.4% in their parents, which shows the genetic association of the disease. 60.7% subject had hypertension, 14.3% had cardiac problems, 25% had renal problems, 25% had neurological problems, 39.3% had ocular (vision) problem, 35.7% had recurrent infections.

Prescribing drugs and restricting diets are not the right answer for the emerging important problem of diabetes, but Understanding the diabetes, living with the diabetes and Preventing further complications are now more than ever urgently required.

According to Schultz JA et al[10] (June 2001), diet and exercise are the cornerstone of treatment for person with type-2 diabetes mellitus, yet patient fined these areas of self management to be the most difficult. However multivariate analysis showed that patient and educator view barrier differently.

A study by Viswanathan V et al[11] (2005) in Chennai on "profile of diabetic foot complications and its associated complications" and this study found that the prevalence of infection was 6-11% and prevalence of amputation was 3% in type 2 diabetic patients. Neuropathy (15%) was found to be an important risk factor for diabetic foot infections.

Shobhana R et al[12] (2006) studied the economic burden of management of diabetes in patients with foot complications. Total median expenditure of diabetic subjects without foot complications (Group 1) was Rs. 4373/- and by those with foot complications (Group 2) was Rs. 15,450/-.

Here the investigator is finding the knowledge and attitude of diabetic patient regarding three most important aspects of Diabetic patient's life that is Diabetic diet, Exercise and Foot care. There are so many benefits are interrelated among diet, exercise and foot care which are scientifically understood and proved. Here the researcher also determining the barriers to improving care and developing new strategies for delivering better care through associating the selected demographic variables with knowledge and attitude.

Then informal health education will be imparted to patients regarding Diabetic Diet, exercise and foot care, it will be very helpful for patients to keep Diabetes under control and prevent complications like foot care.

MATERIAL AND METHODS

Research Approach: Non-experimental descriptive survey

Research Design: Simple descriptive survey

Setting Of The Study: Selected hospitals of Pune city

Population: Diabetic Patients

Sample: Diabetic Patients in selected hospitals of Pune city**.**

Sampling Technique: Convenient Sampling

Sample Size: 251

SAMPLING CRITERIA

Inclusion criteria

- Any diabetic Patients with age of 18 years and above.
- The diabetic patient, who can speak, read and understands the Hindi, Marathi or English language.
- The diabetic Patients who are willing to participate in study.

Exclusion criteria

Diabetic Patient who is suffering from any major illnesses like renal failure, heart diseases (except only hypertension), respiratory diseases, Other endocrine disorder, any psychiatric disorder.

DATA COLLECTION TECHNIQUE AND TOOL

The structured questionnaire interviews was conducted for the illiterate and for those who need interview like bed ridden or older patient and self reporting technique were used for literate ones.

The data collection tool was self structured questionnaire.

DESCRIPTION OF DATA COLLECTION TOOLS

The final format of the structured Questionnaire comprised of three sections:

Section I - This section is seeking information regarding demographic, medical and physical data of a diabetes patient.

Section II – This section is the self-structured questionnaire which consists 23 multiple choice questions to assess knowledge regarding diabetic diet, exercise and foot care.

Section III – It is Likert Type scale consist 21 items to asses attitude towards the Diabetic diet, Exercise and Foot care.

PROCEDURE FOR DATA COLLECTION

The following schedule was followed for data collection:

The consent for participation in the study was taken from the subject. The investigator assured the subjects about the confidentiality of the data. The investigator himself administered the self-structured questionnaire for the collection of data. After measuring the height and weight BMI was calculated.

Findings of the study

Findings related to sample characteristics

The finding of the study shows that most of patients were above 50 years of age i.e. 158 (73%).

The males and female ratio were 3:1, number of males was 187 and the number of females was 64.

Majority of the patient i.e.84 (33.46%) were secondary educated and 82 (32.27%) were graduated.

Majority of the patient i.e.109 (43.42%) were self-employed.

Total 80(31.87%) patients had income up to 5000 Rs/month.

On the basis of residential place 181(72.11%) patients were from urban community and remaining

70(27.88%) from the rural community.

Majority of the patient i.e. 168 (67%) were taking oral hypoglycemic agent (tablet).

Body mass index (BMI) of the 141 (56.17%) patients was more than 24.9 kg/m^2 that indicates the obesity.

As per the abdominal girth 191 (76%) patients were obese.

Majority of the patient i.e. 111 (44%) patients had 0 to 4 year duration of diabetes.

The type 2 diabetes patients were 224(89%).

The diabetes patients belong to joint family was 177(70.10%).

Majority of the patient i.e. 117 (46.61%) having family history of diabetes.

The foot related problems were present in the 148(59%) patients. These problems were divided in two major categories of foot problems:

(a) Only sign and symptoms which were present in 45.40% patients and

(b) History of sign and symptoms with amputation which were present in the 13.54% patients.

Findings related to knowledge of the diabetic patient regarding Diabetic diet, Exercises and Foot care.

- Knowledge of the diabetic patient regarding Diabetic diet - Majority of the patient i.e.147 (58.56%) had average knowledge.
- Knowledge of the diabetic patient regarding Exercise - Majority of the patient i.e.119 (47.41%) had average knowledge.
- Knowledge of the diabetic patient regarding Foot care - Majority of the patient i.e.157 (62.54%) had poor knowledge.
- The knowledge scores of diabetic patient regarding Diabetic diet, exercise and foot care - Majority of the patient i.e.109 (43.42%) had poor knowledge. The mean score of the total knowledge score was 11.86 (out of 23) which show that knowledge of patients was average.

Findings related to attitude of the diabetic patient regarding Diabetic diet, Exercises and Foot care.

- Attitude of Diabetic Patient towards the Diabetic diet - Majority of the patient i.e.169 (67.33%) had positive attitude.
- Attitude of Diabetic Patient towards the Exercise - Majority of the patient i.e.156 (62.15%) had positive attitude.
- Attitude of Diabetic Patient towards the Foot care - Majority of the patient i.e.140 (55.77%) had positive attitude.
- The attitude scores of diabetic patient regarding diet, exercise and foot care - Majority of the patient i.e.188 (74.9%) had positive attitude. But mean score of the attitude scores was 16.62 (out of 42) which shows that attitude of patients were below average.

Findings related to corelationship between knowledge score and attitude of diabetic patient regarding Diabetic diet, Exercise and Foot care.

- Findings related to Knowledge and Attitude on diet

Here the value of r, 0.487876(coefficient of correlation) was moderate means if the knowledge of patient regarding diabetic diet is increases then attitude towards the diabetic diet also becomes positive.

- Findings related to Knowledge and Attitude on Exercise

Here the value of r is 0.321882. Means if the knowledge of patient is increases then attitude also becomes positive.

- Findings related to Knowledge and Attitude on Foot care

Here the value of r is 0.424256. Means if the knowledge of patient is increases then attitude becomes positive.

- Findings related to knowledge score and attitude on Diabetic diet, Exercise and Foot care.

Knowledge and attitude is highly correlated, here the value of r, 0.600366 was very high mean if the knowledge of patient is increases then attitude becomes positive. In brief the variables knowledge and attitude are statistically related or attitude is highly, influenced by knowledge.

Association between the total knowledge score and selected demographic variables.

There was significant association find between Knowledge score and age, sex, occupation, permanent residence, BMI, type of diabetes, family history of diabetes and foot related problems and knowledge level of diabetic patients. Whereas the income variable does not show the significant association with knowledge level.

The educational status and knowledge of diabetes patient had positive correlationship.

The duration of diabetes and knowledge of diabetes patients were correlated, as it reveals that an increase in duration of diabetes would lead to increase in level of knowledge.

Association between the attitude and selected demographic variables.

There was significant association find between attitude of diabetic patients and permanent residence, body mass index and type of diabetes. Whereas age, gender, occupation, family history of diabetes and foot related problems are not significantly associated with attitude of diabetic patient.

The level of education and duration of diabetes were positively correlated with attitude.

CONCLUSION

- Majority of the patient had average knowledge regarding Diabetic diet and Exercise.
- Majority of the patient had poor knowledge regarding foot care.
- Overall majority of the patient had poor knowledge regarding diabetic diet, exercise and foot care. Which includes importance of dietary instruction, food exchange list, foods that are to be avoided and advantages of exercises in diabetes, prevention of the foot sores and injury. Majority of diabetic clients showed a lot of interest to understand the planning of diet, what is food exchange list, quality and quantity of exercises needed. They have poor knowledge regarding caloric requirements, food exchange list, food values and sources. So there is a need for information and education to improve their knowledge.
- Overall Majority of the patient had positive attitude regarding diet, exercises and foot care.
- Knowledge and attitude had positive corelationship regarding diet, exercise and foot care.

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Attitude of Nursing Students Towards Psychoactive Substance Use: Does Training Matter?

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ABSTRACT

Background: Caring for patients using psychoactive substances is part of nursing care. Negative attitude towards them may have an adverse effect on the care being provided. There is no study from India which evaluated attitude of nursing students towards psychoactive substance use.

Methods: The study was a cross sectional survey among 200 nursing students. Attitude towards drug taking behavior and alcoholism was assessed using previously validated scales.

Results: There was overall negative attitude towards drug taking and alcoholism. There was a strong correlation between attitude towards drug use and alcoholism. Interestingly, subjects who underwent posting in psychiatry and/or de-addiction services had more negative attitude towards psychoactive substance use.

Conclusion: There is a negative attitude among nursing students towards psychoactive substance use which is more negative among those exposed to patients who use psychoactive substances. It is important to pay attention to the quality of training program, with a specific focus on attitudinal aspects.

Key words: *Attitude, Psychoactive Substance use, Nursing Students*

INTRODUCTION

Psychoactive substance use is a major problem in India, with a large number needing treatment.[1] Nurses are the first tier professionals in all acute and inpatient settings. They have to provide care to those with substance use problem. Caring for them is the major part of the job for the nurses and there are considerable problems caring for them.[2]

Allport defined "attitude as a mental or neural state of readiness, organized through experience, exerting a directive or dynamic influence on the individual's response to all objects and situations to which it is related."[3] There is negative attitude towards subjects with alcohol and drug use problems and they are labeled as "alcoholics" and "drug addicts" by the society. They are often described in the society as dangerous and immoral.[4] The attitude of the professionals about substance users is influenced by the value and belief system prevailing in the society.[5] Patients with substance use problem are often considered as unpleasant, difficult, and unworthy of care.[6] The perception of the nurses in an earlier study was found to be more negative when they were described about a patient to be "alcoholic".[7] Education regarding inpatient drug and alcohol treatment,[8] personnel and professional experiences,[9] and presence of alcohol related issues in their family also influence the intervention provided to the patients with substance use.[9]

Studies have shown varied attitude of nurses towards substance use. A few studies have shown a positive attitude.[5,8] One study reported positive and therapeutic attitudes of health professionals toward substance use disorder but unfavorable attitudes toward abusers.[10] Another study has shown negative attitude of nurses towards substance use and users.[11] Studies assessing effect of training in substance use have found that training may not have a favorable change in the attitude. In an earlier study, Chodorkoff found that the basic negative attitude of nurses towards individuals with substance use may further increase rather than decreasing after dealing with such

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patients.[12] In another study, after implementation of the brief intervention program though the knowledge of the nurses regarding the same had improved, there attitude and skills had not shown a positive change.[13] The presence of negative attitudes and prejudice against patients with substance use can affect the type and quality of care provided to them.[14]

No study had assessed the attitude of nursing students towards psychoactive substance use from India. This provided impetus for the current study.

MATERIAL & METHODOLOGY

The study was approved by the Departmental Ethics Meeting. It followed a cross-sectional survey design. Nursing students of a nursing college attached to a large tertiary care hospital from North India comprised the population. The subjects were approached in person. They were explained about the purpose of the study and written consent was obtained from the subjects. To maintain anonymity subjects were asked not to write their name and strict confidentiality was maintained regarding the information provided. Of the 240 subjects approached, 200 (83.3% response rate) returned the proforma.

A structured questionnaire was administered to the nursing students. It consisted of initial information regarding their socio-demographic profile, whether subject or any of their family members were taking any substance including alcohol and tobacco, training in psychiatry and de-addiction, any prior experience in working in psychiatry or de-addiction or whether attended any workshop on substance use and de-addiction.

This was followed by administration of two previously validated scales for the assessment of the attitude towards alcoholism and drug use, viz. "Attitude towards drug taking behavior"[15] and "Attitude towards drinking and alcoholism".[16]

Attitude towards drug taking behavior scale consists of 21 items. The scale has been divided into four subscales viz. rejection subscale, active endorsement of drug taking, passive acceptance of drug taking, drugs more dangerous than alcohol. Items on active endorsement of drug taking and passive acceptance of drug taking were reverse keyed. A higher score on the total scale would eventually indicate a more favorable or positive attitude.

Attitude towards drinking and alcoholism scale consists of 29 items and consists of four subscales viz. acceptance of alcohol, rejection, avoidance of alcohol and alcohol social dimension. Items on acceptance of alcohol and alcohol social dimension were reverse keyed.

A higher score on the total scale would also eventually indicate a more favorable or positive attitude.

Statistical analysis: The frequencies and percentages were calculated for the nominal data and mean and standard deviation was used to study the continuous variables. Associations between different variables were studies by using Spearman rank correlations. Comparisons were done using ANOVA and ANCOVA was used to control for the use of substance by family member(s).

RESULTS

Mean age of subjects was 21.6 years and mean number of years of education were 15.3 years. Almost all the subjects were females (192; 96.0%). Majority belonged to either Sikh or Hindu religion, from an urban background (144; 72.0%) and nuclear family (169; 84.5%). Use of alcohol and smoking by family member(s) was acknowledged by 33 subjects (16.5%) and three subjects respectively. Only one subject had reported use of opioid by a family member and the same subject reported using benzodiazepines.

More than half of the subjects had undergone training in psychiatry (115 out of 200 subjects; 57.5%) and de-addiction (107; 53.5%). Among 31 subjects who had prior experience of working, only two had experience of working in de-addiction. The mean duration of training in psychiatry and de-addiction among the students who underwent training in psychiatry and de-addiction were 43 (SD 26.2) days and 32 (SD 17.5) days respectively. Workshop on psychoactive substance use had been attended by 37 subjects (18.5%) of the subjects during their training. Mean number of days of workshop attended were 7 (SD 3.5) days.

Attitude towards alcoholism and drug use

The mean score on the "Alcohol rejection" subscale (28.7; SD 6.5) was on higher side indicating a favorable attitude towards alcohol use, while the mean score on the "Avoidance of alcohol" was also on a higher side and "Alcohol acceptance" score was on a lower side (23.2; SD 8.1) indicating an unfavorable attitude. Similarly, the score on "Drug rejection" subscale was higher (mean- 21.3, maximum- 40) indicative of favorable attitude while scores on "Active" (mean- 8.5, maximum- 25) and "Passive endorsement of drug taking" (mean- 6.9, maximum-20) were low, indicative of less favorable attitude. Thus there was overall more negative attitude towards alcoholism and drug taking, though there was some variability.

Correlation between substance use by family members and attitude towards alcoholism and drugs use

There was no significant correlation between use of alcohol by family members and subscale and total score on "Attitude towards drug taking behavior" scale and "Attitude towards drinking and alcoholism". There was no significant difference in the total and subscale scores of the two scales in those whose family members use alcohol and those whose family members do not.

Correlation between attitude towards alcoholism and attitude towards drug use

There was strong positive correlation between "alcohol acceptance" subscale of attitude towards drinking and alcoholism and "active endorsement of drug taking" and "passive acceptance of drug taking", there was a negative correlation between "alcohol acceptance and "Drug more dangerous than alcohol" scores (a higher score on "Alcohol acceptance" means favorable attitude towards alcohol while a lower score on "Drug more dangerous than alcohol" means a more favorable attitude towards alcohol). There was a positive correlation between "Drug rejection" subscale of attitude towards drug taking behavior and "Alcohol rejection" and "Alcohol social dimension". There was a strong negative correlation between "Drug rejection" subscale and "Avoidance of alcohol" subscale. Also, there was a strong positive correlation between alcohol social dimension and active endorsement of drug taking and passive acceptance of drug taking subscales. Overall, the total scores on both scales and subscales were significantly correlated.

Comparison of subjects with training in psychiatry and de-addiction

The scores on the various subscales and total scores on both the scales were significantly higher for those who had not been posted in psychiatry except for the "Alcohol rejection," "Alcohol social dimension," and "Drug rejection" subscales. The score for "Avoidance of alcohol" subscale was lower in subjects who were not posted in psychiatry. On applying ANCOVA, with use of alcohol by family member(s) as a covariate this difference remained significant only for "Active endorsement of drug taking" (F value 4.38; p=0.014). This indicates that those who were not posted in psychiatry had more favorable attitude.

The scores were significantly higher for those who had not been posted in drug de-addiction and treatment centre for "Alcohol acceptance," total score on "Attitude towards drinking and alcoholism," "Active endorsement of drug taking" and total score on "Attitude toward drug taking." Also, there was a lower score on "Alcohol avoidance indicating a more favorable attitude. On applying ANCOVA with use of alcohol by family members as a covariate, the difference remained significant only for drug "Active endorsement" (F value-4.38; p=0.014) and "Drug total score" (F value-3.72; p=0.026)

The scores on "Alcohol acceptance score", "Attitude towards alcohol total score," and "Active endorsement of drug taking" were significantly higher in those who have attended a workshop on substance use compared to those who have not which were not significant on applying ANCOVA.

DISCUSSION

The majority of the subjects in the present study were females as in the previous studies[13,17]. The prevalence of substance use reported in only one subject (0.5%) was lower than another study form north India[18] and from another study from the West.[19] The reported prevalence of use of alcohol and tobacco by family members was lower compared to the largest general population study from India.[1]

There was difficulty comparing attitude in our study with the previous studies as different scales were used to assess the attitude.[20] However, the trend of higher negative attitude was in keeping with the previous study.[11] In the present study there was no significant correlation of the substance use by family members and attitude. This was in contrast to the previous studies that had reported that presence of alcohol issues in the family can have negative impact on the attitude of the nurses.[9] The strong correlation between the subscales and total scores of the two scales shows that subjects had similar views regarding alcohol and drug use and both the groups have lower acceptance and stronger rejection.

The most interesting and counterintuitive finding of the present study was that there was more negative attitude of those nursing students towards psychoactive substance use who had undergone previous posting in psychiatry and de-addiction services. This was in keeping with the existing literature which had shown that training in psychiatry and de-addiction may improve the knowledge but had not shown any favorable effect on the attitude and may actually lead to more negative attitude.[12,13] The worsening of the negative attitude after training may be influenced by their own personal experiences as after controlling for use of substance by family members some of the variables were not significant. This had been found in the previous studies that personal experiences or those of the family members can influence nurses' attitude towards substance use[9].

The posting in psychiatry and de-addiction did not have a positive impact on the attitude of the nursing students towards substance use. The reason may be that during training, there is emphasis on the theoretical aspects, nursing care and handling intoxication and withdrawal symptoms but attitudinal aspect is not given importance. Our study thus emphasizes the need to pay more attention on the attitudinal aspects during the training of the nursing students about substance use and handling the negative attitude towards substance use and substance users. This is important as research has shown that this can have direct impact on the care they provide to the patient.

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Conflict of Interest: None

Table 1. Demographic profile and substance use pattern

	N =200 (%)/ Mean ± SD
Age in years	21.6 ± 2.75
Number of years of education	15.3 ± 1.4
Gender Male Female	 8 (4.0) 192 (96.0)
Religion Hindu Sikhism Others	 85 (42.5) 97 (48.5) 18 (9.0)
Residence Urban Rural	 144 (72.0) 56 (28.0)
Family type Nuclear Extended	 169 (84.5) 31 (15.5)
Family members smoking/ chewing-Yes	3 (1.5)
Family members taking alcohol -yes	33 (16.5)

Table 2. Attitude towards alcoholism and drug use

	Mean (SD)	Range (Max score)
Attitude towards drinking and alcoholism		
Acceptance score	23.2 ± 8.1	10-41 (45)
Rejection score	28.7 ± 6.5	9-41 (50)
Avoidance of alcohol	13.8 ± 5.4	5-25 (25)
Social dimension	14.0 ± 3.5	5-22 (25)
Total score	79.6 ± 10.6	57-116 (145)
Attitude toward drug taking behavior		
Rejection score	21.3 ± 7.7	8-40 (40)
Active endorsement	8.5 ± 3.7	5-21 (25)
Passive acceptance	6.9 ± 3.0	4-16 (20)
Drugs more dangerous than alcohol	9.6 ± 3.9	4-20 (20)
Total score	45.9 ± 10.1	26-95 (105)

Table 3. Comparison of the subjects who have undergone training in de-addiction

	Whether training in DDTC		
	Mean (SD)		t-score
	No	Yes	
Alcohol acceptance score	25.38 (8.18)	21.33 (7.65)	3.61***
Alcohol rejection score	28.51 (6.48)	28.81 (6.55)	0.32
Avoidance of alcohol	12.58 (3.54)	14.81 (6.37)	2.99**
Alcohol social dimension	14.15 (3.54)	13.84 (3.53)	0.62
Attitude toward alcohol total score	80.62 (10.40)	78.79 (10.81)	1.21
Drug rejection score	22.34 (8.59)	20.29 (6.75)	1.89
Active endorsement of drug taking	9.30 (3.98)	7.78 (3.25)	2.96**
Passive acceptance of drug taking	7.28 (3.12)	6.55 (2.76)	1.76
Drugs more dangerous than alcohol	9.15 (3.87)	9.89 (3.90)	1.35
Attitude toward drug total score	47.90 (10.51)	44.10 (9.49)	2.67**

*= p<0.05; **= p <0.01; ***= p<0.001

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Effectiveness of a Therapeutic Counseling Intervention for Depression, Anxiety, Self Esteem and Marital Adjustment Among Infertile Women

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ABSTRACT

The objective of this study was to evaluate the effectiveness of therapeutic counseling intervention for Depression, Anxiety, Self esteem and Marital adjustment of infertile women undergoing infertility treatment. Two hundred infertile women who were attending Assisted Reproduction centre at Dr Prabhakar Kore Hospital and MRC, Belgaum participated in this study. The research design adopted was randomized controlled trail which involved randomization procedure according to a computer-generated random-number table into either a routine care control group or an intervention group. A psychological intervention programme consisted of three individual and one group counseling which was measured by four standardized psychometric test scales, such as Hamilton Depression scale, Hamilton Anxiety scale, Rosenberg Self esteem scale and Marital Adjustment inventory scale. The pre and post intervention scores were evaluated. The result of this study showed therapeutic counseling participants experienced significant psychological improvement as compared with the control participants. Thus, psychological treatment was effective intervention in alleviating distress related to infertility.

Key words: *Distress, Effectiveness, Counseling, Stress.*

INTRODUCTION

Infertility treatment can be a stressful experience to infertile women. The demands of treatment, various investigations and invasive procedures may be a cause of distress to both partners. Many infertile women have to deal with treatment failure and are often confronted with emotional problems, because bearing children and parenting is often a primary job in every woman's life. Women are raised with expectations that they will be caregiving mothers, Common emotional responses to infertility and its treatment are depression, anxiety, and marital conflicts. Prospective studies have shown that women often demonstrate elevated anxiety, depression, and low self esteem during infertility treatment failure. Research indicates that psychological distress may impair fertility and that depressive symptoms may reduce the efficacy of infertility treatment. Several studies conducted within the past few years support the theory that psychological distress, have significant adverse impact on successive rates in IVF.[8]

The literature focuses on the impact of group psychological interventions on pregnancy rates in infertile women experiencing infertility. It is reported that participates were randomized into a 10 session cognitive – behavioral group, a standard support group, or a routine care control group. They were followed for 1 year period. The study concluded that there were statistically significant differences between participants into two intervention group, verses the control group. Thus group psychological interventions appear to lead to increased pregnancy rates in infertile women.[9]

Despite the high agreement on the necessity of counseling for infertile patients, there are very few studies addressing the efficacy of psychological interventions for this population. To date only a few randomized controlled trials have been conducted to assess the effect of therapeutic counseling on distress related to infertility and its treatment. The aim of this study was therefore to evaluate the effectiveness of

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a therapeutic counseling intervention for infertile women during treatment cycles.

MATERIALS AND METHODS

The research approach for the study was evaluative and a experimental design. Computer generated random number table was used for sampling. Sample size was 100 in each group, namely intervention group and control group. Four standardized psychometric test scales were applied to assess the psychological status of the women before treatment. They were HAM-D- Hamilton Rating Scale for depression (17 items), HAM-A- Hamilton rating scale for anxiety (14 items), RSEC- Rosenberg self esteem scale 1972 and MAI- Marital adjustment inventory (Wives). Evaluation of each test scale total scores was done on degree of depression, anxiety, self esteem and marital adjustment.

For intervention group three individual counseling sessions were framed based on scales scores and specific symptoms as well as assessment of any new problems in consecutive sessions. After the individual counseling 3-4 clients were grouped for group counseling. Groups were encouraged to introduce with each other, share their experiences, this was followed by video CD demonstration on coping strategies which contained stress management by relaxation response training, progressive muscle relaxation, deep breathing, and meditation life style modifications. Psychological intervention outcome was assessed with the help of same standardized test scales and pre and post intervention scores were evaluated.

RESULTS

- The mean post test score of the depression level of the infertile women in the intervention group was significantly lesser than their pre test score compared to control group. (Follow table 1)
- The mean post test score of the anxiety level of the infertile women in the intervention group was significantly lesser than their pre test score compared to control group. (Follow table 2)
- The mean post test score of self esteem of the women in intervention group was significantly higher than their mean pre test score compared to control group. (Follow table 3)
- The mean post test score of marital adjustment inventory (wives) in intervention group was significantly higher than their mean pre test score compared to control group. (Follow table 4)

DISCUSSION

Infertility has long been known to cause significant psychological distress, this article represents a unique attempt to provide structured therapeutic counseling programme concurrently with their infertility treatment.

In a patriarchal setting such as in India, bearing children particularly sons, largely defines a women's identity. Motherhood is of great social significance and infertility is perceived as a threat to men's procreativity[7].

Men tend to hold their wives responsible for infertility and many wives tend to blame themselves for childlessness irrespective of may be responsible. In some cases women are threaten with another marriage or divorce or many fear abandonment and loss of social and economic security. They could also be victims of violence, abuse, and social exclusion[7].

Although perception of women's roles and attitude may be shifting, particularly in the upper and the middle classes, bearing a child remains an important factor in the socio economic well being of most Indian women[7].Couples seeking medical treatment of infertility typically undergo numerous emotional reactions. In this study when comparison of pre and post test scores in intervention and control group was done, the mean reduction of Hamilton depression scale of intervention group was 7 ($\pm$ 0.27) as compared to 2.02 ($\pm$ 1.44) of control group. This difference is significant at $p < 0.0001$. Similar observation on reducing the depression in infertile women was noticed with cognitive behavioral counseling by Nilforooshan P, et al (2006)[2] were the differences between two groups, experimental and control, in post-test is significant ($p<0.0001$).

Regarding comparison of Hamilton Anxiety scale in the present study it was evident that the mean reduction of Hamilton anxiety scale of intervention group was 6.58 ($\pm$ 0.93) as compared to 0.75 ($\pm$ 0.41) of control group with $p < 0.0001$. This observation was consistent with the findings of Mc Naughton-Casill ME, et al (2002) Women in IVF treatment were assessed for anxiety by using Beck Anxiety Inventory (21-item). The result showed that women who attended brief couples support groups sessions biweekly, were significantly less anxious after the IVF treatment than they were before the cycle ($p \leq .001$) when compared to nonparticipants.[3] In contrast to previous intervention study in this area, no effect of counseling was found when stress after the first IVF cycle was measured with a general stress questionnaire (HADS) that is Hospital Anxiety and Depression scale in the study by de Klerk C, et al (2005).[1]

The third variable, the mean improvement of Rosenberg self esteem scale score of intervention group

was 5.12 (±0.55) as compared to 0.33 (± 0.15) of control group. This difference is significant at p <0.0001. The similar findings were seen in the study conducted by Domar AD et al, (2000).[4] It is contradicting by Connolly KJ et al, which showed that the self esteem scale (SES) in the females where treatment and control groups differed slightly both prior to and following counseling interventions but there were no significant differences between the groups.[5]

The last goal of this study revealed that the mean improvement of Marital adjustment inventory (wives) in the intervention group was 21.04 (±2.62) as compared to 15.42 (± 8.03) of control group at p <0.0001. This finding is supported by Domar AD et al (2000). Which focused on assessment of Marital Distress Scale (MDS) a nine- item self report questionnaire showed significant pre to post difference with cognitive behavior therapy and support group therapy programme.[5] This finding was contradictory to the findings of study done by Wang K et al (2007) which showed negative impact of psychological health status and marital quality and IVF treatment.[6]

Table 1: Comparison of pre and post test scores in intervention and control group

Variable HAM-D	Pre test Mean ± SD	Post test Mean ± SD	Mean Difference	Paired 't' test
Experimental Group (n=100)	17.63± 3.10	10.63± 2.83	7 ± 0.27	<0.0001
Control Group (n=100)	17.25 ± 2.81	15.23 ± 4.25	2.02 ± 1.44	< 0.001
Unpaired t test	0.3653	<0.0001	< 0.0001	

Table 2: Comparison of pre and post test scores in intervention and control group

Variable HAM-D	Pre test Mean ± SD	Post test Mean ± SD	Mean Difference	Paired 't' test
Experimental Group (n=100)	19.86± 4.52	13.28± 3.59	6.58 ± 0.93	< 0.0001
Control Group (n=100)	20.17 ± 4.79	20.92 ± 5.20	0.75 ± 0.41	0.0142
Unpaired t test	0.6385	<0.0001	<0.0001	

Table 3: Comparison of pre and post test scores in intervention and control group

Variable RSE	Pre test Mean ± SD	Post test Mean ± SD	Mean Difference	Paired 't' test
Experimental Group (n=100)	17.43 ± 6.72	22.55 ± 6.17	5.12 ± 0.55	< 0.0001
Control Group (n=100)	17.66 ± 6.46	17.99 ± 6.61	0.33 ± 0.15	0.0328
Unpaired t test	0.8054	<0.0001	<0.0001	

Table 4: Comparison of pre and post test scores in intervention and control group

Variable MAI	Pre test Mean ± SD	Post test Mean ± SD	Mean Difference	Paired 't' test
Experimental Group (n=100)	41.70± 8.84	62.74 ± 11.46	21.04 ± 2.62	< 0.0001
Control Group (n=100)	40.51± 8.82	55.93 ±16.85	15.42 ± 8.03	<0.0001
Unpaired t test	0.3420	0.0010	<0.0001	

CONCLUSION

This study has shown that therapeutic counseling plays a major role in reducing depression anxiety in infertile women. It also helped to improve their self esteem and marital mal adjustments. Further it would help them to make better decisions, positively manage stress, develop new coping skills and ultimately gain better control over their health.

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Implementation of a Dedicated Education Unit for Baccalaureate Students: Process and Evaluation

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ABSTRACT

There are many spokes of interpretations for nurses' experiences as students, staff administrators, and faculty. This article shares the voices of people who participated in a clinical education model for nursing students called a Dedicated Education Unit (DEU).This pilot DEU explored the question: what is the nursing students' experience when partnering with the same registered nurse (RN) throughout the clinical experience. The partnership between the Clinical Instructor (CI) and student nurse mimicked the role of preceptor and new graduate nurse. The difference between a preceptor and the CI of a DEU is the vital role faculty plays in providing a constant presence on the clinical unit, coaching CIs and students throughout the clinical rotation.

Because of the reliable support from their CIs and time spent together from week to week, students felt trusted, which in turn increased their self-confidence. The students' critical thinking and clinical judgment increased as a result of their constant interactions and conversations with their CIs.

This pilot project was evaluated with data from student comments and feedback, student journals, and focus groups held by faculty with CI for the DEU. The evaluation was overwhelmingly positive and a "win-win" for patients, students, staff, and faculty.

Key words: *Dedicated Education Unit, Nursing Students, Faculty-Staff Nurse Partnership, Clinical Instructor, Nursing Education.*

INTRODUCTION

How many times have nurse educators heard comments such as these?

- "Students need to be critical thinkers and think on their feet in the clinical area as well as demonstrate care priorities, time management and organizational skills."
- "Instruction needs to be individualized for each student."
- "Students need to feel welcome in the clinical area and part of the unit."
- "There are a lot of missed learning opportunities in the clinical area waiting for my clinical professor."
- "Students need to learn real nursing."

These sentiments are the themes that led to the design of a Dedicated Education Unit as a partnership between a school of nursing and a hospital.

Clinical experiences in nursing education are an essential component of the learning process and staff nurses are essential to its success. Students and faculty are aware of the risks involved in learning in an acute care setting, as well as the potential for missed learning opportunities when one faculty member teaches eight to ten students. Benner et al.[1] notes that the ratio of having ten students per one clinical teacher is too high, even for the experienced teachers in student-friendly agencies. Staff nurses, when partnered with academic faculty, can provide extraordinary learning opportunities for nursing students. However, expertise in nursing practice does not automatically translate to skill in teaching, so faculty support and assistance to staff nurses before and during student clinical rotations is vitally important.

OUR PILOT PROGRAM

An academic-service partnership collaborated to develop a Dedicated Education Unit (DEU). The DEU model facilitated stronger relationships among experienced staff nurses and nursing students, and faculty and service partners. The DEU required role changes for staff nurses and faculty alike. Staff nurses become a student's primary Clinical Instructor (CI)

while faculty provided coordination and support. In our DEU, faculty met with students before and after clinical, were on the unit to support the CI, and facilitated learning for each student. Our DEU was modeled on the unit first reported in 2009 and guided our planning, implementation, and evaluation processes.[2]

In this academic-service partnership, the CI assigned to the student has completed a hospital preceptor program and has had experience as a preceptor to new graduates or new RNs. Clinical instructors have at least two years of nursing experience as an RN and are willing to share their experience, knowledge, and clinical expertise with the students.[3] In our DEU, two students were paired with each CI to receive personalized instruction. The CIs changed their work schedules to accommodate students' clinical days. The student was responsible for researching two of the CIs patients the evening before clinical and provided care to the patients during the day. In addition, the CI questioned the students to assess critical thinking and clinical judgment. The students assisted the CI with their remaining patients as needed; if the patient had a bedside procedure, the student was there. Students accompanied patients for off-unit procedures they had not previously experienced. Students did not have to wait for faculty assistance in treatments, medication administration, or procedures. A genuine bond developed between students and the CI. The CI gained trust in the student which allowed for more independence as the semester progressed. Students became members of the unit nursing team, and participated in activities such as the journal club, in-services, and nursing grand rounds. Students had an active and important role in patient care, and never felt "in the way" on the unit.

Similarly, a partnership with mutual respect and trust developed between the staff nurses and nursing faculty. The CIs appreciated the opportunity to model professional nursing behavior and work with faculty to develop future nurses. Faculty supported the CI in nurturing students' critical thinking by asking students "what if" questions in relation to patient care. This partnership supports the mission, vision, and values of both the health care organization and the academic institution.

DEDICATED EDUCATION UNIT LEARNING

Ranse and Grealish's theoretical framework,[4] building on the "communities of practice" developed by Wenger,[5] provides a new perspective in teaching nursing students in the clinical area and was used to understand a student's perceptions of learning in the clinical setting of the DEU. In this model, learning is conceptualized in the context of lived experience and of participation in the world as opposed to an individual process. There are four assumptions about learning and the nature of knowledge and meaning in communities of practice:[4]

1. We are social beings and as such have a need to be accepted by others.
2. Knowledge is a matter of competence.
3. Knowing is a matter of participating with other social beings.
4. Learning produces meaningful engagement with the world.

These four premises provided a conceptual framework to evaluate students' clinical experiences.

A student's engagement in a community of practice is a mix of participation and non-participation. Initially novices are non-participants, observers hoping to capitalize on all learning opportunities, but as soon as possible become contributing participants. In post-clinical conferences students reported how much they learned during the day from shadowing and working alongside CIs, which turned to participation as they provided care independently to their patients. Students would also comment how motivated they were to learn as much as they could about their patients knowing that their CIs would ask them questions. They wanted to participate in conversations with their CI and be prepared. Students looked forward to their clinical experiences.

Several studies note that students place priority on being incorporated into the clinical unit team and reported that learning was superficial if they were not accepted as a team member.[6,7] Students view the clinical setting as a place where they learn to be nurses in the real world.

Clinical experience immerses students in practice and provides the opportunity for repeated experiences.[8] Edmond and Elliott[8] note that allocation of patient care can limit a student's learning opportunities. However, others suggest that incidental experiences arising from immersion in authentic workplace practices provide valuable opportunities to develop professionally.[9,10]

Students acknowledged the value of clinical experience in applying theory to practice; they excitedly described hearing breath or bowel sounds, and assessing pitting edema. These phenomena are very different to the learner when experienced clinically rather than simply read about in a textbook.

Ranse and Grealish[4] illuminate the importance of the clinical academic partnership by encouraging students to question practice and orienting and coaching staff nurses. Students have respect for the

staff nurse's competence and may integrate practice assumptions without critically examining the nurse's practice or critical thinking. Academic faculty, independent of the clinical team, can encourage students to question and think critically about clinical practices and underlying assumptions.

The value of both participation and non-participation should be addressed in preparing clinical staff for the DEU. Communication, collaboration, and community are key elements that underlie the success of the DEU. Faculty must communicate trust to staff as clinical expert nurses. Students must communicate their clinical experiences and skills, how they learn, and their learning needs to CIs. Clinical instructors and students must communicate teaching and learning progress to faculty. Faculty must coach CIs in evaluating student critical thinking, asking questions such as: "What data are needed to evaluate whether this medication is effective?" A sense of collaboration and community among all three groups as well as other members of the clinical unit is necessary. Investment in student learning is unit based, and a team approach to the student who is initially observing the workings of the unit or fully participating in the work of the unit is essential.

In an innovative pilot study,[2] a DEU was created to enhance quality and safety competency on a clinical unit. Implementing quality and safety competencies in nursing education serves to bridge the gap between nursing education and practice. Staff nurses offered one suggestion for improvement: they recommended that students work with the certified nursing assistants/nursing technicians in the fundamental nursing course for one shift at the beginning of the rotation to review basic skills.

EVALUATION

Evaluative data for this pilot project came from student comments and feedback, student journals, and focus groups held with the CIs from the DEU. Feedback regarding the DEU learning experience was overwhelmingly positive.

Students

Students noted that they felt welcomed and a part of the clinical unit. They were comfortable informing both staff and faculty how they learned and critically examining their CI's practice. Students felt trusted by their CIs and built on-going relationships. Students stated that their self-confidence, critical thinking, and clinical judgment increased. This was partly due to reliable support from their CIs week-to-week.

The following comments from student journals reinforce what was said above:

- "This experience was a fantastic approach to provide more of a bridge between nursing school and real life."
- "The DEU needs to be expanded to all the clinical units with students."
- "As a student, I grew in my knowledge and professionalism by being assigned to a staff nurse."

Students noted that when they were assigned to a staff member who was not in the DEU (because the CI was sick) their experiences were not as enriching. It is important to provide solid orientation to the DEU and provide "coaching" on a weekly basis to all staff nurses. Although faculty attempted to coach the substitute staff nurse, one student wrote the following in his journal:

"I did not have the same nurse that I had for previous clinical experiences which was disappointing because I learned a lot from him. However, the experience today did teach me something regarding the DEU, and that is that the selection of nurses participating in it is critical to the success of the program. The nurse I had this week did not seem very interested in having students...To her credit, my nurse today did involve me in certain things, but it seemed as the day went on that she forgot about me more and more and would go off and do things while I was in another patient's room."

CLINICAL INSTRUCTORS

The CIs unanimously stated that the rapport, development, teamwork, and collaboration were what they enjoyed most while participating in the DEU. One of the CIs stated, "Working with more than one student was great because you are able to see the different styles of learning giving me the opportunity to 'tweak' my teaching style." Another CI, "I enjoyed developing a rapport with students assigned to me and seeing them develop."

Nurses also stated that the DEU positively affected general relations with clinical faculty. One CI stated, "It was good, for it brought me closer to the whole program." Another suggested implementing the DEU model on all the units of the hospital where students have clinical rotations.

Examples of other comments from the Focus Groups include:

- "It was beneficial for us to meet with the faculty before the semester began… [it helped us understand]your expectations of the students. Having you on the unit was very helpful to help with medications and when opportunities for skills with other patients were presented…it was also good [to have you there] when we had concerns or questions."

- "This clinical educational model (DEU) built stronger relationships with the staff and faculty."
- "During the clinical we both (faculty and staff) became aware of enhanced resources that all of us had by getting to know each other."

Nurses expressed satisfaction with the teaching role: "It made my job more satisfying. I love to teach and help others!" Nurses who participated in the DEU pilot "look forward to working with more students" in the program.

Unit Nurse Manager

The Unit Nurse Manager was crucial to establishing the DEU and having buy-in from the staff. While he was supportive from the beginning, the actual experience was transformative, as the following comment illustrates: "Managing a unit utilizing the DEU philosophy has been an eye opening experience. Having worked with student nurses for twenty years and managing units where students completed clinical rotations, this is the first time witnessing such a connection between students and the preceptor—a bond was born…Using the DEU, students became engaged in their learning and the bond was built between the students and the staff nurses. The staff nurses were able to build off of the students' strengths: they worked together each week and knew what the student could and could not do and trusting relationships were built….To expand the DEU experience, as a manager, the ability to hire the student nurses from the DEU to staff nurse would be a great study to see if the student nurses are able to come off of orientation more quickly and become acclimated to the units at a faster pace having built the bond with the staff nurses."

Faculty

Faculty spend time on the clinical units prior to the students' rotation working with staff to assure a positive learning culture for students. There are nurses who look forward to working with students and nurses who would rather work by themselves. The DEU made it possible for nurses who enjoy working with student to have that experience. The students and faculty all profited: "It was great working with the staff with the DEU clinical model. I had more time to observe students interacting with patients and their families, administering medications and assessing patient's knowledge and adding to that knowledge." Tanner[10] notes that good clinical judgment requires not only the pathophysiological and diagnostic aspects of a patient's clinical presentation and disease, but also the illness experience for both the patient and family and their physical, social, and emotional strengths and coping resources. Putting this in action is illustrated by the following comment: "I loved partnering with the nurses to provide excellent experiences for the students where they integrated not only the pathophysiology and diagnostics, but also observed role models in the nurses caring for patients and families holistically." The faculty member also noted that the experience provided a richer learning environment:

"There were no missed opportunities for students. Students did not have to wait for me to supervise them in their skills. I also developed more of a relationship with not only the nurses and nurse manger, but also with the rest of the staff on the unit. I enjoyed coaching the nurses on how to better assist the students to critically think, use clinical judgment, and evaluate their nursing interventions."

DISCUSSION

The key element responsible for the success of the DEU is that students learn on the clinical unit with expert staff nurses who teach and provide direct patient care. Clinical education is not left to chance. In the DEU, students are assigned to a specific staff nurse and both students and nurses benefit from the rapport. Students no longer anxiously wonder if their primary nurse will support their clinical experience. Staff nurses who have volunteered to participate look forward to working with "their" student nurses.

Additionally, staff noted that meeting with faculty before the DEU started to discuss each student's strengths and needs was helpful. Staff appreciated faculty support in working with students.

Even though the pilot was considered successful overall, there were some lessons learned that will be helpful to us as we continue to refine the DEU model. First, we plan to change the clinical rotation schedule so that students complete alternate experiences at the beginning or end of the rotation, to prevent fragmenting the time students spend with CIs on the DEU unit. Students rotated off the unit for a one day clinical experience in the Intensive Care Unit, the Emergency Department, and the Cardiovascular Surgical Unit. Plans are in place for orientation for the entire unit to the DEU concept, which will encourage model adoption by unit staff, and to coach nurses as backup staff for DEU nurses who may need to be absent on a student's clinical day. We are also looking to develop a standardized evaluation form/survey that we can use with students, staff, and faculty so that data from successive semesters can be compiled, compared, and evaluated.

SUMMARY

Clinical experiences in nursing education are an essential component of the learning process and staff nurses are essential to its success. Staff nurses, when partnered with academic faculty, can provide extraordinary learning opportunities for nursing students. However, expertise in nursing practice does not automatically translate to skill in teaching, so faculty support and assistance to staff nurses before and during student clinical rotations is vitally important. The DEU model facilitated stronger relationships among experienced staff nurses and nursing students, as well as faculty and service partners.

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A Survey to Assess the awareness of Swine Flu among General Population in Sri Venkateshwaraa Medical College Hospital and Research Centre, Puducherry

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ABSTRACT

The new strain of Swine influenza called H1N1 is responsible for the swine flu outbreak in 2009 in humans. The swine flu in humans is most contagious during the first five days of the illness although some people, most commonly children, can be contagious for up to ten days.[3] In 2011, there were only 34 cases reported the entire year, compared to 1,405 in 2010 and 3,047 in 2009.[2] Aim of the study was to assess the awareness of swine flu among general population at Sri Venkateshwaraa Medical College Hospital and Research Centre. Cross sectional survey design was adopted and was conducted at outpatient departments in Sri Venkateshwaraa Medical College Hospital and Research Centre. 1770 general population were selected for the study by convenient sampling technique. Questionnaire which was prepared based on general information about swine flu, cause, mode of transmission, and prevention of spread of infection and demographic variables was used to collect data from 1770 samples by face to face interview method. The study findings revealed that over all awareness on swine flu among general public were not fully satisfactory. Present study found that health care providers seem to play an insufficient role in the education of the public. People should be enlightened about early diagnoses and prevention of spread of infection.

Key words: H1N1 Flu, Swine flu, Awareness.

INTRODUCTION

Swine Influenza also known as H1N1 flu, Swine flu, Pig and Hog flu is a respiratory disease caused by virus commonly found in pigs throughout the world. H1N1 came from the Spanish flu, which caused a pandemic in humans in 1918 and 1919. Viruses that came from the Spanish flu virus have stayed in pigs. The new strain of swine influenza A called H1N1 is responsible for the swine flu outbreak in 2009 in humans.[3] Usually, the symptoms are fever, lethargy (feeling tired), lack of appetite and coughing. Some people with swine flu also have reported runny nose, sore throat, nausea, vomiting and diarrhea. It is believed to be spread between humans when an infected person coughs or sneezes and then touches some thing. The swine flu in humans is most contagious during the first five days of the illness although some people, most commonly children, can be contagious for up to ten days.[4] In 2011, there were only 34 cases reported the entire year, compared to 1,405 in 2010 and 3,047 in 2009.[2] We are getting information through newspapers that still swine flu outbreak is happening in our country. People don't have adequate knowledge about early identification and prevention of spread of infection, which is very dangerous for community. Health care providers should not make public become panic. Meanwhile, we should create awareness about the early detection of infection, precautionary measures and remove misconceptions about swine flu.

OBJECTIVE OF THE STUDY

To assess the awareness about swine flu among general population in Sri Venkateshwaraa Medical College Hospital and Research Centre.

METHOD AND MATERIAL

A cross sectional survey design was adopted for the present study. The study was conducted at outpatient departments in Sri Venkateshwaraa Medical College Hospital and Research Centre. 1770 general population were included for the study by convenient sampling technique. The study included patients who attended outpatient departments, willing to participate and able to understand Tamil or English. The person who were unable to respond the questions were excluded. The tools included the Questionnaire which was prepared based on general information about swine

flu, cause, mode of transmission, and prevention of spread of infection and demographic variables. Prior permission was obtained from the authorities of the Institution. Informed consent was obtained from the study participants. The data was collected from 1770 samples by face to face interview method. The data collection was done in Tamil. The subjects were informed that their participation was on voluntary basis and can withdraw from the study at any time. No ethical issues arouse during the study. Data was collected and analyzed using SPSS 17.0. The study was conducted on 2009. The investigator explained the purpose of the study and gained the confidence from the respondents.

FINDINGS

Table 1. Frequency and percentage distribution of demographi characteristics of study sample N=1770

Sample characteristics		Frequency	Percentage
Age in years	<18	63	3.6
	19-45	1354	76.5
	>45	353	19.9
	Total	**1770**	**100.0**
Literacy level	Illiterate	49	2.8
	1-5	206	11.6
	6-8	245	13.8
	9-10	319	18.0
	Higher Secondary school	410	23.2
	Graduate	249	14.1
	Others	292	16.5
	Total	**1770**	**100.0**
Sex	Male	659	37
	Female	1111	63
	Total	**1770**	**100**
Religion	Hindu	1537	86.8
	Christian	151	8.5
	Muslim	82	4.7
	Total	**1770**	**100.0**
Source of Health Information	Health personnel	114	6.4
	Media	1427	80.6
	Friends	187	10.6
	Others	42	2.4
	Total	**1770**	**100**

Table 1 describes the characteristics of participants, majority 1354 (76.5%) of the participants belongs to the age group of 19 to 45 years. Out of 1770 participants, 410 (23.2%) had studied up to higher secondary level and 319 (18%) of them had studied up to high school level. 1111 (63%) were female in figure 1. 1537 (86.8%) were belonging to Hindu religion and among 1770 participants, 1427 (80.6%) of participants had received health information through media.

Table 2. Frequency and percentage distribution of awareness of swine flu among general population N =1770

Questions	Correct answer	
	Frequency	Percentage
Is Swine flu a communicable disease?	1590	89.8
Whether Swine flu is curable?	1063	60.1
What is the cause for Swine flu?	892	50.4
How the Swine flu spread from person to person?	1583	89.4
What are the signs and symptoms of Swine flu?	1471	83.1
Can wearing mask prevent spread of infection?	1515	85.6
Will frequent hand washing reduce the risk of Swine flu infection?	1417	80
Does environment hygiene help to reduce the risk of infection?	1619	91.5
Whether the risk of acquiring Swine flu infection can be reduced by avoiding overcrowding?	1503	84.9
Does drinking plenty of water help in reducing the risk of infection?	1064	60
Whether covering mouth while coughing and sneezing will prevent the spread of infection?	1587	89.7

The data presented in table 2 shows following findings, that among 1770 people, 1590 (89.8%) of the people responded that swine flu is a communicable disease. 1063 (60%) of the people had knowledge about swine flu is a curable disease. Regarding the cause of swine flu, half of the people 892 (50.4%) replied that swine flu is caused by virus. Out of 1770 general population, 1583 (89.4%) of them understood that swine flu infection is transmitted through air. 1471 (83.1%) of them knew that running nose, fever; cough are symptoms of swine flu. 1515 (85.6%) members reported that wearing mask can prevent spread of infection. In 1770 participants, 1417 (80%) of the people expressed that frequent hand washing will prevent getting the infection. 1503 (84.9%) members perceived that avoiding the overcrowded place will prevent infection. Nearly half of the people, 1064 (60%), were of the opinion that drinking plenty of water will prevent infection. Majority 1587 (89.7%) of the participants accepted that closing the mouth while coughing will prevent the spread of infection. 1619 (91.5%) person agreed that environment hygiene will prevent the infection.

The present study findings are supported by Hanan H Balkhy, Most afa A Abolfotouh, Rawabi H Al-Hathlool, and Mohammad A Al-Jumah (2010) who conducted a study on awareness, attitude and practices related to the swine influenza pandemic among the Saudi public. In their study, finding revealed that among 1,548 participants, most of them were in the age group of 18-24years (53.2%) and 25-39 years (32.8%) and the majority had completed their secondary education (89.6%). Most participants (94%) agreed that the symptoms were the same as those of seasonal flu. More the one-half of the participants reported frequent

hand washing (57.7%) and the use of a facemask in crowded areas (56.2%) prevent infection. Moreover, one-third reported avoiding touching their eyes, nose, or mouth (36.6%) and covering their nose and mouth with a tissue when coughing or sneezing (38.0%) would prevent spread of infection. As an over all the study finding reported that they need some more awareness on swine flu to fully prevent the disease.[1]

Vidushi Mahajan and Shiv Sajan Saini (2010), conducted study on Knowledge, attitude and practice regarding Novel H1N1 (Swine flu) among Pediatricians of Chandigarh. This study findings showed that out of 134 pediatricians, 52% (n=49) were aware that swine flu predominantly occurs in young healthy individuals. Ninety % (n=85) were familiar with clinical symptoms and 70% (n=66) with incubation period. Current WHO phase – 6 pandemic alert was known to a few (14%). The survey's results reveal that there is a mixed response in the preparedness of pediatricians towards swine flu. The study findings suggest that every one of the health team members should update their knowledge about swine flu. So we should create awareness not only for public and for us also.[5]

NURSING IMPLICATION

Nurses can be instrumental in helping the community by teaching the causes, clinical manifestations, treatment and preventive measure of swine flu. Faculty members should instruct to students to create awareness about swine flu among community people while they are going for community posting through mass health education, puppet shows, drama, and role plays. The study findings help the nurses to develop insight to develop teaching modules towards promotion of healthy life style and prevention of infection. Nurse administer should proactively involve to keeping ready all the necessary equipment and medicine in hospital. They should arrange continuous nursing education programmes among nurses to update their knowledge related to swine flu and developing protocol, standing orders related to swine flu.

CONCLUSION

The study findings reveal that over all awareness on swine flu among general public are not fully satisfied because half of the people unaware that virus is the cause for illness and drinking plenty of water will reduce the risk of infection. Present study found that health care providers seem to play an insufficient role in the education of the public about swine flu. Perhaps increased communication between health care providers and general population would help remove myths about the swine flu and it helps for fabulous envision in society. People should be enlightened about early diagnoses and precautionary measures. As a health care provider, we also should update our knowledge on swine flu.

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Conflict of Interest

This is to declare that the article titled "A Survey to assess the Awareness of Swine Flu among general population in Sri Venkateshwaraa Medical College Hospital and Research Centre" is the original research of the author. The article has not been submitted to any other journal for publication and there is no conflict of interest.

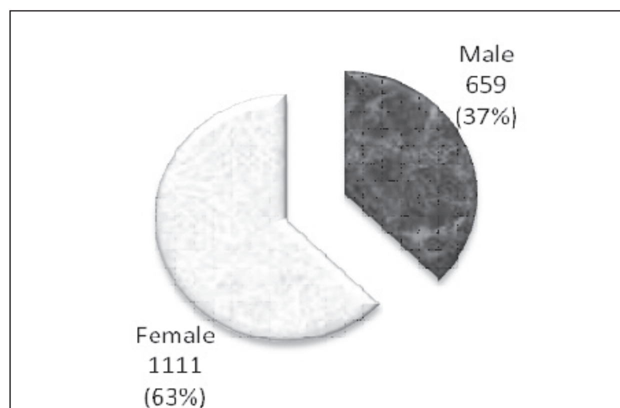

Fig. 1. Frequency and percentage distribution of sex of participants

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Effectiveness of Home Based Diet Therapy For Malnourished Children in the Age Group of 2-5 Yrs in Rural Salem, Tamil Nadu, India

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ABSTRACT

Assess the effectiveness of home based diet therapy for malnourished children an experimental only post test with control design was used. 200 first, second and third degree malnourished underfives between 1.6-5.5 years of age groups were under taken from Magudanchavadi and Karippatti PHC area, using Multi stage sampling technique. Pilot study was conducted after testing the validity and reliability of tool. Most of the under five children in experimental group were between the age group of 2.6-4.5yrs. Highest and more or less similar number of malnourished children (n=39 & n= 38 respectively) were in the age group of 2.6 – 3.5 years in both experimental and control group. Female children were higher (n=57) in experimental group whereas male children were higher (n=49) in the control group. Highest number of the children both in experimental and control group had first-degree malnutrition (n = 62 & n=48 respectively). It is also observed that upper range values were more scattered when compared to lower range values shows the effectiveness of diet therapy. Overall observations shows that there was high in weight gain for all the age groups after 4th observations revealing increase in periodical weight gain as the time of diet therapy extends. However there is no definite pattern in control group. There was highly significant difference in weight gain between the control and experimental groups, pre and post test weight of experimental group, post test weight scores of male and female. No significant difference between the post test weight scores of first and third degree whereas, significant difference between the post test weight scores of the first and second degree malnutrition as well as second and third degree malnutrition.

***Key words**: Malnutrition, Under Five Children Diet Therapy*

BACKGROUND OF STUDY

WHO & UNICEF, (2003)[13] reports that malnutrition has been directly or indirectly responsible for 60% of the 19.9 million deaths annually among underfives of the world. As per the reports of UNICEF (2004[13-14], on "the state of worlds children on prevalence of malnutrition among underfives" shows 47% of world underfive malnutrition are in India. Further reports of NNBB survey (2001)[12] reveal highest percentage of mild malnutrition in Tamilnadu (50.6%). In India Children with mild to moderate malnutrition are best managed in their own homes and kept under surveillance, so as to find out improvement in their nutritional status. There is evidence that domiciliary treatment brings about gratifying results. (Gupte1998, Marlow.R)[7].

STATEMENT OF THE PROBLEM

Assess the effectiveness of home based diet therapy for malnourished children between the age group of 2 – 5 yrs in rural Salem, Tamilnadu, India.

OBJECTIVES

Assess the effectiveness of home based diet therapy for the underfive children with I degree malnutrition

II degree malnutrition

III degree malnutrition

METHODOLOGY

An experimental only post test with control design was used to assess the effectiveness of dietary management. 200 first, second and third degree malnourished underfives between 1.6-5.5 years of age groups were under taken from Magudanchavadi and Karippatti PHC area. Pilot study was conducted after testing the validity and reliability of tool. Multi stage sampling technique was used to collect data. Written permission was obtained from the Deputy Director of Health Services, Chennai. Mother's consents was taken to participate in the intervention. Data was collected by the investigator with the assistance of four trained

research assistants for 6 month from October 2007 to May 2008.

MATERIALS AND METHODS

Table 1. Distribution of malnourished children according to their demographic variables.

DEMOGRAPHIC ARRIABLES		CONTROL	EXPERIMENTAL
SEX	FEMALE	51	57
	MALE	49	43
AGE	1.6-2.5	16	13
	2.6-3.5	38	39
	3.6-4.5	37	47
	4.6-5.5	19	11
DEGREE	FIRST	48	62
	SECOND	35	22
	THIRD	17	16

Most of the under five children in experimental group were between the age group of 2.6-4.5yrs. Highest and more or less similar no of malnourished children (n=39&n= 38 respectively) were in the age group of 2.6 – 3.5 years in both experimental and control group. Female children were higher (n=57) in experimental group whereas male children were higher (n=49) in the control group. Highest number of the children both in experimental and control group had first-degree malnutrition (n =62&n= 48 respectively). **(**Table 1).

Comparison of mean weight gain of experimental and control group shows that out of 37 observations from 4th onwards for the experimental group shows acceleration in the weight gain with the number of observations , whereas in the control group there is no definite pattern (Fig.1).

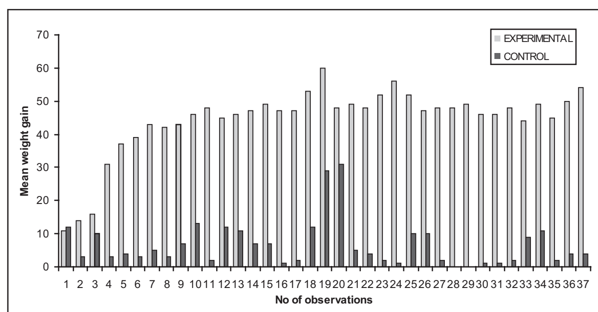

Fig. 1. Comparision of mean weight gain of experimental and control group

Comparison of pre and post test weight in experimental group out of 62 first degree malnourished children all the children reached normal weight, out of 22 second degree malnourished children five children reached normal weight, fifteen children reached first degree. Out of sixteen degree malnourished children, three children reached first degree, 13 children reached second degree after 6 months of diet therapy. However in control group none of the children have reached normal.

FURTHER IN EXPERIMENTAL GROUP

Comparison of mean and range of weight gain of experimental group shows that mean weight increases with the number of observations. It is observed that upper range values were more scattered when compared to lower range values shows the effectiveness of diet therapy. (Fig. 2)

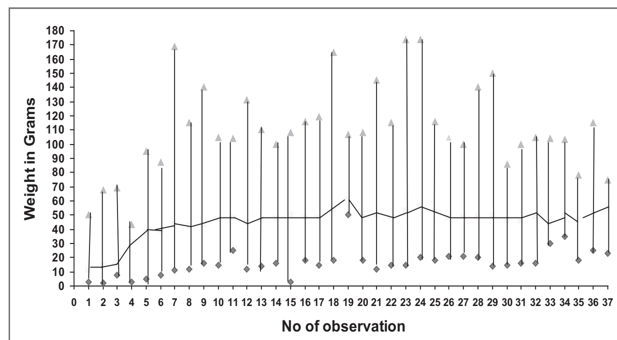

Fig. 2. Comparison to Mean and Range of weight gain

The weight gain of first degree malnutrition was highest up to 29th observations, when compared to 2nd & 3rd degree. Further it was higher through out the study except in 9th, 22nd and 23rd observations. (Fig. 3)

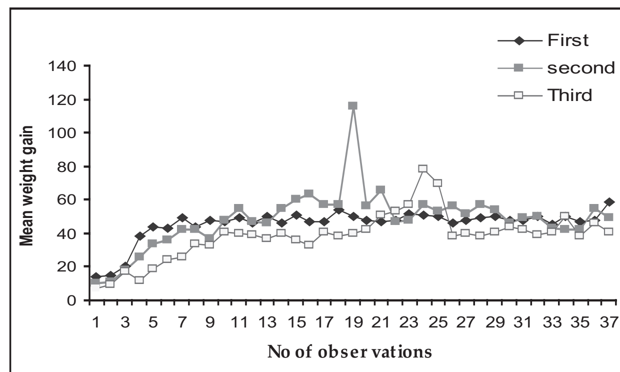

Fig. 3. Comparision mean weights gain of underfive children according to degree of malnutrition

Weight gain of male were higher when compared to female children. However the male and female children weight gain shows an increase in the trend with increase in the number of observations.(Fig. 4)

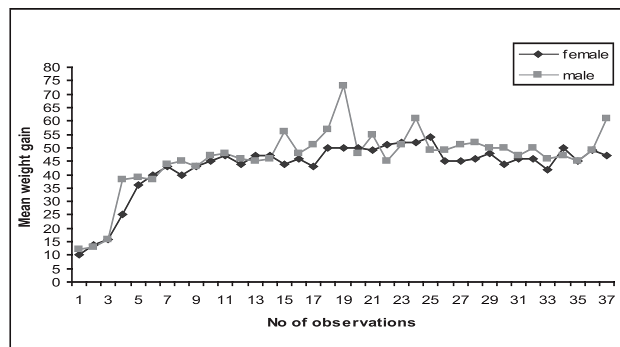

Fig. 4. Comparision of mean weight gain for mainourished children of according to the irsex of experimental group

The weight gain was high during 4th ,13th,34th, 36th and 37th observations for 1.6 to 2.5 years of age group when compared to other groups. (Fig. 5)

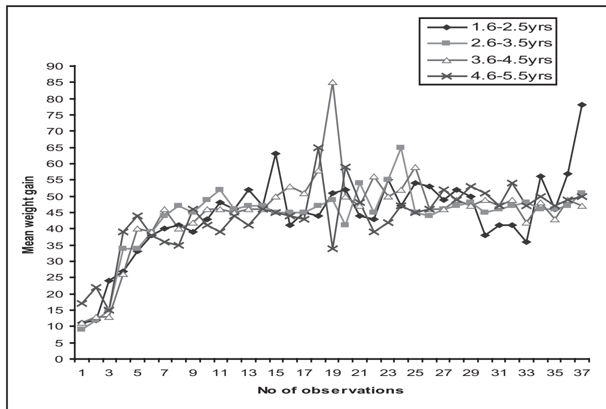

Fig. 5. Comparision of mean weight gain of underfive children according to their age group of experimental group

HYPOTHESES TESTING

There was highly significant difference in weight gain between the control and experimental groups, in the pre and post test, post test weight scores of male and female Hence stated null hypothesis is rejected. Thus, it can be interpreted that the planned diet for malnutrition was effective

Table 2. Comparison of first, second and third degree malnourished underfives weight gain of experimental group according to their sex.

Degree	Sex	N	Mean	SD	df	t	Table value	Level of significance
First	Male	32	1.68	0.17	60	1.05	2.00	NOT SIGNIFICANT
	Female	30	1.73	0.23				
Second	Male	14	3.99	0.69	20	2.49	2.09	SIGNIFICANT
	Female	8	3.20	0.43				
Third	Male	7	3.99	0.69	14	2.49	2.15	SIGNIFICANT
	Female	9	3.20	0.43				

(p>0.05 not significant)

The underfive children with various degree of malnutrition shows that there is no significant difference between the post test weight scores of male and female in the first degree whereas significant difference was observed between male and female in the second and third degree malnourished children. (Table 2).

Table 3. Comparison of experimental group underfive children weight gainAccording to their degree of malnutrition.

Degree	N	Mean	SD	df	t	Table value	Level of significance
First	62	1.70	0.20	82	0.43	1.98	NOT SIGNIFICANT
Second	22	1.73	0.36				
First	62	1.70	0.20	76	2.49	1.98	SIGNIFICANT
Third	16	1.43	0.28				
Second	22	1.73	0.69	36	2.7	2.02	SIGNIFICANT
Third	16	1.43	0.43				

(p>0.05 not significant)

There is no significant difference between the post test weight scores of first and second degree It reveals that the planned diet has more or less similarly effective for first and second degree and different impact in effectiveness of first and third, second and third degree malnourished children. (Table 3)

ANOVA

Table 4. ANOVA depicts significant difference of post test weight scores of malnourished children in different age groups

AGE GROUP	df	Table value	F	LEVEL OF SIGNIFICANCE
1.6-2.5 yrs	2,86	4.82	0.450	NOT SIGNIFICANT
2.6-3.5 yrs				
3.6 to 4.5 yrs				
2.6-3.5 yrs	2,82	4.82	0.660	NOT SIGNIFICANT
3.6 to 4.5 yrs				
4.6-5.5 yrs				
1.6-2.5 yrs	2,58	4.98	0.247	NOT SIGNIFICANT
2.6-3.5 yrs				
4.6 to 5.5 yrs				
2.6-3.5 yrs	2,62	4.95	0.072	NOT SIGNIFICANT
3.6-4.5 yrs				
4.6 to 5.5 yrs				
1.6-2.5 yrs	3,96	3.98	0.373	NOT SIGNIFICANT
2.6-3.5 yrs				
3.6-4.5 yrs				
4.6-5.5 yrs				

(p>0.01)

Significant difference of post test weight was found between 1.6-2.5,2.6-3.5 and 3.6 to 4.5 yrs of age group; 2.6-3.5 ,3.6 to 4.5 and 4.6-5.5 yrs of age group; 1.6-2.5,2.6-3.5 and 4.6 to 5.5 yrs of age group; 2.6-3.5 ,3.6-4.5and 4.6 to 5.5 yrs of age group; 1.6-2.5, 2.6-3.5 ,3.6-4.5and 4.6 to 5.5 yrs of age groups. Thus, it can be interpreted that the planned diet has more or less similar effectiveness for all the age groups. (Table 4).

Table 5. ANOVA depicts significant difference of post test weight scores of malnourished children in various degree

DEGREE	df	Table value	F	LEVEL OF SIGNIFICANCE
FIRST	2,97	3.09	9.16	HIGHLY SIGNIFICANT
SECOND				
THIRD				

(P<0.01)

ANOVA depicting significant difference of post test weight scores of malnourished children according to degree of malnutrition. It can be interpreted that effectiveness of planned diet differs with degree of malnutrition.

CONCLUSION

Overall observations shows that there was high in weight gain for all the age groups in experimental

group, revealing increase in periodical weight gain as the time of diet therapy extends. However there is no definite pattern of weight gain in control group. There was highly significant difference in weight gain between the control and experimental groups, pre and post test weight of experimental group, post test weight scores of male and female.

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Knowledge, Attitude and Management of Neonatal Pain among Health Care Professional in Neonatal units

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ABSTRACT

Background: Despite a large pool of evidence on neonatal pain, its effects in later life and a variety of pharmacologic and non pharmacologic techniques of pain management, the perception, prevention and management of pain among neonates is still not well established.

Aim: To assess the knowledge, attitude and practices of health care professionals on neonatal pain and its management.

Setting and Design: A prospective descriptive survey was conducted at two tertiary level neonatal intensive care units (NICU) in south India.

Methodology: A semi structured questionnaire regarding neonatal pain was administered to Health care professionals (HCP) (nurses and doctors) working in neonatal units of two teaching hospitals. The questionnaire consisted of 37 items of which 10 questions were on knowledge (7MCQ'S &3 open ended) 10 items on attitude (rated on a 5 point likert scale: strongly agree to disagree), 10 items on practices of health care professionals (rated through a 5 point likert scale: always to never) and 7 items (open -ended questions) on practices of health care professionals.

Results: Of the 42 health care professionals who participated in the study 86% of them responded to the questionnaire. Ninety two percent of the respondents were nurses while 8% were physicians. Forty percent of the health care professionals had moderate knowledge on the neonatal pain mechanism and pain transmission, 85% of them identified the pain behavior of neonates as 'cry'. Sixty nine percentage had an unfavorable attitude towards neonatal pain. Forty seven percent, felt parents should be informed about pain management. With regard to practice 77.7% of the respondents did not permit the mother during procedures, 61% of them never allowed the mother to breastfeed during procedures. 56% of them used lancets for heel prick. 39% of Health care professionals stated they always attempted to minimize the number of procedures and 43% of them stated they did not have a pain management protocol.

Conclusion: From the above survey it is apparent there are inconsistencies in pain management of the neonate; a vulnerable population. Standard protocol in neonatal units regarding various pain management approaches to minimize the pain needs to be implemented.

***Key words**: HCP (Health Care Professionals) Neonatal pain, Practices.*

INTRODUCTION

Historically the perception that neonates were not capable of experiencing pain or that if experienced was to a lesser degree than older children, has proven to be a fallacy by numerous studies since 1980's[1, 2]. Previously it was also believed that infants did not experience pain because the level of myelinization prevented perception of pain, and infants have no memory of painful procedures. Misconceptions existed that pharmacological agents to control pain might be dangerous to the developing neonates, so that the risk would outweigh the benefits. Numerous researchers have since demonstrated that neonates are mature enough for pain perception and to have memory of painful procedure[2].

Infants including neonates experience pain similarly and probably more intensely than older children and adults. They are also at risk of adverse long term effects on behavior and development, through inadequate attention towards pain relief in early life [3, 4]. Pain in the

neonatal care can be a major problem, not only for the neonate, but also for the neonatal nurse, in effectively assessing the infant's pain and acting appropriately to resolve it [5]. The experiences of the sick newborn and preterm infants suffering can be traumatic and there is concern about whether enough is done to relieve these suffering and if more can be done to provide comfort for these infants [6].

However the issue of analgesia in young babies has been largely neglected in most clinical settings, despite subjecting them to painful diagnostic and therapeutic procedures. Several therapeutic and preventive strategies and local pharmacological and non-pharmacological interventions are reported to be effective in relieving pain in neonates. Conversely, effective pain management can minimize physiologic and behavioral negative effects, shorten the number of days of ventilator and oxygen therapy, increase weight gain, improve healing, and decrease the length of hospital stay [7–9].

Despite many published studies on neonatal pain management and attitude of nurses and healthcare workers in monitoring pain as a vital sign in practice it is not a routine assessment in many health care settings especially in developing countries like India.

Even today numerous misconceptions exists among HCP working at NICU especially a myth that preterm baby may be less sensitive to pain[10].

To implement effective pain management, knowledge about neonatal pain, right attitude is of prime importance. Neonatal pain management involves a team approach including the parents too. There has been a dearth of literature in Indian scenario about neonatal pain management and health care professional's knowledge attitude and practices. With this view a prospective survey on this aspect was conducted in two neonatal units.

MATERIAL AND METHODS

A prospective descriptive survey was conducted in two level III neonatal units of two tertiary care hospitals in south India. Hospital A is 16 bedded unit with an average neonate admissions of 550 a year. Hospital B is a 24 bedded unit which covers an average population of 1200 a year. All nurses and doctors who were actively involved in care of neonates were approached to participate in this study.

Each HCP was invited to complete a self administered questionnaire comprising of 40 items. Details about the demographics, qualification and experience were obtained from the baseline profile. The remaining sections of the questionnaire addressed the knowledge, attitude and practices regarding neonatal pain. Ten questions addressed the basics concepts of neonatal pain and signs of pain identification among neonates.

Attitude of health care professionals about neonatal pain was assessed through a 5 point likert scale with 12 items ranging from Strongly agree to strongly disagree similarly 11 practice items were rated on a 5 point likert scale (Always to Never) & 7open ended questions The tool was validated by experts in neonatology and nursing .The participants were explained bout the purpose of the study and confidentiality was assured Ethical clearance was obtained from Institution Human Ethics Committee (IHEC) Statistical analysis was done using descriptive statistics.

FINDINGS

42% HCP'S were invited to participate out of which 36 (86%) responded. Ninety two percent were nurses and females 8 % were doctors and males in both units.

In unit A out of 20 respondents, 17 (85%) was GNM qualified, 1(5%) BSC Nursing, and doctors 2 (10%) and in unit B among 16 health care professionals, 10 (50%) were GNM qualified, BSC Nursing 4(25%), and doctors 2 (12.5%). With regard to experience 19.4% had less than 1year of experience, 45% had between 1-5 years, and 19.4% had above 5 years of experience 16.6% of nurses did not mention their experience.

KNOWLEDGE

It was found that fifty percent of HCP had limited knowledge on neonatal pain. Forty four percent had moderate adequate knowledge, and 6% had adequate knowledge .Eighty five percent mentioned only cry as indicator of pain 10 % mentioned as restlessness, frown face, leg and arm movements as indicators of pain. Only 5% of them were able to identify that pain is manifested as a total body response.

ATTITUDE

Even though 36% of HCP were unaware about pain memory in neonates, 47% of them strongly disagreed that neonates do not have memory of pain and half of the HCP believed that neonatal pain is not life threatening. Similarly 50% agreed and 19.4 % strongly agreed that preterm is as not sensitive to pain as full term neonates.

Most of them believed that use of analgesics and sedatives will lead to drug dependency. However majority (77.7%) of them perceived that positioning and handling of the neonate plays an important role in pain management. Most of the participants accepted (16.6% strongly agreed & 33.3% agreed) that they give priority for the clinical status of the neonate than pain,

and (58.3%) felt that parents should be informed about pain management in neonates. (Table1) Overall 69%of the HCP had an unfavorable attitude towards neonatal pain management and 31% had favorable attitude towards neonatal pain management.

PRACTICE

With regard to pain management practices adopted in both the neonatal units 36% of HCP's assessed sometimes, 30% of them documented the pain, 78 % never allowed the mothers during procedures and 42% of them never administered sweet tasting solution and 52.1% never applied EMLA for intravenous cannulation whereas 13.8% applied at times and sometimes. Almost 61% never allowed mothers to breast feed during procedures but 27.7% provided pacifier sometimes. Though 50% of HCP's administered the prescribed analgesics regularly 11.1% rarely administered them during post operative period. (Table 2)

Table 1. Attitude of HCP on neonatal pain N=36 Frequency %

S.No	Item	SA	AG	Un	DA	SDA	DR
1.	Neonates do not have memory of pain experience	8.3 (3)	27.7 (10)	16.6 (6)	30.5 (11)	16.6 (6)	0
2.	Neonatal pain is not life threatening does not lead to long term consequences	8.3 (3)	30.5 (11)	16.6 (6)	19.4 (7)	19.4 (7)	5.5 (2)
3	Preterm infants may not be sensitive to pain as full terms.	19.4 (7)	50 (18)	8.3 (3)	16.6 (6)	2.7 (1)	2.7 (1)
4	Pain assessment before and after any procedure is essential	11.1 (4)	52.7 (19)	2.7 (1)	19.4 (7)	5.5 (2)	8.3 (3)
5.	Administration of analgesics /sedatives will lead to drug dependency.	5.5 (2)	36 (13)	8.3 (3)	36.1 (13)	5.5 (2)	8.3 (3)
6.	PRN medications need not be administered unless pain is severe.	13.8 (5)	38.8 (14)	19.4 (7)	13.8 (5)	2.7 (1)	11 (4)
7.	Positioning, handling of neonate is an important component of pain management.	38.8 (14)	41.6 (15)	2.7 (1)	2.7 (1)	0	13.8 (5)
8.	Attention towards primary clinical condition is more important than pain	16.6 (6)	33.3 (12)	8.3 (3)	16.6 (6)	2.7 (1)	22.2 (8)
9.	Poor neonatal pain management will lead ADHD, hyperactive disorders in later life.	0	5.5 (2)	13.8 (5)	27.7 (10)	16.6 (6)	36.1 (13)
10.	Parents should be informed about pain management in neonates	11.1	47.2 (17)	16.6 (6)	8.3 (3)	5.5 (2)	11.1 (4)

DR: Did not respond

Table 2. HCP'S pain management practices n=36 Frequency %

S.No	Item	Al	At times	Some times	Rarely	Never	DR
1.	Assess for pain and after procedures	17 (6)	19 (7)	36 (17)	17 (6)	0	11 (4)
2.	Documents pain	5.5 (2)	30.5 (11)	30.5 (11)	5.5 (2)	13.8 (5)	13.8 (5)
3	Permits mother during procedure	0	2.7 (1)	5.5 (2)	5.5 (2)	77.7 (28)	8.3 (3)
4	Administer sweet tasting solution	2.7 (1)	11 (4)	17 (6)	19 (7)	42 (15)	8.3 (3)
5.	Applies EMLA/LA for LP,IV,IM	11 (4)	2.7 (1)	13.8 (5)	6 (2)	52 (19)	13.8 (5)
6.	Permits mother to breast feed during procedure	2.7 (1)	0	13.8 (5)	17 (6)	61 (22)	5.5 (2)
7.	Provides pacifier while performing procedure	2.7 (1)	5.5 (2)	27.7 (10)	22.2 (8)	25 (9)	17 (6)
8.	Attempts to minimize the number of procedure	38.8 (14)	22.2 (8)	17 (6)	2.7 (1)	2.7 (1)	17 (6)
9	Administers analgesics before any procedure	22.2 (8)	5.5 (2)	17 (6)	36.1 (13)	11 (4)	8.3 (3)
10.	Administers analgesics to Post operative neonates.	50 (18)	5.5 (2)	19.4 (7)	11 (4)	0	13.8 (5)

AL- Always, DR -Did not respond

In response to open ended questions on practice 43% stated they do not follow a pain management protocol. Fifty six percent HCP's used lancets for heel prick to minimize pain. The most commonly used sedatives were midozolam and fentanyl and analgesics used were paracetomol drops and suppositories.

DISCUSSION

Neonatal Intensive care by its very nature, prioritizes life saving, growth promoting care. However in the event of managing any critical illness the comfort of the neonate cannot be overlooked. Health care professionals have a long held belief that neonates are incapable of appreciating pain and they are less sensitive to noxious stimuli[11]. The findings borne in this study were that 70 % of HCP perceived that preterm may not be as sensitive to pain as full term babies. Consistent to this study *Young et al* also have reported that HCP did not realize that preterm babies are sensitive to pain[10]. Forty two percent of HCP's believed that use of analgesics and sedatives will lead to drug dependency. Half of them stated that attention towards primary clinical condition is more important than pain. *Woodward and associates* have reported most units in Ireland (60%) stated emergency situations as the main reason for not using analgesia[12].

Forty four percent disagreed to "Poor neonatal pain management will affect the later development and lead to long term consequences". *Anad and Scalzo* [3] also reported adverse sensory experiences during neonatal period may have wide spread and far ranging effects on future developmental events. From these findings it is obvious that creating awareness to health care professionals about developmental aspects of neonatal pain management and consequences of impaired pain management is essential Policy changes should be brought in NICU on pain management. Majority (85%) were able to identify pain only through cry whereas the total body response manifested by the neonates was hardly appreciable by HCP. *Suzanne and Fiona* have reported along with physiological indicator behavioral responses must be determined[11].

With regard to comfort measures of neonate parental presence was not felt vital by majority of participants. Perhaps the hospital policy does not permit and also considering the emotional status of the postnatal mother. Similarly breast feeding was also not permitted (61%) though there is lot of evidence on breast milk analgesia in calming effects in neonates *Harrison and colleagues* also reported breast-feeding during venepuncture, heel lance and intramuscular or subcutaneous injection was infrequently practiced and topical anesthetic agents were rarely used[13].

Neonatal pain management needs a multidimensional and holistic approach which will lead to a conducive and safe environment to the neonates. Numerous studies have reported that inadequate pain management is due to lack of awareness and attitude towards pain management [11, 14, 15, 16, 17].

Contemporary trends in health care sector relies on evidence based nursing and medicine not on routine tradition Though there are protocols on non pharmacological methods from various organizations integration of research evidence into practice is very little in many clinical settings . The findings of this study emphasize the need to create awareness about neonatal pain and its consequences and various non-pharmacological evidences in reducing pain which can bring about changes in attitude towards neonatal pain and improvement in practice.

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An Exploratory Study to Assess the Prevalence of Anxiety and Anxiety Disorders among Adolescents of Selected Senior Secondary School, Ludhiana

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ABSTRACT

"There is no such thing as pure pleasure; some anxiety always goes with it" (43 BC)

A study was conducted to assess the prevalence of anxiety and anxiety disorders among adolescents of a selected senior secondary school, Ludhiana, Punjab ,India. A self structured questionnaire was prepared to assess the prevalence of anxiety and anxiety disorders on the basis of literature review and expert opinion. To assess anxiety disorders a standardized tool-Screen for Child Anxiety Related Disorder (SCARED) developed by Boris Birmahar (1999)was used. The items of tool were formulated to diagnose anxiety disorders - Panic Disorder, Generalized Anxiety Disorder, Separation Anxiety Disorder, Social Anxiety Disorder and School Avoidance among adolescents. Before data collection a formal permission was taken from school and verbal consent was taken from adolescents for participation in the study. Pilot study was done on ten adolescents to ensure reliability of the tool and feasibility of study. For final study Stratified random sampling (lottery without replacement) was used to collect a sample of 201 adolescents. The purpose of study was explained to them and confidentiality was assured. The data gathered were analyzed by calculating mean, mean percentage, SD and 'z' test.

Key words: *Prevalence, Anxiety, Adolescents, Anxiety disorder.*

BACKGROUND OF THE STUDY

Adolescents comprise about 15% of the population in developed countries (Sawyer M. S. & Bowes G., 1999).[2] Adolescence is a significant period in the life span, a period with a myriad of changes both physical and psychological.It includes an alteration in body image, adaptation to more mature intellectual abilities, adjustment to society's demands for behaviour maturity, internalizing a personal value system and preparing for adult roles. During this period, the adolescent's status is vague, and there is confusion about the roles he is expected to play, as at this time, he is neither a child nor an adult.The adolescents face difficult challenges when they begin to search for the answer to the question "who am I?" In their search to define, find or discover their new life, they land into conflicts, confusion, frustration and anxiety (Harter S, 1985)[1].

The seventeenth century was known as the age of enlightenment, eighteenth as the age of reason, nineteenth as age of progress and the twentieth century is known as age of anxiety. Anxiety has always existed. The term anxiety is derived from Latin word "angere" meaning to strangle or cause distress. The sensation of helplessness accompanying strangulation is seen as being fundamentally related to its very essence viewed as a general feeling of fear and apprehension (Werkman S.L, 1985).[3] Every aspect of human behaviour is affected by anxiety.

A study done to find out the effect of gender on prevalence of anxiety and anxiety disorders symptoms in adolescents show that females are more likely than males to experience disorders and also life time prevalence rates of anxiety disorders are high in women (Lewinson M.P., 1998).[5]Anxiety disorders in children and adolescents are often unidentified when presenting with other psychiatric disorders or physical problems. They are viewed as expected reactions to difficult life situations characterized by feeling of apprehension caused by anticipation of danger, which may be internal or external.[6]

Adolescents are considered children by adults and for children those adolescents are adults. Parental expectations are also building up as children grow. This creates a lot of anxiety and frustration in adolescents. While reviewing the literature the investigator

found that studies have been conducted on anxiety and anxiety disorders of adults but there were few studies on adolescent students. The investigator has also gone through adolescence – a stage of trial and error, and had at times experienced anxiety and also observed the same in the peer group, though the level of anxiety had been different. This curiosity triggered the investigator to study the prevalence of anxiety and anxiety disorders among adolescents so as to prepare the guidelines to help this particular age group.

OBJECTIVES

1. To assess the prevalence of anxiety among adolescents.
2. To analyze the level of anxiety among adolescents.
3. To assess the prevalence of anxiety disorders among adolescents.
4. To identify anxiety disorders among adolescents.
5. To find out the relationship between anxiety and anxiety disorders among adolescents.

To find out the relationship of anxiety and anxiety disorders among adolescents with selected variables .

MATERIAL AND METHODS

Conceptual Framework of the study was based on Sister Callista Roy's model. A quantitative approach was used to assess the prevalence of anxiety and anxiety disorders among adolescents. Non experimental research design (Exploratory design) was adopted for this study .The independent variables were age, gender, class, academic achievements of previous class, subject opted, family income, father's education, mother's education and religion. Dependent variables were prevalence of anxiety and anxiety disorders. The study is delimited to adolescents studying in 10th, 11th & 12th class in Sacred Heart Senior Secondary School, Randheer Singh Nagar, Ludhiana, Punjab.

To assess anxiety and anxiety disorders among adolescents two tools were used.

Tool I- Tool for assessment of anxiety among adolescents

To assess anxiety among adolescents a standardized tool was selected consisting of 37 items which were modified after consulting with experts. The Checklist was converted into four point rating scale consisting of Never, Sometimes, Most of the times and Always for which score of 0, 1, 2 & 3 was given for positive items. Reverse scoring was done for negative items. Six items were modified, four were deducted and seven were added. So there were total 40 items in the tool.

Tool II- Tool for assessment of anxiety disorders among adolescents

To assess anxiety disorders a standardized tool- Screen for Child Anxiety Related Disorder (SCARED) was selected after extensive review of literature. It was developed by Boris Birmahar (1999). The items of tool were formulated to diagnose anxiety disorders - Panic Disorder, Generalized Anxiety Disorder, Separation Anxiety Disorder, Social Anxiety Disorder and School Avoidance.

Types of Anxiety Disorders	**Number of related questions**
Panic Disorder	13
Generalized anxiety disorder	9
Separation anxiety disorder	8
Social anxiety disorder	6
School avoidance	4
Total	40

So there were total 40 items in the tool. Adolescents were asked to rate themselves according to the frequency with which they experience each symptoms using three point rating scale. The criterion measures used in this study were score obtained by adolescents.

Tool I: It included 40 structured items to assess prevalence of anxiety in adolescents. A score of 0 was given for 'Never', 1for 'Sometimes', 2 for 'Most of times' and 3 for option 'Always'. Reverse scoring was done for negative items.

- Maximum score =120
- Minimum score =0

Criterion measures for assessment of level of anxiety are as follows:

Panic anxiety	-	$\geq$ 76%	(91-120)
Severe anxiety	-	51 – 75 %	(61-90)
Moderate anxiety	-	26-50%	(31-60)
Mild anxiety	-	$\leq$ 25%	(0-30)

Tool II: It includes 40 structured items for assessment of types of anxiety disorders in adolescents. A score of 0 for 'not true or hardly ever true', 1 for 'somewhat true or sometimes true' and 2 for 'very true or often true' was given for each item.

- Maximum score = 80
- Minimum score = 0

Criterion measurement for assessment of anxiety disorders are as follows

A total score of $\geq$25 indicate the presence of anxiety disorders.

A score of 7 for items 1, 6, 9, 12, 15, 18, 19, 22, 24, 27, 30, 34, 38 indicate panic disorder.

A score of 9 for items 5, 7, 14, 21, 23, 28, 33, 35, 37, indicate generalized anxiety disorder.

A score of 5 for items 4, 8, 13, 16, 20, 25, 29, 31 indicate separation anxiety disorder.

A score of 8 for items 3, 10, 26, 32, 39, 40, indicate social anxiety disorder.

A score for 3 for items 2,11,17,36 indicate school avoidance.

Pilot study was conducted during the month of June 2007 to ensure the reliability of the tool and feasibility of study. Reliability of the tool was computed by split half method using Karl Pearson's coefficient of correlation & Spearman Brown's Prophecy formula. The reliability of tool for assessment of anxiety in adolescents was 0.83 and of tool for assessment of anxiety disorders in adolescents, it was 0.88, hence the tools were reliable.

For final study written permission was obtained from the principal for conduction of study in her school after explaining the purpose and objectives of the study.

Stratified random sampling (lottery without replacement) was used to collect a sample of 201 adolescents. For the purpose of sampling whole population of adolescents studying in 10th, 11th and 12th class was divided into three strata according to their class. There were 220, 219 and 210 adolescents in each stratum. From each stratum the investigator took 67 adolescents to obtain a total sample of 201 period. Next day the investigator met the selected adolescents and explained them the purpose of their selection. Verbal consent was obtained from them for participation. Thereafter the tools were distributed to the adolescents for filling. The analysis of data was done in accordance with the objectives of study using descriptive and inferential statistics.

RESULT

From the findings of study following conclusions were drawn:

- Majority of adolescents (73.14%) had moderate level of anxiety followed by mild anxiety in 17.41% and severe anxiety in 9.45% and 48.23% adolescents had anxiety disorders among those separation anxiety disorder (14.43%) had maximum prevalence followed by school avoidance (13.93%) followed by panic and generalized anxiety disorders (8.94%) each and social anxiety disorders being the lowest one (1.99%).
- There was statistically significant effect of age, gender, class, academic achievement of previous class; subject opted in prevalence of anxiety among adolescents. There was no statistically significant effect of family income per month, father's education, mother's education and religion in prevalence of anxiety among adolescents.

Table 1. Percentage Distribution & Rank Order of Prevalence and Level of Anxiety among Adolescents N = 201

	Percentage of adolescents		
Prevalence & Level of anxiety	**n**	**%**	**Rank**
Panic (91-120)	-	-	-
Severe (61-90)	19	9.45	3
Moderate (31-60)	147	73.14	1
Mild (0-30)	35	17.41	2
Total	201	100	

Max Score =120
Min Score =0

Table 1 depicts that maximum adolescent (73.14%) had moderate anxiety (rank 1st) followed by mild anxiety 17.41% (rank 2nd) and only 9.45% had severe anxiety (rank 3rd). Hence it was inferred that anxiety was prevalent among adolescents.

Table 2. Percentage Distribution of Prevalence of Anxiety Disorders Among Adolescents N=201

	Percentage of adolescents	
Prevalence of anxiety disorders	**n**	**%**
Anxiety Disorders	97	48.23
No anxiety Disorders	104	51.77

Presence of anxiety disorders = ≥ 25

Table 2 shows that 48.23% of adolescents had anxiety disorders where as 51.77% of adolescents did not have anxiety disorders. Hence it was concluded that anxiety disorders were prevalent among adolescents.

Table 3. Percentage Distribution & rank order of Anxiety Disorders among Adolescents N=201

	Percentage of adolescents		
Anxiety Disorders	**n**	**%**	**Rank**
Panic disorder	18	8.94	4
Generalized anxiety disorder	18	8.94	5
Separation anxiety disorder	29	14.43	2
School avoidance	28	13.93	3
Social anxiety disorder	4	1.99	6
No disorder	104	51.77	1
Total	201	100	

Max Score =80
Min Score =0

Table3 shows that 48.23% adolescents had anxiety disorders out of which Separation anxiety disorder (14.43%, 1st rank) followed by school avoidance (13.93%, rank 2nd) than Panic & Generalized anxiety disorder (8.94% each & rank 3rd, 4th) and least was social anxiety disorder (1.99% & rank 5th)

Though 51.77% of adolescents did not have anxiety disorders but 48.23% of adolescents had above mentioned anxiety disorders.

Therefore it can be concluded that anxiety disorders were prevalent among adolescents.

Table 4. Comparative Mean Anxiety (An) and Anxiety Disorders (AD) Score of Adolescents According to Gender N=201

	Anxiety Score		
Gender	n	Mean	SD
Male	105	a 40.15	12.91
Female	96	b 45.67	12.38

Max An Score =120
**Significant at $p < 0.01$ level
Min An Score = 0
NS = Non significant
Max AD Score =80
Min AD Score =0

	Anxiety Disorders Score		
Gender	n	Mean	SD
Male	105	A' 21.32	10.22
Female	96	B' 23.92	19.18

Table 4 depicts that mean anxiety and anxiety disorders score was highest among females (45.67 & 23.92) as compared with mean anxiety and anxiety disorders scores of male adolescents (40.14 & 21.32 respectively). The mean difference of anxiety score was statistically significant at $p<0.01$ level where as mean difference of anxiety disorders score was found statistically non significant at $p<0.05$ level. But the mean score of anxiety disorders was high among females. Therefore it can be said that prevalence of anxiety & anxiety disorders were more among females than males.

Hence it can be stated that gender had a significant role in prevalence of anxiety but not in prevalence of anxiety disorders among adolescents.

CONCLUSION

Researchers have indicated that highly anxious adolescents engage in more problematic behaviour and are more disliked by peers, have poorer self-concept and lower school achievement as compared with less anxious adolescents. 10% to 30% of school children were found to experience anxiety severe enough to impair their performance. While lower levels of anxiety enhance awareness and performance, high levels contributes to a variety of psychosocial problems among adolescents.

IMPLICATIONS

The findings of the study have several implications, which are discussed in five areas-

- Nursing Practice
- Nursing Research
- Nursing Education
- Nursing Administration
- General Education
- Community Health Nursing

NURSING PRACTICE

Anxiety disorders in children and adolescents are often unidentified when present with other psychiatric disorders or physical problems. They are viewed as expected reactions to difficult life situations characterized by feeling of apprehension caused by anticipation of danger, which may be internal or external. Nurses working in hospitals should be able to identify anxiety and anxiety disorders and manage them promptly.

NURSING RESEARCH

Mental health is very important at every stage of life especially in childhood and adolescence because these periods determine how the individuals react in later stages of life. But research on adolescent anxiety is neglected area in nursing therefore nurses should take interest in conducting more research studies on adolescents and practice research based nursing.

COMMUNITY HEALTH NURSING

Community health nurse while their visit in families must tell parents about the importance of love and affection for the young adult, proper child rearing practices, growth and development, consistent discipline at home, acceptance of adolescent behavior, understanding normal limits of the adolescents, limiting expectation from them and early identification of pathological anxiety and anxiety disorders symptoms.

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Analytical Study on Practices Related to Care of Water Sealed Chest Drainage System

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ABSTRACT

Study was undertaken to analyze the prevalent practices on care of 'water sealed chest drainage system' in accordance with experts' opinions and against available evidences. Researcher found during clinical experience that variety of practices are being followed and thus felt need of study. Observations for prevalent practices were made using checklist. Findings were depicted in form of rating scale which was given for experts' opinion. 14 experts' opinion were included in study. It has been observed that experts' opinion about the practices varies. This shows that they are the weak level of evidence. Also, evidences were searched for support of prevalent practices. Both scholarly and empirical evidences were included in study. Evidences varied from strong to weak. Maximum evidences were scholarly and weak. Few practices were suggested by experts and evidences were also available for them. Study focuses on evidence-based nursing.

Key words: *Water Sealed Chest Drainage System, Care, Evidences, Experts' Opinion*

NTRODUCTION

Water sealed chest drainage system is intended to allow air and fluid to escape from the pleural space with each exhalation and to prevent their return flow with each inhalation[1]. Pneumothorax (Persistent or recurrent, tension, Traumatic), haemothorax, hemopneumothorax, pleural effusion, empyema after thoracic surgeries and after chest injuries involving pleura are few of the indications for insertion of chest tube[2].

Evidenced- based nursing is key factor to nursing practice[3]. Evidence based nursing practice is the conscientious, explicit and judicious use of theory derived, research- based information in making decisions about care delivery to individuals or group of patients and in consideration of individual needs and preferences [4]. Systematic review was done on nursing management of chest drains. Findings highlight the lack of research on most aspects of the nursing management of patients with chest drains in situ[5].

OBJECTIVES

- To study the practices on care of 'water sealed chest drainage system' for patients admitted at selected wards and intensive ca re unit.
- To analyze the prevalent practices on care of 'water sealed chest drainage system' for patients admitted at selected wards and intensive care unit.

MATERIAL & METHODS

Study was conducted in male & female medical wards of Nehru Hospital, PGIMER, Chandigarh and CTVS Intensive care units of Advanced cardiac centre, PGIMER, Chandigarh . Available 'water sealed chest drainage system' were taken after 36 hours of insertion of chest tube which were due to be emptied. 189 observations have been made (68 observations in male medical ward and female medical wards ; 121 observations in CTVS Intensive care units or CTVS recovery). Data was collected using observation checklist. Data was analyzed using rating scale for expert opinion and check list for available evidences.

FINDINGS

Analysis In Accordance With Expert Opinions

Care provider was Staff Nurse & unskilled worker under supervision of Staff Nurse in 100% observations in CTVS Intensive care units or CTVS recovery. Care provider was Staff Nurse in 1 observation, Doctor in 1 observation, Doctor & Relative of patient under supervision of doctor in 1 observation & relative of patient in 65 observations in medical wards.

Experts' opinion (Total experts-14) was taken to analyze practices using rating scale which had options of satisfied, partially satisfied & not satisfied.

Table 1. Table Representing Assessment Done By Care Provider In CTVS Recovery and Medical Wards

S.NO.	RATING SCALE POINTS (CTVS recovery & Medical wards)	EXPERTS' OPINION
1.	Insertion site was not checked for redness/ swelling by care provider in any observation Satisfied-0 ,Partially satisfied-1 , Not satisfied-11 , No response-2	Most experts are not satisfied as they would like insertion site, crepitus and breath sounds to be checked by care provider, especially in observations where doctor or staff nurse is involved in care of chest tube. According to few experts, insertion site, crepitus and breath sounds are checked by doctors at any time of day which necessarily may not have been included in observation.
2.	Crepitus was not checked through chest palpation by care provider in any observation Satisfied-0 ,Partially satisfied-2 , Not satisfied-10 , No response-2	
3.	Breath sounds were not auscultated by care provider in any observation Satisfied-0 ,Partially satisfied-2 , Not satisfied-10 , No response-2	

Table 2. Table Representing Care Provided By Care Provider In CTVS recovery & Medical Wards

S.NO.	RATING SCALE POINTS (CTVS recovery & Medical wards)	EXPERTS' OPINION
1.	Care provider didn't ensured clamps or artery forceps at bedside (at least one) in any observation Satisfied-0 ,Partially satisfied-0 , Not satisfied-12 , No response-2	Most experts are not satisfied as they would like clamps or artery forceps to be kept at bedside (at least one).
2.	Care provider didn't washed hands before caring for 'water seal chest drainage system' in any observation Satisfied-0 ,Partially satisfied-0 , Not satisfied-14 , No response-0	All experts are not satisfied as they would like that care provider should wash their hands before providing care.
3.	Care provider didn't ensured that tube does not interfere with patient's movement in any observation Satisfied-0 ,Partially satisfied-3 , Not satisfied-10 , No response-1	Most experts are not satisfied as they would like care provider should ensure that tube does not interfere with patient's movement.

Table 3. Table Representing Care Provided By Care Provider In Medical Wards

S.NO.	RATING SCALE POINTS (Medical wards)	EXPERTS' OPINION
1.	Care provider clamped tube properly before emptying bag using plastic clamp on chest tube/ kinking the tube in 52 observations Satisfied-0 ,Partially satisfied-8 , Not satisfied-6 , No response-0	Most experts are either partially satisfied or not satisfied because clamping tube properly is important to prevent patient from complications.
2.	Care provider replaced sterile normal saline or sterile distilled water till marked level on bag in 53 observations Satisfied-1 ,Partially satisfied-7 , Not satisfied-6 , No response-0	Most experts are either partially satisfied or not satisfied as they expect that care provider should replace sterile normal saline or sterile distilled water till marked level on bag otherwise accurate amount of drainage may not be recorded.
3.	Care provider clamped tube for less than 1 minute while replacing sterile normal saline or sterile distilled water in bag in zero observation Satisfied-2 ,Partially satisfied-1 , Not satisfied-10 , No response-1	Most experts not satisfied as they suggest clamping time to be less than 1 minute while replacing sterile normal saline in bag.
4.	Care provider opened clamp after replacing sterile normal saline or sterile distilled water in bag in 50 observations Satisfied-0 ,Partially satisfied-7 , Not satisfied-7 , No response-0	Most experts are either partially satisfied or not satisfied because opening clamp is important to prevent the patient from complications and is necessary in all observations
5.	Care provider added few drops of betadine in bag in 4 observations Satisfied-3 ,Partially satisfied-4 , Not satisfied-6 , No response-1	Most experts are either partially satisfied or not satisfied as according to them, it is not necessary to add betadine drops.
6.	Care provider measured amount of drainage accurately either by subtracting the amount of sterile normal saline or sterile distilled water previously in the bag/ by measuring the amount above marked level in bag in 4 observations Satisfied-0 ,Partially satisfied-12 , Not satisfied-2 , No response-0	Most experts are not satisfied as relatives are care provider in most cases. Nurse or doctor is responsible for measurement of drainage amount.

Table 4: Table Representing Care Provided By Care Provider In CTVS Recovery

S.NO.	RATING SCALE POINTS (CTVS recovery)	EXPERTS' OPINION
1.	Care provider clamped tube properly before emptying bag using plastic clamp on chest tube/ kinking the tube in 120 observations Satisfied-10 ,Partially satisfied-3 , Not satisfied-1 , No response-0	Most experts are satisfied because clamping tube properly is important.
2.	Care provider replaced sterile normal saline or sterile distilled water till marked level on bag in 117 observations Satisfied-10 ,Partially satisfied-4 , Not satisfied-4 , No response-0	Most experts are satisfied as care provider has replaced sterile normal saline or sterile distilled water till marked level in almost all observations.
3.	Normal Saline level was checked by Staff Nurse after unskilled worker replaces Normal Saline in bag in 96 observations Satisfied-3 ,Partially satisfied-7 , Not satisfied-4 , No response-0	Most experts are either partially satisfied or not satisfied as they would like normal saline level to be checked by Staff Nurse after unskilled worker replaces normal saline in all observations otherwise accurate amount of drainage amount may not be recorded.
4.	Care provider clamped tube for less than 1 minute while replacing sterile normal saline or sterile distilled water in bag in 24 observations Satisfied-1 ,Partially satisfied-5 , Not satisfied-7 , No response-1	Most experts are either partially satisfied or not satisfied as they would like clamping time to be less than 1 minute while replacing sterile normal saline in bag.
5.	Care provider opened clamp after replacing sterile normal saline or sterile distilled water in bag in 121 observations Satisfied-14 ,Partially satisfied-0 , Not satisfied-0 , No response-0	All experts are satisfied.
6.	Care provider measured amount of drainage accurately either by subtracting the amount of sterile normal saline or sterile distilled water previously in the bag/ by measuring the amount above marked level in bag in 111 observations Satisfied-8 ,Partially satisfied-5 , Not satisfied-1 , No response-0	Most experts are either satisfied or partially satisfied as accurate measurement of drainage amount has been done in majority of the observations.
7.	Care provider used separate container (with 10 ml reading) for measuring amount of drainage in 117 observations Satisfied-11 ,Partially satisfied-3 , Not satisfied-0 , No response-0	Most experts are satisfied.

Table 5. Table Representing Action For Abnormal Findings & Recording Or Reporting By Care Provider In Medical Wards

S.NO.	RATING SCALE POINTS (Medical wards)	EXPERTS' OPINION
1.	Unexpected bloody drainage for care provider (relative) was present & reported to physician in 1 observation Satisfied-9 ,Partially satisfied-1 , Not satisfied-4 , No response-0	Most experts are satisfied as unexpected bloody drainage was present in 1 observation and was reported in that observation to physician.
2.	Care provider coils & secures excess tubing with tape, safety pin, clamp or rubber band to avoid dependent loops in 1 observation Satisfied-1 ,Partially satisfied-2 , Not satisfied-10 , No response-1	Most experts are not satisfied as they suggest that care provider should avoid dependent loops.
3.	Closed port of bag was present in 1 observation which care provider neither opened nor reported. Researcher intervened & opened port Satisfied-4 ,Partially satisfied-3 , Not satisfied-7 , No response-0	Most experts are partially satisfied or not satisfied because closed port should not be present in any observation.
4.	Recording of amount of drainage was done in 2 observations Satisfied-0 ,Partially satisfied-0 , Not satisfied-14 , No response-0	All experts are not satisfied as they suggest recording of drainage amount should be done in all observations.
5.	Researcher intervened to prevent harm to patient due to wrong practice in 34 observations Satisfied-10 ,Partially satisfied-1 , Not satisfied-3 , No response-0	Most experts are satisfied as researcher prevented the harm to patient.

Table 6. Table Representing Action For Abnormal Findings & Recording Or Reporting By Care Provider In CTVS Recovery

S.NO.	RATING SCALE POINTS (CTVS recovery)	EXPERTS' OPINION
1.	Blocked tube was present in 1 observation for which Staff Nurse reported to physician Satisfied-14 ,Partially satisfied-0 , Not satisfied-0 , No response-0	All experts are satisfied as blocked tube was present in only 1 observation which was reported.
2.	Care provider coils & secures excess tubing with tape, safety pin, clamp or rubber band to avoid dependent loops in zero observation Satisfied-1 ,Partially satisfied-2 , Not satisfied-10 , No response-1	Most experts are not satisfied as they would like that care provider should avoid dependent loops.
3.	Closed port of bag was present in 1 observation which was opened by unskilled worker & was not reported Satisfied-4 ,Partially satisfied-3 , Not satisfied-7 , No response-0	Most experts are partially satisfied or not satisfied because closed port should not be present in any observation.
4.	Recording of amount of drainage was done in 100% or all observations Satisfied-14 ,Partially satisfied-0 , Not satisfied-0 , No response-0	All experts are satisfied as recording was done in all observations.
5.	Researcher intervened to prevent harm to patient due to wrong practice in 8 observations Satisfied-11 ,Partially satisfied-2 , Not satisfied-1 , No response-0	Most experts are satisfied as researcher prevented the harm to patient.

Analysis Against Available Evidences

Extensive literature review was done to find scholarly and empirical evidences on care of water sealed chest drainage system. Total evidences found were 39. Maximum evidences (35 out of 39) belonged to type or level 6 which were weak. Few evidences (4 out of 39) belonged to type or level 1 and 2 which were strong.

Table 7. Table Representing Numbers Of Evidences Available According To Classification Of Evidences

S.NO	CLASSIFICATION OF ANALYSIS	NUMBER OF EVIDENCES AVAILABLE
1.	Scholarly evidences	35
2.	Empirical evidences	2
3.	Scholarly+ empirical evidences	2

Table 8. Table Representing Numbers Of Evidences Available According To Levels Of Evidences

LEVEL*	EVIDENCE TYPE	NUMBER OF EVIDENCES AVAILABLE
1.	Meta analysis or systematic review of multiple controlled studies or clinical trials	2 (Reference number- 24 and 26)
2.	Individual experimental studies with randomization	2 (Reference number- 11 and 13)
3.	Quasi experimental studies such as nonrandomized controlled single group pre-post, cohort, time series or matched case controlled studies	0
4.	Non experimental studies	0
5.	Program evaluation, research utilization, case reports	0
6.	Textbooks, clinical product guidelines, non research based information	35

*Level 1 evidences' are strongest & level 6 are weakest type of evidence.

Practices which have no evidences are:-

- Change blocked tube
- Change tube if cracks are present
- Report for cracks in tube
- Intervene for closed port or outlet
- Open port or outlet, if port is closed
- Report about closed port or outlet
- Record redness or swelling at insertion site for chest tube
- Wash hands before care
- Add betadine drops in bag
- Wash bag before replacing normal saline till marked level

Table 9. Table Representing Practices Which Have Few Evidences (1-10 Evidences)

S. No.	Practices	Number of evidences
1.	Check insertion site for redness/ swelling	7
2.	Auscultate for breath sounds	9
3.	Clamp tube properly before emptying bag using plastic clamp on chest tube/ kinking the tube	6#
4.	Replace sterile normal saline or sterile distilled water till marked level on bag	5
5.	Clamp tube for less than 1 minute while replacing sterile normal saline or sterile distilled water in bag	4
6.	Ensure that tube does not interfere with patient's movement	8
7.	Intervene for wet dressing	7
8.	Report unexpected bloody drainage	9
9.	Perform stripping for blocked tube	5
10.	Change tubing /tightens loose connection	10
11.	Report for new or increased bubbling	9#
12.	Report about absence of expected tidaling	6
13.	Record colour of drainage	10#
14.	Record consistency of drainage	8#

Reference number- 24(Level or Type 1)

Table 10: Table Representing Practices Which Have Moderate Evidences (11-20 Evidences)

S. No.	Practices	Number of evidences
1.	Check crepitus by chest palpation	11#
2.	Ensure clamps or artery forceps at bedside (at least one)	13
3.	Report excessive drainage (100ml/hour after initial 24 hours of chest tube insertion)	11
4.	Intervene for blocked tube	18
5.	Perform milking for blocked tube	13
6.	Remove kink/kinks	20
7.	Intervene for new or increased bubbling	15#
8.	Check for cause like cracks/ loose connection	16#
9.	Check for cause of absence of expected tidaling	12

Reference number- 24(Level or Type 1)

Table 11: Table Representing Practices Which Have Many Evidences and Supported By Level 1 Or 2 Evidence

S.No.	Practices	Number of evidences
1.	Avoid dependent loops	31*+#
2.	Intervene for absence of expected tidaling	25^
3.	Change position of drainage system from above chest level to below chest level	24#
4.	Record amount of drainage	21#

* Reference number- 11(Level or Type 2)
+ Reference number- 13(Level or Type 2)
# Reference number- 24(Level or Type 1)
^ Reference number-26(Level or Type 1)

DISCUSSION

Experts' opinion is varied for the practices. This shows a need to develop some standards for practices related to care of water sealed chest drainage so that health personnel of the institution can follow them in practice.

Many practices were better performed where care provider was staff nurse and unskilled worker (i.e. CTVS recovery) as compared to where maximum

number of care provider was relative in 95.59% observations (i.e. Medical Wards). This may be due to professional knowledge and skill of staff nurse involved in the care.

Some practices had only few evidences to support them and some had many evidences. There were practices which did not have any evidence but are followed in setting.

CONCLUSION

All prevalent practices are not evidence-based. There is need for evidence-based nursing. Experts' opinion and literature clearly suggest some practices which needs to be implemented during care of water sealed chest drainage system. Need for rigorous research in many areas of management of water sealed chest drainage system.

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Knowledge, Attitude and Practice of Herbal Remedies among Kani Tribes of Kerala State in India

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ABSTRACT

An exploratory survey was conducted to assess the knowledge, attitude and practice (KAP) of Herbal Remedies (HR) among Kani tribes of Kerala state in India. Kani tribe families of Trivandrum forest division in Kerala was selected by cluster sampling method and interviewed by structured interview schedules. Objectives of the study were to assess the KAP of Kani tribes regarding the use of HR for their common ailments and to find the association between selected variables of the study. The major findings of the study were: Majority (98%) of the sample had good knowledge and favorable attitude (97%) on HR. The least self reported practice of HR was found for animal bite (70%) and fever (71 %) and the most practice was found for cut (97%) snake bite (94%) burns (94%) and tooth ache (94%). Significant association were found between the attitude towards HR and previous experience of HR for burns, wound and Animal bite (P value: 0.025, 0.000 and 0.025 respectively), socio economic status and practice of HR for fever and Animal bite (P value: 0.011 for both) and the practice and previous experience of HR for all the common ailments (P value: 0.000 for all). A total of 70 plants were identified as used for the selected ten common ailments such as: fever, headache, toothache, joint pain, jaundice, cut, wound, burns, snake bit and animal bite[4,5].

Key words*: Herbal Remedies, Kani Tribe, Knowledge attitude and practice (KAP), Common ailments, Explorative Survey.*

INTRODUCTION

As our primitive ancestors evolved into human form, the disease they brought with them, and those they acquired along the evolutionary way, became social and cultural facts as well as pathological states. For human beings disease threatens not only the well being of the sufferers and their fellows, but also the integrity of the community. Every human community has responded to this challenge by developing a 'medical system'. Coming to the modern systems of health and health care delivery, it is a well known factor that Primary health care is essential health care based on practical, scientifically sound, socially acceptable methods and technology. It is the main vehicle through which an acceptable level of health and near total coverage can be achieved in the foreseeable future. In order to make such care readily accessible and acceptable in the community, maximum self reliance and community participation for health deployment are essential. The use of medicinal plants and traditional medicine could make people become more self reliant[1].

As per WHO fact sheet (2006), over one-third of the population in developing countries lack access to essential medicines. Traditional, complimentary and alternative medicines attract the full spectrum of reactions – to uncritical enthusiasm to uninformed skepticism. Herbal remedies are becoming increasingly popular as people seek more effective, natural, or safer methods for treating a variety of complaints[2].

Therefore nurses should have basic knowledge concerning medicinal plants, their identification, and preparation for therapeutic applications within the community in which they work[3].

There are 635 tribes in India, located in five major tribal belts across the country. Kani is a nomadic tribe in the southern Kerala state of, India and constitutes about 0.65% of the total population of Kerala state. They dwell in forests or near the forests in Thiruvananthapuram and Kollam in Kerala, and Tirunelveli in Tamil Nadu state[4].

MATERIAL AND METHODS

An explorative-survey research was undertaken among Kani tribe of Kerala state to reveal their KAP of HR for the selected 10 common ailments such as fever, headache, joint pain, jaundice, burns, cut, wound, snakebite and animal bite. One hundred Kani tribe families hamlet inside the tropical dense forest regions of Palode and Kulatupuzha Forest Range which comes under Trivandrum Forest Division of Kerala state were the sample of the study. Two stage cluster sampling technique was adopted to select the tribe settlements and the tribe families respectively. The eldest members of the selected families were interviewed using a structured schedule of data collection instruments.

Five tools were used for data collection. After content validity, the tool was pre tested on and found that the interview takes an average of 40 minutes for a family and all the questions were found clear and understandable for the subjects. The reliability test of the tools were checked on using test retest method, split half method, Chron bach's Alpha and Kappa statistics and the values were 0.980, 0.913, 0.892 and 0.764 respectively.

Pilot study was conducted at Mottamood tribal settlement, of Palode Forest range and the study was found feasible. Data for the main study were collected by house to house survey using interview technique and a sample of the herb / photograph of the herb was taken to identify it with the help of plant experts at Tropical Botanical Garden & Research Institute, Palode. Descriptive and inferential statistics in SPSS (11.5 version) was used to analyze the data of this study.

FINDINGS

The characteristics of the sample showed that majority (58 %) of the sample belongs to the age group of 41 – 65 years, and majority (71 %) of the sample was females. It was found that 98 % of the sample had good knowledge on HR and a majority (97%) of the sample had a favorable attitude for HR. It was also found that the most practice of HR were for cut, snake bite, burn and toothache (97 %, 94 % and 94% respectively) and the least practice of HR were for animal bite and fever (70 % and 71% respectively).

The association between knowledge, attitude, practice and selected variables were computed using Chi-square statistics (Fisher's Exact Test).There were no significant association between knowledge and the selected variables such as socio economic status (SES) and previous experience (Table 1). i.e. irrespective of the selected variables, they had a good knowledge on HR.

Table and Figure

n=100

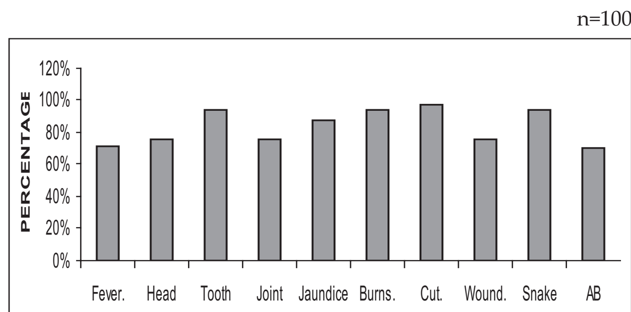

Fig. 1. Practice of HR by Kani Trible

Significant association was found between the attitude and previous experience of HR for common ailments such as burns, wound and animal bite. There was no significant association found between the attitude and other selected variables such as SES and previous experience of HR for the common ailments like fever, head ache, tooth ache, joint pain, and jaundice, cut and snake bite (Table 2).

A significant association was found between practice and previous experience of all the common ailments (Table 3). Also significant association was found among SES and Practice of HR for fever and animal bite. Among low SES, at least 60 and 51 % of the sample was found practicing HR for fever and animal bite respectively.

DISCUSSION

The knowledge of this system of HR was said transmitted from generation to generation and Saint. *Agasthya,* the Hindu Sadhu who lived in this forest region is said to be the original author of this body of knowledge. The eldest member of each family deals with herbal remedies when their family members are affected with minor ailments.And the major remedies were imparted by the traditional healer of the tribe, who is a lady and positioned next to the tribal king.

In focal group discussions with the tribe members, the reason for these least practice of HR for fever and Animal bite were discussed and it came up that, if a wild animal attacks a human, it would be of a stronger kind than the subjected human. And most of the wild beasts directly jump to the neck and bite, killing the human in a sudden attack. There fore the subjected human will not be in need of any Herbal Remedies there after. And the reason for the least practice of Herbal Remedies for fever is said as because of the recent outlet of chikun gunia in this region, just before the data collection period. The disease was beyond the control of their known herbal remedies for fever and the affected persons got debilitated with joint pain and general body ache for a longer time.

Table 1. Association between knowledge and selected variables n= 100

No.		Knowledge				
		Good	Avg	FET-P value.	df	S
1.	Socio economic status. High. Low.	 19 79	 0 2	1.000	1	NS
2.	Previous experience of HR for Fever. Yes. No.	 77 21	 2 0	1.000	1	NS
3.	Previous experience of HR for Headache Yes. No.	 74 24	 2 0	1.000	1	NS
4.	Previous experience of HR for Toothache. Yes. No.	 92 06	 2 0	1.000	1	NS
5.	Previous experience of HR for Joint pain. Yes. No.	 74 24	 2 0	1.000	1	NS
6.	Previous experience of HR for Jaundice. Yes. No.	 86 12	 2 0	1.000	1	NS
7.	Previous experience of HR for Burns. Yes. No.	 92 06	 2 0	1.000	1	NS
8.	Previous experience of HR for Cut. Yes. No.	 95 03	 2 0	1.000	1	NS
9.	Previous experience of HR for Wound. Yes. No.	 68 30	 2 0	0.876	1	NS
10.	Previous experience of HR for Snake bite. Yes. No.	 92 06	 2 0	1.000	1	NS
11.	Previous experience of HR for Animal bite. Yes. No.	 68 30	 2 0	0.876	1	NS

There is no money value inside the forest and the tribes are totally isolated from the outside world of the forest either due to the geographical barriers or due to the shy and primitive nature of the tribe. The tribe people are found still dependent on hunting and collection of wild forest products for their daily life. It is a fact that inside the dense forest regions they do not have a readily accessible or acceptable treatment facility. Therefore irrespective of their socio economic status and previous experiences, perhaps they are necessitated to have a good knowledge of herbal remedies for their day to day survival.

The most practice of HR for cut, tooth ache and snake bite could also be understood in a different perspective that the frequency of these ailments is high among the tribe. Life and survival is the most difficult within these wild forest regions and, cuts and snake bites are said very frequent in their everyday life. Their poor nutritional and hygienic status could have been contributing to tooth decays and almost all suffer from tooth ache at one or another stage of their life.

The previous experience of the cure or non cure of these ailments with the use of herbal remedies would definitely have been made an influence on the attitude and practice towards the use of these herbs. It was identified that, though they know the herbal remedies used for these ailments, they do not attempt to use them but seeks the help of the traditional healer for cure. It is because of the belief that these ailments happen due to the wrath of the *Mountain Gods* and they need not only the herbs but rituals and over night chanting of the traditional healer to get a cure. The affected person needs to stay with the traditional healer in her hut, till the complete cure of the ailment. Mean while the other family members supply the necessary food grains and supplements for the affected person and the healer.

There for the practice of HR among Kani tribe has to be viewed not only on the basis of the plant and its medicinal effect, but also in a holistic view of the disciplines practiced along, the count of chanting and administration of HR which perhaps determines the frequency of administration, and determination of angle of the sun and/or moon for the collection of the herb which might be having a photonic effect on the herb.

Table 2. Association between attitude and selected variables n= 100

	ATTITUDE					
No.		**FA**	**UFA**	**FET-P value**	**df**	**S**
1.	Socio economic status. High. Low.	 78 19	 03 00	 0.917	 1	 NS
2.	Previous experience of HR for Fever. Yes. No.	 76 21	 03 00	 0.852	 1	 NS
3.	Previous experience of HR for Headache. Yes. No.	 73 24	 03 00	 0.763	 1	 NS
4.	Previous experience of HR for Toothache. Yes. No.	 91 06	 03 00	 1.000	 1	 NS
5.	Previous experience of HR for Joint pain. Yes. No	 73 24	 03 00	 0.763	 1	 NS
6.	Previous experience of HR for Jaundice. Yes. No.	 85 12	 03 00	 1.000	 1	 NS
7.	Previous experience of HR for Burns. Yes. No.	 94 03	 00 03	 0.000	 1	 S
8.	Previous experience of HR for Cut. Yes. No.	 94 03	 03 00	 1.000	 1	 NS
9.	Previous experience of HR for Wound. Yes. No.	 70 27	 00 03	 0.041	 1	 S
10.	Previous experience of HR for Snake bite. Yes. No.	 91 06	 03 00	 1.000	 1	 NS
11.	Previous experience of HR for Animal bite. Yes. No.	 70 27	 00 03	 0.041	 1	 S

Table 3. Association between Practice and selected variables n= 100

	Previous experience of HR					
No.		**No**	**Yes**	**FET-P value.**	**df**	**S**
1.	Practice of HR for Fever. No Yes	 21 00	 00 79	 0.000	 1	 S
2	Practice of HR for Headache No Yes	 24 00	 00 76	 0.000	 1	 S
3	Practice of HR for Toothache. No Yes	 06 00	 00 94	 0.000	 1	 S
4	Practice of HR for Joint pain. No Yes	 24 00	 00 76	 0.000	 1	 S
5	Practice of HR for Jaundice. No Yes	 12 00	 00 88	 0.000	 1	 S
6	Practice of HR for Burns. No Yes	 06 00	 00 94	 0.000	 1	 S
7	Practice of HR for Cut. No Yes	 03 00	 00 97	 0.000	 1	 S
8	Practice of HR for Wound. No Yes	 24 06	 00 70	 0.000	 1	 S
9.	Practice of HR for Snake bite. No Yes	 06 00	 00 94	 0.000	 1	 S
10.	Practice of HR for Animal bite. No Yes	 30 00	 00 70	 0.000	 1	 S

CONCLUSION

There exist no written documents on the system of Herbal Remedies practiced among Kani tribe, and the only evidence for the efficacy of these remedies are the long living healthy tribe members who are cured. When these remedies impart a safe and effective cure, there emerges a need to report this body of knowledge and practice. Systematic documentation of this system of HR with appropriate intellectual property right could be the first step towards this goal. Also extensive researches with these herbs would contribute to the scientific body of evidence based practice.

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The Effect of Footbath on Sleep Onset Latency and Relaxation among Patients with Cancer

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ABSTRACT

Background: Sleep disturbance is reported to be a significant problem for patients across the cancer care. Footbath has been found to be a powerful alternative therapy used for sleep induction in spite of sleep medications which has a lot of side effects.

Objectives: To determine the effect of footbath on sleep onset latency and determine the relaxation level among patients with cancer. 2) Determine the relationship between the sleep onset latency and relaxation score.

Methods: A quasi-experimental time series design was used, and selected 40 samples by purposive sampling method. The tools used were a baseline proforma, an observation checklist for sleep onset latency and a relaxation rating scale. The data was analyzed using descriptive statistics, ANOVA, paired't' test, Karl Pearson correlation co-efficient, and chi-square test.

Results: 1. There was a significant difference between pre and post intervention sleep onset latency. (F=56.15, F=120.1, F=143) > (F (2, 195) =3.04)

2. Majority 35(87%) experienced maximum relaxation.

Conclusion : The study showed that footbath is effective for early sleep onset latency and relaxation.

Key words**:** *Footbath; Sleep onset Latency; Relaxation; Patients with Cancer*

INTRODUCTION

Sound, restorative sleep is the foundation of a healthy life. Sleep disturbances have been associated with a decline in cognitive, psychological, and physical function, as well as in an inability to take pleasure from work or social activities. This can lead to a rapid decline in quality of life with a sharp impact on one's ability to function and gain satisfaction in living[1].

Cancer patients seem more prone to disturbed sleeping patterns such as insomnia difficulty in falling asleep, difficulties staying asleep and non-restorative sleep, before, during, and for years after treatment[2, 3]. Several other studies have reported that approximately half of patients with cancer suffer from sleep disturbances. A study was conducted in the year 2001 at Canada on the prevalence, clinical characteristics, and risk factors for insomnia in the context of breast cancer showed that the onset of insomnia followed the breast cancer diagnosis in 33% of the patients and 58% of the patients reported that cancer either caused or aggravated their sleep difficulties[4, 5].

Assessments of duration of symptoms among cancer patients with insomnia demonstrate a trend toward chronic sleep disturbance. Among the patients with sleep disturbance in the survey by Davidson et al, 75% of them reported longer than six months of symptoms, and 32% of them were 5 years or more post diagnosis[6]. This finding is supported by studies by Savard et al,[7, 8] which demonstrate that among both breast and prostate cancer patients, 95% of the individuals who meet diagnostic criteria for cancer-related insomnia syndrome experienced chronic symptoms[6].

A study on the Relationship of Subjective Sleep Quality, Pain, and Quality of Life in Advanced Cancer Patients showed that quality of sleep in patients suffering from stage IV cancer was significantly decreased[9]. A study on "Quality of sleep and related factors during chemotherapy in patients with stage 1/11 breast cancer revealed the poor sleep quality and day time sleepiness[10].

An article on sleep disturbance in patient with advanced cancer also pointed out that sleep disturbance is a significant problem for patients across the cancer care trajectory[11]. These findings emphasize the urgent

need for the development of practice guidelines to manage symptoms and reduce the chronic burden of this condition among cancer patients.

Although pharmacotherapy is the most prescribed therapy for cancer patients with sleep disturbances, there is a paucity of studies related to pharmacologic interventions in cancer patients [12, 13]. The extensive use of these drugs will produce the adverse effect of over sedation, ataxia, confusion, respiratory depression; short-term memory impairment, hallucination and depression[14,15]. Here the need for the complementary therapy emerge[14]. In addition to standard treatments, complementary therapies are increasingly being used by cancer patients in an effort to alleviate cancer symptoms [15].

Like foot massage and other relaxation therapies footbath is one of the effective methods for inducing sleep. Thermoregulation exhibits powerful interaction with sleep. A study conducted the effect of foot bathing on distal proximal skin temperature gradient in elders have shown that decreased core temperature and increased distal temperature are associated with shortened sleep onset latency NREM sleep. A warm footbath warms the skin, which causes vessel dilation and induces heat dissipation. Intervention that enhances heat dissipation prior to sleep will improve the sleeping pattern of the subjects[16].

Footbath can be an effective method of relaxation, since it induces both significant increases in parasympathetic activity and significant decrease in sympathetic activity. Since these physiological changes are likely to be, beneficial to health this findings support the use of foot bathing in nursing practice.[17] The present study was thus undertaken with the objective of assess the effect of footbath on sleep onset latency and relaxation.

MATERIAL AND METHODS

Research Design

The research design used in this study was pre -test post- test time series design. In this study, for the first five days the investigator observed the sleep onset latency of the patients every 15 minutes for two and half hours (8.30pm to 11pm) and the next five days the investigator administered the intervention (footbath) at 8.pm and made observations after the intervention in every 15 minutes for two and half hours (8.30pm to 11pm).

Sample

The study was conducted in Father Muller medical college hospital, Mangalore, which has bed strength of 1050. The sample for the study consisted of 40 patients in the age group 40-70 years diagnosed to have cancer admitted for the treatment.

Data Collection Instruments

Baseline proforma was used to collect the baseline data and selection of the samples. It consisted of 12 items for obtaining information regarding age, sex, marital status, religion, family history, occupation, type of cancer, treatment modality, stage of cancer, and sleep onset variables like usual time to go to bed, the duration to fall asleep, and difficulty in getting into sleep. It can be found in table 1.

Table 1(a): Frequency and Percentage Distribution of Subjects base on their Age, Sex, marital status, religion, and occupation

N=40

Variable	Frequency (f)	Percentage (%)
Age (in years)		
40-49	12	30
50-59	19	47
60-69	8	20
70-79	1	2
Sex		
Male	15	38
Female	25	62
Marital Status		
Married	36	90
Single	2	5
Divorced	0	0
Widow	2	5
Religion		
Hindu	20	50
Christian	11	28
Muslim	9	22
Any other	0	0
Occupation		
Professional	0	0
Non profes-sional	40	100

Table 1(b). Frequency and Percentage Distribution of Subjects base on their Type of Cancer, Treatment modality, Stage of Cancer

N=40

Variable	Frequency (f)	Percentage (%)
Type of Cancer		
Gastrointestinal system(GIT)	12	30
Respiratory system(Resp)	4	10
Reproductive system(Repr)	20	50
Central nervous system(CNS)	0	0
Genitor Urinary system(GUT)	4	10
Treatment Modality		
Chemotherapy	9	23
Radiation	27	67
Surgery	1	3
Combination/all	3	7
Stage of Cancer		
Stage1	5	13
Stage 2	23	58
Stage 3	11	27
Stage 4	1	2

Table 1(c). Frequency and Percentage Distribution of Subjects

base on their usual time to Go to Bed, the Duration to fall Asleep, and Difficulty in Getting Sleep

N=40

Variable	Frequency (f)	Percentage (%)
Usual Time to Go to Bed		
Before 8 pm	3	7
8-9 pm	9	23
9-10 pm	23	58
10-11 pm	5	12
After 11 pm		
The Duration to Fall Asleep		
Less than half an hour	0	0
1-2 hour	5	12
2-3 hour	16	40
More than 3 hour	19	47
Difficulty in Getting into Sleep		
None	0	0
Very little	0	0
A lot	40	100

Observation checklist was used to assess the sleep onset latency before and after the intervention. The checklist consisted four items namely; time to go to bed, closing of the eyes, loosening of the object and respiratory rate. The investigator observed the patients from 8.30 pm to 11pm once in every 15 minutes (11 times) and rated according to the subject's response. If the subjects are fulfill the criteria on each observation the investigator would give one score for each item. With the first three items, (time to go to bed, closing of eyes and loosening of object) the maximum score was 33. The respiratory rate was also recorded once in every 15 minutes.

Relaxation rating scale was used to assess the relaxation level of the subjects with cancer at the end of the intervention (6th day morning of the post intervention or 10th day of the study).

Description of "Footbath"

Footbath or hot foot immersion is a type of hydrotherapy which was used by the investigator for achieving an early sleep onset latency and relaxation.

After the five days of pre observation, footbath was administered at 8 pm for 15 minutes for five days to the patients with cancer to those who were having difficulty in falling asleep. The subjects were instructed to have the food before one hour of the intervention.

Around 9.5 liters of hot water at 40-45 degree Celsius was taken in a bucket and the participants were instructed to immerse their feet till half of the lower leg. The temperature of the water was maintained at 40-45 degree Celsius throughout the procedure by measuring the temperature of water with the help of water thermometer.

To find out the loosening of the object investigator gave a small light weight ball to the patient's hand and instructed them to hold the ball while sleeping.

Findings

The mean post sleep onset latency score ($\bar{X}$=24.6) was greater than the mean pre intervention sleep onset latency score ($\bar{X}$= 9.25) (table 2).

Table 2. Range, Mean, and SD of Sleep Onset Latency Score of Patients with Cancer

N=40

Variable	Range		Mean		SD	
	Pre	Post	Pre	Post	Pre	Post
Sleep Onset Latency Score	5-12.2	20.2-27.8	9.25	24.6	3.32	3.86

In pre intervention 39 (97.5%) of the subjects sleep onset latency was "very late onset" and one (2.5%) of the subjects sleep onset latency was "late onset" where as in post intervention period, 32(80%) of the subjects had "early onset" and 9(22.5%) of the subjects had "late sleep onset latency" (table 3).

All the samples sleep onset latency reduced from 120 - >150minutes minutes to 30 – 60 minutes.

Majority of the subjects 35(87%) experienced maximum relaxation and five of them experienced moderate relaxation (table 4).

There was a significant difference between pre and post intervention sleep onset latency as the tabled value F (2, 195) = 3.04 is lower than the calculated value, (F=56.15, F=120.1, F=143) (table 5).

Added findings

In pre intervention majority 30(75%) of the sample's respiratory rate was 20-22 per minute, where as in post intervention majority 66(90%) of the sample's respiratory rate was 17-19 per minute and 2(5%) of the sample's respiratory rate was 14-16per minute

There was no significant correlation between post intervention sleep onset latency in terms of time to go to bed, closing of the eyes, and loosening of the object on the tenth day and relaxation score on the tenth day (r= -0.16, -0.17, -0.0781). There was a negative correlation between post intervention sleep onset latency on the tenth day and relaxation score.

There was a significant negative correlation between post intervention sleep onset latency and respiratory rate. (r= -0.3907).

The computed t value (t 39=4.07, 3.09, 3.02) showed that there was a significant difference in sleep onset latency between O_6 and O_7 (1st day and 2nd day of the post intervention), O_7 and O_8 (2nd day and 3rd of post intervention) and O_8 and O_9 (3rd and 4th day of post intervention), where as there was no significant difference on sleep onset latency between O_9 and O_{10}

Table 3: Distribution of Subjects According to the Grading of Sleep Onset Latency Score.

N=40

Sleep Onset Latency Score	Grading of SOL Score	Pre Intervention		Post Intervention	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
23 - 33	Early Onset	0	0	32	80
12 - 22	Late Onset	1	2.5	9	22.5
0 - 11	Very Late Onset	39	97.5	0	0

Maximum Score -33

Table 4: Distribution of Subjects According to the Grading of the Relaxation Score.

N=40

Grading	Relaxation Score	Frequency (f)	Percentage (%)
No Relaxation	1 - 22	0	0
Mild	23 - 24	0	0
Moderate	45 - 66	5	13
Maximum	67 - 88	35	87

Table 5: Significant Difference between Pre and post Intervention Sleep Onset Latency

N=40

				Sleep Onset Latency					
Variable	Time to Go to Bed			Closing of the Eyes			Loosening of the Object		
Days	Mean	SD	ANOVA	Mean	SD	ANOVA	Mean	SD	ANOVA
Pre Observation	5.72	2	F=56.15	2.9	1.57	F=120.1	0.62	1.16	F=143
Post O1	8.63	1.05		7.13	1.83		5.1	1.83	
Post O2	9.05	0.99		8	1.24		6.05	1.69	
Post O3	9.43	1.15		8.43	1.13		7.2	1.32	
Post O4	9.73	1.09		9.13	1.24		7.75	1.35	
Post O5	9.8	1.22		9.45	1.17		7.98	1.27	

Table value of F (2, 195) = 3.04

as the calculated value (1.58) is lesser than the tabled value (t_{39}=1.68). The data also reveals that there was a significant difference on sleep onset latency between O_6 and O_{10} as the calculated value (7.77) is greater than the tabled value (t_{39}=1.68).

CONCLUSION

Helping patients with cancer to manage their sleep disturbance is an extremely important function of nurses. The footbath was a structured, practical and intensive non pharmacological treatment modality that clearly demonstrated benefit in early sleep onset latency and relaxation among patient with cancer. Apart from the therapeutic results reported in the present findings, the footbath can be practiced by patients at home, which empowers them with a preventive and self-help measure in managing sleep disturbance.

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Stressors and Coping Strategies Among Baccalaureate Nursing Students at Shifa College of Nursing Islamabad, Pakistan

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ABSTRACT

Context: Nursing education is stressful and students go through various pressures throughout their study period. It has been reported that nursing students may encounter different stressors; relating to their academia. These stressors serve as a source of stress and are believed to affect students' health and academic performance.

Objective: Determine the stressors and coping strategies in nursing students studying at Shifa college of Nursing, Islamabad- Pakistan.

Methods: Analytical cross-sectional study was carried out and data was collected from 78 nursing students of all years of BSc. Nursing by using student's stress and coping inventory of Lazarus & Folk man (1984).

Findings: The score of stress level in nursing theory = 2.37, clinical experience = 2.35, College environment= 2.39 and social / personal environment= 251. The p-value of one way ANOVA amongst classes was significant for clinical experience (P = 0.000), college environment (P = 0.00) and social / personal environment (P = 0.000). Most common coping strategies used by the students were; discuss feeling with friends or class mates (Mean= 2.75), did what is expected of me (Mean= 2.84), self analysis to understand the situation better (Mean= 2.38), accept the situation (Mean= 3.1) and become involved in other activities (Mean2.75, SD= 0.99).

Conclusion: Significant stressors reported by the students are modifiable and can be reduced by changing assessment criteria, develop effective feedback system, strengthening the role of faculty advisors, training of faculties as counselors, providing recreational opportunities to students.

Key words: *Stress, Academic stress, Stressors, Academic stressors, BSc. Nursing, Nursing students, Coping strategies, Nursing Education.*

INTRODUCTION

Education can be a major source of stress for students as it leaves profound effects on students, if not appreciated and addressed. Though adolescents are stressful because of stressors associated with social environment and financial issues etc, but the academic stressors serve as one of the major stressors for them. Studies have classified the sources of stress into three main areas out of which, academic related stress has proven to be one[4].

Like other students, nursing students also suffer from various academic stressors such as; being in the right academic program, assignments, workload, time management, college environment and uncertain future etc[3]. Doubts about being in the right academic program, concerns about faculty or advisor relations and concerns about time to attain degree are some of other stressors.

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Stressors can induce either positive or negative stress in students. Stress if taken positive by students, can enhance performance and productivity of the students. Conversely, stress if perceived negative or become excessive, can result in declination of performance of students[1]. Stress (distress) can also lead to low productivity (Education and Patient care), minimized quality of life, and suicidal ideas.

Overwhelming burden of studies gives students a minimal opportunity to relax and recreate and sometimes leads to serious sleep deprivation. It constitutes various stressors which may cause impaired judgment, reduced concentration, and loss of self-esteem, increased anxiety and depression[2].

Coping is an individual cognitive evaluation towards stress and the measures adopted to balance one's mental state. Sound coping strategies can change the individual subjective cognition, improve the ability of handling problems individually and ameliorate emotion [5]. Students adapt different coping strategies, harmful as well as constructive.

Shifa College of Nursing (SCN) is a private educational institute of Pakistan, which runs four year BSc. Nursing program. This program is challenging and stressful for students. They may experience high stress at predictable times during each semester due to academic commitments. This fact was validated by the faculty; who observed an overall decline in grades of students. Also, majority of the students reported to their advisors that low performance was greatly associated with academic stressors. Moreover, few students were referred to the psychiatrist as well.

METHODS

Analytical cross sectional study was carried out to achieve the objectives. The study population consisted of 120 undergraduate nursing students enrolled in years 1–4 of BSc. N program at Shifa College of nursing during the 2009–2010 academic years. The sample size consisted of 90 students.

Written approval was taken from the Institutional Review board (IRB) of Shifa College of Medicine and Nursing, and permission to carry out the study was granted by the Dean and director of the Nursing College.

After obtaining the approval, the participants were informed about the study. The confidentiality and anonymity was ensured by using the college ID numbers of students. For data collection, self administered student stress and coping inventory by Lazarus and folk man (1984) inventory was used after omitting its components which were not related to the environment of researchers. The inventory was comprised of total 66 items., which were divided into two parts; 1) sources of stress containing 47 items 2) coping strategies containing 19 items. The sources of stress were further divided into four components; i) nursing theory contained 14 items ii) nursing clinical comprised of 17 items) iii) college environment contained 7 items iv) social and personal environment in relation to attending college consisted of 9 items.

Levels of stress produced due to stressors were measured on criteria of likert scale ranging from 1-4. For details, see the table 1.

Table 1. Criteria for level of stress

Range of Mean	Level of stress
1	Not at all stress
1.1 – 2	Mild Stress
2.1 – 3	Moderate Stress
3.1 – 4	Extreme Stress

The frequency of using the coping strategies was measured on likert scale of 1-4. For details on see the table 2.

Table 2. Frequency of coping strategies used

Range of Mean	Coping strategies
1	Not used
1.1 – 2	Less used
2.1 – 3	Frequently used
3.1 – 4	Always used

Total of 78 students provided completed questionnaires. Incomplete questionnaires were not included in the study. It was ensured that data was not collected one week before and after, or during the examination or assignment in order to eliminate the effect of acute stressors.

The data was entered and analyzed in SPSS-15. Descriptive and inferential statistics was done to compute the results. The descriptive data included frequencies and means of levels of stress and coping strategies. The difference of stress levels amongst classes was also measured. The significance of difference of stress levels amongst classes and gender was determined by applying one-way ANOVA and independent two samples T-test respectively. P value <0.05 was considered as significant for one way ANOVA and T-test.

FINDINGS

Mean age of students was 22 years. Males and females were 56 (72%) and 22 (28 %). The average stress level experienced by the students was 2.40, which showed that academic stressors were producing moderate level of stress in nursing students. The level of stress in four major categories is given in table-3.

Table 3. Descriptive statistics of stress level in each category of stressor

	Nursing Theory	Nursing clinical	College environment	Social environment
Mean	2.37	2.35	2.39	2.51
Std. Deviation	.5372	.6090	.6977	.7068

The statistics shows that over all stress level in each category of stressor was moderate, with social/personal environment in relation to college being the most severe stressor for students.

Class wise difference in stress level produced by four categories of stressors was obvious, which is shown in table-4.

Table4. Mean stress level according to classes

	Nursing theory	Nursing clinical	College environment	Social environment	Avg. Stress Level
1st Year	2.2	2.3	2.1	2.2	2.2
2nd Year	2.6	2.8	3.0	3.1	2.87
3rd Year	2.2	2.0	2.4	2.6	2.3
4th Year	2.5	2.4	2.2	2.2	2.32

The statistics reflected that over all, all years were experiencing the moderate level of stress. The 2nd year students had the highest stress levels in all four categories of stressors with average stress level of 2.87 while 1st year students had the least stress level of 2.2. The stressors related to college and social environment resulted in producing extreme level of stress in 2nd year students.

To determine the mean difference of stress level among classes with respect to nursing theory, nursing clinical, college and social environment one way ANOVA was applied. See Table-5-8

Table 5. Descriptive statistics and one way ANOVA of stressors related to nursing theory amongst classes

Stressors related to Nursing theory	Mean	S.D	P-value
Nursing Theory	2.37	0.53	.016
Excessive work load (e.g. amount of work, type of assignments, amount of content covered)	3.05	0.75	0.012
Preparing for examinations (e.g. focusing on text book and/or lecture material)	2.73	1.08	0.006
Presentation of content in examinations (e.g. not sure what is being asked, manner in which questions are structured)	2.66	1.15	0.032
Possibility of failure	3.11	1.11	0.34
Availability of faculty for academic help	1.74	0.91	0.01
Receptiveness of faculty for academic help	1.75	1.0	0.89
Meeting own expectations of academic performance	2.5	1.12	0.002
Due dates of assignments (e.g. negotiating dates with faculty, change of dates by faculty)	2.57	1.13	0.475

Table 6. Descriptive statistics and one way ANOVA of stressors related to nursing clinical amongst classes

Stressors related to nursing clinical	Mean	SD	P-Value
Nursing Clinical Experience	2.35	0.60	.000
Evaluation by instructor (s) (e.g. being observed)	2.74	0.98	0.004
Condition of clients assigned (e.g. dying, critically ill)	2.53	1.11	0.281
Possibility of making an error (e.g. medication, assessment of client)	2.67	1.08	0.092
Exposure to contagious disease/ catching something from client	2.61	1.14	0.015
Being in an emergency situation	2.82	0.99	0.318
Preparing for clinical assignments	2.67	1.07	0.004

Table 7. Descriptive statistics and one way ANOVA of stressors related to college environment amongst classes

Stressors related to college environment	Mean	SD	P value
College Environment	2.39	0.69	.000
Change in major field of study	2.52	1.07	0.102
Travel to college (e.g. time, distance)	2.8	1.17	0.42
Purchasing text books and other course materials	2.73	1.11	0.005

Table 8. Descriptive statistics and one way ANOVA of stressors related to social/personal environment amongst classes

Stressors related to social/personal environment	Mean	SD	P-Value
Social / personal environment in relation to attend college	2. 51	0.63	.000
Fatigue/energy level	2.89	0.96	0.002
Ability to sleep	2.43	1.06	0.017
Insufficient time to do the things you want	3.05	0.97	0.213

Table 9. Descriptive statistics and ANOVA of the most frequently used coping strategies

Coping Strategies	Mean	SD	P- Value
Did what is expected of me (e.g. set goals, prepared assignments	2. 84	0.94	0.27
Discussed concern(s) feeling with friend and or class mates	2.75	0.90	0.293
Self analysis so I could analyze and understand it better	2.38	0.91	0.205
Became involved in other activities to take my mind off things (e.g. exercised, read, watched television)	2.75	0.99	0.886
Accept the situation	3.1	0.88	0.816

The p-value of one way ANOVA for coping strategies amongst different classes was not significant, which means the all the students of different class utilized the coping strategies approximately at the same frequency.

DISCUSSION

The aim of this study was to assess the sources of stress among nursing students and the coping strategies they used to overcome these stressors. The first year students are exposed to nursing field for the first time in their lives, in terms of new content, different attitudes of faculty, continuous studies, new assessment and evaluation criteria, change in methodology and environment and little time to relax. All these factors result as moderate stress for them. It was found that 2nd year students experienced greater stress in every component than students of other classes. As the students progress from 1st year to 2nd year, the work burden remarkably increases in terms of teaching nursing theory and nursing clinical. Content which is taught and clinical skills performed in 2nd year is heavier than in 1st year, so sudden shift of work burden produces more stress in comparison with other years. More assignments like writing reflective logs, making learning based port folio, case study presentation, providing care to more than three patients in ward, are introduced first time to the students. Also specialty subjects like child health nursing is also taught to the students in 2nd year. In order to manage studies, students require more books, notes, articles and reading material, which also serve as an unexpected stress as it put financial burden on them. All these stressors have led to compromise the social and personal life of the students that is why the 2nd year students have reported the extreme level of stress in social/personal environment.

Whereas, the 3rd year students are not experiencing the same level of stress, though the work burden is same for them. It is because they have adapted the demands of studies and learnt management skills. Also, the content of 2nd year is continued in this year. But the social and interpersonal environment is still high in 3rd year. Again, in 4th year, the students are exposed to new subjects, evaluation criteria, and tough and time consuming assignment and projects, leading to increase stress level.

The students reported the highest level of stress in social and interpersonal environment. It is because the stressors related to nursing theory and clinical directly influence the social and personal environment of students in negative manner. Consequently, all these stressors are collectively producing the moderate level of stress in the students, thus impairing their academic performance and decline in grades.

No significant difference in stress level is found within gender, probably because of unequal ratio of males and females. The number of male students in the college is high in comparison with female students

The students are using some coping strategies frequently, but these coping strategies are not helping them much in reducing the stress level. This might be because of the reason that they have limited themselves to certain coping strategies mentioned in analysis. They infrequently seek the guidance of faculty advisors assigned to them; which could have been very effective if used. The utilization of coping strategies is not found significantly different with in the classes. It is also reflecting that these coping strategies are not proving to be effective with increasing amount of stressors when students move from 1st to 2nd year and 3rd year to 4th year.

CONCLUSION

It is evident that students are experiencing moderate level of stress, which is significantly impairing their academic performance. It has been analyzed that all of the major stressors encountered by the students are modifiable. Effective interventions can minimize these stressors in order to improve the academic performance of students. The curriculum should be revised and distributed in a manner that will not pose an extra burden in a particular year. Furthermore, the coping resources must be strengthened to counteract the effects of stress. To achieve that, meeting with faculty advisors must be mandatory for all students. Also, faculty needs to be properly trained, so that they can properly counsel the students. Some work must be done on the part of students as well. They should be clarified about the importance and purposes of seeking faculty advice.

STUDY LIMITATIONS

One important limitation of this study was that we used a small sample of students, drawn from just one of the nursing college of Pakistan. Our findings cannot be generalized for students in other degree programs, such as those in master's or doctoral degree programs. The self-report questionnaire used also carried the risk that respondents would answer in a socially desirable manner.

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An Experimental Study to assess the Effectiveness of Music Therapy on the Post Operative Pain Perception of Patients Following Cardiac Surgery in a Selected Hospital of New Delhi

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ABSTRACT

Background: Music therapy is defined as the use of music in the accomplishment of therapeutic aims: the restoration, maintenance, and improvement of mental and physical health. Music therapy decreases the perception of pain by temporarily occupying the "gates of pain" located on the spinal cord. Another hypothesis is that musical therapy works by decreasing sympathetic nervous system output and dampening the overall arousability of the central nervous system. The relaxation response created leads to improved breathing, lowered blood pressure and heart rate, reduced muscle tension, increased attention span, improved memory, mental acuity and social interaction, and increased orientation to reality. Musical therapy has a number of applications for heart patients.

Objectives :The objectives of the study were to determine the level of pain perception among the patients admitted in the CTVS department as measured by a numerical rating scale before and after the introduction of music therapy, to compare the physiological parameters, namely blood pressure and pulse rate before and after the introduction of music therapy, to assess the opinion of patients regarding the utility of music therapy, using an opinionnaire and to assess the attitude of staff nurses and doctors regarding the music therapy as a pain management strategy, using an attitude scale.

Method: This experimental study following pretest posttest design was undertaken at the CTVS Unit of Safdarjung hospital in New Delhi. 64 subjects were randomly allocated to either experimental or control group using computer generated table of random numbers.

Results: The music therapy was found to have significant effect on postoperative pain, BP and pulse. The postop scores of pain, BP and pulse were significantly less in the patients who underwent music therapy. All of the subjects felt relaxed and found music as an effective measure in reducing their pain level. Only 20% of doctors and nurses had highly favourable attitude towards music therapy as a pain management strategy.

Key words: *Music Therapy, Postoperative pain, Cardiac Surgery*

INTRODUCTION

Music can soothe us out; slow us down and save us from the ravages of tension. Music helps to slow the autonomic nervous system, and enhances alpha brain wave production for clearer and calmer thoughts[1]. Using music as a soothing or healing element in patient treatment has been of great scientific interest over the last years. Post operative pain is an enduring and widespread problem in the care of the surgical patients. Despite enormous progress in the other areas of medical technology, little has changed in the management of post operative pain except the number of patients requiring treatment. Critical illness and major surgeries is always a traumatic event for both the patient and the family. At this time the patients require physical, mental, social, and spiritual support from others. Holistic nursing embraces the whole nursing, which has as its goal the enhancement of healing the whole person from birth to death. It embraces the care of the whole patient's body, mind and spirit even the family members need as well. In the US, an increase of 47.3% in the use of complementary therapy is reported within seven years. Some of these therapies include music, relaxation techniques, guided imagery, acupuncture, nutritional therapy and massage therapy[2]. There are very few researches being done related to effect of music therapy on pain perception

of post operative patients following cardiac surgery (especially after 72 hrs of surgery). This motivated the investigators to undertake the study of music to reduce post operative cardiac pain. Objectives: the objectives of the study were:

1. To determine the level of pain perception among the cardiac patients admitted in the CTVS department as measured by a numerical rating scale before and after the introduction of music therapy.
2. To compare the physiological parameters, namely blood pressure and pulse rate before and after the introduction of music therapy.
3. To assess the opinion of patients regarding the utility of music therapy, using an opinionnaire.
4. To assess the attitude of staff nurses and doctors regarding the music therapy as a pain management strategy, using an attitude scale.

The following null hypotheses were framed:

$H0_1$: The mean post intervention pain, BP and pulse of cardiac patients will not be significantly different than the mean pre-intervention pain, BP and pulse in the experimental group receiving music therapy, at 0.05 level of significance.

$H0_2$: The mean post intervention pain, BP and pulse of cardiac patients in the experimental group, after music therapy will not be significantly different than that of the control group at 0.05 level of significance.

Conceptual framework for this research study was based on General system theory pioneered by Ludwig Von Bertalanffy (1969).

MATERIAL AND METHODS

The study followed an experimental pretest posttest design. The independent variable was the music therapy and the dependent variables were pain scores, blood pressure, pulse rate and opinion scores of patients.

Setting: The study was conducted at the post operative ward in the CTVS department of Safdarjung Hospital, New Delhi.

Sample: The sixty four patients, were randomly allocated to experimental and the control group by using a computer generated table of random number. Four patients expressed unwillingness for the study, thus the final sample size was 60, thirty subjects, in each group. Patient in the age group of 18 years and above, undergoing treatment in the CTVS unit and, in the second or more post operative period were included in the study. Based on the conceptual framework and objectives of the study, the following tools were developed :

1. **Semi structured interview schedule** consisting of 10 questions to assess the demographic data like age, sex, gender, educational qualification, occupation, marital status, type of family etc. Factors like interest in music therapy, type of music of interest and number of previous cardiac surgeries were also included.

2. **Numerical Rating Scale** to assess the pain perception scores of patients following cardiac surgery.

3. **Structured Opinionnaire** to assess the opinion of patients regarding the utility of music therapy consisting of 15 statements.

4. **Attitude Scale** to assess the attitude of staff nurses and doctors regarding the music therapy as a pain management strategy containing 14 positive and negative statements. Range of score for attitude scale was between 14-70.

5. **Music CD** was developed under the expert guidance of the music therapist. Music was randomly selected and grouped as Old Hindi songs, Devotional songs, Instrumental music and Gazals. The music was compiled into a CD and was sent for validation from the experts. The CD was found appropriate for the study by the experts. Music therapy was administered to the patients for 20 min, using a MP3 player and a headphone.

Content validity of semi structured interview schedule, numerical pain intensity scale opinionnaire, attitude scale, observation checklist and music therapy CD was established by giving the tools to the 15 experts from the field of medical science, medical education, nursing science and nursing education. Music CD was given to 3 experts. The experts were requested to review and verify these items for adequacy, relevancy, clarity, and suitability. The interrater reliability for numerical rating scale was established by a senior and a junior CTVS resident and 92% agreement was found. The reliability of BP and pulse was established by inter rater reliability method. There was 98% and 100% agreement respectively. The reliability of attitude scale was established by using Cronbach's alpha. It was found to be 0.96.

Data collection procedure: Formal administrative permission was obtained from the Medical Superintendent of Safdarjung Hospital. Data was collected from 15 December 2011 to 31 December 2011. Thirty patients in each experimental and control group were randomly allocated. The patients were asked about the type of music in which they are interested in. The pre intervention pain scores, blood pressure and pulse rate was assessed in both the groups. In the experimental group, music therapy was introduced

for a span of 20 minutes, and then they were asked to rest for 10 minutes. The patients in the control group were also asked to rest for 30 minutes. Then the post intervention pain scores, blood pressure and pulse rate was assessed in both the groups. Structured opinionnaire was administered 30 minutes after the introduction of music therapy in the experimental group. The attitude of doctors and staff nurses, working in the CTVS department was also assessed regarding music therapy as a pain management strategy.

Findings

Data was analysed using descriptive statistics to describe the sample characteristics and inferential statistics was to compare the two groups. Level of significance was kept at 0.05 level. Patients in both the groups were similar with regard to the demographic variables like gender, age, religion and educational background (table 1).

Table 1. Comparison of demographic characteristics of cardiac patients in both the groups

S. No	Variable	Experiment Group (n1=30)		Control Group (n2=30)		Test	p value
		f	%	f	%		
1.	Gender						
	Male	20	66.7%	16	53.3%	Chi square	0.068
	Female	10	33.3%	14	46.7%		NS
2.	Age						
	15-30	14	46.67%	9	30%	Fisher Exact Test	0.280
	31-46	8	26.67%	14	46.67%		NS
	47-62	6	20%	5	16.67%		
	63-78	2	6.66%	2	6.66%		
3.	Religion						
	Hindu	28	93.3%	27	90%	Fisher Exact Test	1.000
	Muslim	2	6.7%	3	10%		NS
	Christian	Nil	0%	Nil	0%		
	any other	Nil	0%	Nil	0%		
4.	Educational background						
	a. Primary						
	b. Secondary	16	53.3%	17	56.7%	Fisher Exact Test	0.163
	c. Graduate	11	36.7%	12	40%		NS
	d. Post graduate	3	10%	1	3.3%		
	e. Others	Nil	0%	Nil	0%		
		Nil	0%	Nil	0%		

Table 2. Comparison of physiological variables between experimental and control group

Variable	Experimental group (n_1=30) Mean (SD)	Control group (n_2=30) Mean (SD)	t	p value
Pain	4.2 (1.4)	3.5 (1.4)	1.51	0.13
Systolic Pressure	129.1 (8.5)	126.8(10)	0.94	0.35
Diastolic Pressure	83.2(6.6)	83.6(6.17)	0.28	0.78
Pulse	91.6(8. 6)	88.4(5.5)	1.71	0.09

As shown in table 2, both the groups were homogeneous with regard to pain and physiological parameters, namely systolic blood pressure, diastolic blood pressure and pulse rate.

Table 3. Comparison of Pre Intervention and Post Intervention variables in Experimental group. n=30

Variable	Preintervention (n_1=30) Mean (SD)	Postintervention (n_2=30) Mean (SD)	t
Pain	4.2 (1.4)	2.7(1.5)	9.13*
Systolic Pressure	129.1 (8.5)	124.3 (8.5)	8.79*
Diastolic Pressure	83.2(6.6)	79.4(6.93)	8.78*
Pulse	91.6(8. 6)	85.20 (6.1)	8.13*

df (29), t =2.04, *Significant at 0.05 level

There was a significant decrease in the mean posttest scores of cardiac patients with regard to pain, systolic BP, diastolic BP and pulse in the experimental group (table 3).

Music therapy was found to be effective in reducing the pain and other physiological variables in the postop cardiac patients. Thus, the null hypothesis **HO1** is rejected.

Table 4. Comparison of Pre Intervention and Post Intervention pain score variables in control group. n=30

Variable	Preintervention (n_1=30) Mean (SD)	Postintervention (n_2=30) Mean (SD)	t
Pain	3.5 (1.4)	4.1(1.6)	3.9*

df (29), t =2.04, *Significant at 0.05 level

There was a significant difference between the mean preintervention and postintervention pain scores in the control group (table 4). The mean posttest pain scores of the patients in the control group were significantly higher than the mean pretest scores.

Table 5. Comparison of mean post intervention scores of pain, BP and pulse between experimental and control group. n=60

Variable	Experimental group (n_1=30) Mean (SD)	Control group (n_2=30) Mean (SD)	t
Pain	2.7 (1.5)	4.1(1.6)	3.425*
Systolic Pressure	124.3(8.5)	132.9(9.5)	3.68*
Diastolic Pressure	79.40 (6.9)	84.7(6.9)	2.96*
Pulse	85.20(6.094)	89.73(5.913)	2.92*

df (58), t =2.01, *Significant at 0.05 level

There was a significant difference between the groups with regard to mean posttest scores of pain, systolic BP, diastolic BP and pulse (table 5). The patients exposed to music therapy had significantly lower mean posttest scores of pain, systolic BP, diastolic BP and pulse. Thus, null hypothesis **HO2** is also rejected.

All the subjects believed that music had helped in reducing their level of pain, had a soothing effect, and also they experienced a change of mood from unpleasant to pleasant. Majority of 73.33% of subjects disagreed to the statement that music helped them to sleep gradually. All of them felt better after the introduction of music therapy. 80% of doctors and nurses had moderately favourable attitude and only 20% of doctors and nurses had highly favourable attitude towards music therapy as a pain management strategy.

CONCLUSION

The music therapy was found to be effective in reducing the pain perception score in patients following cardiac surgery. The music therapy was found to be effective in decreasing the physiological parameters, namely diastolic blood pressure and pulse rate. In the control group, after 30 min there was a slight increase in the pain score, blood pressure (both systolic and diastolic) and pulse rate. It may ascertain to the fact that the pain has the effect on the physiological parameters.

DISCUSSION

The finding of the present study are similar to the findings of the study by Sendelbach.et.al (2006),[3] which assessed the effects of music therapy on physiological and psychological outcomes for patients undergoing cardiac surgery. A significant reduction in anxiety and pain was demonstrated in the group that received music as compared with the control group. However, the study conducted by Iblher.P.et.al (2011)[4], revealed that there was a significant increase of pain in the operated area, thirst, nausea and remembrance of the postoperative period when music was administered. Music is an inexpensive therapy which diverts the mind. So it will be beneficial to the students, if they inculcate the principle of alternative therapy in their studies and every realm of life. The nurse administrators must understand the need of light-music introducing in all settings, especially in ICU set up, waiting room areas, OT, labour room, etc. Many more research studies could be done to assess the efficacy of this highly feasible and less expensive therapy in various other conditions and settings. Effectiveness of music therapy on clinical conditions like labour pain, surgery, and psychiatric conditions like depression, schizophrenia can be studied. The present study is just an initial attempt, and it will encourage and motivate health personnel to do more research studies in this area.

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Conflict of Interest: None

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A Qualitative Study to Explore the Experiences of Adolescents Living with Cancer

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ABSTRACT

Aim: This study aimed to explore the perceptions of adolescents suffering with cancer about their life situation in the present as well as in future.

Background: Adolescents and young adults aged 15 to 39 are much more likely to be diagnosed with cancer than children under the age of 15. The most common types of cancer seen in adolescents and young adults are lymphoma, leukemia, germ cell tumors (including testicular cancer), melanoma, sarcomas, and colorectal cancers.[1] Adolescence is a phase of transition rather a very fragile & delicate period of life & getting affected with a life threatening illness like cancer at this stage is definitely debilitating. Invariably, the diagnosis of cancer may come as a great shock to the person concerned; it can shatter the hopes of not only the person concerned rather that of the entire family. There is still little known on how adolescents feel about their lives in such a complex situation and what they think about the future shape of their lives. This study is designed to fill that gap and to study the lived experiences of adolescents suffering from cancer.

Method: Qualitative research approach was used. Seven adolescents suffering from cancer & any one of their parents were interviewed and data was analysed using qualitative descriptive approach.

Findings: The perception of cancer was different to different people. Some of the adolescents viewed it as a life-threatening event usually with no cure. While other adolescents were brave hearts & said that it's just another battle to fight. However all the parents have experienced shock & fear on account of this dreadful event. All the participants stated that suffering with cancer was definitely an unwelcomed & bitter experience on account of the unmanageable sign & symptoms; the debilitating effects of tests & treatments; restrictions enforced; varied experiences at various health care facilities; added financial burden & the hampered school life. All the participants stated that parents were the strongest support for them throughout. Another important finding was that even till today in spite of the tremendous efforts on awareness programmes there is a strong stigma attached to cancer. All the participants perceived future as uncertain & bleak.

Conclusion: Understanding the problems associated with the adolescents suffering from cancer will help in improving upon the quality of care to be provided to such adolescents.

***Key words**: Adolescents, Cancer, Qualitative study*

INTRODUCTION

Cancer is a life-threatening illness with many challenges; in addition, the adolescent children with cancer are confronted with their own unique challenges. They must deal with not only events specific to the diagnosis and adverse treatment effects of a life-threatening illness but also complex developmental changes and demands[2,3]. It is during the period of adolescence that personal identity, independence and autonomy, sexual and emotional maturity, and future life opportunities are established.[4] Nevertheless, major developmental tasks may be difficult to achieve or delayed because of the effects of cancer. A multitude of feelings such as anxiety, fear, sadness, and hopelessness may engulf the adolescents with cancer as they try to get through cancer. It seems evident that there is need for qualitative research that can explore the experiences of the adolescents suffering from cancer.

OBJECTIVES

1. To identify the adolescents' perception regarding

cancer.

2. To identify the impact of the illness on their daily life.
3. To identify the apprehensions of such adolescents about their future.

METHODS

Research Approach: Qualitative Research

Participant Recruitment: This study utilized the purposive sampling technique. The researcher made an attempt to include subjects with different types of cancer. Adolescents who had been diagnosed with cancer, those who were aware that they have cancer, there was significant impact of cancer on them & their families & were willing to participate were selected for the study.

Setting: The study was conducted in the inpatient oncology unit of Safdarjung Hospital, New Delhi.

Method of data collection: Semi-structured, in-depth, non-intrusive qualitative interviews were conducted, lasting for 45-90 minutes with seven adolescents and any of their parents. The interviews took place from November 2011 to January 2012. Successive interviews were done with the adolescents & their parents. Voice recorder was used for the participants who gave consent. Further field notes were also taken. Interviews consisted of three root research questions. Each root question was followed by a number of probes in order to explore their feelings & experiences. The 3 broad questions were:

1. What are adolescents' perception regarding cancer?
2. What is the impact of the illness on their daily life?
3. What are the apprehensions of such adolescents about their future?

DATA ANALYSIS

A qualitative descriptive approach was used based on questions in the interview guide. Using the transcribed data & the field notes, the data was analysed first into major themes, from which subthemes & categories were derived. The researcher focussed on describing the common themes that emerged using the principles of thematic content analysis.

ETHICAL CONSIDERATION

Prior to commencing this study, permission was obtained from the Ethics committee of Jamia Hamdard University, New Delhi. Permission was also taken from the Safdarjung hospital, New Delhi for conducting the study. Patient's willingness & informed consent to participate in the study were ascertained. Confidentiality & anonymity of the data was maintained.

RESULTS

Demographic data: All seven adolescents interviewed were males with a mean age of 16.7 years. They were all Hindus, one of them was studying in class 7th, two in class 9th, one in class 10th, one in class 11th, one in class 12th, & one of them was pursuing graduation. Six of them were living in nuclear families & only one was living in a joint family. One of them was the only child of his parents; rest had one or more siblings. Four of the adolescents had Acute lymphoblastic Leukemia (ALL), one had Acute Myeloid Leukemia (AML), one had Ca. Rectum & one had Non- Hodgkin's Lymphoma (NHL).

Main themes which emerged were:

1. Mixed perceptions about cancer (table 1)

- Life threatening and devastating illness
- No need to afraid
- Shock and fear (parents)

2. Physical and psychological distress (table 2a and 2b)

- Unmanageable sign & symptoms
- Debilitating effects of tests & treatment
- Too much restrictions
- Experience at various health care facilities.
- Economical crisis
- Hampered school life
- Social stigma
- Support system

3. Uncertain & bleak future (table 3)

Table 1. Theme 1. Mixed perc eptions about cancer

Sl. No.	Subthemes	Statements
i	Life threatening and devastating illness	*"Cancer is the biggest disease known so far because I never had this much of problem as I had this time. I had been a victim to typhoid three years back even then nothing like this happened."* -Subject 2. *"At first I was really shocked because I had such a disease which I had not even thought in my worst dreams. Further I had heard that if it happens to someone then that person dies."*-Subject 5. *"Before I had it I did not knew anything. I had heard about it but I had never paid much attention."*-Subject 6
ii	No need to afraid	*"I was not afraid.... I did not feel too bad also."*-Subject 1. *"I felt that when there is a disease there must be some treatment, cure for it as well. I believed I will be alright."*-Subject 2.
iii	Shock and fear (parents)	*"His father was in a very bad condition when he was told about his disease, he couldn't stop crying even for a second."*-Subject 1(Mother). *When I was told I was shocked, I was crying & was all alone.*-Subject 2(Mother). *"I am always worried thinking ""What will happen…..he is now more precious for us than ever before. If he is fine, everything is fine."*--Subject 1(Mother). *"Will he be alright?"*-Subject 7 (Mother)

Table 2a. Theme 2. Physical and psychological distress

Sl. No.	Subthemes	Statements
i	Unmanageable sign & symptoms	*"After sometime this problem had increased, I was managing to go to school but was not able to play, Sometimes I couldn't sleep properly at night because of pain. In the beginning I was eating food but later I had stopped eating also."*-Subject 1 *"I used to go for training in NCC, all of a sudden I used to have severe pain in my legs. After some days the pain was so severe that if I sat I was not able to get up, & vice-versa, with these complaints I was taken to a nearby doctor."*-Subject 2
ii	Debilitating effects of tests & treatment	*"First time when BMA was done I was really afraid."*-Subject 1 *"BMA caused lot of pain. Once the needle was removed, 2 hours after it was extremely painful."*-Subject 6 *"I had ulcers in my mouth, throat, till here (pointing to the chest). First time nothing had happened but second time this had happened. I was unable to eat, I was living only on water. For months I was drinking only water, I had grown very weak. I lost 10 kgs of weight from 55 kgs to 45 kgs."*-Subject 2
iii	Too much restrictions	*"I was told not to eat uncooked food, then was told to keep cleanliness in the house. I was restricted from going out & talking to people unnecessarily. I was not supposed to go in crowded areas because if I had cough then it was dangerous. They told if someone else catches fever, cough, they can get well soon but for me it is difficult & dangerous."*-Subject 4 *I used to feel bad about all those restrictions. Sometimes I used to feel that I am useless. I sometimes felt "What am I doing sitting here?"*-Subject 5
iv	Experience at various health care facilities.	*"Someone told us better we should go to Delhi. It takes long to get admission in ....S.... & he could not be admitted so & we went to another hospital ....P..... There at hospital ....P..... they reviewed the reports & told that it is a tumour- a type of cancer, but there is nothing to be worried because it will get cured by 100%. But someone told that you will get ruined if you continue treatment here because this was a private hospital. So we decided to again go back to S."*-Subject 7 (Mother). *"I don't feel good at all. I had never been to a hospital ever in my life before this so when I was admitted to the hospital for the first time I had a very bad feeling. I only look forward when to go back home"*-Subject 3

Table 2b. Theme 2. Physical and psychological distress continued…

Sl. No.	Subthemes	Statements
v	Economical crisis.	*"His father works on daily wages , he doesn't earn much. We have borrowed money from some people, I had to sell all my jewerelly & ornaments to continue his treatment."*-Subject 2 (Mother). *"He used to administer the drug on an OPD basis & send us home daily because per day bed charges were Rs. 4000, doctor's fees, drugs, etc were additional. My father does not have that much of an income so I myself refused to continue treatment"* -Subject 3. *" Problem was to that extent that even we had to sell our village land."*-Subject 5
vi	Hampered school life	*"I felt a bit bad because it would waste my one year of studies. I was studying in class 10th & had to leave it in between."*-Subject 1 *"It was the 3rd term exams of class 9th, in Feb. when I had fallen sick & since then I have not been to school."*-Subject 2 .*"Yes, I had just finished class 8th, & stepped into class 9th when I had fallen sick & since then I didn't go to school."*-Subject3. *"But I regret that one crucial year of my studies has gone waste because of this illness."*-Subject 4
vii	Social stigma	*"Actually it didn't make a difference to me but the negative feelings that people have about you that he has this or that which hurt you & you need to hide it. So I don't tell the truth, I tell them some other story."*-Subject 3 *Yes, his paternal uncle behaved very differently after his illness, he didn't let his children come close to my child because he had cancer. When we used to come to his home, he used to be very unhappy. One day he said "He has this illness so better take & admit him to some hospital."* -Subject 1 (Mother). *"When someone asks me about all this it feels very awkward to tell them all this"*- Subject 4
viii	Support system	*"My parents were the strongest support."*-Subject 1. *"One of my nephews was the strongest support throughout this period. Even financially he supported us."*-Subject 2 (Mother). *"My father & apart from him my brother, my uncle & one of my father's friend also. They said don't worry whatever money, blood etc. is needed they will arrange for it."*-Subject 3 *"My parents & even my uncle & aunt helped us a lot."*-Subject 6

Table 3: Theme 3. Uncertain & bleak future

Subthemes	Statements
Dreary future	"In *future I have thought of studying only.*"-Subject 1. "*Death is inevitable; everyone has to die one day, whether today or tomorrow. But the only regret that I have is "I could not do anything in my life. I wanted to become a police inspector but sad....., usually that requires a medical fitness which I cannot pass.*"-Subject 3. "*I also had thought a lot about life, future, but nothing happens according to what we think or plan. Because I am having such an illness parents remain worried about me because every parent thinks once the son grows up he will become a support for them but I could not do that rather I am a burden on my parents. I could not do anything, thinking about all this I become much tensed.*"-Subject 6. "*When I think about his future then I only know what I feel. I am always worried thinking "What will happen of him? He is now more precious for us than ever before. If he is fine, everything is fine.*"-Subject 1 (Mother). "*The days till now were very good, although we are poor yet we were happy till now, Life was running smoothly but since one year as he is sick the only concern we have is that he should get well soon. His father also remains tensed. Someone whose child is in such a danger, how can he even think of remaining happy? Rest is fine*"-Subject 2 (Mother)

SUMMARY OF MAIN FINDINGS

Cancer was perceived differently by different people. For some it was nothing less than a nightmare while for others it was just another illness. The fact to accept that one has cancer at such crucial years of one's life was definitely difficult for almost all of them. The adolescents and families faced many challenges including unmanageable signs & symptoms; effects of tests & treatments; changes and restrictions in the daily routine, increased psychological and physical work, lengthy and intense treatment regimens, re-visits & follow up and multiple losses. For almost all the adolescents, the hampered school life was the worst experience on account of cancer. The stigma attached to cancer seems to be quite strong in the Indian society. All the adolescents stated that their parents & family was the strongest support for them. The participants were uncertain & apprehensive about their future.

DISCUSSION

Woodgate[5] highlighted that on account of cancer, adolescents experienced changes in their lived bodies because of the symptoms and this, in turn, impacted their sense of self and way of being in the world. These results are consistent with the findings of the present study. Kestler SA and Lobiondo-Wood G.[6] identified that pain from cancer-related procedures and fatigue were the most frequently identified symptoms, followed closely by nausea and vomiting. In the present study also most of the adolescents expressed the same problems. Previous studies have highlighted the need to eradicate the social stigma associated with cancer, the present study also emphasizes on the same issue as the stigma is still firm and consistent in the Indian society.

IMPLICATIONS FOR NURSING PRACTICE

The study suggests that the nursing personnel should be well-equipped with knowledge, skills & possess a positive attitude when dealing with adolescents suffering from cancer & should be able to understand the impact of illness on the young, tender adolescents as well as their parents. The study also suggests that it is important to have frequent educational health teachings for the common people so that they know that cancer has a cure. Moreover, there is an urgent need to address the issue of stigma attached to cancer in the society.

CONCLUSION

Cancer is a powerful event that can put up many challenges & shatter the hopes of the entire families. It is high time for all of us to address the issue of social stigma attached with cancer. Nurses can play a very significant role in all aspects of cancer care be it spreading awareness, providing physical, psychological support, or improving upon the quality of care to these innocent adolescents.

Conflict of Interest: None

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Determining the Awareness of Nurses Regarding the Basics of Blood Pressure Control

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ABSTRACT

Objective: Measuring blood pressure is one of the most important clinical skills of nursing. Most nurses think controlling blood pressure is a simple and banal matter. However, Nurses should be able to measure vital signs and the correct values to understand and interpret and report findings to appropriate. Aim of this study is to determine the nurses' awareness level of the basic principles of blood pressure control.

Methods: This study is a descriptive-analytic study performed on 85 nurses working in Valiasr Hospital, Borujen, Iran 2009. Data was collected using the demographic information questionnaire and the primary information questionnaire regarding blood pressure control. Data were analyzed by descriptive statistical tests, chi square and direct t test.

Results: The results confirmed that nurses have little primary information and awareness about basic blood pressure control information . The highest awareness level of participants was 58%. Also the awareness level of personnel in general wards is higher than those of specialized wards (P< 0.01).

Conclusions: The nurses' role in monitoring vital signs, especially on the patients' acceptance, monitoring the treatment process and discharge can not be disregarded. Therefore, it is necessary to provide clinical skill training such as monitoring vital signs for nurses.

Key words: *Blood pressure; awareness; nurses*

INTRODUCTION

Specializing in clinical nursing procedures is the result of commitment to knowledge application and clinical experiences. Being skillful in interpreting clinical situations and making complex decisions is necessary for nursing care and it is the basis of nursing development, especially care that is directly related to the patient's survival.[1]

In this regard, evaluating vital signs is very important. Temperature, pulse, blood pressure and respiration are called vital signs and show the body's physiologic function.[1, 2]

Also, it is a quick and certain way for controlling the patients' situation, discovering their problems and evaluating the patients' response to procedures. These amounts show the effectiveness of blood circulation, respiration, nerves and endocrine and due to their importance they are called vital signs.[1] Nurses should be able to measure vital signs correctly and understand and interpret them and report them suitably and perform necessary measures.[1,2] besides the correct monitoring of these signs, the important point are that nurses should interpret vital signs in relation to other obtained results from the patient.[2]

Among the various vital signs, only blood pressure is measured indirectly and with special mechanic tools, therefore this issue could increase the rate of error and mistakes.[1, 2, 3]

Measuring blood pressure is one of the most important nursing skills and the level of learning this skill varies considering factors such as opportunities for practice, utilized tool, amount of supervision by the teacher and the amount of self-confidence.[4]

However, the level of this skill has to at a desirable level as expected and this is while the results of various researches shows that this is not the case for many nurses.[5] Vital signs and other physiologic scales of the body are foundations for solving clinical problems and help nurses in diagnosis and evaluation of further procedures and plan for medical and nursing services.[1]

The results of Baillie's study also show that the knowledge and skill of nurses and physicians in controlling blood pressure is at a low level.[6] Gonzalez also confirmed the results of studies that show Only 8 / 51% of medical and nursing students under study, an acceptable level of blood pressure control techniques have [3], therefore, considering the importance of this issue, the aim of this study is to determine the awareness level of nurses regarding primary principles of controlling blood pressure.

METHODS

This study is a descriptive-analytic study in which the nurses of Valiasr Hospital, Borujen, form the study population. The number of samples is equal to the studies population which is 85 people, consisting of 26 men (30.58%) and 59 women (69.41%). In order to gather information, two questionnaires were used, the demographic information questionnaire and the primary information questionnaire regarding blood pressure control that this questionnaire was developed by researchers. The demographic questionnaire consisted of questions about age, gender, marital status, and work experience, type of employment, type of responsibility, place of employment, place of education and type of university. The primary information questionnaire regarding blood pressure consisted of 20 multiple choice questions in which each question had one correct answer. The maximum score was 20 and the minimum score was zero. The awareness level was defined as follows: (15-20: excellent awareness level), (10-15: moderate awareness level), (5-10: weak awareness level) and (0-5: very weak awareness level).

Content and face validity was confirmed by a number of experts. Reliability, also, assessed by chronbakh alpha that was 0.75 and supports. Then, Information obtained by the statistical software package SPSS, version 11, and using descriptive statistical tests, chi-square and T-test were analyzed.

RESULTS

This study performed on 85 nurses of Valiasr hospital in Borujen-Iran that 30.58% (N=26) men and 69.41% (N=59) women and they were all aged between 22-49 and a mean age of them 23.65±4.20.

The mean work experience was 23.65±4.20. Results related to other demographic information is given in Table 1.

The mean awareness of the studied participants was 11.1±3.25, which had a considerable difference with the acceptable level (20). The maximum score was 15 and the minimum score was 4.

This mean score in men was 11.5±3.32 and in women was 11.7±2.38 and did not have a considerable difference between the two genders ($P>0.05$). Also, the mean awareness level between nurses who had an M.S compared to those who had a B.S was not statistically significant ($P>0.05$).

The results of the study showed that the awareness level of nurses in general wards (13.95±2.38) is higher compared to nurses in the specialized wards (10.2±1.36) ($P<0.05$).

The mean score was higher in individuals who had more work experience. In other words, the awareness level of experienced nurses (13.15±1.67) was higher compared to amateur personnel (11.7±1.26) ($P<0.05$).

The mean awareness level difference among official and non-official nurses was not statistically significant ($P>0.05$). The mean awareness level difference between nurses who had graduated from governmental and non-governmental universities was not statistically significant ($P>0.05$).

DISCUSSION AND CONCLUSION

The results of this study confirmed that the awareness level of nurses regarding blood pressure control is low $(\bar{X} = 11.1 \pm 3.25)$. This mean score did not have a considerable difference between men and women. Marital status, age, university, type of employment and organizational position also did not have a considerable difference. Some points have to be mentioned in this regard: Nurses have little awareness of primary principles in controlling blood pressure and there is no significant difference between the awareness of nurses with an M.S degree and those with a B.S degree and the awareness level of nurses who work in the general wards is higher than nurses who work in specialized wards.

Gonzalez also confirmed the results of studies that show medical and nursing students under study have low level of blood pressure control techniques.[3]

Results of Corbally study also showed that the level of knowledge of physicians and nurses about blood pressure control technique is very low and he found that one of important causes is inobservance of

principles in education of practical skills. He believes that education of practical skills such as control of blood pressure, pulse rate and respiratory rate, needs to classroom that have a few students as exist time of practice and repeat for all. [7]

Results of Bialy's study also supports this advantages and showed that nursing students don't have any knowledge and skills that needs to blood pressure control, even don't have ability to correct use of stethoscope and sphygmomanometer and devices that must educational planning for training of blood pressure control revise and revision.[6] Although controlling blood pressure plays an important role in determining the patient's condition and cannot be underestimated, many physicians and nurses think that controlling blood pressure is simple and they measure it without paying attention to its proper measurement method and according to this cause education of this technique, don't have best quality, as results of OSCE test of physicians and nurses, in Bialy's study showed only 51% of those, could pass this stage.[6,7]

It can be stated that learning practical skills like controlling blood pressure needs frequent practice and correct reaction is as important as practice.[5] Therefore, nursing students have to be provided with the opportunity to handle this technique skillfully when they begin their clinical responsibilities. Whether do this work? Dennison study results also showed this point. [8]

One of most important cause of nurses infirmity in knowledge and skill of blood pressure control, is lack of educational plans in this case and if this exist, often don't accordance to principles of AHA. Therefore, training of physicians and nurses is inadequate. [9,10] Besides higher education programs, no other specific training is presented for monitoring vital signs. Thus, having a higher degree is not really influential in skillfulness in controlling blood pressure. The researchers guess perhaps, the cause of this problem is that in complementary education course, special education to control of vital signs will not be presented.

The lower level of awareness of the CCU and ICU ward's personnel compared to the personnel of the general wards, the researchers believe that because in special wards, nurses dependent to use technology and advanced systems to control of blood pressure, not only their knowledge in this field has been reduced, perhaps, their skill too have been subject to change.

Hence, according to the results of this study, it is necessary to hold training classes of controlling vital signs and training course have to support better clinical training skills.

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A Methodological Study to Develop A Peristomal Skin Assessment Tool For Patients With Colostomy In Selected Hospital, Ludhiana, Punjab

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ABSTRACT

A Methodological study was conducted to develop a Peristomal skin assessment tool for patients with colostomy in selected hospital, Ludhiana, Punjab. The sub objectives were to select and tool items to assess Peristomal skin for patient with colostomy, to construct a Peristomal skin assessment tool for patients with colostomy, to check the validity of newly devised Peristomal skin assessment tool for patient with colostomy. The tool was developed under three phases. And under each phase some steps had been taken-

Phase1 - PRELIMINARY PREPARATION

During this phase the investigator developed the preliminary Peristomal skin assessment tool for which the following steps were taken:

Step-1: Review of literature-

Step-2: Items selected and pooling-

Step-3: Preparation of draft- Selected items which seemed to represent parameters for Peristomal skin assessment was organized.

PHASE II- VALIDATION OF FIRST DRAFT AND SUBSEQUENT DRAFTS

Step-1: Selection of Panel- There were 10 (ten) experts in all Delphi rounds.

Step-2: Delphi Rounds- The modified Delphi technique was used to validate the draft

Step-3: Modification- As per the expert's opinion the modifications in the tool (PSAT) were made. The final result was formulation of PERISTOMAL SKIN ASSESSMENT TOOL (PSAT).it consisted of 6 parameters such as colour, tissue type, and type of exudate, bleeding, wound edges and hydration. The CVI OF TOOL WAS 0.8.

Key words: *Peristomal skin assessment tool; Delphi Techique, Methodological Study, Panelist, CVI*

INTRODUCTION

If you want to succeed you should strike out on new paths, rather than travel the worn paths of accepted success." John D. Rockefeller

Colostomy is temporary stoma which is surgically created from large intestine to abdominal wall so that passage of stool can occur. The skin care around this stoma is important part of colostomy care which is necessary to prevent skin excoriation, irritation, redness and helps to keep the integrity of the skin so that every nurse must ensure to give high quality care with the use of best practice guidelines, knowledge and skill. The word stoma is derived from a Greek word meaning mouth or opening. Intestinal or urinary stoma are surgically created opening connected to intestinal tract and anterior surface of abdominal wall to allow the diversion of the body waste. Stoma formation is only indicator in disease management. Information and application to patient care is reliant on the body of knowledge established between the members of multipersonal team.[1]

Mortality rate for colostomy patients vary according to patients' general health upon admittance to hospital.

Even among high risk patients mortality is about 16%. This rate gradually reduced between 0.8%, 3.8%, when the colostomy is performed by board certified colon & rectal surgeon.[2]

One of the aims of good stoma care is maintenance of healthy Peristomal skin. Skin around the stoma should be clean, dry and intact and there should be no difference between the Peristomal skin and reminder of the healthy abdominal skin. Stoma care is the best kept as simple as possible, with the use of minimal or no stoma accessories. Before guiding the stoma patient in the selection of suitable appliance, the stoma care nurse specialist needs to be mindful of several aspect relating to the surgical procedure, the stoma itself and the patient ability and references.[3]

NEED OF STUDY

Peristomal skin integrity plays an important role in stoma management, and the selection of a skin barrier is the first line of defense in maintaining healthy skin.[4]

In Bamford and Gibson's (2000) study using focus groups , clinical nurse specialist perceived the key elements of their role as being focus on clearly defined area of clinical practice and having appropriate nursing experience combined with educational under pinning . Therefore, specialist stoma care nurses need to have expert knowledge and base their practice on evidence.[5]

Literature has demonstrated that Peristomal skin problem are significant, effecting one third of colostomy patient and more than two third of ureostomy and iliostomy patient (Hellman and Lago, 1990) suggested that Peristomal skin problem pose significant burden those with the, effecting the quality of life and rehabilitation.[6]

OBJECTIVES OF STUDY:

MAIN OBJECTIVE:

To develop a Peristomal skin assessment tool for patients with colostomy in selected hospitals, Ludhiana, Punjab.

SUB OBJECTIVES:

1. To select and tool items to assess Peristomal skin for patient with colostomy.
2. To construct a Peristomal skin assessment tool for patients with colostomy.
3. To check the validity of newly devised Peristomal skin assessment tool for patient with colostomy.

PURPOSE OF STUDY

The purpose of study is to develop a standardized tool for Peristomal skin assessment to prevent further complications.

ASSUMPTIONS

Staff nurses do have knowledge regarding Peristomal skin assessment but may not have standardized tool for assessment of Peristomal skin.

DELIMITATIONS

1. This study is delimited to only two rounds of modified Delphi technique.
2. This study is delimited to 10 panelists.
3. The study is delimited only to validity of Peristomal skin care tool. Reliability of the formulated tool is not included.

OPERATIONAL DEFINITIONS

PERISTOMAL SKIN ASSESSMENT TOOL: It consists of list of items to gather socio-demographic data and assess Peristomal skin parameters, organized in a structured form to assess the skin assessment pattern in patients with colostomy.

MODIFIED DELPHI TECHNIQUE: It is a data collection method employed to formulate Peristomal skin assessment tool (PSAT) by obtaining consensus from different panels in 2 rounds. Suggestions given by various panelists are incorporated after subsequent round. The data was send via e-mail.

DESIGN

A non-experimental "Modified Delphi Approach" was used to develop a Peristomal skin assessment tool in selected hospital, Ludhiana, Punjab.

Selection and Description of Field for Study

The present study was conducted at institute of nursing education, Guru Teg Bahadur (c) Hospital, Ludhiana, Punjab.

METHOD

STEPS OF DEVELOPMENT OF TOOL

- The tool was developed under three phases. And under each phase some steps had been taken-

Phase I – Preliminary Preparation

During this phase the investigator developed the preliminary Peristomal skin assessment tool for which the following steps were taken:

Step-1: Review of literature- An extensive review of literature was carried out from books, journals and through internet. Literature was searched which represents the assessment of Peristomal skin. Various scales were searched. Literature related to instrument construction and standardization was also reviewed.

Step-2: Items selected and pooling- Different scales and tools were analyzed and related items such as socio-demographic data, Peristomal skin assessment parameters were selected from the content and the items were pooled together.

Step-3: Preparation of draft- Selected items which seemed to represent parameters for Peristomal skin assessment were organized to generate first draft of Peristomal skin assessment tool. In this draft the items were categorized accordingly. There were total 25 items in the tool scored about 32.

Phase II-Validation Of First Draft And Subsequent Drafts

Step-1: Selection of Panel- There were 10 (ten) experts in all Delphi rounds. The Delphi panel was consisted of members from field of Medical Surgical Nursing, Mental health nursing, Community Health Nursing. The sample of panelists was heterogeneous to ensure that entire spectrum of opinion is determined. The verbal consent was taken from the selected experts to participate in the study. The panelists were willing to participate and were interested in the study. The first draft of tool was circulated among 10 experts from above stated fields.

Step-2: Delphi Rounds- The modified Delphi technique was used to validate the draft (The Delphi is iterative process designed to combine expert's opinion into group consensus. According to this technique the response of each panelist remains anonymous that there is equal chance of each panelist to present ideas unbiased by the identity of other panelist. There are subsequent Delphi rounds until a definitive level of consensus is recorded). All the panelists were requested to give their valuable suggestions pertaining to the content, accuracy of information, the item order i.e. organization and sequence of the items and wording of the items. The consensus was undertaken using a five point likert scale (1 strongly disagree,2 disagree ,3-modify,4 agree,5 strongly agree) with consensus agreement set as mean of at least 3 .The suggestions given by panelist were incorporated to generate the second draft of tool and the common consensus was obtained.

Step-3: Modification- As per the expert's opinion the modifications in the tool (PSAT) were made.

CONTENT VALIDITY OF TOOL

It was done by the expert's opinion. The tool was circulated to 10 experts of various specialties i.e. Medical Surgical Nursing, Psychiatric Nursing, Gynecological and Obstetrical Nursing, Pediatrics Nursing and Community Health Nursing. The experts were asked to rate these items in terms of relevance to the Peristomal skin assessment tool (PSAT). A 4 point ordinal rating scale was used. (4=very relevant and succinct; 3=relevant but needs minor revision; 2= unable to assess relevance; 1= not relevant; Lynn).34 The content validity index (CVI) was calculated for each item i.e. item level CVI and scale CVI. Item level CVI is the proportion of experts who score the items as content valid with rating of 3 or 4. The entire scale CVI was calculated as the proportion of item on tool that achieved a rating of 3 or 4 by all experts. Based on feedback from the entire expert panel, item CVI lower than 0.7 were deleted. The scale CVI was 0.8.

MAJOR FINDINGS

Tool 1 was subdivided into 2 categories. Category A demographic data, category B assessment Performa.

AFTER ROUND 1

1. On the basis of mean consensus score, items having scored less than 3 were deleted. The items deleted after round 1 was evaluator's name, history taking, and date of discharge and chief complaints.
2. On the basis of mean consensus score, items having score 3 were modified. The items modified after round 1 were sex. Sex was modified into gender.
3. As per recommendations by panelist a new sub-category was added namely skin assessment parameters and a scoring criteria.
4. Tool 2 (modification after round 1): Tool 2 was divided into 3 categories; A socio demographic data, B assessment of characteristics of colostomy and C Peristomal skin parameters with grading.

AFTER ROUND 2

1. On the basis of mean consensus score, no item was deleted.
2. On the basis of mean consensus score, items modified were Peristomal skin parameters, moisture and turgidity.

3. Scoring criteria with maximum score of 22 was modified and adjusted to maximum score of 18.

4. Live pictures were added in Peristomal skin assessment tool according to grading criteria.

5. A new name was assigned to Peristomal skin assessment tool- PSAT.

CONTENT VALIDITY INDEX

CVI of the PSAT tool was 0.8.

RESULT

PERISTOMAL SKIN ASSESSMENT TOOL (PSAT) WAS FORMED .it consisted of 6 parameters such as colour, tissue type, type of exudate, bleeding, wound edges and hydration. The CVI OF TOOL WAS 0.8.

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BSc Nursing Curriculum: Innovation in Pakistan

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ABSTRACT

This paper is an attempt to critically appraise the current Bachelors of Nursing (BScN) curriculum implemented in Pakistan with regards to meeting the demands of the 21st century. In later sections, arguments are developed by literature support in favor of proposed curriculum change. Finally anticipated challenges in implementing change and strategies to overcome challenges are discussed.

Key words: *Curriculum innovations, BScN curriculum, curricular appraisal*

INTRODUCTION

A curriculum is at the heart of any educational institute and is mainly taken as a prescription document for educational enterprise. Curriculum provides the guidelines regarding what and how should we teach and then how do we evaluate.[4] To provide safe and effective care to the clients, nurses must integrate knowledge, skills, and attitude to make sound judgment and decisions. As 21st century brought about advances in the medical sciences, it also created a situation in which sicker and older patients require more sophisticated and complex nursing care. In the interim and foreseeable future, the planning for well educated baccalaureates is vital for the future of nursing in Pakistan.[1] The practice environment change has led the nursing educators to enter the process of curricular reform. However they often go too far and usually add, delete or put the traditional course work in different format.[7]

BACKGROUND OF CURRENT CURRICULUM

Change in nursing curriculum has been the greatest challenge in nursing profession. It requires in-depth knowledge, commitment, expertise and critical approach. In 2006, Higher Education Commission (HEC) took the initiative for designing the National Curriculum for four years Bachelors of Nursing (BScN) program in Pakistan. For this sole purpose National Curriculum Revision Committee (NCRC) was formed by involving the major stakeholders in nursing profession. The entire curriculum had a total of 138 credits over four year's period. Each year has two semesters, each comprising of eighteen weeks. The curriculum mainly focused on four areas of studies; humanities, Sciences, English, and Nursing. This curriculum incorporated both theory and clinical which are essential for nursing.

CRITIQUE ON CURRENT CURRICULUM

The curriculum is very well designed in order to develop core competencies in nursing students such as critical thinking, communication, psychomotor skills, nursing management, professional development, evidence based nursing practice and ethical and legal practice. One of the objectives of BScN curriculum is to enable nurses to meet the challenges confronted by health care in 21st century. The metaparadigm of nursing and other related concepts are well organized in this curriculum framework. All the course objectives, program objectives, levels of objectives, teaching strategies, emphasis and type of assessment are well aligned in this curriculum. However looking at the rapid advancements in technology, global trends, demographic shift in population and climatic changes, few changes are proposed in the current BScN curriculum. Nursing education needs to innovate at the micro and macro system levels to meet the demands of 21st century. Traditions in nursing education such as clinical instruction model, a disease and illness oriented curriculum should be reviewed.[2]

ARGUMENTS IN FAVOR OF PROPOSED CURRICULUM

Disasters are becoming more frequent in Asia-Pacific region. It is estimated that about 40% of all the reported natural disasters occurred in Asia and more than 80% of the reported victims lived in the same region.[8] Looking at the climatic changes globally, recent flood devastations in Pakistan and other natural disasters such as earth quake calls for adding Disaster Management courses in nursing curriculum. Not only the natural disasters but the man-made disasters in the form of suicidal and terrorist attacks have worsen the situation and made the health care system more complex. Nursing students need to learn how to

effectively assess and manage the most significant health problems faced by our society. Nurses are often considered as first responders in emergency and disaster management, therefore they need to be prepared adequately.[8] Educators of various health professions are encouraged to change curriculum to prepare students in order to meet the health needs of clients from a population focus and preventive perspective.[3] The introduction of Disaster Management course in the curriculum will equip nurses to work in disaster situations not only in the hospitals but in the community settings. There is a need to embrace technology infused education and trans-disciplinary approach to care. The current BScN curriculum has incorporated several effective teaching and learning strategies but it does not encourage the use of latest technology such as simulation. Simulation is one of very effective tools that exposes students to the complexity of clinical situations without the risk of real life. It is also proposed that future nursing curricula need to develop interdisciplinary simulation scenarios.[2] This approach would help the students to focus on collaboration and crucial conversations as those students will be able to learn how to deal with ineffective professional relationships and unsafe practices in a controlled environment. The current curriculum addresses the importance of group work but doesn't emphasize on the importance of multidisciplinary team work. Although nurses are essential element of health care system but they don't work in isolation. In order to improve the health outcomes of the clients, interdisciplinary approach is required. It is suggested that multidisciplinary simulation centers should be established, where students from nursing and other health professions will be exposed to the complexities of teamwork within the clinical setting. Multidisciplinary approach is also necessary because nurses are expected to perform many roles, from leading multidisciplinary teams to managing care across the continuum to serving as patient educators. Academic disciplines no longer can afford to focus on invidious distinctions among themselves and work isolated from each other.[7]

With the advancement of technology, the course on tele-health should also be added to the nursing curriculum. The tele-health program enables patients and nurses to communicate live using video and audio technology. Tele-health is very helpful especially for people in remote areas where access to health care is not very convenient. The tele-health care unit offers a friendly connection between the patient at home and the tele health nurse who may be many miles away.

The current BScN curriculum focuses on Pediatric Nursing and Adult Health Nursing, whereas very little emphasize is laid on Geriatric Nursing. There is no course for addressing the issues related to old age. Looking at the demographic trends, it is observed that life expectancy has increased, possibly with the invention of modern technology and availability of treatment for fatal diseases. Advances in biomedical and pharmacological interventions can save and prolong lives, but at a same time create a need for more and higher quality nursing care.[5] It is proposed that Geriatric Nursing course should be added to the existing BScN curriculum.

ANTICIPATED OBSTACLES TO IMPLEMENTATION AND THEIR SOLUTIONS

Potential obstacles in the proposed curriculum change are identified so that proactive plans can be developed to address them. The first issue is the unfamiliarity of the nursing faculty to simulation and tele-health system. In order to address their concern HEC should formulate a faculty development committee, which ensures the training of faculty members. Institutes can take initiatives by sending their faculty members for training. Time should be spent to educate all the nursing faculty about the conceptualization of changes in curriculum. Another major issue is the shortage and limited fiscal resources. Funds for establishing simulation centers and tele-health units can be generated by donor agencies. This work requires collaboration with different Non Government Organizations and stakeholders.

Certain policies by the national regulatory body of nurses, can affect the implementation of change in the proposed curriculum. Innovation in academic setting is hindered by the pressure to meet the educational and regulatory requirements established by the national organization.[2] It is therefore suggested that representatives from all stakeholders including the regulatory bodies, should be involved in curriculum revision; regulatory bodies should facilitate the essential curriculum change for 21st century. Comprehensive workshops should be planned for all committee members to have clear understanding of the proposed change; by doing this we will be able to implement the change nationally. Implementation should not aim at any particular innovation; rather it should aim at capacity building for schools of nursing to implement change.[6]

CONCLUSION

The National Curriculum for BScN program by HEC meets the major requirement of the nursing education and facilitates in development of necessary knowledge, skills, and attitudes. However after reviewing the global trends, climatic changes, advancement in technology, few changes are suggested to meet the

demands of 21st century. In order to implement the curriculum successfully, proactive measures should be taken. With proper planning and implementation it is expected that nurses will be well equipped with essential knowledge, skills, and attitudes to meet the demands of 21st century.

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Domestic Violence towards Married Women in a Slum Area of Southern Karnataka

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ABSTRACT

Violence against women is a serious human right abuse and public health issue. Domestic violence including physical, psychological and sexual violence is increasingly being recognized as an important global health problem. A descriptive study was conducted among eighty five married women residing in Saralebettu slum area, to determine the domestic violence among married women using Domestic violence scale. The results showed that 72% of women experienced mild violence and 1%of women experienced moderate violence from their husbands. Conclusion: Domestic violence is prevalent among married women. Nurses should give education for women including communication skills training, and assertiveness training and help in empowerment of women.

Key words: *Domestic violence*

INTRODUCTION

Women constitute almost half of the world's population. Over the past 20 years many countries have acknowledged the universal problem of violence and discrimination against women.[1] The estimate of prevalence of violence against women is lower than the real extent of the problem. It is found in all socio- economic and religious groups. A growing body of research documents that, gender based abuse is a common reality in the lives of women and girls. Despite its pervasiveness, violence has only recently begun to recognize as a major factor affecting women's health[2].

BACKGROUND AND NEED FOR THE STUDY:

The nature of modern society is a factor to be considered partner abuse. The portrayal of physical and sexual violence in the media is increasing in frequency and security. Women are portrayed by the media as second cross citizens[1].

A study was conducted at sub-African regions, on psychosocial resource impairment model explaining partner violence and distress and role of the income. Women who had low income, poor self esteem, less social support, immediate threat to the self, experienced more partner violence. Also there was significant relationship between the low income groups and partner violence.[3]

A cross-sectional self administered survey, among 1871 women attending general practice clinic of at Lucknow was conducted to determine the frequency of domestic violence. The results revealed that 651 women had experienced violent behavior by their partner and 60% women reported that their doctor had asked about domestic violence. [4]

PROBLEM STATEMENT

A descriptive study on domestic violence towards married women in selected slum area of Udupi District, Karnataka State.

The objectives of the study were to determine the domestic violence towards the married women and to find the association between the domestic violence and selected variables such as age of education, occupation and habits of the women; age, education, occupation and habits of the husband; years of marital life, religion, family monthly income, number of family members and type of family.

PURPOSE OF THE STUDY

The purpose of study was to explore the nature and extent of violence experienced by married women from their husbands. The findings of the study would highlight the extent and nature of physical, psychological and sexual abuse towards women dwelling in slum area.

MATERIALS AND METHODS

The study was a cross-sectional descriptive survey analysis, of domestic violence experienced by 85 married women between the age group between 18 to less than 50 years residing in Saralebettu slum area, Udupi District. The women were selected using purposive sampling technique. The tools were used in this study were socio-demographic proforma and Domestic violence scale, which consisted of 50 items. It included areas such as psychological abuse (27), physical abuse (16) and sexual abuse (7). The data were collected by interview method. The total score allotted for the 50 items were 250.The tool consists of minimum score and maximum score, it categorized as no violence (0 score), (1- 83) mild violence, (84-167) moderate violence, (168-250) severe violence. The reliability coefficient for the structured questionnaire was analyzed by using Chronbach's alpha and was found to be r=0.793, thus the tool was considered reliable. The data were analyzed by using descriptive and inferential statistics.

RESULTS

The data presented below in table1 shows that out of 85 subjects, Majority of women were in the age group of less than 30 years 62 (72.9%), illiterate 61(71.8%), unskilled worker 58(68.2%). Majority of the 72(84.7%) women were Hindus. Maximum of women 64 (75.3%) were having married for more than 10 years. The family income of more than Rs 1500 were found is 80(94.1%). Most of the men 62 (72.9%) belongs to the age group of less than 30 years. Majority 61(71.8%) of men were illiterate, majority 83(97.6%) of the men were unskilled workers. Most of the families had more than five members 44(51.8%).Majority of women 80(94.1%) belongs to nuclear family. Most of the men 32(37.6%) had the habit of pan chewing and consuming of alcohol.

Table: 1 Distribution of sample based on socio-demographic characteristics. N=85

Sample characteristics	Frequency	Percentage %
Age		
Less than 30 years	62	72.9
More than 30 years	23	27.1
Education of women		
Illiterate	61	71.8
Primary education	24	28.2
Occupation of women		
Unemployed	27	31.8
Unskilled workers	58	68.2
Religion		
Hindu	72	84.7
Christian	2	2.4
Muslim	11	12.9
Years of marital life		
Less than 10 years	21	24.7
More than 10 years	64	75.3
Family income per month	5	5.9
Less than Rs.1500	80	94.1
More than Rs.1500		
Age of husband	62	72.9
Less than 30 years	23	27.0
More than 30 years		
Education of husband	61	71.8
Illiterate	24	28.2
Primary education		
Occupation of husband		
Unemployed	2	2.4
Unskilled worker	83	97.6
Total family members		
2 to 4 members	41	48.2
4 or more	44	51.8
Type of family		
Joint	5	5.9
Nuclear	80	94.1
Habits of husband		
Pan chewing + alcohol	21	24.7
Pan chewing + smoking	15	17.6
Smoking +alcohol	32	37.6
Smoking + pan chewing	27	31.8
+ alcohol	5	5.9
Nothing		

DISTRIBUTION OF SAMPLE BASED ON DOMESTIC VIOLENCE SCORES

Domestic violence scale was arbitrarily classified as no violence, mild violence, moderate violence, severe violence and presented in the table2.

N=85

Domestic Violence	Frequency	Percentage %
Mild violence	61	71.8
Moderate violence	23	27.1
No violence	1	1.25

Table:2: Distribution of sample based on domestic violence scores

The table 2 shows that, out of 85 subjects, the majority 61(71.87%) of subjects experienced mild Domestic violence, 23 (27.1%) no violence and one woman (1 .25%) had experienced moderate violence from the partner.

Association between domestic violence and selected socio – demographic variables

In order to determine the association between the domestic violence and selected variables, Chi-Square test was computed.

There was no association between domestic violence and selected variables like age, education of the women; age, education, occupation and habits of the husband, years of marital life, religion, family monthly income, number of family members and type of family.

There was association only between the occupation of the women (**χ^2=8.75**) and domestic violence at 0.05 level of significance.

Therefore the null hypothesis was accepted and research hypothesis was rejected. Hence it can be interpreted that the domestic violence experienced by women were independent of their selected socio-demographic proforma.

DISCUSSION

The findings of the present study showed that, majority (71.87%) subjects' experienced mild domestic violence. This is similar to the findings reported by study conducted in New Zeland among 437 married women age group of 25 years. The results showed that domestic violence present in 70% of the women[4] . A study was conducted on domestic violence and female mental health in developing countries of Srilanka among married women. The findings revealed that 40.7% of women had been abused by their partners, like verbal, emotional and sexual abuse. 79% of those abused more than ten years of marital life, and 31% children of the victims had witnessed the abuse.[5] A cross-sectional self administers survey of among 1871 women attending general practice was conducted in Australia, to determine the frequency of domestic violence. The results revealed that 651 women had experienced violent behavior by their partner and 605 women had reported that their doctor had asked about domestic violence.[6]

Association between domestic violence and selected variables:

There was significant association between the domestic violence and occupation of women and it was independent other socio-demographic variables age, education of the women, age, education, occupation, habits of the husband, years of marital life, religion, family monthly income, number of family members and type of family.

This contradicts the earlier findings conducted at slum of in south-west Kolkata among 751 households. Here the researcher reported association between domestic violence and low level of education, unemployment, use of alcohol and other psychotropic substances were found to be higher risk of violence. [4]

RECOMMENDATIONS:

In view of the findings reported, the following recommendations were made for future research:

a. Similar study may be conducted with a larger sample and different settings.

b. A qualitative study can be done to understand the lived experience of women undergoing domestic violence.

c. A comparison study can be done in rural and urban areas to determine the domestic violence.

d. An Effectiveness of assertiveness training programme for women who undergoing domestic violence can be done.

CONCLUSION

The following conclusions drawn on the basis of the findings: Married women residing in slum areas experience domestic violence in a mild form. Domestic violence is dependent on occupation of the women.

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Knowledge and Practices of Nurses about Nutrition of Intensive Care Patients at Multispecialty Hospital, Pondicherry

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ABSTRACT

Background of the study: Provision of nutritional support to critically ill patients can be challenging. Critical care nurses must be aware of which patients require specific nutritional support, when to initiate nutritional support, and by which route to provide nutritional support. The Materials and methods: The descriptive study conducted in 50 nurses working in intensive care units of a Multispecialty hospital at, Pondicherry to assess the level of knowledge and practices of nurses about nutrition of Intensive Care patients .the subjects were selected by convenient sampling technique. The structured questionnaire and a check list were distributed to the nurses to assess their knowledge and practices of the nutritional support to intensive care patients after getting informed consent. Results: This study included majority of the people from 36-45years years of age group, and majority of (90%) from female sex also, 60% of the people was graduates. 50 % of the nurses was having less than five years of experience. This study reveals majority of the people (60%), falls in moderately adequate knowledge and have mean score knowledge of 15.48 ±1.55. Knowledge score between various level also insignificant p=0.60.This study also shows 68% of the nurse's practice score falls between 51-75 % (mean score is 9.76±1.04), also practice score between various levels also insignificant (p=0.7) there is no significant difference in knowledge score and practice score of graduates with other groups (P=0.7, P=0.4). It could be might be due to small sample size. Conclusion: As enteral nutrition is managed by Nurses, they should be adequately updated about the importance of nutrition to the critically ill patients

Key words: *Nutrition in ICU patients, feeding critically ill patients, Nurses awareness, knowledge*

INTRODUCTION

Critically ill patients are hyper metabolic and have increased nutrient requirements. Acute critical illness is characterized by catabolism exceeding anabolism. Carbohydrates are the preferred energy source during this period because fat mobilization is impaired. Nutritional support supplies the carbohydrates necessary to meet the demands of the catabolic state. The administration of enteral or parenteral nutrition in intensive care unit (ICU) patients is largely managed by nurses; however, a significant number of these patients are under-fed.[1-3] The degree of knowledge, interest, and training in this field can differ considerably among nurses and among ICUs. Such differences may lead to variations in the way in which nutritional support is used

MATERIAL AND METHODS

The descriptive study conducted in 50 nurses working in intensive care units of a Multispecialty hospital at, Pondicherry to assess the level of knowledge and practices of nurses about nutrition of Intensive Care patients. Nurses working in ICU's who met inclusion and exclusion criteria were considered as sample. Non- probability sampling (Convenient sampling) technique was used. Inclusion criteria was Age above 18 years, Nurses who are willing to participate, and Minimum 6 month of ICU experience. The structured questionnaire and a check list were distributed to the nurses to assess their knowledge and practices of the nutritional support to intensive care patients after getting informed consent.It comprises of three sections. First section of the tool consists of selected socio demographic variables .section II consists of 25 Multiple choice questions about Nutrition of intensive care patients.section III consists

of checklist to assess nurses practice .Institutional ethical committee had approved the study. Informed consent has been obtained from all participants.

STATISTICAL METHODS

Descriptive and inferential statistical methods used. Data were summarized using means and standard deviation for all continuous variable Pearson's chi-square for all categorical variables..A probability of less than 0.05 was accepted as significant. Data was analyzed by using SPSS-12th version.

RESULTS

Table-1: Percentage Distribution of Demographic Variable

S. no	Demogaphic data	Frequency	Percentage
1.	**Age:**		
	<25 years	19	19 %
	26-35years	21	21%
	36-45years	50	50%
	>45years	10	10%
2.	**Sex:**		
	Male	5	90%
	Female	45	90%
3	**Educational status:**		
	GNM	30	60%
	B.Sc	20	40%
4	**Years of Experience**		
	< 5 years	25	50 %
	6-10 Years	11	22%
	11-15 years	08	16%
	>16 yr	06	12%

This study included majority of the people from 36-45years years of age group, and majority of 90% from female sex also 60% of the people was graduates. 50 % of the nurses was having less than five years of experience.

Objective 1:

To assess the level of knowledge of nurses.

Table.2: Level of knowledge

Knowledge score	Frequency (%)	Mean score± S.D
1% - 50%	11(22%)	11.23±0.97
51% - 75%	30(60)	15.48±1.55
76% - 100%	9(18%)	19.33±0.47

This table shows majority of the people (60%), falls in moderately adequate knowledge and have mean score knowledge of 15.48 ±1.55. Knowledge score between various level also insignificant p=0.60

Objective 2:

To assess the practices on feeding administration in critically ill patients

Table.3

Level of Practices

Practice score	Frequency (%)	Mean score± S.D
1% - 50%	10(10%)	6.40±1.01
51% - 75%	68(68%)	9.76±1.04
76% - 100%	22(22%)	12.5±0.60

This table shows 68% of the nurse's practice score falls between 51-75 % (mean score is 9.76±1.04), also practice score between various levels also insignificant (p=0.7)

Level of Knowledge and Practices in relation to Education

Education	Knowledge Mean score±sd	Practices Mean score±sd
General Nursing and midwifery	14.63±2.83	9.73±2.12
Graduates	15.50±2.13	10.24±1.46
Significance	F=0.45 P=0.72	F=0.88 P=0.45

This table shows there is no significant difference in knowledge score and practice score of graduates with other groups (P=0.7, P=0.4). It could be might be due to small sample size.

Level of Knowledge and Practices in relation to Experience

Education	Knowledge Mean score±sd	Practices Mean score±sd
< 5 yr	16.63±2.13	11.63±3.14
6-10 Years	15.40±3.23	10.22±2.56
11-15 years	17.41±1.43	9.52±3.46
>16 yr	19.34±3.2	12.12±2.66
Significance	F=0.55 P=0.62	F=0.76 P=0.45

This table shows that Nurses with more than 10 yrs of experience has better knowledge compared to other groups, however it's not significant (p=0.62).The practice score also not significant between the groups

RESULTS

This study included majority of the people from 36-45years years of age group, and majority of (90%) from female sex also, 60% of the people was graduates. 50 % of the nurses was having less than five years of experience.

This study reveals majority of the people (60%), falls in moderately adequate knowledge and have mean score knowledge of 15.48 ±1.55. Knowledge score between various level also insignificant p=0.60

This study also shows 68% of the nurse's practice score falls between 51-75 % (mean score is 9.76±1.04), also practice score between various levels also insignificant (p=0.7) there is no significant difference in knowledge score and practice score of graduates with other groups (P=0.7, P=0.4). It could be might be due to small sample size.

Nurses with more than 10 yrs of experience has better knowledge compared to others however it's not significant (p=0.62).The practice score also not significant between the different years of experience groups

DISCUSSION

This study reveals that majority of the nurses have inadequate knowledge about feeding critically ill patients. Also their practice score also not satisfactory. Various studies supports [4-5] that enteral feeding practice of critical care nurses varied widely and included some practices that could contribute to under-feeding in the critically ill. This study also reveals that only 60 % of nurses have moderately adequate knowledge also 68% nurses practice score only falls above 50%-75% of score. **This study also supports that graduates has better knowledge score compared to Diploma candidates, however its not significant which may be due to small sample size. Also knowledge score and practice score is not correlating. Feeding protocol should be implemented in intensive care units to improve the nutrition of the patients.**[6-8] This study emphasis the need for continuing nursing education in this area for nurses working in intensive care units

RECOMMENDATIONS

A similar study can be replicated on a large scale.

An experimental study can be carried out with educational packages

An observational study can be conducted to evaluate the nurses practice on feeding administration

CONCLUSION

Adequate nutrition should be a part of management protocol for critically ill patients. Enteral nutrition is as good as parentral nutrition with added advantages of being less costly and easier to administer. As nurses are largely managing enteral nutrition , they should be aware of all the aspects of nutrition for early recovery from intensive care units. An evidence-based protocol will improve the delivery of nutrition in the Intensive care units.

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Job stress among the nursing staff working in Rural Health Care set up

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ABSTRACT

Background: This paper describes the level of job stress among the nursing staff working in rural health care set up. A cross sectional study was conducted aiming at assessment of job stress among staff nurses working in rural hospitals. 20 staff nurses were chosen by using purposive sampling technique. Results of the study show that almost half of the nurses experience moderate level of job stress. This attributed to various situations in the ward over which nurses may or may not have direct control. Hazardous situations in the wards (1.40±0.22) causes more stress among nurses compared to any other areas. Nurses are directly involved in patient care who may be seropositive, abusive or violent; these all situations are hazardous for the nurses. As they poses more threat to the nurses and are main factors in causation of stress. Dealing with death and dying (0.84±0.062) is the second most stressful area for nurses; as over the period of time nurses may develop close and intimate relationship with the patients.

Key words: *JobStress ,Job Satisfaction*

INTRODUCTION

Different health care professionals are affected by their work environment. There are widespread reports of job stress amongst health care workers.1 Studies indicate that eight of the 12 most stressful jobs today are positions in health care. Job stress is a common problem across occupations and it impacts job performance. The nursing profession is increasingly characterized by occupational stress, frequent job turnover, and job dissatisfaction. Nurses attend to the emotional needs of patients and their families, as well as undertake managerial responsibilities such as supervising junior staff. The demands of these roles make nurses vulnerable to stress and psychological ill health2.

Nursing can be a rewarding and satisfying profession. It can also be extremely stressful. Nurses deal with pain and death in the very young and very old. They are often caught between doctors or supervisors and families or caretakers3.Occupational stress, a common occurrence among various professions worldwide, is regarded as a major occupational health problem for healthcare professionals especially nurses.

Occupational stress has been reported to affect job satisfaction and job performance among nurses, thus compromising nursing care and placing patients' lives at risk. Stress is a complex phenomenon resulting from the interaction between individuals and the environment. Therefore, significant differences in occupational stress, job satisfaction and job performance among nurses may exist due to different work settings4.

Numerous researches have been conducted abroad shows high level of job stress among nurses. Studies also show that job stress adversely affects health and work performance of nurses. At the same time there is scarcity of researches assessing job stress among nurses in India. Hence, the study was undertaken to assess the job stress among hospital nurses.

MATERIAL AND METHODS.

A cross sectional survey approach with descriptive study design was used to assess the job stress among hospital nurses.

The population for this study included staff nurses working in rural hospital set up. Purposive sampling technique was adapted for selection of samples. 20 staff nurses were chosen based on eligibility criteria and who showed willingness to participate in the study. All ethical principles were followed while recruiting the samples for the study.

Tool used for data collection included stress assessment scale. Tool consists of two sections. Section I consists of items related to demographic data; Section II consists of stress assessment scale having 35 items,

which were classified into 7 areas such as dealing with death and dying, inadequate preparation, lack of support, conflict with health personnel, uncertainty concerning treatment, hazardous situations in the ward and miscellaneous. The stress assessment scale was adapted from standardized Expanded Nursing Stress Scale.

Reliability of the tool was established by using coefficient alpha method. The tool was found to be reliable (r = 0.90) and validity. The data was collected from 20 hospital nurses. The data was analyzed according to objectives of the study using descriptive and inferential statistics.

RESULTS /FINDINGS.

The demographic data shows that all the participants were females, 90% were in the age group of 20-25 years, 95% were G.N.M. qualified, 90% were unmarried, all were experienced upto 5 years, 65% were working in inpatient wards, 60& are involved in care of 40-60 patients, and 55% work upto 40 hours per week.

Table 1. Level of job Stress among Participants

Sr. No.	Level of Stress	Stress score	Participants (N)	% Participants
1	Low	1-26	11	55
2	Moderate	27-53	09	45
3	High	54-80	00	00
4	Extreme	81-105	00	00

Table 1 show that 55% of the participants experience low stress, while 45% of the participants experience moderate level of job stress.

Table 2. Area wise Assessment of Stress Level among Participants

Stress area	Mean	SD
Dealing with death and dying	0.84	0.062
Inadequate preparation	0.80	0.054
Lack of staff support	0.75	0.042
Conflict with health personal	0.61	0.042
Workload	0.55	0.039
Uncertainty concerning treatment	0.83	0.069
Hazardous situations	1.40	0.22

Table 2 shows that most stressful area for nurses is hazardous situations in the wards (1.40±0.22). Dealing with death and dying (0.84±0.062) and Uncertainty concerning treatment (0.83± 0.069) are almost equally stressful areas for nurses. Workload causes least stress among nurses. (0.55 ± 0.039)

Discussion: Study findings shows that almost half of the nurses experience moderate level of job stress. This attributed to various situations in the ward over which nurses may or may not have direct control. Hazardous situations in the wards causes more stress among nurses compared to any other areas. As nurses are directly involved in patient care who may be seropositive, abusive or violent; these all situations are hazardous for the nurses. Dealing with death and dying is second most stressful area for nurses; as over the period of time nurses may develop close and intimate relationship with the patients5. The least stressful area for nurses was found to be heavy workload. These all findings are supported by many studies conducted abroad, which also report moderate level of job stress among nurses. Strategies should be planned by nurses working at administrative posts and other managerial persons. These strategies must aim at reduction of job stress among nurses. Focus should be on reducing hazardous situations in the ward and training nurses to deal with theses situations.

CONCLUSION

Almost half of the staff nurses working in rural health care set up experiences moderate level of stress and half experience low level of stress. This study showed significant association between work environment and stress. Dealing with hazardous situations is more stressful area for staff nurses than anything else.

Recommendations: Based on findings of the study, following recommendations are given:

1. Similar study may be undertaken with large sample size.
2. A comparative study may be conducted on staff nurses working in public sector and private sector.
3. Stress reduction programmes for nurses can be undertaken.

Continuing Nursing Education programmes can be organized based on stress and it`s management

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INTEREST OF CONFLICT

Mr. Jondhale Ashok and Dr.Deepak Anap are staff members of Pravara Institute of Medical Sciences, an non-profit organization dedicated to rural health services.

Recommendations: Based on findings of the study, following recommendations are given:

1. Similar study may be undertaken with large sample size.
2. A comparative study may be conducted on staff nurses working in public sector and private sector.
3. Stress reduction programmes for nurses can be undertaken.
4. Continuing Nursing Education programmes can be organized based on stress and it`s management.

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Reducing the Burden of Multiple Medications: Nurse's Views on Strategies to Prevent Polypharmacy in Ajman, UAE

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ABSTRACT

Background: Polypharmacy is often used to imply a negative situation involving unnecessary or inappropriate use of medications. Nurses can contribute significantly in reducing the number of medications prescribed. Hence, this study was planned to identify nurse's opinions on different strategies to prevent polypharmacy.

Method: This cross sectional study was undertaken in March-May 2011 among nurses who were working in a tertiary care hospital in Ajman UAE. A self-administered, pilot-tested questionnaire containing 20–items was used to collect information. Data were analysed at a significance level of $p \leq 0.05$.

Results: 13 male nurses and 92 female nurses were included in the study. 90.5% nurses felt that strategies to reduce polypharmacy were necessary. 58% felt that health care professionals have primary role in preventing polypharmacy. Improving patient-physician communication, patient-nurse communication and continued education for nurses were the most commonly recommended strategies by nurses. 96.2% of the nurses suggested that patients should carry the lists of their previous prescriptions, including over the counter medications.

Conclusion: Nurses showed keen interest in implementation of strategies to reduce polypharmacy at hospital to rationalize prescribing and thus reduce polypharmacy.

Word count: 218

Figures and Tables: tables:2 Figures:1

Key words: *Polypharmacy, Strategies, Nurses, Patient-Nurse Communication*

BACKGROUND

Polypharmacy is defined as "concomitant use of five or more drugs at the same time in the same patient"[1]. Polypharmacy has also been defined as the use of two or more medications to treat the same condition which could be two or more drugs of the same chemical class, or use of two or more drugs with similar pharmacologic actions to treat different conditions in same patient[2]. The specter of polypharmacy is an ever-increasing problem in the health care setting. Polypharmacy is often used to imply a negative situation involving unnecessary or inappropriate use of medications. Polypharmacy involving unwarranted medications may occur unintentionally in situations involving multiple prescribers who are unaware of the other medications prescribed, when additional medications are used to

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treat adverse effects of a primary medication, or with generally suboptimal management of therapy as a whole[3]. In addition, the self-use of nonprescription medications and other herbal and vitamin therapies can add to a medication regimen[4].

In general, patients at greatest risk of problems associated with polypharmacy include the elderly, those with four more recorded diagnoses, five or more medications, visiting multiple prescribers, use of multiple pharmacies, and use of nonprescription medications, herbs, or nutritional supplements[5-6]. In a previous study from the UAE, physicians determined the main reasons of non-rationalised drug use UAE were mainly polypharmacy and over use of antibiotics[7].

In many instances, management with multiple medications is necessary and constitutes rational polypharmacy such as prevention of drug resistance among antimicrobial agents, management of adverse drug reaction. The World Health Organization has provided guidelines for improving prescription and avoiding polypharmacy which suggests incorporation of non pharmacological measures, review of prescriptions and monitoring for the effects, both beneficial and adverse, of prescribed medications[8]. However, irrational polypharmacy occurs too frequently and interventional programmes are essential for rational pharmacotherapy[9].

Irrational polypharmacy can result in negative consequences and adverse outcome in patients such as increased occurrence of adverse drug reactions, drug-drug interactions, and medication errors, increase overall drug expenditures (financial burden on patients, and pharmaceutical costs) and the also affects the quality of life. This can also lead to increased hospitalization and therefore increase the hospital costs. In the patients perspective it can result in non adherence to therapy.

Previous studies on polypharmacy have reported the integral role of nurses in controlling polypharmacy especially among the elderly age group[10-12]. However, studies have documented that the practice of polypharmacy is increasing among all the age group[13]. Thus nurses can contribute significantly in preventing this irrational practice in all spectra of patients. Research studies with regard to nurses' views and opinion of various strategies that can be incorporated in the hospital setting are infrequent. Hence the present study was designed to determine the nurse's opinion on different strategies that could be undertaken to prevent the practice of irrational polypharmacy.

MATERIAL AND METHOD

This population-based prospective cross-sectional study was conducted over a period of three months. The study population included all nurses who were working in Gulf Medical College Hospital & Research Centre, a tertiary care teaching hospital catering its services to both nationals and expatriates, is a 350 bedded hospital situated in the centre of Ajman Emirate, United Arab Emirates. Nurses not willing to participate in the study were not included in the study. The Institutional Ethics committee approval from the Gulf Medical University, Ajman, UAE was obtained before the commencement of the study. Informed consent was obtained from nurses willing to take part in the study Nurses were approached to complete the self administered questionnaire provided to them after obtaining the consent.

A structured self-administered closed ended pilot tested questionnaire in English language was used a study instrument prepared by the investigators. In addition to socio-demographic characteristics the self administered questionnaire contained items to collect information on strategies to prevent polypharmacy. The questionnaire was reviewed by the subject experts for the face validity, content validity, relevance and comprehensiveness of the questionnaire to the study objectives. The questionnaire was administered to five nurses and the questionnaire was re-administered to the same nurses to check for the reliability of the questionnaire. The questionnaire was administered during the duty hours and was collected back on the same day from the nurses. Anonymity was maintained by excluding the names of the participants from the questionnaire.

Nurses were divided into three groups based on their clinical experience: <5years, 5-10 years, and >10 years. Data management and Statistical analysis was performed on Predictive Analytic Software (PSAW) 18.0 version. Descriptive statistics including means, standard deviations, and percentages were used to describe various strategies to prevent polypharmacy. Pearson's Chi-square tests were used to examine the association between the variables. The statistical significance level for all analyses was set at $p \leq 0.05$.

FINDINGS

A total of 105 nurses working at GMCHRC at the time of conduct of the study were approached and all of them returned the filled in questionnaire (100% response rate) Among the 105 nurses included, 92 were female nurses and 13 male nurses. Though the nursing population in the study represented a multiethnic group, majority (90%) were of Asian origin. The mean age of the nurses who participate in the study was 34±12 years. The number of nurses less than 25 years of age were 24 (22.8%), 26-30 years 47 (44.8%) and above

30 years were 34 (32.4%) nurses. Thirty-five nurses (33%) less than 5 years clinical experience, 54(51.4%) had 5-10 years of experience and 16(15.2%) had above 10 years experience.

A total of 95(90.5%) nurses suggested that strategies should be implemented to reduce polypharmacy. Out of all nurses, 61 (58%) believed that all the health care professionals such as doctors, nurses and pharmacists have a role in preventing polypharmacy, while 19 (18%) felt that only physicians have a responsibility in reducing polypharmacy.

The most frequently recommended strategies by the nurses were improving patient-physician communication 97 (92.4%), improving patient-nurse communication 93(88.6%) and continuing education for nurses 93(88.6%). The various strategies opined by the nurses have been detailed in table 1.

FIGURES AND TABLES

Table: 1. Strategies opined by the nurses to prevent polypharmacy

Sl. No	Strategies to prevent polypharmacy	Number	Percentage
1	Improve physician-patient communication	97	92.4
2	Improve nurse-patient communication	93	88.6
3	Continuing education for health care providers	93	88.6
4	Patients to carry list of prescribed drugs	87	82.9
5	Patients accompanied by family member	75	71.4
6	Improve pharmacist-patient communication	73	69.5
7	Prescribing WHO essential drugs	70	66.7
8	Judicious selection of drugs	60	57.0

On the basis of nursing experience, nurses with less than 5 years experience and also those with 5-10 years experience 96% were concerned regarding the strategies to prevent polypharmacy compared with 92.9% among nurses with more than 10 years experience.

On asking nurses their opinion on how patients can help to reduce polypharmacy, 101(96.2%) of the nurses stated that patient's should carry the list of their previous prescriptions while visiting the doctor, 53(50.5%) feel that they should carry the list of all the over the counter medications taken and only 32 (30.5 %) stated that the herbal and alternative medication details should be also carried.

On comparing the views of the male and female nurses regarding the various strategies to be incorporated in a health care setting to avoid polypharmacy, no difference was found in the views between the groups. On comparing the views regarding various strategies to be incorporated in a health care setting to avoid polypharmacy among nurses of varying nursing experience, there was no difference in the views between the three groups ($p>0.05$). Details of nurse's views regarding various strategies of varying nursing experience have been depicted in figure 1.

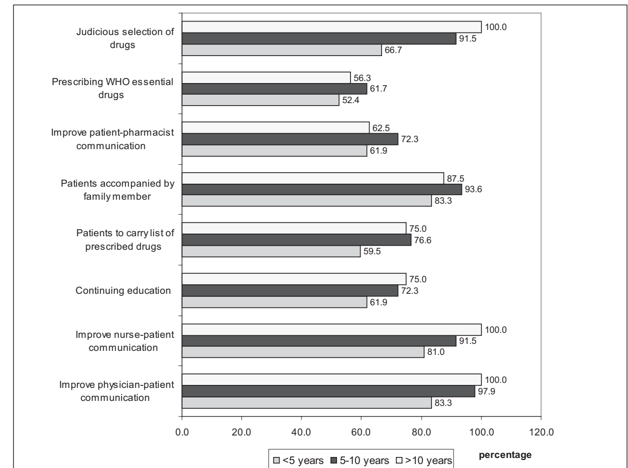

Fig. 1. Comparison of the strategies to prevent polypharmacy opined by nurses of varying nursing experience

DISCUSSION

The observations of the present study indicate the perceptions of nurses regarding varoius strategies to prevent polypharmacy and to discourage polypharmacy and inculcate the habit of rational use of drugs.

In the present study more than 90% of the nurses believed that polypharmacy must be prevented by implementing various targeted strategies. Nurses are inherently close to patients since they are directly involved in patient care and therefore they are in an exclusive position to improve patient safety by helping to address polypharmacy. This position gives nurses the needed insight to identify problems in healthcare systems and to be part of patient safety solutions. However, to do this, nurses must be supported and encouraged to be involved actively in preventing practice of polypharmacy[12,14].

Irrespective of the gender and clinical experience most of the nurses opined that all health care professional and patients have a role in preventing polypharmacy. Physicians are an important group of health care providers who contribute to polypharmacy and at the same time and most important care provider who can reduce the practice of polypharmacy[15]. Nurses play a functional role in assisting patients to understand the dangers of polypharmacy[10]. Nurses

can educate patients and discuss suggestions with physicians to reduce polypharmacy. Pharmacists can significantly facilitate the prevention of polypharmacy by reviewing prescriptions and evaluating the list of medications for any potential drug-related problems and also the rationality and measures to reduce the number of drugs[16-17]. Patients play a vital role in preventing polypharmacy by being informed consumers. They should carry with them a list of their current medications at all times including the over-the-counter and alternative medications. Patients should also be encouraged to reduce polyclinic visits and poly-doctor management of conditions, which is commonly practised[18].

The strategies most commonly suggested by the nurses were improving patient-physician communication, improving patient-nurse communication and continuing education for nurses. Effective patient-physician communication strategies that promote patients' active involvement in decision-making processes about treatment have been developed[19]. Walker et al studied the prevalence of polypharmacy among the elderly and reported that insufficient patient-physician communication was one of the causes of use of more than five drugs and over-the-counter medications among the elderly[20]. A previous study on polypharmacy and medication adherence among diabetic patients documented that an effective patient-physician communication, particularly with regards to medications, prescribed can lead to improved overall adherence[21].

Communication is a central part of nursing practice and also an opportunity for the patients to voice their opinion and concerns. Effective and detailed information about medications and their uses can result in effective and appropriate care and can significantly reduce polypharmacy[22-23]. With the knowledge of polypharmacy, rational use of drugs and the various negative effects associated with polypharmacy, nurses can identify prescription with irrational polypharmacy and can recommend physicians to review the prescriptions.

Nursing is a clinically rigorous discipline, which requires continual professional development (CPD) to ensure best possible care is provided to patients. As indicated by the nurses in this study, there is a need for CPD programmes to update nurses to empower them to recognize and prevent polypharmacy in the hospital and community setting. Nurses could thus significantly contribute to reducing the number of medications prescribed, by supported administration of medications, being alert to unexpected interactions, providing written materials and verifying that the patient understands the regime.

The strength of this survey is it was able to evaluate nurse's perception of strategies to reduce polypharmacy. The limitations of the study include to pertaining to questionnaire based studies such as recall bias, subjective nature of the responses. The results of study are from a single centre therefore the results cannot be generalized. Future studies can be taken up among nurses at multiple centres with larger sample size to generalize the finding across the region.

CONCLUSION

Nurses showed keen interest in implementation of strategies to reduce polypharmacy in the hospital setting to rationalise prescribing. Health care professionals were identified as the key role players in reducing polypharmacy. Adequate knowledge of polypharmacy among nurses is essential to recognise practice of irrational polypharmacy and bring into reality the practice rational polypharmacy. Nurses can play a pivotal role in controlling polypharmacy in a hospital setting as well as in a community setting.

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Conflict of Interest

The authors declare that they have no competing interests

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