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Dr. R.K. Sharma
Institute of Medico-legal Publications
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Connaught Place, New Delhi-110 001

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Effectiveness of Caregiver Support Program (CSP) on Burden and QoL of Caregivers of Stroke Subjects

Anu Michael[1], Fatima D'silva[2]

MSc Nursing, [2]Department of Medical Surgical Nursing, Nitte Usha Institute of Nursing Sciences, Nitte University, Karnataka, Mangaluru, India

ABSTRACT

Purpose: The purpose of the study was to determine the effectiveness of a Caregiver Support Program (CSP) on Burden and QoL of Caregivers of stroke subjects using Zarit Burden Interview and WHO BREF scale respectively.

Method: A Quasi experimental study was conducted from 2nd Nov till 22nd Dec 2015.The study was conducted in a 1200 bedded tertiary care hospital and a 40 bedded stroke rehabilitation unit. Structured caregiver training comprised usual care plus instruction and relevant hands-on training (tailored to individual patients) for 2hrs for 7 continuous days regarding medication, meeting hygienic needs, continence, prevention of complications related to prolonged immobility, post-stroke exercises, respite care services , nutrition, positioning and lifting, mobility ,ADLs, and communication. Usual care comprised general information on management of stroke, informal instruction on facilitating transfers, mobility, and ADLs; and advice and contact information on community services and benefits

Results: Eighty caregivers of stroke subjects, majority in the intervention group (n=40) were males 21(52.5%) and were of the age group of 41-50years.In the usual care group (n=40) majority were females 23(57.5%) and were between 31-40years.The Caregiver Support Program (CSP) was effective for reducing the Burden and improving the QoL of Caregivers of stroke subjects *(p<.05)*

Conclusion: From this study it is evident that the Caregiver Support Programme (CSP) had bought a significant change in the Burden and QoL of the caregiver's. However further research with a multidisciplinary approach is needed to investigate the effectiveness of the Caregiver support program

Keywords: *Caregiver Support Program, Burden, Quality of Life (QoL).*

INTRODUCTION

Stroke is a major health condition resulting in physical disability, communication difficulties and problems with activities of daily living. Caregivers of stroke patients can be subjected to emotional, mental and physical stress in addition to distress. Disruption of the family process makes care giving a great challenge in stroke subjects. A cross-sectional survey conducted in Nigeria by M.O Ongunlana etal revealed that caregivers burden was inversely correlated to their QoL (p=<0.001)[1].

As per WHO, stroke cases will increase about 38 million to 61 million from 1990-2030. Partial or complete disability is the major complication of stroke resulting in subjects unable to perform their activities of daily living, necessitating help from others. It is important that the caregivers should possess adequate knowledge about the care for providing effective and efficient support. The overburden of the caregivers leads to physical, psychological, socioeconomic, and

Corresponding author:
Fatima D'silva
PhD Nursing, Department of Medical Surgical Nursing
Nitte Usha Institute of Nursing Sciences, Nitte University, Karnataka, Mangaluru-575018, India
E-mail: ftds_1970@rediffmail.com
Mobile number: 09945064006,Fax No.0824-2203163

environmental imbalance resulting in compromised Quality of Life. Reviews have revealed the effectiveness of training programmes on stroke subjects. Findings of .Kalra L et al in a randomised controlled study conducted among 300 stroke patients and their caregivers revealed that trained caregivers experienced reduced care-giving burden (p=0.001), anxiety (p=0.001) and depression (p=0.001), and the QoL had also improved (p=0.001)[2].

The above reviews as well as the investigators own clinical experience with Neuro ICU patients was an inspiring factor to take up the present study as she observed that the caregivers of stroke patients were poor in caring for themselves due to deficient knowledge These thoughts influenced the researcher to burrow various approaches or interventions to reduce the burden of the caregivers and improve their QoL.

Poor knowledge of the caregivers negatively influenced the outcome of the client while adequate knowledge and skilled care helped in good prognosis, thus enriching the knowledge of caregiver's acts as a support in caring for people with stroke at home. Thus a quasi-experimental approach was considered appropriate to accomplish the following objectives:

- Assess the burden and QoL of Caregivers
- Evaluate the effectiveness of Caregivers Support Programme on QoL and Caregivers burden.
- Determine the association of burden and Quality of Life of Caregivers with selected demographic variables.
- Identify the relationship between the burden and Quality of Life.

MATERIALS AND METHOD

Sample and Setting

The study was conducted on 80 caregivers of stroke subjects .The study was conducted in a 1200 bedded tertiary hospital and a 40 bedded stroke rehabilitation unit.

Procedures

The study was approved by the Central Ethics committee of Nitte University. Permission was also obtained from the hospital authorities .Informed consent was taken from the caregivers individually after explaining the objectives and purpose of the study. Samples were selected purposively and pre-test was given to assess the caregivers' burden using Zarit Burden Interview, and caregiver's Quality of Life using WHOQOL-BREF scale. Caregivers in the intervention group were given structured training for 2hrs duration daily for 7 days with the help of videos and booklets and hands on training (tailored to individual patients). On the 8th day, post-test was administered with the same data collection tools.

Instruments

Data was collected using the following tools:

Tool 1: comprised of demographic proforma. It included items like age, gender, marital status, education, occupation, monthly income, duration of care given, and relation with the patient.

Tool 2: Zarit Burden Interview[3]

It is a 22-item self-report instrument intended to assess the Burden of the caregivers as listed by the American Psychological Association. This is a 5-point scale each item ranging from 0-4. The scores are interpreted as follows:

Categories	Scores
Little or no burden	0-20
Mild to moderate burden	21-40
Moderate to severe burden	41-60
Severe burden	61-88

Tool 3: WHOQOL-BREF Scale [4]

It is a 26-item self-report instrument intended to assess the Quality of Life of the caregivers. This is a 5-point scale ranging from 1-5. WHO BREF scale assesses mainly 4 domains, namely, physical health, psychological, social relationships, environment, and two individually scored items about an individual's overall perception of Quality of Life and health. The four domain scores are scaled in a positive direction with higher scores indicating a higher Quality of Life. Three items of the BREF must be reversed before scoring.

Categories Scores

Poor Quality of Life 1-33

Satisfactory Quality of Life 34-67

Good Quality of Life > 67

Prior to use, official permission was obtained and the scale was translated into English and local languages using a forward/backward method. Content validity was used to determine the validity of the instrument. The scales were reviewed and evaluated by 9 experts from the field of Nursing and Medicine. Using test-retest reliability, the reliability coefficient of both tools was estimated at 0.81.

Data analysis

In order to analyse the data both descriptive and inferential statistics were utilised.

FINDINGS

SECTION I: Sample characteristics

In this study, majority of the caregivers 34 (42.5%) were of the younger age group (41-50 years), 42 (52.5%) were females and all the subjects 80(100%) were married. Majority of the subjects 33 (41.25%) had no formal education. Most of the caregivers 37 (46.25%) had provided care for <6 months, Majority of the caregivers 49 (61.25%) provided care to either their father or mother.

The baseline characteristics of the subjects were tested for homogeneity and the group was found to be homogenous in all its characteristics except the variable occupation (**see table 1)**

Table 1: Test of homogeneity for baseline characteristics n=80

Demographic characteristics	Chi- square/ Fishers exact	p value
Age	1.523	0.697
Gender	1.229[(a)]	0.268
Education	3.740[(a)]	0.460
Occupation	11.029	0.001**
Monthly income (In rupees)	2.978[(a)]	0.445
Duration of care provided	0.196	0.906
Relationship of the subjects with the caregiver	1.072[(a)]	0.818

Fishers exact, $^{(a)}\ ^{2}_{tab\ (2,\ 0.05)} = 5.99$, $\chi^2_{tab\ (3,\ 0.05)} = 7.82$

SECTION II: Level of Caregiver's Burden

In the pre-test 7 (17.5%) subjects in the intervention group had little or no burden, 15 (37.5%) had mild to moderate burden, 11(27.5%) had moderate to severe burden and 7 (17.5%) had severe burden compared to the post-test where 32 (80%) subjects had little or no burden, 8 (20%) subjects had mild to moderate burden and none of the subjects had moderate to severe burden. (See table 2)

Table 2: Frequency and percentage distribution of subjects based on their level of burden n=80

Level of Burden	Pre-test				Post-test			
	Exp.	%	Control	%	Exp.	%	Control	%
Little or no burden (0-20)	7	17.5	5	12.5	32	80	8	20
Mild to moderate burden (21-40)	15	37.5	21	52.5	8	20	18	45
Moderate to severe burden (41-60)	11	27.5	7	17.5	0	0	6	15
Severe burden (61-88)	7	17.5	7	17.5	0	0	8	20
Chi-square/Fishers exact test	2.22,p=0.545				--			

$\chi^2_{tab\ (3,\ 0.05)} = 7.81$

SECTION III: Quality of life of caregivers

In the pre-test 1(2.5%) subjects in the intervention group had poor quality of life, 39 (97.5%) had satisfactory quality of life, none of the samples had good QoL compared to the post-test where all the subjects40(100%) in the intervention group had satisfactory QoL**. (see table 3)**

Table 3: Frequency and percentage distribution of subjects based on their Quality of Life (QoL)

n=80

Quality of life (QoL)	Pre-test				Post-test			
	Exp.	%	Control	%	Exp.	%	Control	%
Poor Quality of Life (1-33)	1	2.5	18	45	0	0	22	55
Satisfactory QoL (34-67)	39	97.5	22	55	40	100	18	45
Good Quality of Life (>67)	--	--	--	--	--	--	--	--
Fishers exact test	3.913,p<0.001				--			

SECTION IV: Effectiveness of Caregivers Support program (CSP) on Burden and Quality of life

Table 4a: Comparison of the outcome measures by using Wilcoxon signed rank test (within group)

n=80

Outcome measures	Mean ± SD		Z value	p value
Burden	Pre	38±17	5.131	<0.001**
	Post	26.7± 17		
QoL	Pre	61.92±18.52	5.244	<0.001**
	Post	74.36±20.95		
Physical	Pre	38.27±15.83	3.773	<0.001**
	Post	44.95±16.32		
Psychological	Pre	49.11±13.44	3.407	<0.001**
	Post	53.65±10.51		
Social	Pre	45.72±22.14	4.563	<0.001**
	Post	54.58±21.66		
Environment	Pre	44.32±13.62	3.268	<0.001**
	Post	47.42±15.01		

Z value $_{(0.05)}$ =1.96. **indicates level of significance

From the above table4a it is clear that p values for burden, and QoL in various domains is <0.05. Hence there was a significant difference in these measurements before and after the Caregivers Support Programme within the group.

Table 4b: Comparison of the outcome measures between the groups by using Mann Whitney U test

n=80

Outcome measures	Pre-test		Post-test	
	U value	p value	U value	p value
Burden	765	0.661	197.00	<0.001**
QoL	777	0.825	193.00	<0.001**
Physical health	733	0.515	329.00	<0.001**
Psychological	549	0.015	418.00	<0.001**
Social relationships	660	0.176	311.50	<0.001**
Environment	581	0.31	271.50	<0.001**

Table 4b above shows that the post-test p values of burden, overall QoL in each domain of QoL namely physical, psychological, social and environmental were less than 0.05 level of significance. Hence it is concluded that there was a significant difference between the groups after the intervention. Hence CSP was effective for reducing the Burden and improving the QoL of caregivers

SECTION V: Association between Burden and Quality of life of Caregivers with selected demographic variables

A significant association was found between Burden and relationships of the subjects with caregivers ($p<0.05$).The other baseline variables like age, gender, education etc. were not found to be associated

DISCUSSION

The present study revealed that a higher percentage of the caregivers 34 (42.5%) were of the younger age group of 41-50 years, 42 (52.5%) were females, all the subjects 80(100%) were married. Majority of the subjects 33 (41.25%) had no formal education. Majority of the caregivers 51 (63.75%) were employed. Most of the subjects 37 (46.25%) had provided care for <6 months, and majority of the caregivers 49 (61.25%) provided care to either their father or mother. Few similarities were also found in a study conducted by Guler D and

Sevgisun K[5], where most of the caregivers 60 (85.7%) were females, 55 (78.6%) were married. 30 (42.9%) were either husband/wife. In contrary the study conducted by Guler D and Sevgisun K revealed the age group of caregivers between 60-69 years and most of them were graduates from the university and had provided care for more than 24 months

Before the intervention majority of the caregivers 15 (37.5%) had mild to moderate burden, Similar findings were reported in a study conducted by Kumar R etal and Bhattacharjee M et al , to analyze the caregiver burden among caregivers of stroke survivors, which revealed high level of burden [6,7].

In the present study the physical QoL of the caregivers was mostly affected followed with environmental, social and psychological .An international study has also revealed that the QoL is affected among caregivers of stroke survivors [8].

The present study findings revealed a significant positive impact of the caregiver support program in reducing the burden and improving the QoL of caregivers. These findings are supported by another descriptive study, conducted by Lalit K and Andrew E which revealed that trained caregivers experienced less Care-giving Burden ($p=0.001$), anxiety ($p=0.001$), and had a high QoL ($p=0.001$)[2].

Limitations of the study

The study was conducted on a small sample size of 80 caregivers of stroke subjects between the ages of 21-60 years. The structured caregiver support program was given for a shorter duration of only 7days

CONCLUSION

Providing care to the stroke survivors is a difficult and time consuming task for the family members. The present study revealed a significant impact of burden on the Quality of life of caregiver's .However providing Caregivers Support Programme would definitely empower the caregivers of stroke survivors and prevent them from physical strain and problems

RECOMMENDATION

The nurse can conduct regular counselling session for the family members of stroke survivors and encourage the family caregivers to find out leisure time, participate in the cultural and social activities, which will help the caregivers to come out of the daily work related stress and frustration. The practical skills of care giving can also be supplemented through video assisted teaching

Conflicts of Interest: The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Source of Funding: This study was self supported.

Ethical Consideration: The study was approved by the Central Ethics committee of NU on 7th Jan 2015. Permission was also obtained from the hospital authorities .Informed consent was taken from the caregivers individually after explaining the objectives and purpose of the study.

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An Exploratory Study to Assess the Risk of Diabetic Foot Ulcer among Diabetic Patients with a View to Provide Health Education in Selected Hospital of Economically Developing Nation

Tarika[1], Manpreet Sharma[2], Amrita A S[2]

[1]Nursing Tutor, [2]Assistant Professor, College, M. M. College of Nursing, M M University, Ambala, Haryana, India

ABSTRACT

Background & Objectives: Diabetic foot ulcers are major medical, social and economical problem and are the leading cause of hospitalization for patients with diabetes. The presence of foot complications in people with diabetes increase their health care cost and poses heavy socioeconomic burden, both to the patient as well as the nation. Therefore this study was undertaken with the aim to assess the risk of diabetic foot ulcer among diabetic patients.

Method: The present study was conducted from January to March 2016 in selected hospital of Ambala, Haryana. Convenience sampling technique was used to obtain samples .The sample comprised of 100 diabetic patients. Data was collected using Diabetic foot ulcer risk assessment tool. The collected data was analyzed and interpreted in accordance with objectives using inferential and descriptive statistics. Health education regarding prevention of diabetic foot ulcer was provided to each patient irrespective of his/her diabetic foot ulcer risk.

Results: Study findings shows that 79% of diabetic patients were having low risk of developing foot ulcer whereas 21% patients were having high risk of developing foot ulcer.

Interpretation & Conclusion: Based on the findings, it is concluded that patients with diabetes are having risk for developing diabetic foot ulcer. Therefore diabetic patients must be screened for diabetic foot ulcer at early stage and efforts should be taken to reduce the occurrence of diabetic foot ulcer among diabetic patients.

Keywords: *Diabetes mellitus, Complications, Diabetic foot ulcer, Health education, Risk.*

INTRODUCTION

Lifestyle changes as well as industrial process has lead to increased incidence of diabetes and its complications[1]. Worldwide, diabetic foot ulcers as one of the most common diabetic complication are a major medical, social and economical problem and are the leading cause of hospitalization for patients with diabetes[2]. The presence of foot complications in people with diabetes increase their health care cost and poses heavy socioeconomic burden, both to the patient as well as the nation. It has been estimated that the cost of diabetes care of a patient with foot ulcer was four times higher than that for a patient without foot ulcers[3].

Diabetic foot ulcer proceeds about 85% of all diabetes related lower extremity amputations. Studies show that one foot amputation due to diabetes is performed every 30 seconds worldwide. Therefore timely foot ulcer risk assessment combined with effective preventive and curative strategies need to be

Corresponding author:
Ms Tarika,
Nursing Tutor, M. M. College of Nursing, M M University, Ambala, Haryana, India.

implemented to reduce this burden of foot complications among diabetic population[4].

The foot ulcer risk assessment is a simple assessment which will help health educators and diabetic educators in identifying those factors influencing diabetic foot ulcer and helps diabetic patients in modifying their lives.

C.K. Bowering (2001)[5] did a review on underlying causes of diabetic foot ulceration, a practical assessment of patients at risk, and outline an evidence-based approach to therapy for diabetic patients with foot ulcers. Author concluded that patients should be screened regularly for diabetic foot complications, and preventive measures should be initiated for those at risk of ulceration.

Present study was undertaken to assess the risk of diabetic foot ulcer among diabetic patients, to find the association of level of diabetic foot ulcer risk score with selected demographic and clinical variables and to provide health education to diabetic patients regarding prevention of diabetic foot ulcer.

MATERIAL & METHOD

The present study was conducted in Medical & Surgical wards of MMIMS&R Hospital, Mullana (Ambala), Haryana which is a multi- speciality hospital in north India. Ethical permission was obtained from Institute ethical committee and informed written consent was obtained from study participants. The study included a cross-sectional assessment of diabetic patients selected by Convenience sampling from January 2016 to March 2016.

Diabetic patients who were having Type- II diabetes mellitus, above 18 years of age, could understand Hindi and willing to participate in the study were included and Patients who were not able to recall, respond, comprehend and admitted in critical care units of selected hospital were excluded from the study.

Diabetic foot ulcer risk was assessed using Diabetic Foot Ulcer Risk Assessment Tool (modified version of foot ulcer risk assessment tool) which was validated by 5 nursing experts. The calculated reliability for the tool was found to be 0.78 as assessed using Chronbach's alpha method. The tool had 2 sections. First section was subject data sheet which had items related to Demographic and Clinical variables, second section was Risk assessment scale which was a Likert scale for assessing the risk of diabetic foot. There were 5 categories under Likert scale ranging from 0-4 i.e. Never (<2times/month), rarely (2-3times/month), sometimes (1-2times/week), most of the time (3-5times/week), always (>5times/week). Total number of item in diabetic foot ulcer risk assessment tool was 49. In which demographical variables consist of 6 items & clinical variables consist of 21 items. Under risk assessment scale there were 3 factors, physical factor consist of 5 items, self care factors consist of 16 items and modifiable personal factor consist of 1 item. Data was collected using interview technique, observation and from medical records.

After assessment of risk, health education to patients regarding diabetic foot ulcer prevention and management was given on individual basis irrespective of their risk score regarding prevention of diabetic foot ulcer using standardized A.V aid (flex), content in the AV aid was also validated by experts. Subjects having high diabetic foot ulcer risk were referred to the physician for further management.

Statistical analysis: In this study, Descriptive statistics such as frequency, percentage, mean, median, and standard deviation and inferential statistics such as Chi-square test were used.

FINDINGS

A total of 100 diabetic patients were included in the study. Majority of the diabetic patients were male. Nearly half i.e.48% of diabetic patients were in the age group of 41- 60years. Most of the diabetic patients were living in rural area. Most of the patients were suffering from diabetes mellitus for the last 3 years and most of them were not having history of diabetic foot ulcer as well as complications associated with diabetic foot ulcer.

- Risk of diabetic foot ulcer: Study results as shown in table 3 depicts that most of diabetic patients i.e. 79% were having low risk of developing diabetic foot ulcer. 21% of diabetic patients were having high risk of developing diabetic foot ulcer.

- There was no association found between the level of diabetic foot ulcer risk score with selected demographic variables such as age, gender, education,

monthly income, occupation, place of residence and selected clinical variables such as duration of diagnosis of diabetes, checking of blood pressure level, frequency of checking blood cholesterol level, smoking, alcoholism, co-morbidity and medication except for history of diabetic foot ulcer (p value= .01) and duration of complication of diabetic foot ulcer (p value= .01) .

DISCUSSION

In the present study, 79% of patients with diabetes had low risk of developed foot ulcer and 21% of patients had high risk of diabetic foot ulcer.

These findings are consistent with the study done by Marquez SA, Zonana N et al (2014) on the risk of diabetic foot in patients with type 2 diabetic among 205 patients in a family medicine unit. 91 patients (44%) had a high risk of developing diabetic foot and 66% diabetic patients had low risk of diabetic foot.

The findings of the study are opposite to the study done by Yusuf S, Okuwa M (2015)[6] on prevalence & risk factor of diabetic foot ulcer in patients with Type 2 diabetes mellitus among 249 participants. The study concluded that prevalence of diabetic foot ulcer risk was 55.4% which was higher than the risk in present study. The plausible explanation for these opposite findings could be that the present study was conducted in different setting with small sample size within short period of time.

IMPLICATIONS

The study findings can be implicated in the field of Nursing research, Nursing practice, Nursing education & Nursing administration.

Nursing Administration

- Nurse administrators should take active efforts to implement diabetic foot ulcer risk assessment by nurses on regular basis for all diabetic patients in hospital settings.

- Discharge teaching should include need based education on prevention of diabetic foot ulcer among diabetic patients

Nursing Practice

- In clinical area, there is a need to assess all the diabetic patients for risk of diabetic foot ulcer on regular basis.

- Nurses should be encouraged to use foot ulcer risk assessment tool for prediction of risk of foot ulcer in diabetic patients and educate the patients accordingly.

- Diabetic Foot ulcer risk assessment would make it possible to identify those who really need immediate preventive measures.

- Diabetic foot ulcer risk assessment should be done in community setting by trained community health nurses.

- In community area, community health nurses should encourage the patients for self assessment of diabetic foot ulcer as well as for prevention of diabetic foot ulcer.

Nursing Research

- Nurse researchers should assess the effectiveness of various interventions, for reducing the risk of diabetic foot ulcer among diabetic patients.

- Standards or protocols on preventive measures for diabetic foot ulcer among high risk patients can be developed based on the identified risk factors.

Nursing Education

- Diabetic foot ulcer risk assessment should be given more emphasis in teaching content of diabetic patients for students learning.

- Student nurses should perform diabetic foot ulcer risk assessment during their clinical posting for all diabetic patients.

- In service education programs should be conducted for nurses on diabetic foot ulcer risk assessment and its importance.

LIMITATIONS

- The study was limited to selected hospital of Mullana, Ambala.

RECOMMENDATIONS

Based on the experience gained during this study and the results obtained, the following recommendations are made:-

• Further studies can be done to assess the effectiveness of certain interventions like foot care regarding prevention of diabetic foot ulcer in order to decrease the risk of diabetic foot ulcer.

• Study can be done to assess the effectiveness of health education on diabetic foot ulcer.

• A similar study can be conducted in different setting with large sample size.

• Longitudinal studies can be performed to explore the development of complications of diabetic foot ulcer among diabetic patients.

Table 1: Frequency and percentage distribution of diabetic patients based on demographic variables

n=100

Sr. No.	Demographic Variables	Frequency	Percentage (%)
1	**AGE (in years)**		
1.1	18-40	21	21.0
1.2	41-60	48	48.0
1.3	>61	31	31.0
2	**GENDER**		
2.1	Male	57	57.0
2.2.	Female	43	43.0
3	**MONTHLY INCOME (in rupees)**		
3.1	<10000	72	72.0
3.2	10001-15000	19	19.0
3.3	15001-20000	5	5.0
3.4	>20001	4	4.0
4	**EDUCATION STATUS**		
4.1	Non-Literate	40	40.0
4.2	up to 10^{th}	46	46.0
4.3	up to 12^{th}	6	6.0
4.4	Graduate & Above	8	8.0
5	**OCCUPATION**		
5.1	Government job	5	5.0
5.2	Private job	28	28.0
5.3	Self Business	16	16.0
5.4	Labourer	24	24.0
5.5	Farmer	27	27.0
6	**PLACE OF RESIDENCE**		
6.1	Rural	71	71.0
6.2	Urban	29	29.0

Table 2: Frequency and percentage distribution of diabetic patients based on clinical variables
n=100

Sr. No.	Clinical Variables	Frequency	Percentage (%)
1	**DURATION OF DIAGNOSIS OF DIABETES**		
1.1	<1 Year	27	27.0
1.2	1-3 Year	36	36.0
1.3	3.1-5 Year	12	12.0
1.4	> 6 Year	25	25.0
2	**HISTORY OF FOOT ULCER**		
2.1	Yes	10	10.0
2.2	No	90	90.0
	If yes, then:		
2.1.1	**DURATION OF COMPLICATION RELATED TO DIABETIC FOOT ULCER**		
I.	<6 Months	9	9.0
II.	< 6 Months	1	1.0
3	**FREQUENCY OF CHECKING BLOOD GLUCOSE LEVEL**		
3.1	Daily	63	63.0
3.2	Weekly	16	16.0
3.3	Every 15 days	10	10.0
3.4	Every month	10	10.0
3.5	Rarely>6Months	1	1.0
4	**FREQUENCY OF CHECKING BLOOD PRESSURE LEVEL**		
4.1	Daily	63	63.0
4.2	Weekly	03	3.0
4.3	Every 15 day	19	19.0
4.4	Every month	14	14.0
4.5	Every 2 month	1	1.0
5	**FREQUENCY OF CHECKING BLOOD CHOLESTROL LEVEL**		
5.1	< 6 months	31	31.0
5.2	> 6 months	69	69.0
6	**SMOKING**		
6.1	Regular	5	5.0
6.2	Occasionally	4	4.0
6.3	Former	7	7.0
6.4	Never	84	84.0
7	**ALCOHOLISM**		
7.1	Current	0	0.0
7.2	Occasionally	6	6.0
7.3	Former	6	6.0
7.4	Never	88	88.0
8	**CO-MORBIDITY**		
8.1	Present	79	79.0
8.2	Not present	21	21.0
9	**MEDICATION**		
9.1	Oral Hypoglycemic agents	52	52.0
9.2	Parentral medications	28	28.0
9.3	Both (Oral Hypoglycemic +Parentral)	18	18.0
9.4	None	2	2.0

Table: 3 Findings related to level of Diabetic Foot Ulcer Risk Score in diabetic patients. n=100

Sr. No	Diabetic foot ulcer risk category	Frequency	Percentage (%)
1	Low risk	79	79
2	High risk	21	21
3	Very High Risk	0	0

CONCLUSION

Based on the findings, it is concluded that patients with diabetes are having risk for developing diabetic foot ulcer. Therefore diabetic patients must be screened for diabetic foot ulcer at early stage and efforts should be taken to reduce the occurrence of diabetic foot ulcer among diabetic patients.

Conflict of Interest: None to declare

Source of Funding: Self Funded

Ethical Clearance: Informed consent was obtained from the subjects. Confidentiality of the subjects was maintained.

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Prevalence of Internet Addiction and its Contributory Factors among Nursing Students

Rupinder Kaur[1], Meenakshi[2], Sandeep Kaur[3], Jasvir Kaur[4], Amninder Kaur[5]

[1]Post graduate M.Sc. Nursing Student of DMCH College of Nursing, Ludhiana. [2] Lecturer Dept. of Community Health Nursing, DMCH College of Nursing, Ludhiana. [3]Professor Dept. of Community Health Nursing, DMCH College of Nursing, Ludhiana, [4]Professor & Principal DMCH College of Nursing, Ludhiana, [5]Lecturer, DMCH College of Nursing, Ludhiana

ABSTRACT

Background: Internet is an integral part of modern life and it provides an easy and immediate way for people to explore information and communicate with other people around the world. It has become widespread in the lives of children, adolescents and college students in recent years. Loss of control over internet use, however might lead to negative impacts on individual psychological well-being, peer and family interaction, academic performance and daily life functions. **Method:** An exploratory study was carried out among 300 nursing students in selected nursing colleges in city Ludhiana, Punjab. Systematic sampling technique was used to select the sample. Data was collected with standardized internet addiction scale (Dr. K. Young) and structured checklist to assess contributory factors of internet addiction by using self-report method. **Results:** The study results revealed that most of the students 97.7% had an easy access to internet. More than one fourth addicted to mild internet addiction. More than half 180 (60.0%) nursing students were in age group 16-20 years. Contributory factors "Unlimited access to internet", "Use internet as a way to escape problems", "Get more respect online than real life" had significant association with internet addiction. Student's age, mother's education, father's occupation, quality of your parent's relationship had significant association with internet addiction. **Conclusion:** Prevalence of internet addiction among nursing students was 70.3%. Majority of the nursing students were using internet on mobile phone. Most of the nursing students chatting was the purpose of using internet.

Keywords: *Internet addiction, Prevalence, Contributory factors, Nursing students*

INTRODUCTION

The internet is an exciting new medium that is evolving into an essential part of life all over the world. It has opened a new domain in social interaction with the promise of increasing efficiency and worldwide understanding. Though devised primarily to facilitate research, information seeking, interpersonal communication and business transactions for some internet users it has become the central focus of their lives.[1]

Corresponding author:
Rupinder Kaur
Post graduate M.Sc. (N) Community Health Nursing
DMCH College of Nursing, DMC & Hospital Ludhiana

Today, access of internet and its use among students has become a common in India. The mobile association report projects that by June 2014 India to had 243 million internet users. Internet has changed the social psychological and academic life of students and making them over smart and mature before their age.[2]

The internet is quickly and widely diffusing in our society. Parents and children find themselves e-mailing, web messaging, listening to music and reading the news of the World Wide Web. Adolescents use it mainly for the purpose of communication through e-mail, Orkut, Facebook and also for purpose of gaining general information through various websites. People started use of internet also for the purpose of business, entertainment etc. Many adolescents are spending so

much time on the internet, children use home computer more than watching television for entertainment. [3]

Internet addiction was first researched in 1996 and findings were presented at the American Psychological Association. The internet is considered as the most effective tool in all areas of science, business, education, culture and politics (Christakis, 2010). Internet addiction is a new form of psychological disorder in 21st century.[9]

Now–a-days individuals are getting hooked on the internet such as on pornography, Internet gambling, online shopping for non-important information or chatting for a very long time.[10] It could be happen because, it is compulsory for the students they were using internet because working with the internet is effective and productive, and they feel comfortable with online friends than the real one, playing games online and on other hand there is also easy internet access to all mobile devices including Smartphone, tablet or other mobile devices (Solomon, 2009).[11]

Lack of sleep, excess fatigue, declining grades, less investment in relationships with boyfriend and girlfriend, withdrawal from all campus social activities and events, or irritability when off-line, denial of the seriousness of the problem rationalizing that what they learn on the internet is superior to their classes.[13]

In other words, the online space provides a rewarding sense of belonging, warmth, and well- being. Internet addicts exhibit higher rates of conflict with their parents, report dysfunctional communication with their parents, and experience higher level of familial conflict than non-addicts. [14]

MATERIAL AND METHOD

An exploratory research design was used to assess the prevalence of internet addiction and its contributory factors among nursing students of selected nursing colleges in city Ludhiana, Punjab. *Inclusion Criteria***:** Nursing students willing to participate in the study. *Exclusion Criteria***:** Nursing students who were absent on the day of data collection. Data was collected with standardized internet addiction scale (Dr. K. Young) and structured checklist to assess contributory factors of internet addiction by using self-report method. The tool was divided into three parts.

- **Part 1:** a) Socio–demographic profile.

b) Internet usage profile

- **Part 2:** Standardized Modified Internet addiction test by Dr. K. Young (1998) to assess the level of Internet addiction**.**

- **Part 3:** Structured Checklist to assess the contributory factors of Internet addiction.

The content validity of the tool was determined by the experts of different specialties in field of nursing. Dr. K. Young internet addiction test was a standardized tool, the reliability of the tool was pre-determined. Reliability of checklist was determined by test- retest method by using Karl Pearson's correlation formula. Reliability of checklist was found to be 0.99

Analysis and interpretation of the data was done by using descriptive and inferential statistics. Analysis of data collection was done in accordance with the objectives of the study using statistical package for the Social Science (SPSS) software. Self-report method paper and pen was used for completeness, consistency. Data obtained had been analyzed in terms of descriptive statistics and inferential statistics. Descriptive analyses such as frequencies, percentages, tables, figures were used to display the results. Inferential statistics was used i.e. Chi square test to find out the relationship of internet addiction with selected variables.

RESULTS

Table1: Distribution of nursing students as per Socio-demographic variables N=300

Variables	f (%)
Age (in years)	
16-20	180 (60.0)
21-24	120 (40.0)
Gender	
Male	012 (4.0)
Female	288 (96.0)
Habitat	
Rural	174 (58.0)
Urban	126 (42.0)
Religion	
Sikh	227 (75.7)
Hindu	066 (22.0)
Christian	007 (2.3)
Type of family	
Joint	085 (28.3)
Nuclear	215 (71.7)
Place of residence	
Home	042 (14.0)
Hostel	258 (86.0)

Mean age 19.8±2.2

A total of 300 sample participated in the study as summarised in table 1. reveals that more than half 180 (60%) nursing students were in age group 16-20 years. Majority 288 (96%) of nursing students were female. There were equal proportion 75 (25%) of nursing students in each academic year. More than half 174 (58%) of nursing students belonged to rural area. Two third 227 (75.7%) of nursing students belonged to Sikh religion. Two third 215 (71.7%) of nursing students belonged to nuclear family. Majority 258 (86%) of the nursing students were residing at hostel.

Table 2: Distribution of nursing students as per Socio-demographic variables N=300

Variables	f (%)
Educational status of father	
Illiterate	006 (2.0)
Elementary	042 (14.0)
Secondary	116 (38.7)
Graduate or above	136 (45.3)
Occupation of father	
Laborer	010 (3.3)
Service	146 (48.7)
Business	130 (43.3)
Not working	014 (4.6)
Occupation of mother	
Self employed	023 (7.7)
Home maker	236 (78.6)
Professional	041 (13.7)
Socio-economic status*	
Upper class	012 (4.0)
Upper middle class	222 (74.0)
Lower middle class	058 (19.3)
Upper lower middle class	008 (2.0)

Table 2 reveals that near about half 136 (45.3%) of nursing student's fathers were educated up to graduate or above. About half 150 (50%) of nursing student's mother were educated up to secondary. Near about half 146 (48.7%) of nursing student's fathers were in govt or private services. Majority 236 (78.7%) of nursing student's mothers were home maker. Two third 222 (74%) of nursing students belonged to families with upper middle socio-economic status.

Table 3: Distribution of nursing students as per Socio-demographic variables N = 300

Variables	f (%)
Pocket money/month (In rupees)	
1000	094 (31.3)
1001-2000	110 (36.7)
2001-3000	053 (17.7)
≥3000	043 (14.3)
Quality of parent's relationship	
Very good	251 (83.7)
Relatively good	034 (11.3)
General	015 (5.0)
Quality of your relationship with your parents	
Very good	266 (88.7)
Relatively good	034 (11.3)

Table 3 shows that one fourth 110 (36.7%) of nursing student's pocket money was Rs 1001 to 2000 per month. Majority 251 (83.7%) of the nursing student's parents had very good quality of relationship. Majority 266 (88.7%) of the nursing student's had very good quality of relationship with their parents.

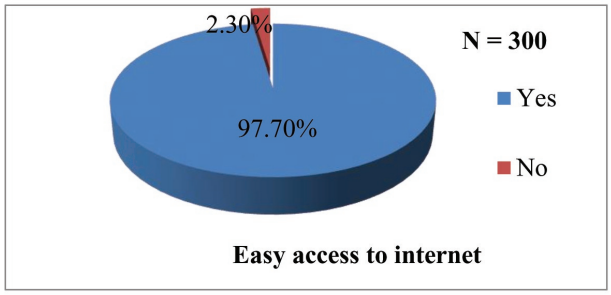

Figure 1: Distribution of nursing students as per easy access to internet

Figure 1 Shows that most 293 (97.7%) of nursing students had an easy access to internet.

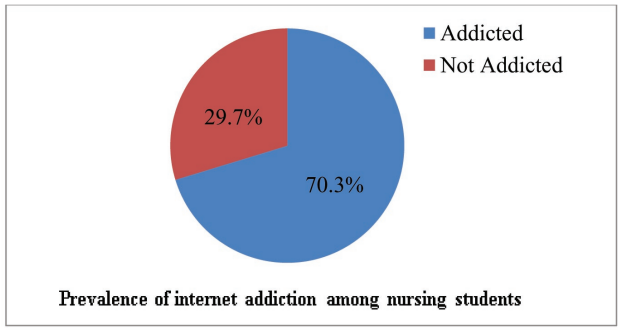

Figure 2: Prevalence of internet addiction among nursing students

Figure 2 shows that the prevalence of internet addiction was 70.3% among nursing students.

Table 4: Distribution of nursing students as per level of Internet Addiction N=300

Level of addiction	Score	f (%)
No addiction	0-30	089 (29.7)
Mild	31-49	110 (36.6)
Moderate	50-79	098 (32.7)
Severe	80-100	003 (1.0)

Table 4 concluded that more than one fourth 110 (36.6%) of nursing students had mild internet addiction. All 300 (100.0%) of nursing students were using internet.

Most (100%) of nursing students were using internet on mobile phone.

Table 5: Distribution of nursing students as per contributory factors of internet addiction N=300

Contributory factors	f (%)	Rank
Easy access to internet	293 (97.7)	1
Internet helps to enjoy free time	289 (96.3)	2
Use of internet to change my mood	270 (90.0)	3
Full encouragement from teachers for educational purpose	264 (88.0)	4
Urge of using modern technology	260 (86.7)	5

*Percentage exceeds due to multiple responses

Table 5 depicts that the most occurring contributory factors of internet addiction among majority 293 (97.7%), 289 (96.3%), 270 (90%) of nursing students were "Easy access to internet", "Internet helps to enjoy free time", "Use of internet to change mood respectively. The least occurring contributory factor was 10 (3.3%) poor relationship with parents.

The factors "Unlimited access to internet, Use internet to escape from problem, Internet helps huge blocks of free time, Get more respect online than in the real life, Urge of using modern technology, Encouragement from teachers for educational purpose" were associated with internet addiction among nursing students.

Table 6: Association of prevalence of internet addiction with its selected socio-demographic variables N=300

Personal profile	Internet addiction		Total f (%)	Chi square test
	Addicted f (%) n = 211	Not addicted f (%) n = 89		
Age (In years)				
16-20 21-24	119 (39.6) 092 (30.6)	61 (20.3) 28 (09.3)	180 (60.0) 120 (40.0)	$\chi^2 = 3.8447$ df = 1 p = 0.0498*
Religion				

Con... Table 6: Association of prevalence of internet addiction with its selected socio-demographic variables N=300

Sikh Hindu Christian	151 (50.3) 054 (18.0) 006 (02.0)	76 (25.3) 12 (4.0) 01 (0.3)	227 (75.7) 066 (22.0) 007 (02.3)	$\chi^2 = 6.5480$ df = 2 p = 0.0377*
Educational status of mother#				
Illiterate Elementary Secondary Graduate or above	006 (2.0) 036 (12.0) 116 (38.7) 053 (17.7)	01 (00.3) 11 (03.7) 34 (11.3) 43 (14.3)	007 (2.3) 042 (15.7) 150 (50.0) 096 (32.0)	$\chi^2 = 15.7248$ df = 3 p = 0.0011*
Occupation of father#				
Labourer Service Business Not working	004 (01.3) 088 (29.4) 108 (36.0) 011 (03.7)	06 (02.0) 58 (19.3) 22 (07.3) 03 (01.0)	010 (3.3) 146 (48.7) 130 (43.3) 014 (4.7)	$\chi^2 = 22.0636$ df = 3 p = 0.0000*
Quality of parent's relationship				
Very good Relatively good General	174 (58.1) 029 (09.7) 008 (02.7)	77 (25.6) 05 (01.6) 07 (02.3)	251 (83.7) 034 (11.2) 015 (4.9)	$\chi^2 = 5.8476$ df = 2 p = 0.0536*

YATE correction applied *Significant at ($p<0.05$)

Table 6 reveals that the prevalence of internet addiction was significantly associated with age, religion, education of mother, occupation of father, quality of parent's relationship.

Table 7: Association of prevalence of internet addiction with its selected socio-demographic variables N=300

Internet profile	Internet addiction		Total (%)	Chi square test
	Addicted f (%)	Not addicted f (%)		
Application use frequently on internet*				
Whatsapp Facebook Twitter Yahoo Google IMO Instagram Others	198 (66.0) 066 (22.0) 008 (02.6) 005 (01.6) 125 (41.6) 073 (24.3) 006 (02.0) 004 (01.3)	69 (23.0) 27 (9.0) 01 (0.3) 02 (0.6) 54 (18.0) 10 (3.3) 04 (1.3) 03 (1.0)	267 (89) 093 (31) 009 (2.9) 007 (7.6) 179 (59.6) 083 (27.6) 010 (3.3) 007 (2.3)	$\chi^2 = 13.5894$ df = 7 p = 0.0589*

Cont... Table 7: Association of prevalence of internet addiction with its selected socio-demographic variables N=300

Purpose of using internet*				
Game	043 (14.3)	48 (16.0)	052 (30.3)	$\chi^2 = 14.0633$ df = 5 p = 0.0151*
Educational purpose	143 (47.7)	67 (22.3)	210 (70)	
Chatting	172 (57.3)	88 (29.3)	260 (86.6)	
E-mail	050 (16.6)	08 (02.6)	058 (19.2)	
Shopping	032 (10.6)	11 (03.6)	043 (14.2)	
Downloading	115 (38.3)	53 (07.7)	168 (46)	
Average internet usage in hours during weekends per week (Saturday - Sunday)				
≤2	09 (03.0)	18 (06.0)	027 (9)	$\chi^2 = 39.9454$ df = 4 p = 0.0000*
2-4	48 (16.0)	31 (10.3)	079 (26.3)	
4-6	76 (25.3)	14 (04.7)	090 (30)	
6-8	35 (11.7)	21 (07.0)	056 (18.7)	
≥8	43 (14.3)	05 (01.7)	048 (16)	

YATE correction applied *Significant at ($p<0.05$)

Table 7 depicts that the prevalence of internet addiction was significantly associated with application used frequently on internet, purpose of using internet, average usage of internet during weekends/week (Saturday-Sunday).

DISCUSSION

The finding of the present study regarding socioeconomic variables revealed that more than half 180 of nursing students were in age group 16-20 years, the mean age of participants was 19.8±2.2 years, 288 were female,174 belonged to rural area, 227 were sikh, 215 belonged to nuclear family, 258 were residing at hostel, fathers of 136 nursing students were educated up to graduate or above, mothers of 150 nursing students were educated up to secondary, fathers of 146 nursing students were in govt or private services, mothers of 236 nursing students were home maker, 222 nursing students belonged to families with upper middle socio-economic status, pocket money of 110 nursing students was Rs 1001 to 2000 per month, 251 had very good quality of parent's relationship, 266 had very good quality of relationship with their parents. The similar study conducted by SB Marahatta, Adhikari B, Aryal N and Regmi R (2015)at Manmohan Memorial Medical College and Teaching Hospital, Nepal. Out of 236 students, 60 were male and 176 were female. The mean age of participants was 19.92 ± 2.8 years.

The present study findings revealed that the contributory factors the most occurring contributory factors of internet addiction among majority 293 (97.7%), 289 (96.3%), 270 (90%) of nursing students were "Easy access to internet", "Internet helps to enjoy free time", "Use of internet to change mood respectively. The similar study conducted by Bhushan Chaudhari et al. (2015) on prevalence of internet addiction among medical students significantly associated factors with internet addiction was using mobile phone for internet access.

The present study findings revealed that the nursing student's age (p=0.0498), education status of mother (p=0.0011), occupation of father (p=0.0000) and quality of their relationship with parents (p=0.0536) had significant association with internet addiction. The similar study conducted by Asiri Shahla et al. (2012) at among medical students Rasht Iran. Significant relationship were observed between the Internet addictions with age (P< 0.001).

CONCLUSION

The present study concluded that prevalence of internet addiction among nursing students was 70.3%. All students were using Internet. Majority of the nursing students were using internet on mobile phone. Most of the nursing students had an easy access to internet. More than one fourth nursing students had mild internet addiction. Contributory factors "Unlimited access to

internet", "Use internet as a way to escape problems", "Get more respect online than real life" had significant association with internet addiction. Student's age, mother's education, father's occupation, quality of parent's relationship had significant association with internet addiction.

Ethical Consideration: With the view of ethical consideration the researcher discussed the type and purpose of the study with the Ethical Committee, DMCH, Ludhiana and written permission was obtained thereafter.

Source of Funding: Self

Conflict of Interest: No

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Relaxation on Pregnancy Outcome among Women with PIH

Sreedevi J

Associate Professor, Government College of Nursing, Kozhikode, Kerala

ABSTRACT

Maternal stress and anxiety were found to be the predictors of adverse pregnancy outcomes including low birth weight and prematurity. The present study is aimed to evaluate the effect of relaxation programme on pregnancy outcome in terms of maternal and neonatal outcome among women with pregnancy induced hypertension (PIH). A pre experimental study with post- test only design was used. The dependent variable was pregnancy outcome among women with PIH and the independent variable was relaxation programme. The measuring instruments used were semi structured interview schedule on socio demographic and observation checklist to determine the pregnancy outcome. The study conducted on 400 women with PIH in Institute of Maternal and Child Health (IMCH) Kozhikode. A purposive sampling technique was adopted for selection of sample. The relaxation programme was administered through audio CD from Monday to Friday in the morning and evening for four weeks and pregnancy outcome was measured. The collected data were analysed by Chi square. The findings of the study was the mean post- test pregnancy outcome score in the experimental group was significantly higher than the mean post- test pregnancy score of control group with regards to maternal outcome in terms of Labour, type of delivery, complications, blood pressure, proteinuria and oedema. The neonatal outcome in terms of birth weight, Apgar score, complications and still birth($p<0.05$) among women with PIH. The findings of the present study revealed that a positive pregnancy outcome is significantly influenced by relaxation programme among women with PIH.

Keywords: *Relaxation, pregnancy outcome, Pregnancy Induced Hypertension.*

INTRODUCTION

Pregnancy and childbirth are special events in women's lives and indeed, in the lives of their families. This can be a time of great joy and joyful anticipation. It can also be a time of fear, suffering and even death[1]. Every minute of every day a woman dies of pregnancy related complications. For every woman who dies at least thirty others develop chronic debilitating problems. It is estimated that every year nearly 3-4 million new-born dies within the first week of their life and for every new born baby that dies another is still born. That is the black picture of motherhood and childbirth. These women and babies die for the same reason that is poor health and inadequate care during pregnancy and childbirth[2]. Out of 5, 29,000 maternal death reported globally each year, 1,36,000 (25.7%) was contributed by India[3].

Hypertensive disorders of pregnancy are one of the leading causes of both maternal and perinatal morbidity and mortality. 5-8 per cent of all pregnancies, preeclampsia and hypertensive disorders of pregnancy are major causes of maternal, foetal and neonatal morbidity worldwide[4]. In India, the incidence of PIH ranges from 5-15%. In the primi, it is 16% whereas in multiparas it is 7 per cent, maternal mortality is by 10% to 15%. Prenatal mortality and morbidity is 15% to 25%. In public hospitals number of antenatal mothers with PIH is 40% that is 8 patients out of 20 patients[5].

A survey was conducted to determine the causes of maternal deaths at the IMCH, Calicut for the years 2000-2002.The records of IMCH were analyzed and conclusions were drawn from the documented facts. The total number of deaths recorded in the three years of study was 60. Of the total number of deaths, it was noted that 90.2% of the women were from rural areas, the rest 9.8% was from urban areas. Among the maternal deaths, 43.3% were primigravidae and the rest being multi gravidae. Among the cases, it was noted that 65% of the fetuses were still born and the rest of the 35%

were relatively well neonates. The causes of deaths in the mothers were uncontrolled PIH and eclampsia-68.3%, uncontrolled haemorrhage-30%, jaundice-10%, anaemia-3.3%, cardiac arrest-5% and rupture uterus-5%. The predominant causes of maternal death are PIH and eclampsia which warrant unique intervention strategies right from the sub center level to the tertiary care hospital[6].

A population based study was conducted to examine trends in stillbirth and neonatal mortality related to PIH in the USA between 1990 and 2004. Results showed that PIH increased from 3% in 1990–1991 to 3.8% in 2003–2004. In both periods, PIH was associated with a higher risk of stillbirth and neonatal death and observed that the increased risk of PIH-related stillbirth was higher in women having their second or higher-order births compared with women having their first birth. The findings conclude that a substantial burden of stillbirth and neonatal mortality is associated with PIH, especially among multiparous women[7].

A case controlled prospective study was conducted among 250 cases of hypertension complicating pregnancy and 400 normal pregnant women to determine the effect of hypertension on maternal and foetal outcome. The study was carried out at the Department of Obstetrics and Gynaecology, Safdarjang Hospital, New Delhi. The analysis of the data concluded that maternal hypertension was associated with increased incidence of preterm delivery, labour induction, caesarean section, still birth and overall perinatal mortality compared to control group[8].

A study was conducted to determine effect of relaxation education in anxious pregnant women in their first pregnancy on birth weight, preterm birth, and surgical delivery rate. The experimental group received routine prenatal care along with 7-week applied relaxation training sessions, while the control group received only routine prenatal care. Result revealed that significant reductions in low birth weight, caesarean section, and/or instrumental extraction were found in the experimental group compared with the control group. The findings suggest beneficial effects of nurse-led relaxation education sessions during the prenatal period[9].

Relaxation exercises are simple, safe or economic. They help in preventive and promotive aspects of health and illness where as long term drug consumption for hypertension can have side effects upon human system and it also involve heavy cost. Since the treatment with antihypertensive drugs produces adverse effects on the foetus, the nurses must choose simple, conservative, nonintrusive methods which meet little resistance from other health professionals. Researchers had brought to light the promising effect of non-pharmacological interventions like relaxation therapy, guided imagery and music therapy in normalising the physiological alterations and stress. Progressive relaxation studies had shown that the relaxation is effective in lowering blood pressure of persons with chronic hypertension. At this juncture a non-pharmacological method of treatment which is both conducive to the patients' health and economy needs to be advocated. Even though the effects of relaxation programme on blood pressure, stress, pain and anxiety were widely expressed, little explorations were done in PIH[10].

STATEMENT OF THE PROBLEM

A study to evaluate the effectiveness of relaxation programme on pregnancy outcome among women with pregnancy induced hypertension, admitted in the Institute of Maternal and Child Health, Kozhikode.

Objectives of the study

1. To evaluate the effect of relaxation programme on pregnancy outcome of women with PIH.

MATERIALS AND METHOD

The research approach adopted for this study was evaluative approach with Pre-experimental design. The study was conducted at Institute of Maternal and Child Health, Medical College, Kozhikode. The sample consisted of 400 women with PIH between 30-34 weeks of gestation who satisfied inclusion criteria were selected by non probability purposive sampling technique.

Data collection instruments: After reviewing the enormous number of literature related PIH and its management, maternal and neonatal complications and the effect of relaxation programme on pregnancy outcome, the tool was identified. The tools used were: Tool-I: demographic variable and Tool-II: Observation checklist which consists of two sections. Section A- Maternal outcome and Section B- Neonatal outcome (r=0.84).

Data collection process: After obtaining ethical and administrative permission, the investigator personally approached the women with PIH admitted in the antenatal wards of Institute of Maternal and Child Health, Medical College, Kozhikode. To establish good rapport, the investigator greeted the subjects in a friendly manner and seen that they were comfortably seated. Participants in the experimental group were selected from third and fourth floor whereas control group was selected from first and second floor of antenatal wards to avoid contamination. The selected participants were explained the purpose, nature and duration of the study and also promised to keep up confidentiality. A written consent was obtained individually. The demographic variables were collected. A detailed explanation was given to experimental group regarding relaxation programme. The relaxation programme includes Jacobson's progressive muscle relaxation; deep breathing exercise and guided imagery for 40 minutes were prepared in Malayalam and recorded in an audio C.D. This audio C D was played in a quiet room where a small group of four to five women with PIH were seated comfortably. They were requested to follow the instructions and perform accordingly by closing their eyes. The relaxation programme was provided for 5 days twice daily, in between 7 a.m. to 9 a.m. in the morning and between 5 p.m. to 7p.m.in the evening for four weeks. The participants were followed and data were collected from records. No drop outs were in the study period and all the participants in the experimental group were satisfied with the relaxation programme they received. Both groups were received routine care.

RESULTS

The data obtained were analysed using descriptive and inferential statistics with the help of SPSS version 16 and findings presented below.

Section I: Demographic variables

Majority of women in both groups were belonged to the group of 20-29 years of age. Less than fifty percentages of women in both groups had secondary level of education. Majority of women in both groups were house wives. 85.5% in the experimental group and 90.5% in control group had adequate support system. Considering types of family, 93% in the experimental group and 91.5% in the control group belonged to nuclear family. Watching TV was the leisure time activity among majority of subjects in the experimental (51.5%) and in the control group (47%). 80% in the experimental group and 75% in the control group were residing in rural area. Below 50% of women in both groups belonged to second gravid, whereas 54.5% in the experimental and 59.5% in the control group belonged to second para. Regarding gestational age, in the experimental group 38% and 36% in the control group were 33 weeks of gestational age and only 3% in the experimental and 8% in the control group were 32 weeks of gestation, 22% and 19% in 30 weeks and 26% and 24% in 31 weeks of gestational age among women in experimental group and in control group respectively. Among the samples, half of the subjects were diagnosed as PIH during 26-30 weeks of pregnancy, 30% were during 20-25 weeks and only 20% were diagnosed during 31-34 weeks of pregnancy in both groups. Among subjects 31.5% in experimental and 33.5% in control group had history of PIH in previous pregnancy. 11% in the experimental and 13.5% samples in the control group had the history of foetal loss in the previous pregnancy.

Section II: Pregnancy Outcome

A: Maternal Outcome

Table 1: The Chi square value computed on pregnancy outcome score in terms of maternal outcome in the experimental group and control group after relaxation programme. (n=400)

Maternal outcome variables	Experimental		Control		χ^2 value	df	p value
	f	%	f	%			
Labour							
Term	167	83.5	86	43	70.565	1	0.001**
Preterm	33	16.5	114	57			

Cont... Table 1: The Chi square value computed on pregnancy outcome score in terms of maternal outcome in the experimental group and control group after relaxation programme. (n=400)

Type of delivery							
Normal	159	79.5	96	48	42.938	2	0.0001***
Instrumental	7	3.5	18	9			
L S C S	34	17	86	43			
Complications							
Present	16	8	49	24.5	20.005	1	0.0001***
Absent	184	92	151	75.5			
Blood pressure							
Normal	169	84.5	103	51.5	50.046	1	0.0001***
High	31	15.5	97	48.5			
Proteinuria							
Present	24	12	118	59	96.473	1	0.0001***
Absent	176	88	82	41			
Oedema							
Present	32	16	106	53	60.582	1	0.0001***
Absent	168	84	94	47			

***significant at p=0.0001 level and * at p<0.05.

Table 1 shows that the pregnancy outcome in terms of maternal outcome in Labour, type of delivery, complications, blood pressure, proteinuria and oedema among women with PIH in the experimental and control group. The findings revealed that 83.5% labour at term in experimental group and it was only 43% in control group. But pre- term labour rate was higher among control group (57%) than experimental group (16.5%). Majority of subjects in the experimental (79.5%) had normal delivery whereas in control group it was 48%. 43% had LSCS in the control and it was very low in the experimental group (17%). 9% subjects had instrumental delivery in control group and only 3.5% subjects in the experimental group had instrumental delivery. Regarding complications, majority of subjects in both groups had no complications (92% experimental, 75.5% control). Blood pressure was normal among 84% in experimental group whereas in the control group it was only 51.5%. Proteinuria and oedema was absent among 88% and 81% in experimental, 41% and 47% in control group respectively. The findings are statistically significant in all areas of maternal outcome (p=<0.001). Therefore, it is interpreted that the relaxation programme is effective in positive pregnancy outcome in terms of maternal outcome (Labour, type of delivery, complications, blood pressure, proteinuria and oedema) among women with PIH.

B. Neonatal Outcome

Table 2: The Chi square value computed on pregnancy outcome score in terms of neonatal outcome in the experimental group and control group after relaxation programme (n=400)

Neonatal outcome variables	Experimental		Control		χ^2 value	Df	p value
	f	%	f	%			
Birth weight							
<2.5 kg	58	29	96	48	18.965	2	0.0001***
2.5-3.5kg	123	61.5	98	49			
>3.5 kg	19	9.5	6	3			
Apgar score							
0-4	3	1.5	39	19.5	102.151	2	0.0001***
4-7	21	10.5	81	40.5			
8-10	176	88	80	40			
Complications							
Present	7	3.5	28	14	13.808	1	0.0001***
Absent	193	96.5	172	86			
Still birth							
No	197	98.5	189	94.5	4.737	1	0.030*
Yes	3	1.5	11	5.5			

***significant at p=0.0001 level and * at p<0.05.

The data in table 2 shows the chi square value computed on neonatal outcome in terms of birth weight, APGAR score, complications and still birth among women with PIH in experimental and control group. Among experimental group, 61.5% had normal birth weight (2.5-3.5kg) neonates whereas in control group it was only 49%. Among the subjects, 29% in the experimental and 49% in the control group had below normal birth weight (<2.5kg) babies and the birth weight was more than 3.5kg in 9.5% and 3% among experimental and control group respectively. Regarding Apgar score, Mild distress was observed (4-7 score) in 10.5% in experimental and 40.5% in control group. Severe respiratory distress (score0-4) was present 1.5% in experimental group and it was 19.5% in control group. The χ^2 value computed are highly significant in all areas (p=<0.05). Hence, it is inferred that the relaxation programme is effective in positive neonatal outcome among women with PIH.

CONCLUSION

An integrated approach to relaxation during pregnancy is safe. It improves pregnancy outcome in terms of neonatal and maternal outcomes among women with PIH, with no increased complications. The relaxation programme can be implemented in the clinical setting by the staff nurses to promote emotional and physical well -being among women with high risk pregnancies. These are the best complimentary therapy, cost effective and simple to practice even by the health personnel.

Conflict of Interest: Nil

Source of Funding: Self

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Success Rate of First Attempt Venipuncture Using the Vein Illuminating Device in Children: A Randomized Controlled Trial

Joshi P[1], Vatsa M[2] Sriniwas M[3], Subbulakshmi J[4]

[1]Lecturer, [2]Principal, College of Nursing, [3]Professor, Department of Pediatric Surgery, [4]Staff Nurse (Sister Grade-I), Department of Emergency Medicine, AIIMS, New Delhi

ABSTRACT

A randomized controlled trial was conducted in neonatal surgical intensive care unit and pediatric surgical ward of a tertiary level centre in 166 hospitalized children including neonates to determine the first attempt success rate and number of attempts of venipuncture using vein illumination device (Device group, DG) and standard method (standard group, SG) by 30 health care professionals (HCP).

Materials and Method: Children requiring intravenous access were randomized to have venipuncture with the aid of illumination device (DG: n= 85) or by using the standard method (SG: n= 81). Total 166 observations of venipuncture performed by 30 HCP were carried out in both groups.

Results: Baseline characteristics of children including age, skin color, chronic illness, reason for cannulation except palpable vein were comparable between two groups. Majority HCP were doctors (17/30, 56.7%), while nurses were 43.3% (13/30), in the age group of 21-30 (21/30, 70%), graduate (25/30, 83.3%), having experience of 1-3 years (18/30, 60%) and performing 5-10 venipuncture per day (17, 56.7%). There was significant improvement in the first attempt success rate and the number of attempts in the device group (DG 61.18 *vs.*SG 37.04, p = 0.002). The risk ratio for failure of venipuncutre for palpable vein was 1.7 [95% confidence interval, 1.3 – 2.1]. After having adjusted for the risk ratio, the success rate for venipuncture in DG group was significant (p= 0.02).

Conclusion: The use of illumination device for venipuncture by the HCP was found to be effective in improving the first attempt success rate and reducing the number of attempts. Using the device as a new technology in patient care by HCP may be an effective method to reduce the number of punctures and thus minimize pain in children.

Keywords*: First attempt success rate, illumination device, venipuncture, Health care professionals (HCP)*

INTRODUCTION

Venipuncture and intravenous cannulation are among the most common and widespread medical procedures performed in children today**.** Whether for laboratory testing or peripheral intravenous access, venipuncture is a necessary and nearly universal intervention in children. Though a cornerstone of medical treatment, venipuncture remains one of the most common and severe source of pain and anxiety experienced by hospitalized children.1

Obtaining peripheral intravenous access is the most commonly carried out invasive procedure in pediatric ward and ICU. More than 70% of hospitalized children are subjected to peripheral intravenous puncture with the catheter remaining in place for a considerable period during hospitalization.2 Establishing intravenous access or venipunture can be a recognized challenge in pediatric ward and ICU. 3

Venipuncture is described as any rupture of the skin surface or entry into the body as an invasive procedure and is understood to be puncturing the vein with an

injection needle. The purpose of venipuncture can be to draw blood sample or administer medication into the venous system. 2 Various measures such as application of tourniquet, making grip over the extremity and holding the limb tightly above the insertion site, making child clench his /her fist, applying warm compress and hanging the limb in dependent position are taken to make the vein prominent.

Gaining access to a blood vessel may be problematic in children since a pediatric surgeon or a nurse performing the procedure has to see or palpate the vessel underneath the skin very carefully. At times a blind puncture may be necessary which may or may not be a successful event. Increased dexterity is required in the venipuncture of infants and children and adolescents with chronic medical conditions.3 Some conditions like prematurity, chronic illness, prolonged surgical treatment, prolonged intravenous therapy and the use of medications, repeated punctures can impede success in venipuncture procedure. Prolonged and frequent hospitalizations, multiple medications and disease process may further complicate the venipunture. In hospitalized children venipunture becomes more difficult simply by the reduction of viable sites until tissue damage and vessel injury have resolved.

Some alternative methods including the intra-osseous infusion, central venous access and venous cut down are performed in case of unsuccessful peripheral venipunture. These invasive procedures further require greater skill on the part of HCP and are associated with increased morbidity.4 Repeat attempts to achieve successful venipunture are costly both in terms of supplies and labor expenses. Costs are multiplied by increased procedure time and the use of additional staff members needed to restrain children. An urban pediatric teaching hospital reported 44% first attempt success rate (N=656) for peripheral venipuncutre performed by staff nurses demonstrated a labor and supply cost for unsuccessful intravenous attempts of $ 10,392 for a two week period. 5 Trans-illuminators have been used for many years in the neonatal population, and more recently, have been modified for use in all ages. Zemen et al reportedly visualized veins in 93 % of pediatric patients. 6 Kuhn's et a introduced the use of trans-illumination of an extremity to facilitate infant venipuncture and described the use to identify the radial and ulnar arteries in premature infants or newborns and guide arterial access since fetal hemoglobin contains more reduced oxy-hemoglobin than adults. 7 Only a few studies exist regarding the efficacy of these devices and the reports have shown conflicting results. 8-11 The present study aimed to explore the effectiveness of illumination device used by HCP for venipuncture in terms of comparing the first attempt rate as well as number of attempts between the DG group and SG group.

MATERIAL AND METHOD

This trial was conducted in neonatal surgical intensive care unit and pediatric surgical ward of a tertiary care hospital in India. To calculate sample size; a pilot study was conducted in 50 children. The success rate in device group and control group was 66% and 34% respectively (α = 5% and power = 90%). The study needed to enroll 56 observations of venipuncture in each group. Due to easy availability of venipuncture in pediatric ward and neonatal surgical ICU, total 166 Observations of venipuncture on conveniently selected children were carried out.

Ethical clearance was obtained from the institute ethics committee. Written informed consent was obtained from the parents and the HCP. Assent was taken from children more than 7 years of age. Confidentiality and privacy of information given was maintained throughout the study period.

The enrolled children were randomly allocated using computer generated random sequence to either DG or SG group. Allocation codes were kept in serially numbered sealed, opaque envelope to ensure concealment and were opened in sequence just before the venipuncture. The inclusion criteria for the children included hospitalized children/neonates requiring venipuncture, and whose parents were willing to give consent for intravenous cannulation in their children. The health care professionals included were nurses and doctors performing venipuncture and willing to participate.

Standard method of venipuncture using palpation and visualization was used to identify the vein in SG group, while illumination device was used in the device group for venipuncture after ensuring site preparation with 70% alcohol. In DG group the vein was identified under the red light, palpated and cannulation was done with appropriate size of cannula. The device was held

just seven inches above the skin of the child at the time of venipuncture.

Illumination device AV 300, emitting 785nm infrared laser light, safe to the retina, which detects de –oxygenated hemoglobin in the blood was used for venipuncture. The device has infrared camera that captures the information and sends to a processor that drives another laser of 642 nm visible red light and projects the detected vein pattern on the skin of baby in real time and appear noticeably different than the surrounding tissue.

Demographic data of children and health care professionals was collected using pretested and validated proforma. A checklist was used to observe the cannulation procedure. Data was analyzed using Stata 11.1. Descriptive statistics included frequencies, percentages for the demographic details and inferential statistics included Pearson chi-square test. P value of < 0.05 was taken as statistically significant.

RESULTS

Demographic characteristics of children in terms of age, sex, skin color, hydration, visibility of vein were comparable except palpable vein in both groups. Majority HCP were doctors (17/30, 56.7%), while nurses were 43.3% (13/30), in the age group of 21-30 (21/30, 70%), graduate (25/30, 83.3%), having experience of 1-3 years (18/30, 60%) and performing 5-10 venipuncture per day (17, 56.7%). The first attempt success rate in DG group was 61.1%, while in SG group was 37.0% (p= 0.002). The second and third attempt rate in DG and SG were 32.9% & 54.3% and 5.88% & 8.64 respectively (p<0.002). [Fig 1] Palpable vein, a variable was found to be significant in determining the success rate of first attempt in SG group. So the values were further analyzed to see the risk ratio for failure [Table 1]. After adjusting for palpable vein the risk ratio was 1.7 at 95% CI higher for failure in the SG group than DG group.

DISCUSSION

This study shows that there was significant improvement in the success rate of first attempt and reduced number of second and third attempts of venipuncture in DG group as compared to SG group. The findings are consistent with the findings of Holly A. Hess5 that with the improved first attempt venipuncture success rate and decreased number of attempts per patient in device group. The results in our study is partly similar with the findings of Min Joung Kim et al 9 that there was improved success rate in device group (p= 0.02) in difficult venipuncture with established difficult venous access score however the difficult venous score was not calculated in our study. Another study done by Phipps K et al., 10 reported higher success rate among the group having routine cannulation than the vein viewer group. The palpability of vein during cannulation in SG group found to be a significant factor for failure in comparison to the DG group is in contrast with the findings reported by Yiannis L et al**.,** 11 in which the first attempt success rate in device group improved with palpability of vein.

The most common and widely used medical procedures in children include venipuncture. 2 As health care professionals we should try exploring the use of technology to minimize the pain and trauma resulting from medical interventions including venipuncture. In the present study use of illumination device has brought about notable and significant improvement in first attempt venipunture in the children. The second and third attempts of venipuncture were also reduced. The study makes a way forward to the use of illuminating device in the clinical areas like pediatric oncology, nephrology and cardiology where difficult venipuncture in children is frequently observed. The present study carries significant implication for further research. This study can be replicated with a larger sample size in children with difficult venipuncture in terms of invisible vein and impalpable vein or the veins that have been punctured number of times.

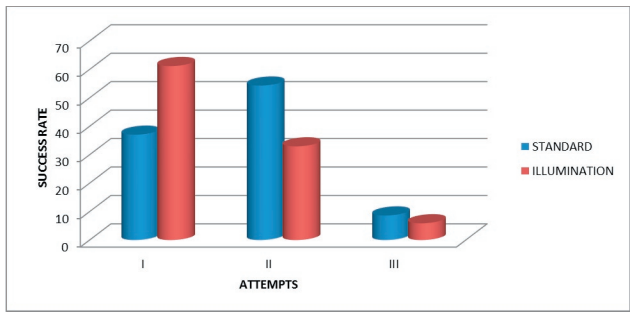

Figure 1: Success Rate in Standard and Illumination Device Groups

Table 1: Success Rate of venipunture in Device Group and Standard Group

Venipuncture attempt	Frequency (%)		Difference	Risk Ratio (95% CI)	
	Illumination n = 85	SG (n = 81)		Unadjusted	Adjusted *
Success Failure	52 (61.1) 33 (38.8)	30 (37.4) 51 (62.9)	0.24	1.5 (1.2 - 2.2)	**1.7** (1.3 -2.1)
Palpable vein Success Failure	27 (72.9) 10 (27.1)	22 (44.0) 28 (56.0)	0.09	2.1 (1.2 -3.7)	
No palpable vein Success Failure	24 (51.0) 23 (48.9)	8 (25.8) 23 (74.1)	0.42	1.1 (1.1 - 2.1)	

***Adjusted for palpable vein**

Conflict of Interest: Authors declare no conflict of interest.

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Perception of Women Regarding Breast and Cervical Screening and its Association with Demographic Variables

Shobha Gusain[1], Pity Koul[2], Y M Mala[3]

[1]Scholar, [2]Director/ Professor, School of Health Sciences, Indira Gandhi National Open University, New Delhi, [3]Professor, Dept. of gynaecology & obstetrics, Lok Nayak Hospital, New Delhi

ABSTRACT

Background : The number of cases and deaths from breast and cervical cancer are rising in most countries, especially in the developing world where more women are dying at younger ages. Nurses need to address proactively women's perceptions and knowledge about screening. **Objectives:1)** To assess perception of women regarding breast and cervical cancer screening.2)To find association of perception of women with selected demographic factors M**ethod:** Using purposive sampling technique, a pre tested and structured interview schedule was administered to 426 women in gynae O.P.D. of Lok Nayak Hospital. **Results:** Majority of study subjects (73%) got perception scores below fifty percent. Education, religion, type of occupation and type of family of study subjects were significantly associated with perception scores. **Conclusion:** Perception of women is low with regard to breast and cervical cancer screening.

Keywords : *perception, perceived susceptibility ,seriousness of cancer, awareness, warning signs.*

BACKGROUND

The number of cases and deaths from breast and cervical cancer are rising in most countries, especially in the developing world where more women are dying at younger ages. Global breast cancer incidence increased from 641,000 cases in 1980 to 1,643,000 cases in 2010, an annual rate of increase of 3.1%. In 2010, 425,000 women died from breast cancer, of whom 68,000 were between the ages of 15 and 49 in developing countries. Global cervical cancer incidence increased from 378,000 cases in 1980 to 454,000 cases in 2010, an annual rate of increase of 0.6%. New cases of cervical cancer occur more often in developing countries than in developed countries in all age groups. In 2010, 200,000 women died from the disease, of whom 46,000 were between the ages of 15 and 49 in developing countries[1] .

Corresponding author:
Shobha Gusain
Scholar, School of Health Sciences, Indira Gandhi National Open University, New Delhi,
E mail – shobhagusain2010@rediffmail.com
Phone – 9818187739, 01202650101

A review by Ackerson K. and Preston S.D[2] concluded that nurses need to address proactively women's perceptions and knowledge about screening by openly and uniformly discussing the importance and benefits. Lu M, Moritz S, Lorenzetti D, et.al.[3] has demonstrated that the effectiveness of existing interventions to promote breast and cervical cancer screening uptake in Asian women may hinge on a variety of factors, such as type of intervention and study population characteristics.

Pearlman DN, Clark MA, Rakowski W et.al.[37] suggests that knowledge and attitudinal questions can be combined for two diseases to enhance understanding of who is most likely to be screened comprehensively for breast and cervical cancers. Limited knowledge about breast and cervical cancer risk factors and misperceptions about survival from cancer represent two of these barriers. Roy B and Tang T S.[4] also suggest a need to increase cervical cancer awareness in the community and to develop community-based screening programs.

It is extremely important to assess womens' perception about breast and cervical cancer to

understand their decision of going for screening, early diagnosis and treatment.The objecitves of present study were 1) To assess perception of women regarding breast and cervical cancer screening and 2)To find association of perception of women with selected demographic factors(age, education, marital status, religion, employment, occupation, family income, own income and type of family

MATERIAL AND METHOD

Research approach - quantitative

Research design - Exploratory & descriptive survey design

Variables in the study

1. **Independent variables-** Selected demographic factors **(**age, education, marital status, religion, employment, occupation, family income, own income and type of family)
2. **Dependent variable-** perception of women

Inclusion criteria –

i. Women who are attending Gynae O.P.D for the first time (new registrations).

ii. Women who are married and have intact uterus.

iii. Women in the age group of 20- 60 years of age.

Exclusion criteria –

i. Diagnosed cases of carcinoma breast and cervix, women with prolapsed uterus, who have undergone hysterectomy, women on treatment for infertility and pregnant women.

ii. Women who are menstruating/cases of bleeding per vagina.

iii. Women who are not interested to participate in study.

Procedure for data collection –Data was collected from February 2015 to August 2015 in gynae out patient department of Lok Nayak Hospital, New Delhi, from 426 patients using purposive sampling technique. Informed consent was signed by the study subjects. Pre tested, structured Interview Schedule, developed by the investigator, was used for data collection which consisted of two parts:1)Demographic data 2)Questionnaire on perception of women for breast and cervical cancer screening

RESULTS

1. Demographic data

The demographic data revealed that maximum number of the study subjects were aged between 30-39 years (33.8%) and illiterate (33.57%) .Majority of study subjects were married and living with husband (96.71%). About 56.34% of study subjects were Hindu by religion. Most of the subjects (87.32%) were unemployed. The monthly income of the majority of employed study subjects (40.38%) was upto Rs.5000 and monthly family income (41.31%) was Rs.5001-10000. Almost equal number of study subjects were living in joint family (50%) and nuclear family (48.83%) and most of the study subjects were non-vegetarian(59.62%) .

2. Perception of study subjects about breast & cervical cancer screening

2.1 Perceived susceptibility to breast and cervical cancer - majority of study subjects expressed that they can't say whether they are susceptible to breast & cervical cancer (93.20%), who is more susceptible to breast cancer (on an average 87%),who is more susceptible to cervical cancer (on an average 75.78%).

2.2 Seriousness of the disease cancer - Majority of study subjects expressed that cancer is not a minor illness (69.01%),cancer is not a communicable disease (53.52%),cancer is curable (71.13%),cancer patients undergo a long treatment and rehabilitation (67.61%) and cancer treatment is expensive (71.13%).

2.3 Awareness about breast and cervical cancer and their screening - Majority of study subjects expressed that they were unsure about meaning of cancer(54.46%),cancer can happen to anybody (69.72%),exposure to radiation may cause cancer (66.9%) and heredity is a risk factors for cancer (62.44%).Maximum number of study subjects expressed that tobacco is a risk factor for lung cancer (64.32%).But they were unsure whether obesity is a risk factor for breast cancer(80.05%) and estrogen can cause cervical cancer(88.03%).

Regarding warning signs of cervical cancer most of the study subjects were unsure that bleeding after sexual intercourse may be sign of cervical cancer ((85.21%) &Unusual bleeding per vagina is a warning sign of cervical cancer(65.26%).

Regarding warning signs of breast cancer most of the study subjects were unsure whether change in colour of breast skin (59.39%), Asymmetry of breasts (55.63%) and unusual discharge from breast(57.51%) are warning sign of breast cancer.

Majority of study subjects were unsure whether Lack of breast feeding (58.92%), having multiple sexual partners (65.26%),lack of personal hygiene (51.88%) and sexually transmitted diseases (74.18%) are risk factors for breast and cervical cancer.

Majority of the study subjects were unsure whether breast self examination (60.09%) and Mammography (57.75%) is done to detect breast cancer (57.75%) & Pap smear is done to detect cervical cancer (55.87%).

Most of the study subjects expressed that cancer can be prevented through early detection (64.32%), screening for breast and cervical cancer helps in early detection (51.17%) and cancer can be treated if detected in early stages (66.90%).

Table 1: Category wise Perception scores of women N=426

S. No.	Category	Range of Score	No. of women	Percentage (%)
1.	Mild positive perception	0-18	193	45
2.	Moderate positive Perception	19-37	228	54
3.	Strong positive perception	38-55	5	1

Category wise perception scores shows that majority of study subjects (54%) lie in moderate positive perception category followed by 45% who fall in mild positive perception category . only 1% study subjects were found to be in strong positive perception category. This shows that there is need to improve the perception of study subjects about the breast and cervical cancer screening in positive direction so that they understand that maximum protection can be achieved by participating in screening.

Table 2: Association of perception scores with demographic variables N=426

S.no.	Variables	Value	df	p value	Association
1	Perception and age	1.90	6	.93	Not significant
2	Perception and education	36.56	12	.000	**Significant**
3	Perception and marital status	8.22	6	.22	Not significant
4	Perception and religion	36.53	8	.000	**Highly significant**
5	Perception and employment	3.53	2	.17	Not significant
6	Perception and type of occupation	29.57	6	.000	Highly significant
7	Perception and family income	16.94	10	.20	Not significant
8	Perception and type of family	37.22	4	.000	Highly significant
9	Perception and food habit	2.85	4	.58	Not significant

Significant at p value ≤ 0.05

DISCUSSION

Majority of the subjects in this study were not aware of perceived susceptibility to cancer of self or others. Agarwal K, Gupta N, Shah J et.al.[6] found a wide gap in knowledge about breast cancer and its risk factors among urban and rural women while study by Jayaraman L K M, Khichi SK, Singh A, et.al.[7] concluded that self-perception of not being at risk is associated with low uptake of screening. Beining, R M [8] and Lipkus M, McBride C M, Bosworth H B, et.al.[9] concluded that perceived susceptibility to cancer is related to cancer screening uptake. Widmark C, Lagerlund M, Ahlberg B M et.al.[10] concluded that health maintenance is described as having a "high price".

Other studies by Siddharthar J R , RajkumarB and Deivasigamani K[11],Shankar A, Rath G K, Roy S et.al. [12],Dey S, Mishra A, Govil J et.al [13],Varughese NR, Samuel CJ and Dabas P [14] and Bora K, Rajbongshi N, Mahanta LB [15]also reflect low awareness of women about breast and cervical screening.

Majority of the study subjects perceived cancer as major illness. This is in contrast to the results of study by Rai A, Pradhan S, Mishra C P, et.al.[16] that personal

factors and supernatural causes were more strongly represented in the belief system of cancer patients.Wang Junyang [17] and Goldman RE and Risica PM [18], have also shown that perception of cancer diagnosis and accurate information is related to cancer screening.

Maximum number of study subjects were aware that tobacco is a risk factor for lung cancer (64.32%) whereas Marteau TM, Hankins M and Collins B. [19] reported that smokers seemed unaware of their increased risks of cervical cancer.

Most of the study subjects were unaware warning signs of breast and cervical cancer. Bodapatil LS and Babu R G [20] indicate that most women present at Stage 3 and 4 when there is no opportunity for surgical intervention. The results indicate that there is a huge gap in awareness about breast cancer. Similar findings are reported by Agrawal K H and Rajderkar SS[21],Channanna C,Narayana S K and Ramesh K [22] and Roy B and Tang T S[23]. Petrak A [24] showed that a number of psychosocial and behavioural factors were associated with breast cancer screening.

Majority of the study subjects were unaware about early detection of breast and cervical cancer.A study by Savage S A and Clarke V A [25] revealed that there were considerable similarities between the factors associated with both mammography and cervical smear test behaviours. Studies by Spector D, Mishel IM, Skinner C S et.al.[26] and Oshima S & Maezawa M [27] indicate that many women were unaware of associations between lifestyle behaviors and breast cancer risk.

CONCLUSION

Study findings show that perception of women is low with regard to breast and cervical cancer screening. Education ,religion occupation and type of family were significantly associated with perception of women for breast and cervical screening. The study recommends that there is need to improve the positive perception among women towards breast and cervical cancer screening, responsibility for their well being and no space for superstition/fatalistic attitude. Governments need to provide people with the preventive health services along with curative services side by side.

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Reproductive Health – A Cross Sectional Study among Construction Female Workers in Chennai City

Arun Kumar S[1], Sudha M[2], Magesh Rajan H[3]

[1]Associate Professor, Madha Medical College & Research Institute, Chennai, [2]Assistant Professor, Department of Social Work, Mar Gregorios College, Chennai, [3]Technical Assistant, NIE- ICMR, Chennai

ABSTRACT

Women's reproductive health is not merely associated with physical health of the individual but it cuts across many psychosocial and economic aspects.

Objectives of the study: To analyse the socio economic condition and factors that influence reproductive health.

Methodology: Consecutive sampling technique and mixed method was used to collect data. In the quantitative method, semi structured interview schedule was administrated to 300 female constructive workers from various pick up points while fifteen in-depth interviews and two focus group discussion was used to collect data in the qualitative part.

Findings: Mean age of the respondents was 28yrs, the mean age of marriage was 24yrs, and thirty two percent of them were married before the age of 18ys, sixty three percent of them had not even completed middle school. Majority of the respondents had more than two children while three fourth of them expressed that they preferred male children. Majority of the respondents had access to government health care services and three percent of the respondents had delivered their children at home in their home towns. More than eighty percent of them did not have say in child spacing.

Male participation in sharing responsibility for contraception or family planning was low. All the respondents experienced verbal abuse and more than one three fourth of them had experienced physical abuse. There was association between income and age of the women and physical abuse experienced. No significance was found between education and physical abuse experienced.

Conclusion: The study exhibits evidence to low literacy and income, lack of decision making skills in child spacing and presence of domestic violence. All these factors are great hindrance to good reproductive health.

Keywords- *Reproductive health, constructive workers, domestic violence.*

INTRODUCTION

Reproductive health and child health are core priorities for any country, more so for India with the world's greatest burden of maternal, new born, and child deaths[(14)]. Tamil Nadu is unique within India in sustaining a public health cadre at the district level and an effective network of primary health centres (PHCs), which have together provided a strong platform for integrated SRH services[(3)]. Higher female literacy, social reform movements leading to greater female autonomy and rising social aspirations have also been identified as key contributors to the success[(10)]. Though Tamil Nadu is one of the few states which have declined the maternal mortality and child mortality, gender inequality, social inequality and few other factors that has lowered the acceleration to attain the Million Development goals cannot be ignored. Women's role in reproductive health (RH) is affected by, and could influence her status and empowerment as an individual [(1)] .

Broad, systematic discrimination against women exists worldwide, and indifference to women's reproductive health is just part of this larger system. Laws support this neglect. They deny women access to reproductive health services. They use women's reproductive functions to control women. States implement the few laws which do exist that protect women's reproductive health either infrequently or insufficiently[2]. Absence of well functioning health systems is indicated by the inadequacies related to planning, financing, human resources, infrastructure, supply systems, governance, information, and monitoring [14] .

OBJECTIVES OF THE STUDY

To analyse the socio economic condition and factors that influence reproductive health.

METHOD

As this population are unorganised workers the universe of this population is not known. Consecutive sampling technique and mixed method was used to collect data. In the quantitative method, semi structured interview schedule was administrated to 300 female constructive workers from various pick up points while fifteen in-depth interviews and two focus group discussion was used to collect data in the qualitative part. Six members were present in both the FGDs.

Oral informed consent was obtained from all the respondents. Purpose of the study, the voluntary nature of participation, benefits and risks were explained carefully in their vernacular language.

SSPSS version 20 was used to analyse the quantitative data and the quantitative data were audio taped and transcribed. Codes were derived and thematic content analysis and constant comparative techniques were used to analyse the data.

FINDINGS

Quantitative –Majority of the respondents followed Hinduism, Eleven percent of them were converted Christian. The respondents earned between 350- 450 Rs but they are not assured of job every day. More than one fourth of the respondents had migrated from other states. Mean age of the respondents was 28yrs, the mean age of marriage was 24yrs, and thirty two percent of them were married before the age of 18 yrs, and bore their first child before the age of 20yrs. While nine percent of the respondents were illiterate, Sixty three percent of them had not even completed middle school. Majority of the respondents had more than two children while three fourth of them expressed that they preferred male children.

Majority (97%) of the respondents had access to government health care services and three percent of the respondents had delivered their children at home in their home towns. More than eighty percent of them did not have say in child spacing. Male participation in sharing responsibility for contraception or family planning was low as ninety six percent. All the respondents experienced verbal abuse and more than one three fourth of them had experienced physical abuse and more than one fourth of the respondents disclosed sexual abuse. Thirty three percent of the respondents expressed that they are facing sexual abuse in their work place as well by the agents.

Qualitative – The data was analysed under the themes of socio economic profile of the respondents, reproductive health, marital relationship, support and autonomy, domestic violence.

Socio economic profile- None of the respondents were happy with their financial status. They expressed that though they worked hard and are regular they are paid less. All the respondents at some point of their life after their marriage had pledged or sold their gold ornaments, Men were found to be irregular to work and most of them were substance abusers. This was one of the main reasons for not being regular to work.

ID- Respondent 2- "I have sold everything I have, from my wedding chain to silver anklet"

FGD-Respondent 6- "visiting the pawn shops is not new to us….. we pledge jewels but we have never been able to retrieve it".

ID Respondent 7-" my daughter who is 9 yrs old also works with me"

Verbatim Reproductive health – Of the 27 respondents who took part in the study majority (n-20) of them had got married before they were 18 yrs. Majority (91%) of the respondents had more than two children. All the respondents expressed that they preferred to have

sons as their first born child and 11 of them preferred only son. When women bore female children they were harassed and ignored by their in-laws and husband.

Verbatim – reasons for preferring son

ID Respondent 3- "Only a son can be called as our own, daughters are never ours, she will be married soon".

FGD respondent 5- "If I do not have a son who will do my burial rights, if my soul has to rest in peace my son only should do my cremation".

FGD respondent 10- "I always wished for son as I do not want another soul to suffer like me in this world".

FGD respondent 6- "Why should I have a daughter should she also be hit and kicked my men"

FGD respondents 7- it is very important to give birth to a son… only that your in laws and husband will love you"

FGD respondent 1- My sister was sent back to you house as she gave birth to three females"

Few of the respondents expressed that if pregnancy and delivery was stressful, getting worried about the gender of the child was more stressful for the women. Few women expressed the abuse faced by them from their in laws and husband due to the birth of female children.

Majority (n-23) of the respondents had just 2-3 yrs of spacing between their children. They shared that they do not have the rights to decide on spacing and also to decide about their pregnancy. When it came to family planning, 11 of the respondents had done family

FGD respondent 12- "When my family sent word that female baby was born, no one came to see me. Both my husband and in laws refused to bring me back from my parents' house. After 6 months plead I am with my husband now and my parents are bring up my daughter"

ID respondent 14- "Care which should be given for the women after delivery was not given to me as I gave birth to female chil . I took care of myself and my baby". planning. Seven of the respondents either used copper T or contraceptive pills. It was glaring that men took no efforts or responsibility towards reproductive health of their wives.

Marital relationship and Domestic violence

Harassment, assault, abuse, rigidness, dominance and unsupportive nature faced by the women in the family led to marital disharmony. Women expressed that thought they financially contribute to the family, they do not have power to take decision in family matter though the forms of abuse differed, it was common challenge faced by each and every respondent of this study. While verbal abuse was faced by the entire respondent group. majority (n-23) of them faced physical violence. Pregnancy or delivery did not protect the women from domestic violence. Five of the respondents expressed that they had to put up with agents and supervisors. They do not share this with their husbands as they need the work to take care of the family.

FGD 2 Respondent-"Most of the expenses are taken care by me… He works but he works to drink..."

ID 9 Respondent- "If he drinks and be quite we will not be worried. But he beats and also my children, most of the days we have to go in search of him"

ID 11 Respondent- "If he drink he becomes very violent and he is uses abusive language, I lost my first child due to him"

ID 14 Respondent- "We have to put of with all these, he is very good but when he dinks he is very suspicious of me and uses vulgar language"

ID1- "We not only have to put up with them but also with these agents and supervisors"

Role of men in planning the family

While eight of the respondents had done family planning, three of the respondents were on pills. While enquired about the measures taken by men it was found that men expected women to take care of planning the family. Women also felt that family planning would reduce the stamina of men.

Verbatim

FD 6 respondent-"It is our headache… they do not care bother about anything…"

ID7 respondent-"I did family planning as I did not want my husband to go weak. If he becomes weak he cannot do any hard work"

ID 8 respondent-"How can we ask a male to do family planning, then he will feel that he is no more a man"

DISCUSSION

In a study done by D'Souza MS[4], among 145 women in a mining and agriculture community, women had less decision making and reproductive health choices. This was similar to the findings in the current study. The majority of women (65%) in general were married at ages of less than 18 years. Slightly more than half (57.5%) had more than four children, with less than 2 year birth intervals (52.5%).

The main method of contraception was tubal ligation/ tubectomy (13%) and contraceptive pills (9%). Spouses made most of the RH choices like spacing/birth intervals (82.5%) and son preference (95%) and over two thirds (67.5%) of the spouses drank alcohol heavily husbands took alcohol. The majority of the women reported wife beating or domestic violence (90%) in various forms. Only about one in five (22.5%) of the women reported good inter-spousal communication. Only a few women were able to make personal, family or household decisions like moving freely in the community (27.5%).

Another study done by same author among mining community to explore the determinants of reproductive health and related quality of life of indian women it was noted that men rather than the women themselves made reproductive choices about avoiding conception (40%), spacing (39%), number of children (39.3%), use of contraceptives (35.8%) and permanent family planning (33.1%) compared to women in the mining community[3].

Patel V [13] conducted his study in Goa and found that 40% of women reported reproductive health problem, violence and abuse, poor mental health and other risk behaviours. National Family Health Survey reports that 35% of Indian women of reproductive age reported having experienced physical domestic violence at some point in their married lives. Krug EG in his study points out that more than three-fourth of the adult women experience violence at the hands of their husbands at some point during their lives. The prevalence of physical domestic violence perpetrated by husbands is staggeringly high across the Indian subcontinent.

Collis M [2] reports in his study that men spent more time drinking with their work mates and less time at home with their families or in productive leisure pursuits due to traditional views on masculinity and gender roles. Women felt powerless in their marital relationships due to structures of male power that ended in arguments and negative outcomes [6].

Kurg points out that violence is common in day to day life of women and even women don't consider it as domestic violence[9]. Violence against women affects all spheres of a woman's life—her autonomy, her productivity, and her capacity to care for herself and her children and subsequently also her overall health status and quality of life. Women who have suffered violence or abuse are much more likely to report somatic symptoms related to panic, depression, musculoskeletal disorders and chronic pain, genitourinary disorders, and respiratory illness [6].

CONCLUSION

Evidence assures that Tamil Nadu is equipped with a robust public health delivery system, efficient public management and adequate resource allocation. It also seems well poised to address these challenges and achieve the goal of integrated and comprehensive SRH services for its population. But this alone is not sufficient to accelerate the decline in child mortality and improvise the maternal health. Attention to be paid to socio economic and other factors.

Source of Funding- Self

Conflict of Interest – Nil

Ethical Clearance- As this research was not funded by any organisation there was no ethical clearance taken. Guidelines given in the website by the ethical committee of ICMR was strictly followed. We have taken care to explain the purpose of the study, procedures, potential risks, benefits, rights, confidentiality and Compensation to the respondents in their vernacular language.

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Influence of Parenting Skills on the Functional Outcome of Children with Cerebral Palsy

Stella Jose[1], K Rajamohanan[2]

[1]Assistant Professor, Government College of Nursing, [2]Retired Professor, Department of Paediatrics, Medical College, Thiruvananthapuram, Kerala

ABSTRACT

Background: Cerebral palsy (CP) refers to a group of permanent disorders of the development of movement and posture, causing activity limitations, which are attributed to non-progressive disturbances that occurred in the developing fetal or infant brain. Caregivers play a vital role in maintaining the quality of life of children affected with cerebral palsy. The study was done to find out the influence of parenting skills on the functional outcome of children with cerebral palsy.

Materials and method: A cross sectional survey was conducted among parents of children with cerebral palsy. 150 consecutive cases attending the Paediatric Neurology Out Patient Department of SAT Hospital and Physical Medicine and Rehabilitation Department, Medical College, Thiruvananthapuram were interviewed. The parenting skills, which include mothers' knowledge, attitude and reported practice in the care of children with cerebral palsy as measured by structured interview schedule, rating scale and checklist respectively, were assessed and their association with the gross motor and fine motor functions of children was found using chi square test.

Results: Majority of subjects were boys and spastic quadriplegia was the most common type of cerebral palsy reported. In functional outcome 36% of children had Grade IV gross motor function and 38.7% had Grade II fine motor functional status. Majority of mothers had poor knowledge (81.3%) regarding CP. The parenting skills especially maternal attitude and practice had significant association with the level of gross motor and fine motor function of the child.

***Keywords**: Cerebral palsy, parenting skills, functional outcome.*

INTRODUCTION

Children with cerebral palsy present with complex developmental problems. In addition to movement and posture difficulties, sensory and cognitive impairments coexist, which cause limitations in development of self care skills. They require intensive and regular therapy over the course of their life span. Development of children with cerebral palsy depends on the quality of parental care. Caring for children with CP can be a demanding and life-long process that impacts parents' feelings and attitudes. The initial challenge occurs when parents first learn about the child's diagnosis[1]. How parents overcome intense and difficult emotions and adapt to the novel situation affects parenting practices, approaches towards the child, and parents' general well-being[2].

Child rearing strategies and parental attitudes are important predictors of child developmental outcomes and adaptation[3]. Children with disabilities, including CP, are especially sensitive to the quality of parental care. Adverse parenting practices are associated with mental health issues and other negative consequences for child psychological development[4].

Corresponding author:
Mrs. Stella Jose
Assistant Professor, Govt College of Nursing
Medical College, Thiruvananthapuram -695011
Email: stellatharakan@yahoo.com, Phone-9526061619

Effective home care of children with cerebral palsy requires sufficient skills based on specific knowledge and caring attitude of the parent. Such services help to maximise functional independence in everyday activities through training, as well as use of aids and adaptation or modifications of the environment. Right knowledge, skills and positive attitude of mothers proved to produce a difference in the general wellbeing and behaviour of the cerebral palsy children. The family members, especially the parents of a child with cerebral palsy, are the ones who care for the child regularly. They should be included in care because of this crucial role.

This study intends to investigate whether the severity of functional problems faced by children with cerebral palsy are dependent on the skills of their parents in their care. If so measures could be taken to improve those skills thus improving the quality of life of these children.

OBJECTIVES

1. Assess the parenting skills of mothers of children with cerebral palsy.
2. Assess the level of gross motor and fine motor functions of children with cerebral palsy
3. Find the association of parenting skills with the functional outcomes of children with cerebral palsy.

MATERIALS AND METHOD

Ethical clearance was obtained from the Institutional Ethics Committee. A cross sectional survey design was used for the study. Consecutively 150 Parents who attended the outpatient department of Paediatric Neurology and Physical Medicine and Rehabilitation Department of a tertiary care centre at Thiruvananthapuram were included in the study

Tool:

1. Parenting skills were assessed by the following instruments prepared by the investigator which were validated by subject experts.

- Knowledge of mother regarding various aspects of cerebral palsy was measured by structured interview schedule.
- Attitude of mothers in caring for a spastic child by numeric rating scale
- Reported practice of mothers in home care of a child with cerebral palsy measured by checklist

2. Functional outcome of CP children consisted of two aspects

- Gross motor function measured by Gross Motor Function Classification System- a standardised five level classification of gross motor function based on self-initiated movement, with emphasis on sitting, transfers, and mobility.
- Fine motor function measured by Bimanual Fine motor Function Classification, the principal classification of hand function.

FINDINGS

Among the participants of the study 54% were males. (74%) of children had Spastic quadriplegia. Majority (37%) were preterm babies. They experienced complications in the immediate new born period; birth asphyxia (17.3%) Neonatal seizures (18%) and Neonatal sepsis (4.7%).

67% of mothers were educated up to high school level and 56% belonged to lower middle class. All mothers were housewives.

Major co morbidities seen in cerebral palsy children were feeding difficulties (60.7%) speech problems (40.7%), seizures (35.3%),%), visual impairments (24%), abnormal movements (22.7and mental retardation (10.7%).

1. Parenting skills

Table 1: Distribution of parents according to parenting skills n=150

Parenting skills	Category	Frequency	Percentage
Knowledge	Poor	122	81.3
	Average	27	18.0
	Good	1	0.7
Attitude	Unfavourable	28	18.7
	Moderately favourable	108	72.0
	Highly favourable	14	9.3
Reported practice	Poor	66	44.0
	Average	52	34.7
	Good	32	21.3

Parenting skills included the knowledge, attitude and reported practice in care of children of mothers of children with cerebral palsy. Majority of parents had poor knowledge (81.3%) regarding the child's disease condition. But they had moderately favourable attitude towards caring their child (72%) and good practice in their home care (21.3%).

2. Functional status of children

Table 2 shows the distribution of children according to their gross motor function. It was observed that 36% of children had Grade IV and 34% children had Grade III gross motor functional disability.

Table 2: Association between general health component of quality of life and selected demographic & clinical variables

Socio demographic variable	General health component of Quality of Life score				df	X^2	P value
	High QOL		Low QOL				
	Frequency	Percentage	Frequency	Percentage			
Education							
1) Up to higher secondary	4	33.3%	8	66.7%	1	7.751	0.005*
2) Above higher secondary	15	83.3%	3	16.7%			
Occupation							
1) Employed	16	76.2%	5	23.8%	1	4.983	0.026*
2) Unemployed	3	33.3%	6	66.7%			

Table 3: Distribution of children with cerebral palsy according to fine motor function

Bimanual fine motor function	Count	Percent
No limitations(Grade I)	32	21.3
Both hands limited fine skills(Grade II)	58	38.7
Help needed(Grade III)	39	26.0
Help and equipment required(Grade IV)	1	0.7
Total assistance required(Grade V)	20	13.3

About 13.3% children required complete assistance in activities requiring fine motor skills. Help by parents were essential for 26% children

3. Association between parenting skills and functional status of children with cerebral palsy

Table 4: Association of knowledge of mothers with functional outcomes of children with cerebral palsy

Functional Status		Poor		Average/Good		χ^2	p
		Count	Percent	Count	Percent		
Gross motor functional status	Grade I	5	4.1	4	14.3	8.30	0.081
	Grade II	12	9.8	2	7.1		
	Grade III	39	32.0	12	42.9		
	Grade IV	49	40.2	5	17.9		
	Grade V	17	13.9	5	17.9		
Bimanual fine motor function	Grade I	24	19.7	8	28.6	4.82	0.186
	Grade II	46	37.7	12	42.9		
	Grade III/IV	37	30.3	3	10.7		
	Grade V	15	12.3	5	17.9		

Above table makes it clear that the knowledge of mothers had no effect on the gross motor and fine motor functions of children (p>0.05)

Table 5: Association of attitude of mothers with functional outcomes of children with cerebral palsy

Functional Status		Unfavourable		Moderately Favourable		Highly Favourable		χ^2	P
		Count	Percent	Count	Percent	Count	Percent		
Gross motor functional status	Grade I	0	0.0	7	6.5	2	14.3	20.81**	0.008
	Grade II	1	3.6	10	9.3	3	21.4		
	Grade III	7	25.0	35	32.4	9	64.3		
	Grade IV	15	53.6	39	36.1	0	0.0		
	Grade V	5	17.9	17	15.7	0	0.0		
Bimanual fine motor function	Grade I	0	0.0	22	20.4	10	71.4	37.66**	0.000
	Grade II	11	39.3	44	40.7	3	21.4		
	Grade III/IV	15	53.6	24	22.2	1	7.1		
	Grade V	2	7.1	18	16.7	0	0.0		

**: - Significant at 0.01 level, *: - Significant at 0.05 level

Above table shows that maternal attitude had significant effect on the child's gross motor function (p< 0.01)

Table 6: Association of practice of mothers with functional outcomes of children with cerebral palsy

Functional Status		Poor		Average		Good		χ^2	p
		Count	Percent	Count	Percent	Count	Percent		
Gross motor functional status	Grade I	0	0.0	4	7.7	5	15.6	49.33**	0.000
	Grade II	3	4.5	3	5.8	8	25.0		
	Grade III	17	25.8	19	36.5	15	46.9		
	Grade IV	26	39.4	24	46.2	4	12.5		
	Grade V	20	30.3	2	3.8	0	0.0		
Bimanual fine motor function	Grade I	2	3.0	16	30.8	14	43.8	45.39**	0.000
	Grade II	25	37.9	17	32.7	16	50.0		
	Grade III/IV	21	31.8	17	32.7	2	6.3		
	Grade V	18	27.3	2	3.8	0	0.0		

**:-Significant at 0.01level

Above table shows that there is a significant association between practice of mothers and the gross motor and fine motor functions of children with cerebral palsy

DISCUSSION

Bidirectional and reciprocal nature of parent child interactions help to deal with challenging behaviours of the children. Parents have the vital role of enabling their child to generate appropriate behaviours and skills by reinforcing them with a variety of different settings and situations.

Among study subjects 54% were males. This shows that more male children are susceptible to non-progressive injury to the brain at infancy. This result corroborates those of previous studies, that male children have higher incidence of cerebral palsy[5].

Spastic quadriplegia (74%) was the most common type of cerebral palsy found in study subjects. Cerebral palsy was associated with preterm birth in 37.3% of children. This is in agreement with the statement that 70-80% of cerebral palsy is spastic type and children born preterm are at greater risk for acquired CP.[6].

Parenting style was found to be a significant factor in improving the quality of life in CP children[7]. A low level of parental motivation could be associated with poor parenting skills including nonadherence to the prescribed management, so early family interventions, particularly those focusing on parenting style, should be considered.

Present study also found that parenting skills have significant influence on the functional and behavioural outcomes of children with cerebral palsy. Good practice and attitude of mothers had significant association with the gross and fine motor functions of children with cerebral palsy.

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

Source of Support: The study was self funded.

Ethical Clearance: Ethical clearance was obtained from institution review board. Confidentiality of subjects was ensured.

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A Study to Evaluate the Effectiveness of Pranayama on Academic Stress among 10th Standard Students in Selected High Schools at Chennai

Dona Joseph[1], Hepzibah Beulah[2], P Vijayasamundeeswari[3], D Geetha[3]

[1] M.Sc. Nursing II Year Student,[2] Reader, [3]Lecturer, Faculty of Nursing, Sri Ramachandra University, Chennai

ABSTRACT

Objective: The study was conducted to assess the level of academic stress among the 10th standard students, to determine the effectiveness of pranayama on academic stress among 10th standard students and to associate academic stress among 10th standard students with their selected background variables during posttest. **Design and method:** A quasi experimental, nonrandomized pretest posttest control group design was used to assess the formulated objectives. **Setting and participants:** Purposive sampling technique was used to select a sample of 30 students in the study and the control group. **Results:** The results of the study showed that majority of the students 91.4% and 70.2% had moderate level of academic stress in the study and the control group respectively. Nearly 5.7% and 19.1 % had low stress and 2.85 % and 10.63 % had high stress in the study and the control group respectively. There was a high significant difference in the mean difference score between the study and the control groups before and after the pranayama intervention at the level of p<.001. Significant association was found between the academic stress of 10th standard students and the background variables of the students like previous academic year percentage, attending morning tuition and the demographic variables of parents like occupation of mother during posttest at the level $p < .05$. **Conclusion:** The study concludes that majority of the students have moderate and high level of academic stress. Pranayama is an effective intervention to decrease academic stress among students. The academic stress is influenced by previous academic year percentage, attending morning tuition and the occupation of mother in the study group.

Keywords: *pranayama, academic stress, 10th standard students.*

INTRODUCTION

Adolescence is a period of growth and development where the adolescent steps out from the phase of a child to a phase of growing adult. It's a time of rapid physical, cognitive, social, moral, spiritual and emotional maturation. Physical changes such as growth spurt, hormonal changes and sexual maturation occurs among adolescents. In moral development of the adolescents their decisions are based on an internalized set of moral principles. Cognitive development facilitates scientific reasoning in them and spiritual development of an adolescent may cause them to question the values and ideals of their families.

Any changes in these phases of maturity may affect the physical and psychological aspect, thereby altering the adolescent's behaviour. Borst, Noam and Bartok (1991) state that as puberty and age advance, social and cognitive changes results in internal and external changes. When adoption of these changes fails, they may be presented as stress in different phases of an adolescent's life. An adolescent's vulnerability to stress depends on their developmental changes, social role and cognitive development. Therefore, in the process of growth and development adolescent experience stress, this could have positive or negative impact on the adolescents[(5)].

When human body is exposed to stress, the central nervous system and certain hormones are activated,

this physiological response is faster in adolescents because the prefrontal cortex is not fully developed in this age group (Pruessner et al. 2009). Adolescents may experience different forms of stressors. The mission Australia youth survey showed that the top three concerns for young people were coping with stress, education and body image. Crystal et al. (1994) explain that the greatest stressors of high school students are school, test grades, homework and academic expectati on[9],[10],[14]. When the adolescent fails to adopt positive coping techniques to overcome stress, there is increased exposure to that stressor. A survey conducted by American Psychological Association (2009) reports that among 1200 children in the age group of 8-17 years, 44% reported that doing well in school was a source of worry. Pranayama is one of the complementary therapies adopted to deal stress [11],[12]. "Prana" is Breath or vital energy in the body and "ayama" means control. It is an effective technique to purify mind and body. During pranayama, the oxygen level is improved by calming and relaxing the body. It's been established that pranayama is known to alleviate depression, anxiety disorders, and negative emotions[2],[7],[13]. Shaju, Shomia and Umarani (2013) conducted a quasi experimental study among adolescents of selected pre university college at Mangalore with a sample of 70 adolescents (control group = 35, experimental group = 35). Results showed that there was a statistically significant difference in the posttest stress score of experimental group. There was a significant reduction in the level of stress in the experimental group after the practice of pranayama.

In a research conducted by the National Institute of Mental Health and Neuroscience in India, up to 73 % of participants with depression showed significant improvement through pranayama yogic practice. Gaurav et al. (2013) carried out a study aimed to record the efficacy of yoga on examination anxiety, depression and academics related stress among students appearing for board examination with a sample size of 60 of 10th standard male students aged 16–17 years. The findings concluded that Yoga intervention has helped to reduce examination anxiety, depression as well as academic stress among board appearing school students[1].

The literature state that pranayama helps better functioning of autonomic system improves the working of lungs, heart, diaphragm, abdomen, intestines, kidneys and pancreas, general irritability due to lethargy or fatigue vanishes[11]. By practicing pranayama, all body organs get more oxygen, toxins are removed from body therefore, onset of various diseases is prevented. Pranayama improves the immune system functioning. The objective of the present study was to evaluate the effectiveness of pranayama on academic stress among 10th standard students in selected high schools at Chennai.

MATERIALS AND METHOD

The reviewed literature for the study was organized under the headings as Stress among students, academic stress among school students, pranayama and its effect on stress and effect of pranayama on students' academic stress [2].

The conceptual framework of this research was based on Imogene King's goal attainment theory (1981). The tool consisted of demographic variables and Formal academic stress inventory developed by Ying Ming Lin & Farn Shing Chen (2009). Convenient non probability sampling technique was used and the sample size was 60, 30 in the study and 30 in the control group. Descriptive statistics (percentage, frequency, mean and standard deviation) and inferential statistics (paired't', independent't' test, Anova and independent 't' test) were used to analyze the data and to test the hypothesis.

A quasi experimental, nonrandomized pretest posttest control group design was used to assess the level of academic stress, effectiveness of pranayama and its association with background variables among 10th standard students. The two private schools were selected and assigned by convenient sampling technique to the control and the study group. Purposive sampling technique was used to select a sample of 30 students in the study and the control group from Akshayah Matriculation Higher Secondary School and St. Savio Matriculation Higher Secondary School Velachery, Chennai respectively.

Sampling Criteria

Inclusion Criteria:

Students who were

1. Available at the time of study.
2. Able to read and understand English.

3. With stress score more than 60 out of total score 170 in the formal academic stress inventory studying in Akshayah Matriculation Higher Secondary School, Velachery and St. Savio Matriculation Higher Secondary School, Velachery

Exclusion Criteria:

Students who were

1. Attending yoga or any other intervention programmes or intervention classes for relaxation.

2. Not willing to participate in the study.

3. Not given consent.

Description of the instrument

The instrument consisted of:

- Background variables of students like gender, birth order of the child, area of residence, previous academic year percentage, attending tuitions, number of hours of tuition and availability of recreational activities and background variables of parents like educational background of the parents, occupation of the parents and family income.

- Formal academic stress inventory with 34 items. Likert's five-point scale was used, which was scaled as (5) strongly agree, (4) agree, (3) neither agree nor disagree, (2) disagree and (1) strongly disagree. The tool consisted of 7 factors, teachers stress, results stress, tests stress, studying in group stress, peer stress, time management stress and self-inflicted stress. The maximum score was 170. The reliability of the tool was assessed using the test retest method, the obtained correlation coefficient value was .80

In this study, the intervention used was pranayama among the 10th standard students with academic stress score above 60 in the study group. Pranayama intervention includes Nadishuddi pranayama, Anuloma-Viloma pranayama and Vibhagiya pranayama. The data were collected through pretest and posttest after the pranayama intervention for 45 minutes between 7.30 a.m and 8.15 a.m for 4 days in a week for 4 weeks in the school under the supervision of the investigator in the study group. No intervention was provided to the control group. The control group students with academic stress score above 60 carried out their regular activity.

FINDINGS

Majority of the students 91.4% and 70.2% had moderate level of academic stress in the study and the control group respectively. Nearly 5.7% and 19.1 % had low stress and 2.85 % and 10.63 % had high stress in the study and the control group respectively. The pretest mean academic stress score of the study and the control group 96.2 and 103 respectively and posttest mean academic stress score of the study and the control group were 82.53 and 110.33 respectively.

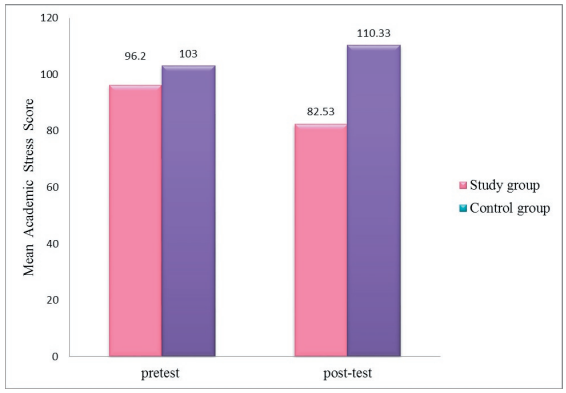

Fig 1: Shows mean academic stress score of the study and the control group in the pretest and posttest

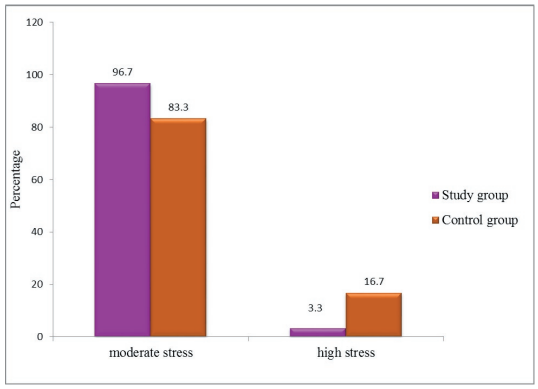

Fig 2: Comparison of pretest level of academic stress between the study and the control groups.

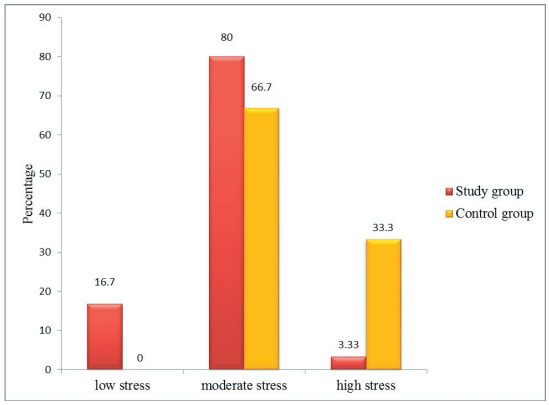

Fig 3: Comparison of posttest level of academic stress between the study and the control groups

Table 1: Comparison of academic stress mean difference score between the study and the control group (N=60)

Variables	Study group (n = 30)		Control group (n = 30)		Independent 't' value & 'p' value
	Mean Difference	SD	Mean Difference	SD	
Teacher's stress	3.84	5.57	2.1	4.59	5.21*** .000
Results stress	0.97	4.48	0.13	3.77	1.85* .069
Test stress	0.93	3.50	0.23	3.11	2.66* .010
Studying in group stress	1.9	4.92	1.16	4.10	4.06*** .000
Peer Stress	2.4	3.06	1.23	3.06	5.52*** .000
Time management Stress	1.9	2.40	0.97	2.02	7.55*** .000
Self Inflicted test	1.73	3.22	1.44	2.78	3.81*** .000
Overall Academic stress score	13.67	20.89	7.33	15.42	5.85*** .000

*** $p < .001$, *$p < .05$

The study depicted that there was a high significant difference in the mean difference score between the study and the control groups before and after the pranayama intervention at the level of p<.001. In the study group there was statistical significance (p<.001) in the pretest and posttest mean score of overall academic stress and factors like teacher's stress, peer stress and time management stress. In the control group, there was a significant increase in the overall academic stress mean score and the teachers stress factor on the posttest (p<.01).

Significant association was found between the academic stress of 10th standard students and the background variables of the students like previous academic year percentage, attending morning tuition and the demographic variables of parents like occupation of mother during posttest at the level p < .05.

Nursing Implications

Nursing Practice: The nurses in the paediatric outpatient department should educate the adolescents attending the clinics regarding practice of pranayama and its importance in tackling academic stress. All adolescents attending outpatient department and in patient services should be screened and counselled based on their stress level. Nurses should educate the children and their care takers regarding pranayama.

Nursing Education: The nurse educator should take a lead role in teaching complementary health therapies among nursing students to relieve stress. The addition of practical intervention of complementary therapies in the nursing curriculum will help the nursing students to know about these therapies, utilize for themselves and in patient care services. The nurse educators can help the undergraduates and post graduates students in organizing continuing nursing education on complementary therapies.

Nursing Administration: The nurse administrator should organize workshop and inservice education on pranayama for all the nursing personnel. Infrastructural facilities to practice pranayama can be arranged by the nurse administrators. The community health nurses and the school health nurses should take lead in implementation of pranayama classes among 10th standard students

Nursing Research: Academic stress is inevitable among students appearing for board examinations. Each student's perception of stress and coping mechanism is individualistic. Adoption of poor coping skills may have negative impact on them. Therefore, nursing research can find other complementary therapies which could be easily taken up and practiced among students on a continuous basis in midst of their busy academic schedule.

Delimitations

1. The study was limited to 10th standard students.
2. The duration of the intervention was limited to 4 weeks.
3. Sample size of the study was limited to 60 students.
4. Perceived academic stress was assessed and was subjective.
5. Non probability sampling technique was used to select the samples.
6. Only one posttest was administered on the next day of the pranayama intervention.
7. The pranayama intervention was not given to the students in an empty stomach.
8. The pranayama intervention was limited to 4 days per week as the students had their cycle exams on Tuesdays and holidays on Saturdays and Sundays.

CONCLUSION

The study concludes that most of the students have moderate and high level of academic stress. Pranayama is an effective intervention to decrease academic stress among students. The academic stress is influenced by previous academic year percentage, attending morning tuition and the occupation of mother in the study group. The study findings cannot be generalized due to the study design, sample size and sampling technique to other parts of India.

Source of Funding: The investigator had no external source of funding and the source was self funding.

Ethical Clearance: Permission was obtained from the Principal, Faculty of Nursing, authorities of

both schools and ethical permission was obtained from the Student's Ethical Committee, Sri Ramachandra University. Written informed consent was obtained from both the students and parents.

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Assessment of Health Related Quality of Life among Liver Transplant Recipients

Lekha Viswanath[1], Greeshma G Nathan[2]

[1]Associate Professor, [2] Postgraduate Nursing Student, Amrita College of Nursing, Amrita Vishwa Vidhyapeetham University, Health Science Campus, Amrita Institute of Medical Sciences and Research Centre, Kochi, Kerala, India

ABSTRACT

Background and Aim: Liver transplantation (LT) is the standard treatment for end-stage liver disease. As a result of advances in surgical techniques and emerging immunosuppressive therapy, the survival and clinical outcomes have improved, and the focus has shifted to Quality of Life (QOL) outcomes after surgery. Many patients are more concerned about Health related quality of life (HRQoL) after LT than longevity, which gives importance to QOL assessments. The present study was undertaken to assess the HRQoL among liver transplant recipients.

Method: A descriptive survey approach was used for the study. Thirty liver transplant recipients who have completed one month after surgery were selected as a sample of convenience. WHOQOL – BREF scale was used to assess HRQoL among liver transplant recipients.

Results: Among 30 subject, 14(46.7%) had high QOL and 16(53.33%) had low QOL. The mean score was highest in general health domain(76.3%) followed by environmental domain (73.5%) and social domain(71.5%) and lowest in psychological domain(66.8%). There was no association between QOL in different domains with any of the variables except general health domain. In general health domain a significant association was found with education and occupation ($p<0.05$). A positive correlation was observed between QOL and duration after transplantation($r=0.276, p=0.014$).

Conclusion: The study concluded that most of the recipients have low QOL but it improves over a period of time. Achieving high QOL depends on adequate awareness regarding post transplant care and regular follow up.

Keywords: *Health related quality of life, Liver transplantation, Transplant recipients.*

INTRODUCTION

The liver is the second major organ which is transplanted after the kidney so it is clear that liver disease is a common and serious problem in the world. Liver transplantation(LT) is a well-established therapy and has become a treatment of choice in patients with end stage liver disease. It was initially a high risk procedure, but advancements in surgical techniques and emergence of immunosuppressive therapy has resulted in significant improvements in post-transplantation survival. As survival and clinical outcomes of LT improve, the focus has shifted to quality of life(QOL) outcomes after surgery.[1] The World Health Organization defined quality of life as "the individual's perception of their life status concerning the context of culture and value system in which they live and their goals, expectations, standards, and concerns".[2] It is thus a concept that entails several necessary meanings and relates to the individual's level of satisfaction in different spheres of life.[3]

Many patients are more concerned about QOL than longevity, which gives importance to QOL assessments. Quality of life is the perceived quality of an individual's everyday life, that is, an assessment of their well-being or lack of wellbeing which includes all physical emotional and social aspects of the individual's life. In healthcare, health-related quality of life (HRQoL) is an assessment

of the individual's well-being that may be affected over time by a disease, disability or disorder.[1]

According to a number of studies, liver transplant recipients have a lower perception of their HRQoL than the general population. This is due to variation on the underlying aetiology of the disease, being poorer in patients affected with hepato cellular carcinomas with alcoholic and viral liver diseases. [4] Fatigue is a common symptom seen in 65% - 85% of the liver transplant recipients, the vast majority of whom perceive it as one of the symptoms that is tolerated the worst, causing powerlessness to 25%. Generally these are symptoms that are minimised or not considered significance in the progress of the illness, although they do cause anxiety to patients and can get worse their functional status. The HRQoL is studied in relation to the progress of the patient prior and subsequent to the liver transplant helps to identify how transplantation make changes in patients wellbeing.[5,6]

Y. Sirivatanauksorn , W. Dumronggittigule et al conducted a study on Quality of Life among Liver Transplantation Patients in Thailand. The study was performed between October 2010 and January 2011. Data collected from 59 samples by using the Short Form-36 and the Chronic Liver Disease Questionnaire(CLDQ) to evaluate the HRQoL. Orthotopic liver transplantation improved HRQoL of end-stage liver patients and their spouses or caregivers.[7]

There is gradual increase in the number of liver transplantation per year from 54 in the year 2011 to almost 98 by the year 2013 in AIMS, Kochi. This liver transplantation has a significant impact in the quality of life of patients with liver disease. Hence the present study is aimed to investigate the health related quality of life experienced by patients following liver transplantation.

METHOD

A descriptive survey approach was used for the study. The setting of the study was gastrointestinal surgery department Amrita Institute of Medical Sciences and Research Centre, which is a 1450 bedded tertiary care university teaching hospital in South India. AIMS Transplantation team have successfully performed more than 500 liver transplantations with over 85% success rate. Thirty liver transplant recipients were selected as a sample of convenience, according to the usual order subjects attended their visits in the gastrointestinal surgery OPD. The criteria for inclusion were patients after liver transplantation for at least one month, ability to read and write in Malayalam and English and willingness to participate. Patient who have psychiatric diagnosis or critical illness including unconscious and bedridden patients were excluded from the study.

Study was initiated after obtaining permission from Institutional Ethical Committee. Informed consent was obtained from all the participants prior to data collection.

The socio- demographic variables & clinical data was obtained by using a semi structured interview schedule. Standardized World Health Organisation Quality of Life – BREF (WHOQOL – BREF) Questionnaire was used to assess the HRQoL among liver transplanted recipients.

WHOQOL-BREF questionnaire contains 26 items, with two items from the General Health and 24 items from four domains: Physical health with 7 items (DOMAIN 1), psychological health with 6 items (DOMAIN 2), social relationships with 3 items (DOMAIN 3) and environmental health with 8 items (DOMAIN 4). Each item is rated on a 5-point Likert scale. Raw domain scores for the WHOQOL were transformed to a 4-20 score according to guidelines. Domain scores are scaled in a positive direction (i.e., higher scores denote higher QOL). The mean score of items within each domain is used to calculate the domain score. After computing the scores, they transformed linearly to a 0-100-scale. Score obtained were grouped into two categories that are high QOL and low QOL. [8]

Data was analysed by using descriptive and inferential statistics. The sample characteristics were described using frequency, percentage. Chi – square test is used to find out the association between QOL with selected demographic variables. Correlation between QOL and period after liver transplantation was calculated by using Pearson's correlation coefficient.

RESULTS

Demographic Data

The age of the participants ranged from 18–68 years and majority [20(66.7%)] of them were below 50 years. About 25(83.3%) of the participants were males. Majority, 18(60%) of liver transplant recipients

were Hindu, 9(30%) were Christian and 3(10%) of participants were Muslim. Regarding educational status 18(60%) were with above higher secondary education and majority 21(70%) of participants were employed.

Majority [26(86.7%)] of participant's area of residence were urban and 27(90%) belongs to nuclear family. There were 9 (30%) participants with 150001 rupees monthly income. 30(100%) participants had received previous information regarding postoperative care of liver transplantation.

Clinical characteristics

All the participants were compliant to follow up. Most of the participants 22(73.3%) had no family history of liver disease. Most of them [19(63.3%)] were non-alcoholic. Within the 30 participants, major indication for liver transplantation were Liver cirrhosis 17(56.7%) followed by Hepatitis and fulminate liver disease 5(16.7%). Regarding presence of co-morbidities, most of participants (77%) have more than one co-morbidities and 23% have no co morbidities. The duration of liver transplantation among majority of the participants [18(60%)] was below one year.

Quality of Life

Out of total subjects, high QOL was observed in 14(46.7%) of the participants, whereas low QOL was observed in 16(53.3%) of the subject (figure 1). Among the different domains of QOL most of them had high QOL in social (71.5%) and overall health (76.3%) domains (figure 2).

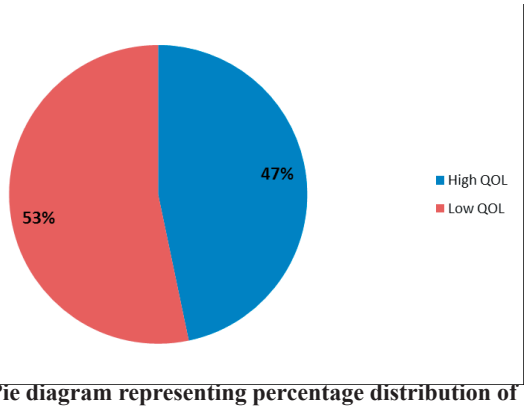

Figure 1: Pie diagram representing percentage distribution of the subjects based on the level of QOL of participants

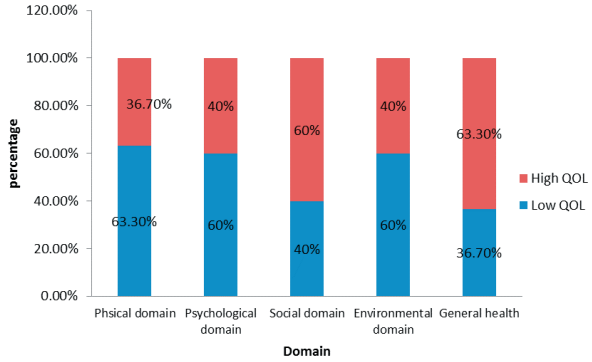

Figure 2: Multiple bar diagram representing quality of life score based on domain

The overall mean quality of life score was 71.2%. The mean score was highest in general health domain (76.3%) followed by environmental domain (73.5%) and social domain (71.5%). The mean score was lowest (66.8%) in psychological domain (table 1).

Table 1: Standard deviation & Mean percentage of subjects in different domains

Domain	Maximum score	Upper range	Lower range	Mean Score	Standard deviation	Mean percentage
Physical domain	35	33	16	24.73	4.63	70.6%
Psychological domain	30	25	16	20.03	2.45	66.8%
Social domain	15	14	8	10.78	1.48	71.5%
Environmental domain	40	37	23	29.4	3.96	73.5%
General health (other)	10	10	3	7.63	1.42	76.3%
Overall	130	111	74	92.57	11.69	71.2%

Association between quality of life and selected demographic & clinical variable

There was no significant association found between overall score of QOL and variables like age, gender, religion, area of residence, type of family, family history of liver disease, use of alcohol, indication for liver transplantation, type of donor and presence of co-morbidities. The QOL in different domains also had no association with these variables except general health domain. In general health domain a significant association was found with education and occupation (table 2).

Table 2: Association between general health component of quality of life and selected demographic & clinical variables

Socio-demographic variables	General health component of Quality of life score				df	X^2	P value
	High QOL		Low QOL				
	Frequency	Percentage	Frequency	Percentage			
Education							
1. Up to higher secondary	4	33.3%	8	66.7%	1	7.751	0.005*
2. Above higher secondary	15	83.3%	3	16.7%	1		
Occupation							
1. Employed	16	76.2%	5	23.8%		4.983	0.026*
2. Unemployed	3	33.3%	6	66.7%			

Correlation between quality of life and period after liver transplantation

There was a weak positive correlation between QOL and period after liver transplantation (figure 3). The pearson's coefficient calculated was 0.276 which is significant at p=0.014.

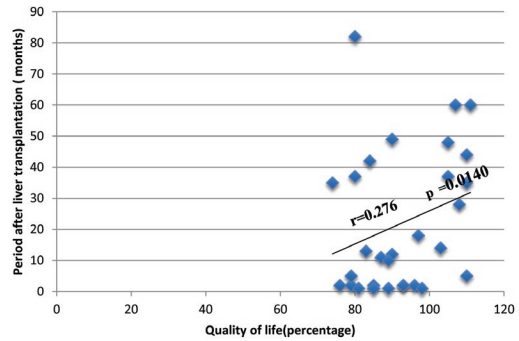

Figure 3: Scatter diagram representing correlation between quality of life and period after liver transplantation

DISCUSSION

Liver transplantation (LT) has become the treatment of choice for several liver diseases that progress to end-stage liver failure. The possibility of prolonging recipient life expectancy has triggered several studies focusing not only on physical problems but also on psychological and psychosocial outcomes.[9]

The present study was conducted to assess HRQOL of liver transplant recipients. WHOQOL-BREF questionnaire was used to assess the HRQOL. The results showed that high QOL was observed in 14(46.7%) of the participants, whereas low QOL was observed in 16(53.3%) of the participants.

A similar study was conducted by Asha Bidare, Rajiv Lochan J etal on "Effect of Liver

transplantation on the Health Related Quality of Life (HRQoL) of a patient with end stage liver failure". Data were collected by using in-depth personal interview and SF-36 Health survey questionnaire tool to assess HRQoL. Fourteen patients (13 adults and 1 child with a median age 49.5 years (range 12-62 years) who underwent liver transplantation and residents of Karnataka were included in this study. Their HRQoL was calculated before and after the liver transplantation. The results showed that HRQoL of a patient with end stage liver failure improves significantly with Liver transplantation. Mean of HRQoL after liver transplant is 72.57. The 't' –ratio is 5.68 ($p<0.05$). However significant changes can seen in QoL of a transplanted patient within 2 months post transplantation.[10] In the present study also the mean score is 71.2% and a positive correlation is observed with QOL and period after transplantation.

Another study conducted on 256 liver transplant recipients investigated HRQoL and psychological outcome. The tools used were Medical outcome study short form 36(SF-36) and Beck Anxiety Inventory and self rating depression scale. The result showed that the diseased donor liver transplantation recipients had higher score in social functioning and mental health component followed by physical role functioning. The lowest score in general health. It was also found that 15 (5.9%) recipients had anxiety and four (1.6%) developed severe depression after the operation.[11]As per the results of the present study no association was found between type of donor and QOL in any domains. But consistent with the above study findings the mental health domain had a lower score. The overall mean QOL score was 71.2%. The mean score was highest in general health domain (76.3%) followed by environmental domain (73.5%) and social domain (71.5%). The mean score of physical domain shows 70.6%. The mean score was lowest in psychological domain (66.8%).

A retrospective, cross sectional survey was conducted by Hellgren A, Bryand B et al with the aim to provide descriptive data of the experienced health and HRQoL after liver transplantation. The data were collected from 120 liver transplant recipients by using three self administered questionnaire. The result showed that liver transplant recipients were more limited in their physical health than healthy subjects but were equal in social and mental functioning.[12]A systematic review on QOL after liver transplantation demonstrated that liver transplant recipients experienced improved QOL with reference to the general population and compromised wellbeing when compared with a healthy persons.[13]

In the present study though QOL was low in 53.3% of the participants, the mean overall QOL score was 71.2%. The mean score was highest in all domains except psychological domain. In the present study, there was no significant association between overall score of QOL and selected demographic and clinical variables. There was no association between QOL in different domains with any of the variables except general health domain. In general health domain a significant association was found with education and occupation.

The finding of the study shows that QOL improves over a period of time. Among the different domains of QOL most of them had high QOL in social domain and overall health domains and low QOL in psychological domain. Assessment of QOL of liver transplant recipient in the current setting is helpful to get a better perspective of their problems in different domains and it will help to plan the rehabilitative care accordingly. The study finding also suggests the need for psychological support. More interventions are needed to improve the QOL in the initial period after transplantation.

Conflict of Interest: Nil

Source of Funding: Self-finance

Compliance with ethical Standard

The study was initiated after obtaining permission from the Ethical Committee of Amrita Institute of Medical Science. This article does not contain any studies with animals performed by any of the authors.

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Neuro Behavioural Problems of Children Receiving Anti Epileptic Therapy : A Tertiary Care Hospital based Study

K L Aswathy[1], P A Mohammed Kunju[2]

[1]Assistant Professor, Government College of Nursing, Medical College, Thiruvananthapuram
[2]Professor and Head of the Department, Department of Pediatric Neurology, SAT Hospital, Thiruvananthapuram, Kerala, India

ABSTRACT

Introduction: Childhood epilepsy is among the most prevalent and therefore important neurological conditions in the developing years. The mainstay of epilepsy treatment involves antiepileptic drugs (AEDs), to which most children with epilepsy respond well. Cognitive, psychological and behavioral abnormalities in children with epilepsy often are attributed to antiepileptic medication. Most of these effects are unsupported by data from well controlled clinical research. Only few studies on this topic have been conducted in developing countries.

Objective: To identify the neurobehavioral problems among children receiving anti epileptic therapy.

Research Methodology: A cross sectional design was used to identify the neurobehavioral problems among children above 4 yrs receiving anti epileptic drugs. 330 mothers of children who received AED were interviewed to find out developmental and behavioral problems using Developmental psychopathology Checklist. Bharatraj Developmental Screening test was used as a screening tool to exclude severe intellectual disability.

Results: Majority of children (72.4%) were in the age group of 6-12 years. (8.8 + 3.0). Average age at onset of seizure disorder was 4 yrs. 41.5% of the subjects were on anti-epileptic drugs for more than 3 yrs. Among the neurobehavioral problems, 48.4% of children receiving anti-epileptic drugs had learning disability and another 40.6% children had emotional problems. Conduct disorders were found among 10.6% of children. Somatic disorders were seen among 4.2% of children.

Keywords: *Neurobehavioral problems, Anti epileptic drug therapy.*

BACKGROUND OF STUDY

Childhood epilepsy is among the most prevalent and therefore important neurological conditions in developing years. Population based studies report prevalence rates of 3.6 to 4.2 per 1000 for children in developed countries [1,2]and approximately double these rates in developing countries.[3,4] In developed countries the crude annual incidence of epilepsy in children is around 60/100,000 child.[5] The prevalence rates of epilepsy in India are similar to those of developed nations. This is slightly higher than the prevalence rate in Kerala (4.9/1000).[6]Epilepsy is a common neurological disorder that affects nearly 6 lakhs children under 14 years of age in the state of Kerala.[7]

The unpredictability of seizure recurrence is a constant threat to the patient with epilepsy and his or her family. Apart from the episodic seizures, there are many other ever present factors – social, psychological, behavioral, educational, cultural and so forth – which affect the lives of children with epilepsy, their families and their close social networks. These factors vary considerably from one person to the next, but have a significant impact on the daily quality of life in every affected child. Present study is intended to study the neurobehavioral problems of children receiving anti-epileptic therapy.

MATERIAL AND METHOD

Inclusion criteria for the study were children above 4 yrs who were diagnosed to have epilepsy and on antiepileptic drugs for atleast last 6 months and the mother and child living together. Children did not have other severe comorbid medical/ neurological conditions. Those with moderate or severe intellectual disability were excluded from the study using the Bharatraj Development Screening Test.

Sample for the present study consisted of 330 children along with their mothers who attended the pediatric outpatient department of a tertiary care hospital in Thiruvananthapuram district. Children with their mothers who met the selection criteria were consecutively recruited for the study. After obtaining informed consent, a personal interview was conducted with the mother to collect socio- personal data, clinical data and seizure severity. Child's developmental, behavioral and psychological health problems were assessed using Developmental Psychopathology Checklist (DPCL).

Tool and Technique

Interview was conducted to collect the data from the mother. Study used the following tools for collecting the data.

Structured interview schedule to obtain socio demographic and clinical data

Socio- personal assessment of the child and mother were collected using a specially designed proforma. This included baseline demographic data including type of family, parenting status which had been found to be significantly related to psychopathology in earlier studies. Seizure type, frequency and severity were quantified with a semi structured proforma. Frequencies of all types of seizures were recorded. For uniformity, the seizure frequency of different types of seizures was dichotomized. A low frequency score was given for the following frequency of seizures in the last 1 year: 1 to 20 simple partial seizures, 1-4 complex partial seizures, 1 generalised tonic clonic seizures, 1-20 absence or myoclonic seizures. More than the specified scores were labeled as high frequency seizures. This classification was done based on an internationally accepted guideline which has been used in previously published studies.

Developmental Psychopathology Checklist for Children – (M.Kapoor)

The Developmental Psychopathology Check List (DPCL) was developed as a screening tool to assess psychopathology in children. The tool covers developmental history, developmental problems, psychopathology, psychosocial factors, temperamental profile, and social supports and assets. Interclass Correlation Coefficient [ICC]) via analysis of variance was 0.96.

Developmental Screening Test – Dr.J. BharatRaj Developmental Screening Test was used to exclude intellectual disability. The tool has been standardized for the Indian population. The instrument permits exclusion of mental retardation and is an observer rated instrument.

FINDINGS

Table 1: Percentage distribution according to socio demographic background of children with epilepsy (N = 330)

Socio demographic background of children with epilepsy		frequency	Percentage
Age in years	4 – 6	85	25.8
	6 – 12	211	72.4
	12 – 15	34	10.3
	Median ± SD	8.8 ± 3.0	
Gender	Male	185	56.1
	Female	145	43.9
Age of mother in years	<= 30	92	27.9
	31 – 35	124	37.6
	36 – 40	83	25.2
	> 40	31	9.4
	Mean ± SD	33.8 ± 5.1	

Cont... Table 1: Percentage distribution according to socio demographic background of children with epilepsy (N = 330)

Religion	Hindu	182	55.2
	Christian	53	16.1
	Muslim	95	28.8
Domicile	Urban	57	17.3
	Rural	273	82.7
Type of family	Nuclear	258	78.2
	Joint	9	2.7
	Extended	63	19.1
Family income	BPL	120	36.5
	APL	209	63.5

Among the children above 4 yrs, receiving anti-epileptic drugs, majority (72.4%) were in the age group of 6-12 years. Median age of children was 8.8 with a standard deviation of 3.0. More than half of the children (56.1%) were boys. Majority of mothers (37.6%) were in the age group of 31 to 35yrs. Religion wise, majority of subjects (55.2%) were Hindus. Majority of subjects (82.7%) were from rural domicile. 78.2% of subjects were from nuclear family. Majority (63.5%) of subjects' family hold APL card. Among the subjects under study 43.6% of mothers had education up to higher secondary (predegree, plus two). Majority (77.3%) of mothers were housewives. Only 5.8% of subjects had office job. 83.3% of children's' parents were living together and 8.3% of fathers were working abroad.

Clinical Characteristics of children with epilepsy

Table 2: Percentage distribution according to clinical characteristics of children with epilepsy (N=330)

Clinical characteristics of children with epilepsy		Frequency	Percentage
Age of onset (yrs)	< 1	79	23.9
	1 – 3	72	21.8
	4 – 5	49	14.8
	6 -12	130	39.4
	Median ± SD	4.0 ± 3.4	
Seizure frequency	Lesser	246	74.5
	Severe	84	25.5

Among children on anti epileptic drugs, 17.6% of their mothers had history of antenatal problems. 16.9% of mothers experienced abnormal labor. 27.6% of subjects reported neonatal health problems and 14.8 % of children had family history of seizure disorder. Average age at onset of seizure disorder was 4 yrs. Among maximum subjects (39.4%) in the study samples, the age of onset of seizure was between 6yrs and 12 yrs. 23.9% of subjects had an early age of onset of less than 1 year. 25.5% of subjects had reported severe seizure frequency.

Neurobehavioral problems

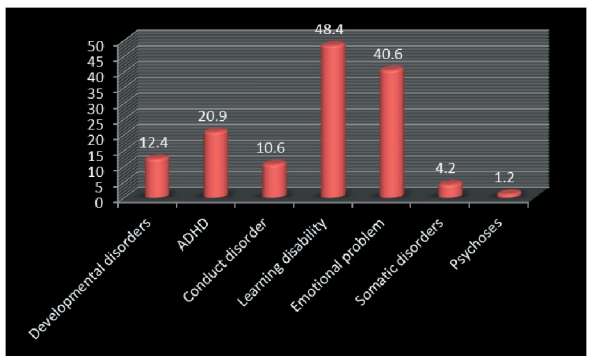

Fig 1: Neurobehavioral problems of children receiving anti-epileptic drugs

Among the subjects under study majority, (48.4%) of children receiving anti-epileptic drugs had learning disability and 40.6% children had emotional problems. 20.9% of children had ADHD. Developmental disorders were reported among 12.4% where as conduct disorders were found among 10.6% of children. Somatic disorders were seen among 4.2% and Psychoses were found only among (4) 1.2% children receiving anti-epileptic drugs.

DISCUSSION

Present study focused to find out behavioral problems of children receiving anti-epileptic drugs. Among 330 subjects under study, majority (72.4%) were in the age group of 6-12 years and more than half (56.1%) of them were boys. Majority of subjects (82.7%) were from rural domicile and from nuclear family (78.2%).

In a hospital based prospective study of children admitted with acute episode of seizure in a tertiary care center in South India, almost a similar socio personal pattern was observed among children.[8] Most studies show high incidence of seizures in younger children with a decreasing frequency in older age group and more common in males. In a prospective hospital based study at Assiut University Hospital[9], the highest frequency rate of seizures at the time of interview was during childhood with mean age of 5.9±3.5 years. In another report given by Al-Sulaiman and Ismail in their comparative prospective study carried on 263 children in Saudia Arabia, found that the overall mean age of epilepsy was 4.2 years[10]. Similar socio demographic distribution pattern was found in another study conducted in semi urban areas of Kerala where Hindus were 56.2%, Muslims 32.9% and Christians 10.9%. 78.2% of subjects were from nuclear family. [11]

Majority of subjects' family hold APL card although 36.5% of subjects hold a BPL card issued by the government. Among the APL holders a relative predominance of middle socioeconomic group was observed in the study. Inference is that since being a referral centre more children from the middle socio economic group with good awareness regarding importance of childhood seizures and availability of service facility were brought for consultation.

In the present study findings, 17.6% of children on AED had history of their mothers having antenatal problems, 16.9% of their mothers experienced abnormal labor. 27.6% of subjects reported neonatal health problems and 14.8% of children had family history of seizure disorder. This finding is supported by the findings of a previous study conducted at SAT Hospital where on logistic regression, family history of epilepsy (OR 4.7), newborn distress (OR 8.6), delayed developmental milestones (OR 12.6), and head trauma (OR 5.8) were found to be significant predictors of childhood epilepsy.[7]

Seizure disorder and AED in children is associated with considerable psychopathology. Present study recognized learning disability (48.4%), emotional problems (40.6%), ADHD (20.9%), conduct disorders (10.6%), and somatic disorders (4.2%) as important psychological problems among the children. In a study conducted at Vellore, the prevalence of psychopathology scores as assessed by the Childhood Behaviour Checklist among children with seizure disorder was 53.8%[8]. But in a epidemiological study by Rutter etal a comparatively lower prevalence of 28.6 % was found for psycho pathological problems.[12] In another case control study to describe psychosocial problems and seizure-related factors in children with epilepsy Psychosocial problems were more common among children with epilepsy than controls (odds ratio 5–9) and significantly related to epilepsy syndrome, main seizure type, age at onset, and seizure frequency. [13]

It is estimated that about 15-20% of school going children have Learning Disorders among general population in India. [14] Present study estimated a higher prevalence rate of learning disability among children receiving AED (48.4%).Children with epilepsy are particularly vulnerable to educational problems and resultant academic underachievement. Co-morbidities like cognitive and behavioral problems contribute significantly for the problems at school. Both epilepsy and neuropsychological deficits may occur as different clinical manifestations of a common etiological process. Ongoing seizures themselves adversely affect the developing brain. Furthermore, psychosocial issues also contribute significantly to the problems at school. The effect of antiepileptic drugs is double edged in this setting.

Second common psychological problem identified in the present study was emotional problems (40.6%).

According to Dunn et al, Mood disorders are common, with approximately one-fourth of adolescents with epilepsy having symptoms of depression.[15] Similarly ADHD have been found in approximately a third of the children with epilepsy. These children more often have symptoms of inattention than hyperactivity or impulsivity. But the present study estimated a prevalence of 20.9% for ADHD among children receiving AED. This prevalence is quite higher than its prevalence in general population. The prevalence of ADHD in the community based sample was found to be only 11.33%.[16]

Different Indian studies reported difference prevalence of conduct disorders among children. Deivasigamani[17] has reported a prevalence of 11.13%, and Sarkar et al.[18] reported 7.1%. But in a retrospective clinical study Malhothra et al.[19] had reported a prevalence of 4.94%. A low prevalence of 0.2% was reported in an epidemiological study conducted at urban and rural areas of Bangalore.[20] The present study findings regarding prevalence of conduct disorders among children receiving AED (10.6%) is comparable with higher rate reported in clinical studies among general population.

Present study identified Psychoses only in (4) 1.2% children receiving anti-epileptic drugs. But as the screening tool demands further evaluation for psychosis, the cases were not confirmed which is cited as a limitation of the study.

Early identification and intervention of these neuro-behavioural conditions in children will help them to improve their academic performance and social interaction and prevent the development of co-morbid conditions.

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

Source of Support: The study was self funded.

Ethical Clearance: Ethical clearance was obtained from institution review board. Confidentiality of subjects was ensured.

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Audio Visual Aids: An Essential Tool for Teaching

K S Nitu[1], Heaven Dahiya[2]

[1]Infection Control Coordinator, Jindal Hospital, Hissar, [2]Nursing Lecturer, Nursing Institute, Baba Mast Nath University, Asthal Bohar, Rohtak

ABSTRACT

The progress of nation depends upon the education and research. Curriculum changes are moving fast, education is changing fast and followed by instructional methods. In the modern era of language teaching, different innovations are brought in the field of study to come out from the traditional approaches. Now a days, trend is more toward communicative language teaching than traditional grammar teaching. Audio visual aids have a good impact upon student and teachers and make the lecture more interesting. They play a vital role in focusing the attention of learner towards the topic. Uses of technological tools enhance learning.

Keywords: *Audio, Visual, Aids, Essential, Tool, Teaching.*

INTRODUCTION

"Create Your Own Visual Style..Let It Be Unique For Yourself and Yet Identifiable For Others"

Education is necessary for everyone as without education no one can lead a good life. Teaching and learning are the important element in education. The teacher use different methods and material to teach their students and their effective learning. With the passage of time, different methods and techniques are entered in the field of education and teacher use different kind of aids to make effective teaching. Teaching aids arouse the interest of learners and help the teachers to explain the concepts easily. Undoubtly, audio visual aids are those instructional aides which are used in the classroom to encourage teaching learning process. As Singh (2005) defines "Any device which by sight and sound increase the individuals' experience, beyond that acquired through read described as audio visual aids". Teaching and learning processes are very crucial at all levels of educational development. If well planned and directed, they are the keys to success and progress of an individual.

"Visual-spatial thinkers need to see to think"

Audio-visual materials have been in existence for a longtime, but they are often underutilized. It is expected that, following the identification of the hindrances to maximum utilization of audio-visual resources in schools, effort will be made to minimize the effect of the hindrances and promote adequate utilization of the available resources.

Dilshad Muhammad et al (2015) The overall purpose of study was Utilization of educational media for teaching of physics at higher secondary level. The study specifically analyzes the practices of educational media in physics classroom. The survey research technique was adopted. The questionnaire, interview and observation were the major instruments. Triangulation approach was used to analyze the data. Concrete recommendations were made on the basis of findings[1].

Shabiralyani Ghulam et al (2015) was explored the teacher's opinions on the use of visual aids (e.g., pictures, animation videos, projectors and films) as a motivational tool in enhancing students' attention in reading literary texts. The targeted population for this research was the staffs and students of the public and private educational institutions of District Dera Ghazi Khan. In this research the primary data was used for gathering information. The collected data is analyzed through the SPSS software and also data was represented in the percentage distribution of pie, line, and bar graphs. The analysis of the data indicated that the majority of the teachers and students had positive perceptions of the use of visual aids[2].

Ojowu Ode Elijah (2014) was adopted a survey design study aimed at investigating the extent to which AVs were used in teaching and learning and their impact on teaching and learning in some selected private Secondary Schools in Makurdi metropolis. Two research questions were stated and subsumed in a hypothesis. One hundred and twenty respondents participated in the study. The result revealed that the use of audiovisual resources have significant impact on the teaching and learning in secondary schools[3].

Al Mamun Md. Abdullah (2014) conducted a study to investigate the benefits that the language teachers as well as the learners get in using audio-visual aids in teaching English language. A qualitative method has been followed to collect the data of this research. It has been found that the use of audio-visual aids assists both the teacher and the learners in teaching and learning language skills. This research provides guidelines for the novice teachers on effective use of audio-visuals aids in language teaching[4].

A.S Shridevi et al (2013) conducted a study to evaluate and compare the effectiveness of conventional small group teaching of mechanism of labour using the dummy pelvis and skull reinforcement with video demonstration, involving 60 final year MBBS students. Both groups had demonstration class by the teacher on the mechanism of labour using the dummy pelvis and fetal skull. Students exposed to the additional teaching learning media had clear understanding and long lasting effect on the must know psychomotor skill being taught[5].

J. Naga Madhuri (2013) conducted a study on using audio/visual aids in teaching is one way to enhance lesson plans and give students additional ways to process subject information. Bridge the gap between the different types of learners by adding audio/visual aides to your teaching techniques. Since most people are visual learners, it's important to go beyond "spoken words" when educating students. Students are also more likely to learn material is they're exposed to it in a variety of ways. This will also help you assess each student's overall understanding of the desired learning objectives. Authors such as Shakespeare may be easier to understand when the material is seen as well as read. Use film clips to highlight historical events and to provide expert analysis of current situations[6].

Jadal (2011) stated that these aids not only save the time but also support to create the curiosity, creativity and critical thinking. It emphasizes on the cognitive development of learner and works on developing sound foundation for higher studies. Medical students have different styles of learning which include visual, auditory, read/write and kinesthetic modes of learning. Teachers have to choose different teaching methods to enhance learning and make learning more interesting and impact bearing[7].

Rasul Saima et al (2011) conducted a study designed to analyze the effectiveness of audio visual aids in teaching learning process at university level. On the basis of findings, the conclusion was drawn. It was found that (i) the respondents viewed that A.V aids play important role in teaching learning process (ii) A.V aids make teaching learning process effective (iii) The respondents viewed that A.V aids provide knowledge in depth and detail (iv)It brings change in class room environment.(v)It motivates to teachers and students. On the basis of findings of study, following recommendation were made (1) Teachers may be trained for using A.V aids (2) Teachers may planning before using A.V aids (3) University may provided proper facilities of A.V aids (4) A.V aids may be according to level and interest of students. (5) Training may be provided to student for proper use of A.V aids[8].

Ranasinghe and Leisher (2009) integrating technology into the classroom begins when a teacher prepare lessons that use technology in meaningful and relevant ways. Technological aids should support the curriculum rather than dominate it. Technology should assist the teacher in creating a collaborative learning environment. Developments in technology gave scope for innovative practices in the classroom[9].

Ode and Omokaro (2007) revealed that learners retain most of what they hear, see and feel than what they merely hear. This concept bears credence to the old Chinese adage which says 'what I hear I forget what I see I remember and what I do I know. A visual instruction encourages the use of audiovisual resources to make abstract ideas more concrete to the learners. Therefore, the teacher's duty is to make learning live, not just something to remember but part of living experience. This can be done effectively by employing the use of audiovisual resources in teaching and learning as a mean

of imparting knowledge to learners[10].

CONCLUSION

In the modern era of language teaching, different innovations are brought in the field of study to come out from the traditional teaching approaches. Nowadays, trend is more toward communicative language teaching than traditional grammar teaching. Audio visual aids have a good impact upon student and teachers and make the lecture more interesting. They play a vital role in focusing the attention of learner towards the topic. Bruner a psychologist at New York university advocates, research has shown that people remember 10% of what they hear, 20% of what they read, 80%of what they see and do (Lester, 2012). Audio visual aids are the effective communicative tools between the teachers and learners.

Ethical Clearance– Taken from research committee

Source of Funding – Self

Conflict of Interest - Nil

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Effectiveness of Structured Teaching Programme on Prevention of Stroke among Hypertensives

B Ananthabadmanaban

Meenakshi Academy of Higher Education and Research, MAHER University, Chennai

ABSTRACT

High blood pressure (hypertension) is the most important known risk factor for stroke. High blood pressure can cause damage to blood vessel walls, which may eventually lead to a stroke. The purpose of the study was to assess the level of knowledge regarding prevention of stroke among hypertensives.Pre-experimental one group pre-test post-test design was adopted for this study. The study was conducted at district-Headquartersin Khammam District. 60 hypertensives were selected by using non probability purposive sampling technique Data was collected using semi-structured knowledge questionnaire. Post test was conducted 1 week after structured teaching programme. The result shows that, there was a significant difference between pre-test and post-test level knowledge regarding prevention of stroke among hypertensive patients.

Keywords: *Hypertension, Stroke, Knowledge, Structured teaching programme.*

BACKGROUND OF THE STUDY

Hypertension is a public health problem and a term used to describe high blood pressure (HBP). It is a condition that occurs as result of repeatedly elevated blood pressure above 140 over 90 mmHg whereby systolic blood pressure 140 with a diastolic blood pressure above 90. It has been called a silent killer as it is usually without symptoms. Hypertension takes a long time before diagnosed thereby causing major health problems as stroke and other cardiovascular diseases. Damage to organs as the brain, heart, kidneys and eye and so on are the long term effect of high blood pressure disease[2].

High blood pressure is the single most important risk factor for stroke because it's the No. 1 cause of stroke. HBP adds to heart's workload and damages arteries and organs over time. Compared to people whose blood pressure is normal, people with HBP are more likely to have a stroke. About 87 percent of strokes are caused by narrowed or clogged blood vessels in the brain that cut off the blood flow to brain cells. This is an **ischemic stroke**. About 13 percent of strokes occur when a blood vessel ruptures in or near the brain. This is a **hemorrhagic stroke**[3].

According to the World Health Organization (WHO) updated in 2015, 15 million people suffered stroke worldwide each year. Of these, 5 millions die and another 5 millions are permanently disabled. High blood pressure contributes to more than 12.7 millions strokes worldwide. Europe averages approximately 650000 stroke deaths each year. In American Indians/Alaska native's per cent adult affected by stroke is 5.3% in African American per cent of adults affected by stroke is 3.2%. In whites per cent adults affected by stroke is 2.5% in Asians per cent of adults affected by stroke is 2.4%[5].

A cohort study was conducted on blood pressure control and risk of stroke in treated and untreated hypertensive patients in Italy. The results showed that in treated hypertensive patients controlled blood pressure values occurred in 18.4% and untreated hypertensive patients were grade one or two[4].

A randomized controlled study conducted regarding educational programme on hypertension to prevent stroke in Canada. The study recommended that to prevent stroke and treat hypertension include sodium restricted diet, perform 30 min to 60 min of moderate aerobic exercise four to seven days per week; maintain

a healthy body weight and waist circumference, limit alcohol consumption; follow a diet that emphasizes fruits, vegetables and low-fat dairy products, dietary and soluble fiber, whole grains and protein from plan sources, and that is low in saturated fat and cholesterol[1].

Hypertension is the most important modifiable risk factor coronary heart disease (the leading cause of death), stroke (the third leading cause), congestive heart failure, end-stage renal disease, and peripheral vascular disease. Therefore, health care professional must not only identify and treat patients with hypertension but also promote a healthy and preventive strategic to decreases the prevalence of hypertension in the general population.

Statement of the problem

A study to assess the effectiveness of structured teaching programme on knowledge regarding the prevention of stroke among hypertensive patients in a district-Headquarters hospital at Khamam district, Telugana State.

Objectives

1. To assess the level of knowledge regarding prevention of stroke among hypertensive patients.

2. To evaluate the effectiveness of structured teaching programme on knowledge regarding prevention of stroke among hypertensive patients.

3. To find out the association between the pretest level of knowledge with their selected demographic variables.

RESEARCH METHODOLOGY

Research Design: Pre experimental one group pre test post test design was adopted for this study

Setting of the study: The study was conducted in district-Headquarters Hospital at Khammam district

Samples: 60 hypertensive patients who meet the inclusion criteria were selected by using non probability – purposive sampling technique.

Research tool and technique: The tools used in this study consisted of two sections.

Section – 1: Demographic variables

Section – 2: Structured knowledge questionnaire: consisted of 30 multiple choice questions. Part I: General information regarding hypertension (14 questions) Part-II: Information on Stroke (6 questions), Part-III: Prevention of stroke (10 questions).

Structured teaching programme: It is detailed information about hypertension and prevention of complications particularly stroke**.**

Data collection procedure:

After obtaining permission from the hospital authority, the study was conducted for period two weeks. The informed consent was obtained after given clear information about the study and assured confidentiality. The demographic variables collected from the subjects. The pre test was done to assess the hypertensive patients' knowledge with semi structured questionnaire. Structured teaching was given to them. The post test of study was carried out one week later, using the same tool. Collected data was then tabulated and analyzed using descriptive and inferential statistical methods.

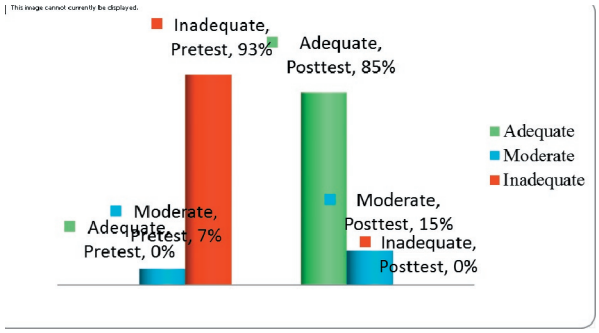

Fig.1 Distribution of samples according to their pre-test and post-test level of knowledge

Table-1 Comparison of mean pre test and post test level of knowledge among the samples. (n=60)

Sl.No	Level Of Knowledge	Mean	Mean Difference	SD	't' Value
1.	Pre test	11.6	14.48	1.40	33.67**
2.	Post test	26.08			

**Significant at 0.05 level.

Table-2 Distribution of samples according to their Demographic variables. (N=60)

S.NO	DEMOGRPHIC VARIABLES		FREQUENCY	PERCENTAGE %
1	Age (in years)	40-45	10	16.7
		46-55	27	45.0
		56-65	23	38.3
2	Gender	Male	38	63.3
		Female	22	36.7
4	Monthly income	3000-5000/month	44	73.3
		5001-10,000/month	10	16.7
		10,001-15,000/month	05	8.31
		>15,000/month	01	1.70
5	Marital status	Unmarried	08	13.3
		Married	52	86.7
		Divorced	0	0
6	Dietary pattern	Vegetarian	08	13.3
		Non-vegetarian	52	86.7
7	Occupation	Government job	17	28.3
		Private job	05	8.30
		Home maker	14	23.4
		Retired	24	40.0
8	Educational Status	Illiterate	08	13.3
		Primary education	15	25.0
		Secondary education	31	51.7
		Graduate and above	06	10.0
9	Personal habits	Smoking	07	11.7
		Alcoholism	13	21.7
		Smoking & alcoholism	17	28.3
		No such habits	23	38.3
10	Family history of Hypertension	Yes	33	55.0
		No	27	45.0
11	Years of Diagnosis	Less than 1 year	27	45.0
		1- 3 years	11	18.4
		3- 5 years	17	28.3
		More than 5 years	05	8.31
13	Hypertension treatment	Yes	20	33.3
		No	40	66.4

In the pre test, majority (93%) of the hypertensive patients had inadequate knowledge and (7%) had moderate level of knowledge. Whereas in post test, 85% of them had adequate knowledge and only 15% of them scored moderate knowledge. The post test mean score (26.08) was high when compared to pre test mean (11.6) knowledge score. The obtained t value (33.67) was greater than the table value at 0.05 level of significance. The study findings show that the structured teaching programme had significant improvement in the level of knowledge among hypertensive patients.

CONCLUSION

Public awareness is an important factor for achieving healthy life style. Life style modification must thus be one of the major focuses of education for stroke prevention among hypertensive patients. Nurses can play a key role in changing the health behavior of people and thereby it is possible for early case identification and initiate treatment of hypertension. According to the study results, structured teaching programme improved the knowledge on prevention of stroke for hypertensives.

Ethical Clearance- Taken from Research Advisory committee

Source of Funding- Self

Conflict of Interest - Nil

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Depression in Renal Transplant Recipients, in a Tertiary Care Hospital Kochi

Laly K George[1], Ashly K S[2]

[1]Asst. Professor, [2]Post Graduate Nursing Student, Department of Medical and Surgical Nursing, Amrita College of Nursing, Amrita Vishwa vidyapeetham University, Health Science Campus, AIMS, Kochi, India

ABSTRACT

Background: In end-stage renal disease patients have two options in order to stay alive: life-long dialysis or renal transplantation. Of these options, kidney transplantation is considered as the treatment of choice. Both end-stage kidney disease and transplantation are associated with depression, which may decrease adherence to treatment and influence survival. **Objective:** The objective was to identify depression among renal transplant recipients and to associate between depression and socio-demographic variables and clinical data. **Materials and Method:** A cross sectional study was conducted among 30 renal transplant recipients at Amrita Institute of Medical Sciences, Kochi. The sample selected by non probability purposive sampling technique and data collected by standardized Beck's Depression Inventory (BDI) Scale. **Result:** Depression was found to be lower in transplant recipients. Out of total subjects 80% did not have depression, 10% had depression and 10% with mild mood disturbance. There was no association between depression and clinical variables but high level of significance was found between depression and marital status ($p=0.01$, $p<0.05$). **Conclusion:** From the study, the investigator observed that prevalence of depression was only 10% among sample, since they continued regular follow up and had good family support.

Keywords: *Renal transplantation, Depression, Beck's Depression Inventory (BDI).*

INTRODUCTION

Renal transplantation is a treatment, which carries along numerous psychological implications both in the kidney donor and the kidney recipient[1]. In kidney transplant recipients, depression is likely to be the most common psychopathology associated with increased morbidity and mortality[2]. During the early years of post-transplant, patients are challenged with many stressors including possible graft loss, change in body image, psychosocial challenges, and side effects of immunosuppressant medication[3].

It is well established that kidney transplantation promotes survival in patients with end-stage renal disease(ESRD)[1,2]. However the success of transplantation surgery is not ensured ,and transplant recipients also experience a significant amount of psychological distress[3] and are at risk for developing depression.[4] Depression has shown to negatively impact patient outcomes, including graft and patient survival.[3,5] Moreover depressive symptoms in transplant recipients increase the risk of noncompliance to treatment regimens, leading to poorer health outcomes.[6,7]

A cross sectional study was conducted to assess the Symptom of depression in kidney transplant recipients in a single kidney transplant outpatient clinic at the Department of Transplantation and Surgery at Semmelweis University, Budapest, Hungary between August 2002 and February 2003. The sample size was 1067 kidney transplant recipients. Data was collected by using Center for Epidemiologic Studies Depression Scale (CES-D). Result shows that the prevalence of depres sion was 33% versus 22% in wait-listed versus transp lant patients, respectively (P = 0.002). In multivariate regression, number of co morbid conditions, estimated glomerular filtration rate, perceived financial situation, and marital status were significant and independent predictors of depression in the transplant recipient group. Treatment modality was associated significantly with the presence of depression[4].

OBJECTIVE

The Objective of the study was to identify depression among renal transplant recipients and to find association between depression and socio-demographic variables and clinical data.

MATERIALS AND METHOD

The cross sectional study was initiated after obtaining permission from Ethics committee. Informed consent was taken from the participants those who meet the inclusion criteria. A total of 30 renal transplant recipients were selected by non probability purposive sampling technique .The data collection period was one month from October to November 2015. The demographic and clinical data were collected using self developed structured questionnaire. Depression was assessed using Beck's Depression Inventory (BDI) scale. The study setting was Nephrology OPD at Amrita Institute of Medical Science Hospital, Kochi. Data analysis was carried out using descriptive and inferential statistics.

RESULT

The results of the study are brought under three sections.

Section I : Description of Sample characteristics

Table 1.1: Distribution of subject based on socio demographic variables n=30

Sl no	Demographic variables	Frequency	Percentage
1	**Sex** a. Male b. Female	23 7	76.7% 23.7%
2	**Education** a. Literate b. Illiterate	30 -	100% -
3	**Occupation** a. Employed b.Unemployed	11 19	36.7% 63.3%
4	**Religion** a. Hindu b. Christian c. Muslim	23 4 3	76.7% 13.3% 10.0%
5	**Marital status** a. Married b. Unmarried	22 8	73.3% 26.7%
6	**Type of family** a. Joint b. Nuclear	26 4	86.7% 13.3%
7	**Income** a.<5000 b. 5000-10000 c. 10001-25000 d. 25001-50000 e. >500001	10 11 6 1 2	33.3% 36.7% 20.0% 3.3% 6.7%
8	**Area of residence** a. Urban b. Rural c. Suburban	22 4 4	73.3% 13.3% 13.3%

Cont... Table 1.1: Distribution of subject based on socio demographic variables n=30

9	Are you satisfied with support that you get from the family members and friends? a. No b. Yes	30 -	100% -
10	Does support from your family member help in caring for your health needs? a. Yes b. No	30 -	100% -

Table 1 depicts that most of the subjects were males,23 (76.7%) and all the samples were literates. Majority of them were unemployed, 19 (63.3%). Most of them were Hindus, 23(76.7%). Among them 22(73.3%) were married and unmarried were only 8 that is(26.7%).Majority of the samples were from nuclear family, that is 26(86.7%).Most of them had family income in the range of 5000-1000(36.7%). Majority of them were from urban area that is,22(73.3%). All the subjects were satisfied with family support they get.

Table 1.2 : Distribution of subjects based on clinical variables n=30

Sl no	Clinical variables	Frequency	Percentage
1	Duration of illness 1.upto5years 2. >5 years	 15 15	 50% 50%
2	No. of hospital admissions 1.Yes 2.No	 23 7	 76.7% 23.3%
3	Do you attend the regular follow up as advised by your physician? 1.Yes 2.No	30 -	100% -
4	Do you have the habit of using Alcohol? 1.Yes 2.No	5 25	16.7% 83.3:%
5	Do you have family history of chronic illness? 1.Yes 2.No	3 27	10.0% 90%
5	Do you have any family history of mental illness? 1.Yes 2.No	2 28	6.7% 93.3%
6	Any Co-morbidities 1.Yes 2.No	18 12	60% 40%

Table 1.2 shows that all the subjects come for regular follow up(100%). Among the selected transplant recipients 40% had no co-morbidities and 93.3% did not have family history of mental illness. Only three samples(10%) had family history of chronic illness.

Section II: Identification of depression among renal transplant recipients n=30

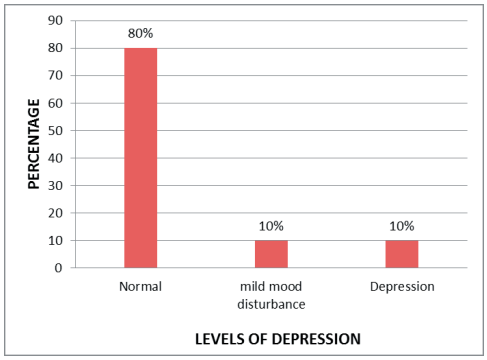

Figure 1: Bar diagram showing distribution of Subjects based on depression.

Figure 1 depicts that among 30 subjects majority of subjects, 24(80%) were normal, where as 3(10%) had depression and ,3(10%) were showing mild mood disturbance . There were no subjects with extreme depression.

Section III : Description of association between depression and demographic variables

Table-2 n=30

Sl no	Socio-demographic variables	Category	Depression			P value
			Normal Number (%)	Mild mood disturbance Number (%)	Depression Number (%)	
1.	Sex	1. Male 2. Female	18(75.0%) 6(25%)	2(66%) 1(33.3%)	3(100%) 0(0%)	0.572
2.	Education	1. Literate 2. Illiterate	24(100%) -	3(100%) -	3(100%) -	-
3.	Occupation	1. Employed 2. Unemployed	7(29.2%) 17(70.8%)	1(33.3%) 2(66.7%)	1(33.3%) 2(66.7%)	0.980
4.	Religion	1. Hindu 2. Christian 3. Muslim	19(79.2) 2(8.3%) 3(12.5%)	2(66.7%) 1(33.3%) 0(0%)	2(66.7%) 1(33.3%) 0(0%)	0.542
5.	Marital status	1. Married 2. Unmarried	21(87.5%) 3(12.5%)	1(33.3%) 2(66.7%)	0(0%) 3(100%)	0.001
6.	Type of family	1. Nuclear 2. Joint	21(87.5%) 3(12.5%)	2(66.7%) 1(33.3%)	3(100%) 0(0%)	0.469
7.	Income	1. <5000 2. 5000-10000 3. 10001-25000 4. 25001-50000 5. >50001	7(29.2%) 8(33.3%) 6(25.0%) 1(4.2%) 2(8.35%)	1(33.35) 2(66.7%) 0(0%) 0(0%) 0(0%)	2(66.7%) 1(33.3%) 0(0%) 0(0%) 0(0%)	0.839
8.	Area of residence	1. Rural 2. Urban	18(75.0%) 6(25.0%)	1(33.3%) 2(66.7%)	3(100%) 0(0%)	0.167
9.	Are you satisfied with support that you get from the family members and friends?	1. Yes 2. No	24(100%) -	3(100%) -	3(100%) -	-
10.	Does support from your family members help in caring for your health needs?	1. Yes 2. No	24(100%) -	3(100%) -	3(100%) -	-

Table 2 depicts that there is no significant association between depression and sex (p=0.572, p<0.05), education. All subjects participated in the study were literates. There is no significant association between depression and occupation (p=0.980, p<0.05), religion (p=0.542, p<0.05), type of family (p=0.469, p<0.05), income (p=0.839, p<0.05), area of residence (p=0.167, p<0.05). All the subjects were satisfied with support they get from the family members and friends and it helped them in fulfilling their health needs. There was no significant association between depression and family support. High level significance was found between the depression and marital status (p=0.001, p<0.05).

Section IV: Description of association between depression and clinical variables

Table-3 **n=30**

Sl.no	Clinical data	Category	Depression			P value
			Normal	Mild mood disturbance	Depression	
1.	Duration of illness	1.<5years 2. 5 years	12(50%) 12(50%)	2(66.7%) 1(33.3%)	1(33.3%) 2(66.7%)	0.717
2.	No. of hospital admissions	1.Yes 2.No	17(70,8%) 7(29.2%)	3(100%) 0(0%)	3(100%) 0(0%)	0.319
3.	Do you attend the regular follow up as advised by your physician?	1.Yes 2.No	24(100%) -	100%) -	3(100%) -	-
4.	Do you have the habit of using Alcohol?	1.Yes 2.No	3(12.5%) 21(87.5%)	1(33.3%) 2(66.7%)	1(33.3%) 2(66.7%)	0.472
5.	Do you have any family history of chronic illness?	1.Yes 2.No	3(12.5%) 21(87.5%)	0(0%) 3(100%)	0(0%) 3(100%)	0.659
6.	Do you have any family history of mental illness?	1.Yes 2.No	2(8.3%) 22(91.7%)	0(0%) 3(100%)	0(0%) 3(100%)	0.765
7.	Co-morbidities	1.Yes 2.No	14(58.3%) 10(41.7%)	2(66.7%) 1(33.3%)	2(66.7%) 1(33.3%)	0.933

Table 3 depicts that there is no significant association between depression and duration of illness (p=0.717, p<0.05), number of hospital admissions. All subjects attended the regular follow up as advised by their physician. Majority of the subjects were not used any alcohol, smoking or any other drugs (p=0.472, p<0.05), Majority of the subjects did not had any family history of chronic illness (p=0.659, p<0.05), Most of the subjects did not had any family history of mental illness (p=0.765, p<0.05), Most of the subjects had co-morbidities (p=0.839, p<0.05). There is no significant association between depression and clinical data.

DISCUSSION

In this study, investigator recognized that kidney recipients had a low level of depression. The first objective was to identify depression among renal transplant recipients: The result shows that, majority of the subjects were normal, 24(80%). Three of the subjects (10%) had mild mood disturbance and three subjects had depressed (10%). There were no subjects with extreme depression.

The second objective was to associate between depression and socio-demographic variables and clinical

data. Majority of the subjects were males 23 (76.7%). Most of the samples were literates and majority of them 19 (63.3%) were employed. Majority of the subjects, (36.7%) had family income in the range of 5000-10000., All the subjects attended regular follow up as advised by physician. There was no significant association between depression and duration of illness. The test result showed that there is no statistically significant association between depression and socio-demographic variables and clinical data. There was significant association found between depression and marital status(p=0.001, p=0.05)

CONCLUSION

Depression is one of the most common problem in transplant recipients[8]. The present study reveals that out of total subjects depression is lower in transplant recipients may be because the subjects attended regular follow up as advised by physician. High level significance was found between depression and marital status, but there is no significant association between depression and clinical data.

Source of Funding - Self

Conflict of Interest - Nil

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Effect of Stripping of the Umbilical Cord Blood Towards the Baby at Birth on Immediate Neonatal and Developmental Outcome

Manisha N Pawar[1], Nimain Mohanty[2], Mary Mathews[3]

[1]PhD, Nursing Scholar, M.G.M. College of Nursing, Kamothe Navi-Mumbai, [2]Prof. of Pediatrics & Medical Superintendent, M.G.M. Medical College Hospital, Kalamboli, Navi-Mumbai, [3]Prof. cum Principal, M.G.M. Nursing College, Kamothe, Navi-Mumbai

ABSTRACT

Background- Iron-deficiency anemia affects an estimated 20% to 25% of infants worldwide, with a higher proportion having iron deficiency without anemia. Anemia (IDA) is highest among children aged less than five years. The gentle birth practices are accepted as nursing intervention after delivery, as the large volume of blood remains in the placenta and umbilical cord that could be the source for an autologous "placental transfusion. **Objectives** 1. Asses the selected immediate neonatal and developmental outcomes of the newborn after stripping of the umbilical cord blood at birth in interventional group.2. Asses the selected immediate neonatal and developmental outcomes of the newborn in control group3. To compare the effectiveness of selected immediate neonatal and developmental outcomes in interventional group and control group. Randomization- sampling technique used was computer generated random number tables. **Data sources -** The sample consisted of 50 neonates who have fulfilled the inclusion criteria selected in MGM Hospital, Kalamboli, and NMMC hospital, Vashi. Informed consent was obtained from each sample before the study. Mothers who have undergone full term normal vaginal delivery were given an intervention program me on stripping of the umbilical cord towards the baby at birth and the post test was done following the birth for three days. Both groups received same routine care. The data was tabulated and analyzed using descriptive and inferential statistics. **Results-** The post test mean of selected neonatal physiological parameters like H.R., R.R. and Spo2 on day 3 of interventional group is statistically more than the control group, which shows improvement in post test immediate neonatal physiological parameters. The Mean PCV on day 3 of birth in study group was 11.96 and control group was 11.88. There is no significant difference between selected neonatal parameters in the heart rate, respiratory rate, Polycythemia, serum bilirubin, and need of phototherapy in experimental and control group. **Conclusions-** The findings revealed that the gentle birth practice as active intervention for stripping of the umbilical cord towards the baby at birth is safe and effective procedure and was useful in improving selected immediate neonatal and developmental physiological outcomes among term neonates.

Keywords: *Effect, Stripping of Umbilical cord, Immediate Neonatal and developmental outcomes.*

INTRODUCTION

An Umbilical cord blood is a baby's life blood until birth[1]. The base for common practice of cutting the umbilical cord after birth is in view of either that there is very little or no benefit by additional placental transfusion to the newborn . Active milking[2] of the umbilical cord towards the baby prior to clamping (rather than passive) should take less than 10 seconds to perform and should not interfere with neonatal resuscitation. It is therefore important to develop cost effective interventions to improve hematologic[3] status of millions of children affected by this condition worldwide. Allowing placental transfusion[4] to complete can provide the infant with an additional 30-50 mg of iron which will increase iron reserves and decrease the risk for iron deficiency anemia later in infancy[4]. It is

estimated that around 50% of children become anemic by the age of 12 months [3, 4]. .It is therefore important to develop cost effective interventions to improve hematologic status of millions of children affected by this condition worldwide[5]. Bridging the "know-do" gap, it is time to reexamine stripping of umbilical cord towards the baby as a selective intervention to prevent anemia and iron deficiency in infancy.

MATERIALS AND METHODS-SETTING OF THE STUDY

The study was conducted in MGM Hospital, Kalamboli and NMMC Vashi. The **population** -in this study the target population consist of mothers who have undergone normal delivery and their full term neonates. **Sample** –In this study sample size (50) consisted of 25 neonates in control group, and 25 neonates in interventional group. Randomization done using computer generated randomized numbers. Inclusion criteria-Full term neonates delivered by normal vaginal delivery. Exclusion criteria -Mothers with very high risk pregnancy. (PIH, Severe Heart Disease, Gestational Diabetes Mellitus, Multiple Pregnancy, Rh-ISO Immunization, Severe Anemia), Severe birth asphyxia ,Meconium aspiration syndrome, Cord prolapsed ,Very low birth weight babies, Major congenital anomalies or chromosomal anomalies in the fetus. **Procedure** -Informed written consent was taken after fulfilling eligibility criteria-The screening proforma was completed for every pregnant woman screened for enrollment to the study. A structured questionnaire was used to gather obstetrical and medical details of patients. Baseline maternal data with regard to age, medicinal iron intake, parity, socioeconomic data, and detailed medical history was noted for all women. Detailed obstetric history was taken from all participants to recognize any high risk factors for PPH. The diagnosis was noted. Delivery outcome of all eligible participants was monitored .Stripping of umbilical cord Interventional protocol- Investigator accompanied the mothers as they were shifted to lab our room for delivery1. Informed the obstetrician the mother belongs to study group. 2. Normal preparations for full term normal vaginal delivery will be made.3. Once the baby is born he or she will be placed below the level of the placenta. The cord should remain unclamped until cord stripping is completed.4. Approximately 20 cm of cord will be stripped by hand from the mother towards the baby. 5. The cord will be stripped by compressing it between two fingers and pushing blood along the cord vessels towards the infant. This will be done swiftly 3 times at a rate of approximately 10cm/second.6. The procedure will take no longer than 10 seconds to complete.7. The cord will be then be clamped[12]and cut and normal resuscitation and care are commenced Standard care was provided if women refused to participate in the study at any time. Baseline physiological and anthropometric data with regard to birth weight, sex, gestational were recorded in all cases. Statistical analysis- The subject ID assigned to the enrolled women identified all the data. The data was regularly transmitted to the computer in MS excel data base and stored on email. Data will be analyzed using SPSS 19. All the data were expressed as mean, standard deviation (SD), range, Percentage using tables, graphs or charts along with Inferential and descriptive statistics. The level of significance will be set at 0.05.

Ethical Clearance – The ethical permission was issued by IERC of M.G.M. University of Health Sciences.

RESULTS

Demographic data represents-Age the of mothers of experimental group 32% belongs to the age group of 21-25 years and control group(44%) belongs to the age group of 21-25years.2.Education of the mothers experimental group (64%) and control group (56%) belongs to primary education.3. Religion- 92% belongs to Hindu religion.4. Hemoglobin- 44%in the experimental group and 48% in control group had Hb count of 10-12 $^{gm\%}$. 5. Blood group-Majority 40% belonged to blood group of A+ve in experimental group and 48% belonged to blood group of B+ve in control group. 6. Pregnancy-Majority 36% were Primi mothers in experimental group and 44% in the study group. 7. Gestational age-Majority 36% of the mothers gestational age group belong to 39-40 weeks in control group and 32% less than 38 weeks in experimental group.8.Sex of newborn -Majority(56%) of the newborns were male and (44%)female in the experimental group and 60% male and 40% female in the control group.

Table-1: Significant difference in immediate neonatal physiological parameters for control and interventional group.

Neonatal-Physiological Parameters		Mean	S. D.	df	t cal	t tab	*p* value	Significant at 5% level (P<0.05)
15 min Apgar score	Control	8.0	0.00	48	1.81	2.01	0.077	no
	Interventional	8.12	0.33					
Day3 H.R.	Control	140.7	2.57	48	2.82	2.01	0.007	yes
	Interventional	143.7	4.74					
Day3 R.R.	Control	39.12	2.71	48	3.24	2.01	0.002	yes
	Interventional	42.0	2.51					
Day3 SPO_2	Control	0.97	0.01	48	2.21	2.01	0.032	yes
	Interventional	0.98	0.00					
Day3 Aux. temp.	Control	98.43	0.39	48	1.23	2.01	0.224	no
	Interventional	98.33	0.15					
Day3 PCV	Control	11.88	0.83	48	0.36	2.01	0.720	no
	Interventional	11.96	0.73					

Compare the effectiveness of immediate neonatal outcomes -The mean physiological parameters in relation to heart rate on day3 in experimental group was 142.72 and control group was 140.72.The mean physiological parameters in relation to respiratory rate on day3 in experimental group was 41.36 and control group was 39.12.Mean Apgar score of newborns in the experimental group at birth was 7.40 and control group was 7.20. Mean Apgar score of newborns in the experimental group at 15 minutes was 8.12 and control group was 8.00. The Mean PCV[14] on day 3 of birth in study group was 11.96 and control group was 11.88. The heart rate, respiratory rate and SPo2 were statistically significant at 5% level (P<0.05).

Compare the effectiveness of immediate developmental outcomes - The mean anthropometric parameter mid arm circumference was only statistically Significant at 5% level (P<0.05).The mean anthropometric parameters in relation to length on day3 in experimental group was 50.08 and control group was 49.88.The mean anthropometric parameters in relation to weight on day3 in experimental group was 2.84 and control group was 2.84..Mean head -circumference of newborns in the experimental group at birth was 33.08 and control group was33.10. Mean chest circumference on day 3 of newborns in the experimental group was32.46 and control group was 32.30. The Mean mid arm circumference on day 3 of birth in experimental group was 10.82 and control group was 10.33.

DISCUSSION

Anemia during infancy and early childhood has been shown to affect cognitive brain function. This process can improve the infant's iron stores, which may be of particular value in settings in which nutrition is poor[7,89].Iron stores at birth are a major factor influencing growth and the occurrence of iron deficiency anemia (IDA) during infancy[10]. IDA in infancy is of particular concern because of potentially detrimental effects on physical and cognitive development [11]. The stripping of blood from the umbilical cord, or UCM, was pondered for years and suspected to be beneficial.[12] Nevertheless, methodological limitations of older studies hindered the adoption of UCM as a standard of care. A more recent series of studies assessed the safety and efficacy ofUCM.[13] clamping the cord before2–3 minutes is likely to restrict placental transfusion. The short-term and long-term effects of this simple intervention remain unclear.[14]Further evaluation of the effects of alternative policies for the timing of cord clamping at term births has been identified as a priority for future randomized trials[15]. Shirvani .F et.al [16,] 2010 conducted a study to

evaluate the hematological "effects of umbilical cord clamp timing on newborn's iron status and its relation to delivery type" in term infants 48 hours after birth in Iran. Hundred mother-infant pairs were divided into two groups: early cord clamp time within 15 s (n=70) or delayed cord clamp time [15 s after delivery (n=30)]. The mean infant hemoglobin (Hgb; 16.08 gm/dL vs. 14.5 gm/dL; *P*<0.001) and hematocrit (Hct 47.6 vs. 42.8; *P*<0.001) levels were significantly higher in the delayed clamping group. The effectiveness of immediate neonatal outcomes in our study depicts mean physiological parameters in relation to heart rate on day3 in experimental group was 142.72 and control group was 140.72.The mean physiological parameters in relation to respiratory rate on day3 in experimental group was 41.36 and control group was 39.12.Mean Apgar score of newborns in the experimental group at birth was 7.40 and control group was 7.20. Mean Apgar score of newborns in the experimental group at 15 minutes was 8.12 and control group was 8.00. The Mean PCV[14] on day 3 of birth in study group was 11.96 and control group was 11.88. The heart rate, respiratory rate and SPo2 were statistically significant at 5% level (P<0.05).McDonald[17], S. J. and P. Middleton , 2008 studied on "the Effect of timing of umbilical cord clamping of term infants on maternal and neonatal outcomes". Andersson et.al [18,] 2011 studied the "Effect of delayed versus early umbilical cord clamping on neonatal outcomes and iron status at 4 months: a randomized controlled trial". 400 full term infants were randomized to delayed umbilical cord clamping (3 minutes after delivery) or early clamping (> 10 seconds after delivery). The result shows that there was significant difference in the level of ferritin between the groups at 4 months. The available cord milking studies of term infants (8 controlled trials and 1 randomized controlled trial) [19–25] conclude that cord milking significantly improves hematocrit and hemoglobin levels in the first few days of life when compared with ICC, with no associated harm. Conclusions- Placental transfusions at birth offer the infant the benefit of a 4- to 6-month supply of iron from the additional red blood cells. The findings of the study revealed that stripping of the umbilical cord towards the baby at birth is a safe and effective procedure and it improved selected immediate neonatal physiological and developmental outcomes without causing significant increase in respiratory distress, Polycythemia, and jaundice.

Conflict of Interest - Nil

Source of Funding- Self

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Assessment of Academic Stress among Bsc Nursing Students

Pranaviya K P[1], Nandini M [2]

[1] Post Graduate Nursing Student, [2] Vice-Principal & HOD Department of Pediatric Nursing, Aswini College of Nursing, Thrissur

ABSTRACT

This non-experimental study was undertaken to assess the level of academic stress among BSc nursing students in selected colleges, Thrissur. Academicsources of stress like examinations, long hours of study, assignments and grades, lack of free time, and lack of timely feedback after their performance, special elements of the academic programme like arrangement and conduction of workshops, also produce stress among student nurses. The data was collected by using modified academic stress scale. The mean score of academic stress among BSc nursing students was 48.25, which is below the median. The findings of the study revealed thatout of 120 nursing students, 27 (22.5%) perceived high level of stress and 93 (77.5%) perceived low level stress.

Keywords: *Academic stress, BSc nursing students.*

INTRODUCTION

Stress is a poison, it is simply a reaction to a stimulus that disturbs our physical or mental equilibrium. Stress seems to worsen or increase the risk of conditions like obesity, heart disease, Alzheimer's disease, diabetes, depression, gastrointestinal problems and asthma.

Students undergoing training in nursing have the pressure to study new subjects, examinations, getting practical experience in caring for patients with various disease conditions as well as other challenges which are similar to those experienced by college students. They may use healthy or unhealthy methods to cope with stress.The aim of this study was to investigate the level of academic stress among BSc nursing students.[1]

STATEMENT OF THE PROBLEM

A study to assess the academic stress among BSc nursing students at selected colleges of nursing, Thrissur.

OBJECTIVES

- To assess the stress level among the BSc nursing students.
- To associate stress level of BSc nursing students with selected demographic variables.

METHODOLOGY

Research approach and design

Non-experimental approach was used. The research design adopted is a true descriptive design.

Population

The study was conducted among BSc Nursing students at Aswini College of Nursing.

Sample size

The sample for the current study comprised of 120 BSc Nursing students who fulfil the sampling criteria.

Sampling technique

Simple random sampling was used in the study.

Description of the tools

The structured tool consisted of 2 sections.

Section A: Demographic profile of nursing students

Section B: Modified academic stress scale

Settings

The study was conducted in Aswini College of Nursing at Thrissur

ANALYSIS AND INTERPRETATION

Table I: Frequency and percentage distribution

SCORE	FREEQUENCY	PERCENTAGE
Below median	93	77.5%
Above median	27	22.5%

Table II: Association of academic stress with selected demographic variable

SL.NO	DEMOGRAPHIC VARIABLE	ACADEMIC STRESS		CHI-SQUARE VALUE
		20-60	60-100	
1	**Age**			
	• 18 yrs.	18	6	C.V=1.52
	• 19 yrs.	23	5	
	• 20 yrs.	27	6	T.V=7.82
	• 21 yrs.	25	10	
2	**Gender**			
	• Male	6	2	C.V=0.07
	• Female	87	25	T.V=3.84
3	**Residence**			
	• Hostler	60	16	C.V=0.23
	• Day schooler	33	11	T.V=3.84
4	**Year of study**			
	• I Year	22	8	C.V=0.56
	• II Year	23	7	
	• III Year	24	6	T.V=7.82
	• IV Year	24	6	

MAJOR FINDINGS OF THE STUDY

• The study reveals that out of 120 nursing students, 27 (22.5%) perceived high level of stress and 93 (77.5%) perceived low level stress.

• Regarding association of demographic profile with academic stress age, gender, residence and year of study has a chi-square value 1.52, 0.07, 0.23 and 0.56 respectively, which is less than table value. So there is no association between academic stress and demographic variables.

RECOMMENDATIONS

♦ Comparative study can be conducted among BSc nursing students and other professional degree students.

♦ Effectiveness of stress relaxation techniques like pranayama and deep breathing exercise on stress among BSc nursing students.

CONCLUSION

Nursing teachers should utilize the findings of this review to direct their students during clinical practice. Moreover, hospital administrators need to promote policies to promote a training environment where students are supported and inspired.

Conflict of Interest- Nil

Source of Funding- Self

Ethical Clearance- Taken from institutional ethical committee on 14/3/16

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Assessing the Effectiveness of Planned Teaching Programme on Remedial Measures of Biopsychosocial Problems of Postmenopausal Women

Irene Vanlalnunkimi

College of Nursing, St. Stephen's Hospital, Tis Hazari, New Delhi

ABSTRACT

Objectives: The aim of the study is to find the effectiveness of a planned teaching programme on remedial measures of bio-psycho-social problems among the post menopausal women to enhance their quality of life by assessing their bio-psycho-social problems and suggesting the remedial measures. **Material and method:** In a selected community of 30 Darlong post menopausal women from North Tripura (India), the study was conducted. Tools used in this study were (i) Demographic proforma (ii) Rating scale on perceived biopsychosocial problems (iii) A structured knowledge questionnaire to assess the knowledge level of post menopausal women on remedial measure of biopsychosocial problems. Cronbach's Alpha formula, structured questionnaire split half technique and Spearman Brown prophecy formula were also used. Both inferential and descriptive statistics were used for data analysis. **Results**: Post-menopausal women significantly gained knowledge on remedial measures after administration of planned teaching programme ($t=17.56$ $p<0.05$). The mean percentage of post test score was highest (87.84%). The highest modified gain 0.81% was in the remedial measures of biopsychosocial problems. **Conclusion:** Planned Teaching programme effectively convince women to positively perceive menopause as natural biological phenomena.

Keywords: *Reproductive age, menopause, climacteric, peri- menopause, post-menopause, bio-psycho-social, Cronbach's Alpha Formula, Split half technique, Spearman Brown prophesy, pre-test, t-test and post test (O_1-X-O_2), amenorrhea, modifying factors, planned teaching, remedial measures.*

INTRODUCTION

End of reproductive age of women is the menopause. The word *'menopause'* literally means the "end of monthly cycle" from the Greek word '*pausis'* (cessation) and the root '*men'*-(month) because the word menopause was created to describe this change in human females where the end of fertility is traditionally indicated by the permanent stopping of monthly menstruation or menses. Menopause is an avoidable change that every women will experience when they reach middle age and beyond. It will be helpful if women are able to learn what to expect and what option are available to assist the transition if that become necessary. Menopause has a wide starting range but can be usually expected in the age range of 42-58[1]. For some women, menopause can be a smooth and even liberation transition from reproductive to non reproductive years. For others, it can feel more like a complete a chemical and emotional sudden change for all women.

Menopause is the permanent physiologic cessation of menses associated with declining ovarian function; during this time reproductive function diminishes and ends. Post menopause is a period beginning from about one year after menses ceased. Menopause is associated with some atrophy of breast tissue and genital organs, lost in bone density and vascular changes[2].

The time when menopause occurs is also known as the "climacteric". It begins when the ovary decrease their production of the female hormones, estrogen and

Correspondence author:
Irene Vanlalnunkimi
College of Nursing, St. Stephen's Hospital, Tis Hazari, New Delhi, E-mail: Irene.nunkimi@gmail.com

progesterone. This may occur 1 to 2 years prior to the actual cessation of menstruation. The first sign of menopause is a change (sometime an irregularity) in the menstrual cycle. A women's period may become lighter. She may skip a period, the length of bleeding may be longer or shorter and the flow may be lighter or heavier[3].

Postmenopausal is defined formally as the time after which a woman has experienced 12 consecutive months of amenorrhea (lack of menstruation) without a period. The average length of the post menopause has been increasing with greater longevity; a woman will soon be postmenopausal on the average a third of her life[4]. The experience of menopause is different for every woman. There is no fixed pattern and no change of events that must transpire. The onset is imperceptible, the end is unpredictable. The duration is indefinite too.

Nisar[5] and Nisar (2008) had conducted a study on frequency of menopausal symptoms and their impact on the quality of life of a woman. It was a cross sectional study hospital based survey at the department of Obstetrics and Gynecology Isra University Sindh, Pakistan from November 2007 to 2008. The finding shows that scores of the physical domain was significantly higher in postmenopausal women group $p<0.002$ while the scores of the psychological domain was significantly higher in the postmenopausal transition group $p<0.003$.

Loh[6], Khin, Saw et.al, (2005) had also conducted a cross sectional nation-wide study on the age of menopause and the menopause transition in a multi-racial population. They came up with the finding that women of Chinese origin experience a low risk of menopausal symptoms when compared with other ethnic groups ($p<0.05$).

Taking these findings in consideration, the study first tries to find out the most common biopsychosocial problems faced by the postmenopausal Darlong women to administer and evaluate the effectiveness of planned teaching programme on remedial measures thereafter.

SIGNIFICANCE OF THE STUDY

Menopause raises important health care issues and present physical challenges. Menopause causes short term changes and there are long-term risks that can have a major impact on overall health and quality of life. It's the time for women to make themselves aware about their health risk and its prevention. Menopause is also the time a married woman's children are reaching adulthood and are becoming independent. This may give her a feeling that she is no longer needed by the children and it may lead to depression. During this period, some may also become anxious over possibly loosing physical attractiveness which can have a great emotional impact on the person. There is no informal or formal social support for the menopausal women. Thus, there is ample reason for the occurrence of physiological as well as psychosomatic and social symptoms in women during menopause. Knowledge should be imparted to the menopausal women to see menopause as a psychological process which cause for adaptation of various body organs to new conditions. During this adaptation, any slight disturbance will be corrected by the menopausal women quickly if they accept it as physiological changes and helps her mind and body occupied with interesting activities. In order to do this, she requires adjusting herself well in time.[7]

Menopause is the time where transient changes occur in women on biological, psychological and social well being, so the women should know the best remedial measure to overcome the situation. Natural remedies, hormonal therapy, behavioral strategies and nutritional therapy help the women to handle the condition.[8]

Health personnel can help women to understand the bio-psycho-social problems taking place in menopausal period and enabling them to feel these changes as a normal phenomenon and making aware of better coping abilities to handle these changes and overcome the difficulties in a positive manner.

OBJECTIVES

- To assess the bio-psycho-social problems among the post menopausal women
- To rank the severity of the bio-psycho-social problems as perceived by the post menopausal women
- To assess the pretest knowledge score on remedial measures of bio-psycho-social problems among the post menopausal women
- To determine the effectiveness of the planned teaching programme in terms of gain in post test

knowledge score

• To find the association between pre test knowledge level with the selected variables i.e. age, education level, number of children, relationship with the family members, types of family, family monthly income and last menstruation.

Variables under Study

Independent variables

The independent variables are the planned teaching programme on remedial measures of bio-psycho-social problems.

Dependent variables

The dependent variables is the knowledge on remedial measures of bio-psycho-social problems

Hypothesis

All the hypotheses were tested at 0.05 level of significance.

H_1: The mean of post test knowledge score of the post menopausal women after planned teaching programme on remedial measures of bio-psycho-social problems is significantly higher than the mean pretest knowledge score.

H_2: There is significant association between the pretest knowledge level on remedial measures of bio-psycho-social problems with selected variables.

Operational Definition

1. Bio-psycho-social problems: In this study, it refers to the bio-psycho-social problems perceived by the post menopausal women as measured by an item 1 to 28 of a rating scale on perceived bio-psycho-social problems.

2. Planned Teaching programme: This Planned Teaching programme refers to the intervention given on remedial measures of bio-psycho-social problems among post menopausal women on the areas of meaning of post menopausal causes, signs and symptoms, six ways on remedial measures, do's and don'ts during menopause and is provided by verbal interaction along with the use of charts, leaflets, booklets and model.

3. Effectiveness: In this study Effectiveness refers to gain in post test knowledge score after administration of a planned teaching programme on remedial measure of bio-psycho-social problems as measured by structured knowledge questionnaire.

4. Knowledge on remedial measure: It refers to correct response to questions to related steps taken to remove the undesirable manifestation shown during menopause and is measured by a structured knowledge questionnaire.

5. Selected community: Darlong, a northeast tribal community of North Tripura, India was selected for the study

CONCEPTUAL FRAMEWORK

The framework for the study was based on the modified Rosenstoch's Health Belief Model. The Health Belief Model attempts to relate behavior in terms of certain belief patterns. A person's motivation to undertake a health behavior can be divided into three main categories or factors; individual perception, modifying factors and likelihood of taking action. This model assumes that by taking a particular action, susceptibility could be reduced or if the disease has occurred, severity could be reduced. The perception of the threat posed by a disease is affected by modifying factors. Socio-psychological and structured variables and these can influence both the levels of perception and by means of action. Sometimes action may not be taken if it is closely or inconvenient or painful to a person. The likelihood of taking action will occur only when the perceived benefits will be more or greater than perceived barriers.

In this study, modifying factors refers to demographic variables like age, number of children, type of family, duration of menopause, education, occupation and economic condition. The perceived health problems refer to bio-psycho-social problems perceived by the post menopausal women. An individual perceived health problem is influenced by his or her perceived susceptibility to health problems, demographic variables and cues to action. An individual with a high perception of health risk behavior show low risk behavior and vice versa. Thus an individual's likelihood of taking action to modify a behavior is influenced by modifying factors and his perception of health risk behavior.

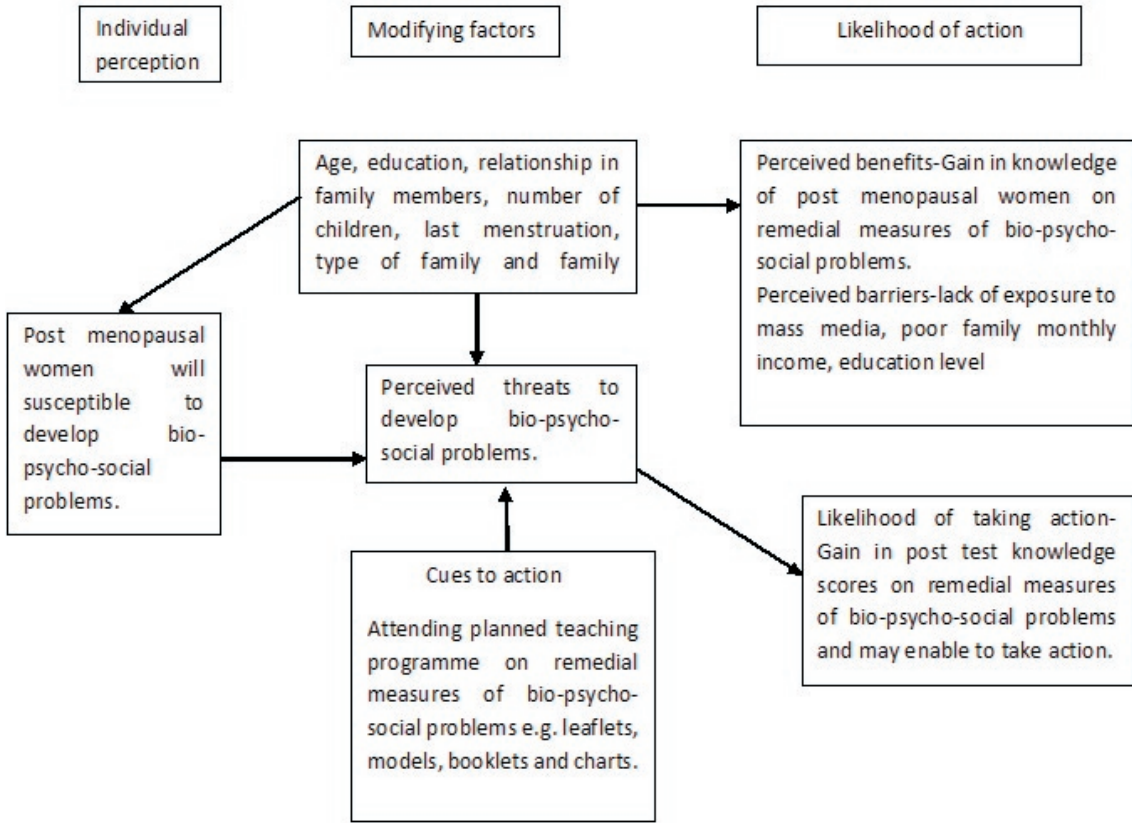

Fig: Conceptual framework based on Rosenstoch's Health Belief Model.

MATERIAL AND METHOD

It was an experimental study with 30 post menopausal women from Darlong community. The technique used to draw the sample was non-probability purposive sampling technique. Tools used were (i) Demographic proforma (ii) Rating scale on perceived bio-psycho-social problems of post menopausal women (iii) A structured knowledge questionnaire to assess the knowledge level of post menopausal women on remedial measure of bio-psycho-social problems. Cronbach's alpha formula for the reliability of rating scale and for structured questionnaire split half technique and Spearman Brown prophecy formula were also used. Both inferential and descriptive statistics were used for data analysis.

The researcher selected the design for the study was one group pretest, intervention given on the first day and post test design as O_1 -X -O_2:

O_1=The observation made by the researcher on the first day of the prestest knowledge score.

X = Intervention given on the first day on planned teaching programme on remedial measures of bio-psycho-social problems on post menopausal women.

O_2=The observation made by the researcher on the seventh day of the post test knowledge score

Setting of the Study

The study was conducted at Darchawi, a Darlong village of North Tripura. It is situated at North Tripura district under the District Magistrate of Kailashahar subdivision Gurnagar. It is about 27kms far from Kailashahar. There is one sub center situated under the Gaushabha of Darchawi village.

Population:

According to Darchawi village council census report on 23rd January 2012, there were 273 households with a population of 1447.The target population consisted of post menopausal women among the age group of 45-55 years.

Sampling Technique

The sample was drawn from a rural Darlong community ADC village North Tripura by non-probability purposive sampling technique. Based on the criteria, 90 women were picked up from the electoral roll after which the evaluation was made in subcentre to evaluate if the 90 women have any medical illness. In evaluation, 27 women were eliminated leaving just 63 women. Home based survey indicates 18 women were found to have medical illness in recent times. Finally 10 women from Tlangpar veng were taken as sample for the reliability of the tool and 5 women from Zion veng were taken for the pre testing of the tool and 30 women from khawpui veng and Bangla veng were taken for the sample of the main study.

Sample

The sample size was 30 post menopausal women based on the sample criteria.

Validity analysis of the tool

The constructed tool was given to subject experts for the validity of the tool along with the blue print and objectives of the study. The seven experts were from obstetrics and gynaecology medicine, obstetrics and gynaecology nursing department, psychiatrist and mental health nursing department. For demographic proforma six items remain retained without any changes and one item no.7 was modified after discussion with the experts and guide. For rating scale, 80-100% was in agreement in relevancy, accuracy and appropriateness. For the structured knowledge questionnaire 30 items were 70-100% agreement in relevancy, accuracy and appropriateness.

Reliability of the Tool

The reliability of tool was administered to 10 post menopausal women. Reliability of the rating scale tool was calculated by Cronbach alpha formula and reliability coefficient was 0.76. On the other hand reliability of structured knowledge questionnaire tool was calculated with the help of split half technique and computed with Spearman Brown's prophecy formula and reliability coefficient was 0.82.Both the tool was found to be reliable.

Item analysis

Item analysis was done for the structured knowledge questionnaire tool. The tool was administered to 10 post menopausal women from Darlong community Darchawi ADC village at North Tripura .26 items had difficulty index ranging from 30-70% and remaining 4 items had difficulty index of 16.67%.In discrimination index 30 items had 0.33-0.67%.

FINDINGS OF THE MAIN STUDY

The selected variables show that out of 30 postmenopausal women, the maximum i.e. 43.33% was between 49-52yrs. In an educational level, the maximum i.e. 56.67% studied upto school level. Concerning the number of children 56.67% of them were having more than three children. In type of family 50% i.e. half of the menopausal women were from nuclear. Concerning on the last menstruation 56.67% of the post menopausal women had their last menstruation more than three years before. In relationship with their family member 50% i.e. half of the post menopausal women had a good relationship in their family. In the average family monthly income the maximum i.e. 56.7% had an income ranging from Rs.4501-5000.

In the biological problems; "*aches and pains especially legs, back and joints*" was the first ranked with 74.16%. In psychological problems "*that you forgot things than before"* was the first ranked with 97.5%. In sociological problems *"Disinterest in taking up societal leadership role in the social occasion*" was the first ranked problem with 69%. The data showed that the pre test knowledge scores of the post menopausal women ranged between 8-21 and post test knowledge score ranged between 19-30. computation of the data using paired "t" test showed that the research hypothesis was accepted depicting that the gain in knowledge was not by chance and the post menopausal women significantly gained knowledge on remedial measures after administration of planned teaching programme ($t=17.56$ $p<0.05$).The mean difference was 11.59. Out of six areas of knowledge the mean percentage of pre test score of the post menopausal women was highest (60%) in the Area II. The mean percentage of post test score was highest (87.84%) in the Area V. The highest modified gain 0.81% was in the remedial measures of biopsychosocial problems. The chi-square value showed that there was no significant between the pre test

knowledge levels with selected variables.

CONCLUSION

From the findings of the present study it can be concluded that planned teaching programme on the remedial measures of bio-psycho-social problems was effective in increasing knowledge among 45-55 years post menopausal women. The study findings also inferred that there was no significant association between the pre test knowledge level among 45-55 years post menopausal women on remedial measures of biopsychosocial problems with selected variables.

Ethical Clearance: Taken from Chairman, Darchawi ADC Village Committee

Sources of Funding: Self

Conflict of Interest: None

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Effect of Family Focused Intervention on Perceived Stress, Quality of Life and Relapse Rate of Clients with Alcohol Dependence Syndrome

Jibby Varghese

Associate Professor, Saveetha University

ABSTRACT

A study was conducted to assess the effect of family focused intervention on perceived stress, quality of life and relapse rate of clients with alcohol dependence syndrome admitted in selected De-addiction centre at Kozhikode. The objectives were (1) determine the effect of family focused intervention on perceived stress and quality of life of clients with alcohol dependence syndrome, (2) identify the effect of family focused intervention on relapse rate of clients with alcohol dependence syndrome. The theoretical framework used was Sister Callista Roy's Adaptation Model. True experimental approach with pre-test post-test control group design was adopted for 20 sample, 10 each for control and experimental groups were selected using simple random sampling. Tools used in the study were structured questionnaire for the personal data, Perceived Stress Scale, WHOQOL BREF Scale and The AWARE Questionnaire. Results showed that family focused intervention is effective in improving quality of life and reducing stress of clients with alcohol dependence syndrome. The relapse rates were low for majority of the clients with alcohol dependence syndrome after family focused intervention.

Keyword: *Family focused intervention, perceived stress, quality of life, relapse rate, alcohol dependence syndrome, deaddiction.*

INTRODUCTION

Alcoholism is a major public health problem around the world. The magnitude of the problem in our country is considerable given that India has the second largest population in the world, with 33 percentage of its population consuming alchohol.[1] In 2010, the world wide consumption was equal to 6.2 litres of pure alcohol per person 15 years and older, which translates into 13.5 grams of pure alcohol per day. Unrecorded consumption accounts for 25 percentage of the world wide total consumption.[2]

India is a vast subcontinent and the drinking habits vary greatly between the different states. Those who live in the south western district of Kerala are the heaviest drinkers. People who live in this state drink an average of eight litres per capita, and this is four times the amount of the rest of India.[3]

Alcohol dependence is a substance related disorder in which an individual is addicted to alcohol either physically or mentally continues to use alcohol despites significant areas of dysfunction, evidence of physical dependence and related hardship.[4]

Alcoholism is also known as a family disease. Alcohol abuse affects couples relationships in a variety of negative ways, including communication problems, increased conflict, nagging, poor sexual relations and domestic violence.[5]

Alcohol dependence is characterized by a prolonged course of alcohol related problems and a persistent vulnerability to relapse.[6] Relapse is a phenomenon in which a person returns to even a single usage of a substance or process of which they had previously abstinence. Despite advances in treatment client compliance is generally poor, with response to problematic drug/alcohol use a common occurrence.[7]

Relapse prevention is a major challenge in the treatment of alcoholism. There is evidence that approximately 90 percentage of those diagnosed with

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alcohol dependence are likely to experience at least one relapse over the four year period following treatment.[6] The evidence for using relapse prevention strategies with alcohol dependent client is strong. The ideal goal of long term treatment for alcohol dependence is total abstinence. Patients who ensure total abstinence have better survival rates, mental health, and marriages, and they are more responsible parents and employees than those who continue to drink or relapse. Among the various treatment modalities, family intervention is the most notable current advance in the area of psychological treatment of alcoholism.[8]

Family is a system, and in any system, each part is related to all other parts, consequently, a change in any part of the system will bring about changes in all other parts.[7] In order to reduce the relapse rate the family can engage in the treatment process.[9]

An experimental study was conducted to find out the effect of relapse prevention intervention along with one close family member and usual treatments for control group. Findings showed that patients in the intervention group were abstinent for a longer period. The intervention group had an average time to first relapse of 51.29 days, while the non interventional group had an average time to first relapse of 10.00 days. This is proved that intervention with involvement of a family member is more effective than treatment as usual in control group.[10]

Stress is considered as a major contributor to the initiation and continuation of alcohol use. Studies assessing alcohol relapse after treatment completion and discharge indicate the contribution of highly stressful events, further more negative mood and stress are associated with increased craving and high levels of urges to use alcohol predict relapse. Stress related symptoms are most prominent during early abstinence from chronic alcohol use.[11] Relaxation technique is one of the effective methods to cope with the stress and strain and prevents individual from adopting faulty coping mechanism.[12]

A study was conducted to assess the effectiveness of progressive muscle relaxation versus autogenic relaxation on stress among alcoholics in selected deaddiction centre by quasi experimental method with non probability sampling method. It showed that progressive muscle relaxation was more effective than autogenic relaxation in reducing stress among alcoholics, and the mean pretest stress score was higher than the mean post test stress score.[12]

Quality of life has emerged as an important outcome measure for alcohol dependence whose natural course comprises of remission and relapse.[13]

A study was conducted to examine the prospective changes in quality of life in 56 alcohol dependence patients aged between 18-45 years over three months and compare it with quality of life of 150-age-gender matched healthy controls using WHOQOL-BREF. It showed significant improvement in quality of life of patients with alcohol dependence syndrome over three months abstinence. The physical, psychological, social and environment domains of quality of life in alcohol dependence subjects were significantly lower before treatment initiation than the healthy controls. The regular follow up with the family members in outpatient setting enables the patient to achieve complete abstinence, thereby improving their quality of life.[13]

Gama Glutamyl Transferase (GGT) is the most commonly used biomarker of heavy drinking and has a long history of use in primary health care. GGT will decrease when moderate drinkers abstain from alcohol and will increase with the intake of alcohol. Chronic drinking of four or more drinks a day for four to eight weeks significantly raises this blood protein values. 541U/L for both genders are considered abnormally elevated. Hence the researcher plans to compare the GGT value at the time of admission and during follow ups.[14]

2015 WHO theme is 'let's develop-our lives-our communities-our identities-without drugs.[15] This information shows the importance of preventing drug abuse worldwide.

AIM

The present study proposes to evaluate the effect of family focused intervention as an adjuvant to pharmacotherapy in patients with alcohol dependence syndrome.

OBJECTIVES

a) Determine the effect of family focused intervention on perceived stress and quality of life of

clients with alcohol dependence syndrome.

b) Identify the effect of family focused intervention on relapse rate of clients with alcohol dependence syndrome.

Hypotheses

H_1 : There will be significant difference in the pre-test and post-test score of perceived stress and quality of life of clients with alcohol dependence syndrome.

H_2 : There will be significant reduction in GGT and aware score of clients with alcohol dependence syndrome.

MATERIALS AND METHOD

True experimental research approach with pre-test post-test control group design was used. The independent variable was family focused intervention and dependent variables were perceived stress, quality of life and relapse. The demographic variables were age, duration of marriage, number of children, age of elder child, age of younger child, duration of alcoholism, duration of severe alcoholism, education, occupation, religion, type of marriage, legal status, type of family, support from family, locality of house, ownership of house, monthly income, participation in social activity and history of family alcoholism. Through simple random sampling, 20 patients (10 each in experimental and control groups) with alcohol dependence syndrome and their spouses who were staying with their husbands seeking treatment in selected deaddiction centres in Kozhikode were sampled for the study. Tools used were (1) A structured questionnaire for the personal data of patients with alcohol dependence syndrome, (2) Perceived Stress Scale by Sheldon Cohen, a standardized five-point scale to assess the levels of perceived stress among the patients with alcohol dependence syndrome, (3) WHOQOL BREF Scale, a standardized scale used to assess the quality of life of clients with alcohol dependence syndrome and (4) The AWARE Questionnaire by Miller and Harris to assess the rates of relapse of patients with alcohol dependence syndrome. The formal permission for the study was obtained from the Directors of the respective deaddiction centre and informed consent was obtained from the subjects. The experimental and control group were selected randomly by simple random sampling. Perceived stress and quality of life was assessed before the intervention and in follow ups after discharge for experimental and control groups. Progressive muscle relaxation (Jacobson) was provided to the client and spouse in experimental group early morning for 30 min. Family focused intervention was provided to the client and spouse separately for 20 minutes every day with the help of a video assisted programme till discharge. A diary was provided to them separately to record the level of adherence to the intervention provided to them. Investigator contacted the spouses of the clients over telephone regarding the documentation of the diary. The intervention programme was reminded for the experimental group when they came for follow up in second, fourth and sixth months after discharge. Early relapse symptoms were measured by relapse measuring scale. Relapse was assessed by comparing the pre-test value of GGT at the time of selection of the clients with the post-test value at the end of the data collection and regular attendance in follow up. The ethical aspect of the research was maintained throughout the data collection.

STATISTICAL ANALYSIS

Personal data containing sample characteristics was analysed by using frequency and percentage. The data was analysed in terms of descriptive and inferential statistics based on the objectives and hypotheses of the study. MANOVA test was used to find out the effect of family focused intervention.

FINDINGS

Table 1- Frequency and percentage distribution of demographic variables n=20

Sl. No	Variables	Frequency	Percentage
1	**Education**		
	a) Primary	6	30.0
	b) Secondary	12	60.0
	c) Graduate	1	5.0
	d) Others	1	5.0

Cont... **Table 1- Frequency and percentage distribution of demographic variables n=20**

2	**Occupation**		
	a) Manual labour	5	25.0
	b) Office work	2	10.0
	c) Skilled labour	8	40.0
	d) Other Work	5	25.0
3	**Marriage type**		
	a) Arranged by Parents	18	90.0
	b) Self Arranged	2	10.0
4	**Type of family**		
	a) Nuclear	12	60.0
	b) Joint	8	40.0
5	**Family Support**		
	a) Strong	2	10.0
	b) Moderate	14	70.0
	c) Poor	4	20.0
6	**Family history of Alcoholism**		
	a) Yes	18	90.0
	b) No	2	10.0

Majority of clients with alcohol dependance syndrome had secondary education and most of them (40%) were skilled labours. Majority of them (90%) had arranged marriage, 60 percentage belonged to nuclear family, 70 percentage had moderate family support and majority had family history of alcoholism.

Table 2- Effect of family focused intervention on perceived stress and quality of life n=20

Variable		Wilks's Lambda	F	Hypothetical df	Error df	Significance
Stress	Across Time	0.566	4.092	3	16	0.025*
	Within Time Period	0.803	1.308	3	16	0.306
Quality of life	Across Time	0.349	7.471	3	12	0.004*
	Within Time Period	0.634	2.306	3	12	0.129

*Significant at 0.05 level

From the above table it was evident that Wilks's Lambda value of stress and quality of life across time were 0.566(p=0.025) and 0.349(p=0.004) at 0.05 level of significance respectively. Hence there was significant difference in the perceived stress and quality of life of clients with Alcohol Dependence Syndrome across the time of pilot study.

Since the sample size was too small, there were no significant difference in the stress and quality of life of clients with Alcohol Dependence Syndrome within a specified time period of pilot study.

Table 3- Effect of family focused intervention on relapse rate n=20

Variable			Wilks's Lambda	F	Hypothetical df	Error df	Significance
Relapse rate	GGT	Across Time	0.762	5.616	1	18	0.029*
		Within Time Period	0.993	0.125	1	18	0.727
	Awarescore	Across Time	0.903	0.915	2	17	0.419
		Within Time Period	0.877	1.190	2	17	0.328

*Significant at 0.05 level

Table 2 reveals that the Wilks's Lambda value of GGT across time was 0.762(p=0.029). Hence there was a significant reduction in GGT of clients with Alcohol Dependence Syndrome across the time of pilot study.

CONCLUSION

The present study concluded that:

- There is a significant difference in the pre-test and post-test score of perceived stress and quality of life of clients with alcohol dependence syndrome across time of pilot study.
- There is a significant reduction in GGT of clients with alcohol dependence syndrome across time of pilot study.

RECOMMENDATION

- Replication of the study on a larger sample is necessary to find a significant difference in the scores of perceived stress, quality of life and relapse rate of clients with alcohol dependence syndrome both across time and within a certain time period of study in both experimental and control group.

Conflict of Interest: The author had no relationship/ condition/ circumstances that present a potential conflict of interest.

Source of Funding: The author didn't receive any financial support from any third party related to the submitted work.

Ethical Clearance: This study was conducted after getting approval from the institutional ethics committee and after obtaining written consent from all subjects.

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Best Practices in Building Academic – Service Partnerships in Nursing: Views from the Lens of Nursing Administrators, Students, Faculty and Staff Nurses

Cyruz P Tuppal[1], Mark Donald Reñosa[2], Said Nasser Al Harthy[3]

[1]Adjunct Faculty, St. Paul University Philippines System, Senior Clinical Tutor, Oman Specialized Nursing Institute, Ministry of Health, Oman, Honorary Tutor, Cardiff University, United Kingdom, [2]Science Research Specialist, Research Institute for Tropical Medicine, Philippines, [3]Senior Faculty, Oman Specialized Nursing Institute, Oman, Honorary Tutor Cardiff University, United Kingdom

ABSTRACT

Purpose: This descriptive qualitative research design aimed to explore the views of nursing administrators, students, faculty, and staff nurses in building academic and service partnerships in nursing.

Methods: Ten participants were interviewed including chief nurses, deans, faculty and graduating students. Interviews were conducted in-person, audio-taped, transcribed, and analyzed for recurring themes. Data were validated using member checks, peer reviews, and NVivo software.

Results: The emerging themes include (a) *Partnering,* (b) *Involving*; (c) *Valuing*; (d) *Harmonizing*, (e) *Collaborating,* (f) and *Sustaining*. The best practices are those that have been established through times grounded from the collaborative partnership developed because of trust, commitment, respect, decision-making, and among other drivers of change and reforms.

Conclusion: Despite difficulties that both academic and service institutions may face in the long run, the future still lies on the hands of collaborative efforts among the nursing administrators, faculty, clinical staff, and not to forget the students.

***Keywords**: Academic-Service Partnerships, Collaboration, Nursing, Philippines.*

BACKGROUND

Many authors have described the benefits of academic-service partnerships. For instance, in the practice of nursing, it strengthens clinical staff nurse empowerment, clinical nurse satisfaction, professional development, career ladder progression and recognition).[1, 2] For the academic community, it increases the number of clinical faculty members, student accountability, and support the learning environment.[2, 3] For the nursing practice, it improves the standards of care, increases educational capacity, decreases in theory–practice gap, strengthens professional development and improves employment opportunities.[2-6] Despite a voluminous research conducted about the academic and service partnerships, there is dearth evidence regarding exploring the views of key players both in nursing education and nursing practice. Thus, this study played a major role in establishing a process development looking into the best practices in building academic and service partnerships in nursing.

OBJECTIVE

This descriptive qualitative research design aimed to explore the views of nursing administrators, students, faculty, and staff nurses in building academic and service partnerships in nursing.

METHOD

This descriptive qualitative research design explored the views of nursing administrators, students, faculty, and staff nurses about the best practices in building academic and service partnerships (N=10).

Prior to the interview, ethical clearance was approved by the university. Five to eight participants are usually sufficient for a homogenous sample and 12–20 for a heterogeneous sample, where it is important to maximize variation across the sample.[7] Interviews were conducted in-person, audio-taped, transcribed, and analyzed for recurring themes. Data were validated using member checks, peer reviews, and NVivo software.

RESULTS

Findings of this study the emerging themes including (a) Partnering, (b) Involving; (c) Valuing; (d) Harmonizing; (e) Collaborating; (f) and Sustaining. Participants contributed to the development of simplified best practices of collaboration, which can also be acquainted with the process development.

Partnering is a process of exchanging valuable resources while the preparation and practice orientation is developed between academic and service institutions. It reflects the prefatory phase in building partnership through agreement and understanding.

The first thing that we need to identify is the willing partner who can enter into a contract with the school. It would always be the preparatory phase before the full establishment of collaboration and utilization of their facilities for the learning purposes of the students. Both administrators and leaders involved are consulted to ensure that the nitty-gritty of the requirements is understood, met, and sustained. [Dean, College of Nursing, School A]

One participant, a nursing director for ten years in her institution expressed:

I see that through partnering process it would increase the value placed on each shoulder of the academic and service institutions. Legal binding ties are necessary albeit the rigor of the process. As a nursing administrator for the past 20 years, strong partnering system is also mandatory for the institutions specifically for the base hospital that could provide all the necessary intended competencies of the students who may be admitted to this service industry like ours. This holds true as well to the other affiliating institutions including those that are located in the regions. [Nursing Director, Hospital B]

Valuing is the process of recognizing the worth of each institution that provides stronghold grasp of commitment, respect, loyalty, and trust. Valuing is tantamount to giving what is due to others with a sincere approach. This acknowledges equity of voice that is practiced by continually acknowledging competencies and strengths of all people.

In concert with this, one of the Deans of the College of Nursing as a participant of this study, emphasized:

To establish, maintain and sustain the collaborative partnerships, what we are doing from the conception of this College of Nursing and building affiliation with our base hospital, we always place value not only to the administrators but also on the staff nurses whom our students would be working with for the whole duration of their related learning experiences [Dean, College of Nursing, School A]

Involving reflects the process of a dynamic exchange of ideas that would facilitate in addressing the issues and concerns about the goals of bridging the gap, preparing the graduates to become locally and globally equipped with knowledge, skills, and attitudes.

According to responses of participants particularly dean, nursing director, senior faculty were in agreement when they stated:

I believe in establishing academic-service partnerships; involvement of the staff in the learning of the students is imperative. For instance, in the planning of clinical experiences, staff nurses are always asked and requested for the relevant recommendation. Staff nurses at the bedside have a plenitude of information to share specifically in developing student competency. [Nursing Director, Hospital E]

Harmonizing reflects when value and involvement partnership is integrated, it facilitates shared planning, creates current structures and framework for cooperation between institutions and attaining mutual benefits. Among the participants, dean and nursing director stated:

On a personal note, the hospital where I am connected now as their nursing director and the school where we are also affiliated to serve as their base hospital, I believe, we are able to establish an environment of harmony with the clinical staff, other personnel in our

hospitals, the students, and the faculty. I could define the partnership as "harmonic" where there is a mutual understanding of the needs of our hospital and school as well. [Nursing Director, Hospital D]

Collaborating is a process where both academic and service institutions are working together for a mutually accepted common goal or mission.

Students' responses also yielded the following:

Service institutions usually invite nursing students for proper orientation before the start of their rotation. Continuous evaluation of the performance of the students and clinical instructors as well were being done, semestral evaluation was done and will be the basis for the renewal of a contract. [Student Nurse, College of Nursing, School D]

Sustaining refers to the continuous progress of the academic and service institutions partnership that is grounded on the collaborative efforts and tested by times.

Based on the responses of nursing administrators whom both established collaborative partnerships stated:

I have been here in the hospital for the past 20 years and able to witness how the hospital and the school contributed to the sustenance of partnership. We believe that partnership is essential to help the students become more naturally caring, competent, conscientious, and compassionate. To make it sustainable and sustaining, we build among ourselves including the grass roots of management that the school is our partner in the preparation for constant learning process. Similarly, the nurses are provided with training in preceptorship, coaching, mentoring, and other forms of competency building within the institutional capacity. [Nursing Director, Hospital B]

DISCUSSION

There are also facilitators to amplify the collaboration. Many authors have concluded that the following facilitators include frequent communication and dialogue,[8-9] shared resources,[10] shared vision, goals, mission, trust, tact, respect, and commitment,[9] shared visionary and strong leadership,[8] mutual benefits[11]; involvement and empowerment of consumers,[12] shared decision making,[13] measures of success and administrative support[10]; clear accountability,[14] equality partners and risk-taking.[15]

Partnering. Academic and service institutions have responded to many issues facing the nursing profession. Through collaboration, it would create a firm foundation of achieving the goals in bridging the gap between theory and practice, increase involvement of both key implementers and stakeholders for strategic actions and reforms in nursing, and sustain the novelty contributions of nursing as a discipline to meet the local and global service needs. Partnering reflects the efforts to work together toward common goals that are often flexible. It is a process of social exchange grounded from sustaining forces of vision, creativity, persistence, determination, and tolerance for prudent risk-taking.[16]

Valuing. Valuing the partnerships between nursing education and nursing service is essential. Recognizing the value of either academic or service partners will strengthen the collaboration and strategic alliance that is developed through times. When a partnership is valued, academic and service will both have the hawk-eye to address issues, and identify possible solutions.[17-18] More academic and service institutions have recognized the value of collaborative partnerships.[19, 11, 14] Valuing the partnerships between academic and service is a response to facilitate a culture where evidence-based practice is intensified. The process of forming a partnership is dependent on the mutual benefits and interest of both education and service.[20] Furthermore, valuing partnership has increased the educational capacity and qualifications in the academic and clinical services, built evidence-based practice, increased opportunity for continuing education and staff development, student placement and employability and other outcomes both intended for student and school effective measures.[5]

Involving. Involving reflects the process of a dynamic exchange of ideas that would facilitate in addressing the issues and concerns about the goals of bridging the gap, preparing the graduates to become locally and globally equipped with knowledge, skills, and attitudes. In academic and service partnerships, the initial expectation was that nurse educator acts as a bridge connecting nursing faculty and clinical environments, facilitating the theory–practice exchange.[2-3] The new responsibilities of nurse educators include mentoring

and supporting clinical nurses who were acting as clinical tutors [1,6] and nursing practice development, and clinical research.[1] The shared responsibility allows faculty the opportunity to participate in the direct supervision of students in a clinical setting for a period that is compatible with other faculty demands.[21] The involvement of a staff nurse in partnership with the faculty member exposes students equally to a staff nurse and faculty member. However, in most reports, the main responsibility for planning and implementing clinical education rested with the academic member of the team.[2,4]

Harmonizing. When value and involvement partnership is integrated, it facilitates shared planning, creates current structures and framework for cooperation between the two institutes and attaining mutual benefits.[20] Harmonizing the activities between academic and service institutions can be done through the involvement of time and commitment that may lead to a blueprint and a plan of action.[6] Academic and service partnerships, when established in harmony, would result to an enhanced relationship between the service and the education partner; an increased pipeline of potential registered nurse applicants to the hospital partner; greater availability of masters prepared clinical faculty for use by the education partner to bridge the faculty gap; increased funding support to the educational partner to expand capacity; greater availability of clinical sites for the education partner; improved service-education collaborative research endeavors; and increased presence of the service partner in the academic environment.[22]

Collaborating. This process intensifies the strong linkages between partnering, valuing, involving and harmonizing for the academic and service partnerships. Collaboration reflects both academic and service institutions understanding that the delivery of quality academic nursing education programs requires both clinical expertise and a solid grounding in pedagogical science and theory.[6] Partnerships to be viable should develop cooperation, embrace common interests, share responsibilities, and privileges. Collaboration requires networking as the most significant contributor to success followed by the leadership of credibility, and a captivated vision.[23] Partnerships enable parties to work together toward definitive tasks with shared risks, responsibilities, and resources, thus, minimizes segregation of vision and resources.[24]

Sustaining. The last prevailing theme that emerged in this study was sustaining. Sustaining refers to the continuous progress of the academic and service institutions partnership grounded on the collaborative effort tested by times. It surpasses the technological advances, innovation, globalization and other constraints. Service learning along with a sustainable partnership implementation, it will further enhances trust and respect, collaboration, competence, capacity building, commitment, and shared efforts are integral components of the implementation.[25] Partnership just like nurses are often affected changes to the organization of health systems, advancements in health technologies, and the evolution of health care professions affect what health care professionals do, the nature of the environment in which they work and how they perceive their role.[26-27] Similarly, academic and service institutions have been affected by these factors together with lack of resources[19], conflicts of power and control[28], infrastructure issues and lack of management support[29], administrative and legal differences.[15]

CONCLUSION

Despite difficulties that both academic and service institutions may face in the long run, the future still lies on the hands of collaborative efforts among the nursing administrators, faculty, clinical staff, and not to forget the students. One important key strategy in sustaining partnership and found in the purview of literature is the commitment to coalesce with genuine compassion, and confidence. Hence, partnership that is strategically founded will be realized and sustained.

Conflict of Interest: There was no conflict of interest.

Ethical Clearance: Institutional review board from the university was contacted in order to ensure compliance.

Source of Funding: Self

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Prevalence of Musculoskeletal Disorders among Staff Nurses

Samruddhi Suresh Bhakare

Asst. Professor, Sadhu Vaswani College of Nursing, Pune

ABSTRACT

Nursing is a healthcare profession focused on the detail-oriented care of individuals; she cares for her client from basic triage care to assistance in serious trauma care and surgery. She spends maximum part of her life in the service of mankind. At the same time she also becomes prone to work related health problems which can be physical and psychological in nature, one of common physical problems is musculoskeletal disorders

Musculoskeletal disorders i.e. MSDs are commonly seen among health care workers. MSDs are reported to significantly impact quality of life and many more drawbacks too. Nurses routinely perform heavy tasks of lifting and shifting her clients, which put her at high risk for acute and cumulative MSDs.

Aim: The aim of the study is to assess the prevalence of Musculoskeletal disorders among staff nurses.

Method: A quantitative approach with descriptive design. Data was collected by self-reported Questionnaire from 100 samples selected by purposive sampling technique.

Results: Related to assess prevalence of Musculoskeletal Disorders: Majority of the nurses (68%) were suffering from Musculoskeletal Disorders. There is an increased prevalence of Musculoskeletal Disorders as most of nurses were suffering from Back muscle strain (37%) following spondylitis (10%), neck tension syndrome (8%), ligament tear/strain (6%), prolapse of intervertebral disc (2%), sciatica (2%), tendonitis (2%) and carpel tunnel syndrome (1%). MSDs is significantly associated with demographic variables, Musculoskeletal Disorders are seen mostly in staff nurses aged 40-59 years (55%). Prevalence of MSDs are more in staff nurses (82%) than in sister-in-charges (18%).Nurses working in shift duties of 60 hours and nurses doing general duty of 48 hours are seen to have Musculoskeletal problems 38% and 62% respectively. Back muscle strain is the most commonly seen musculoskeletal Disorder.

Conclusion: This study concluded that increased prevalence of MSDs are present among nurses. From a total of 100 samples, 68% of them suffer from various musculoskeletal disorders; most of the nurses were suffering from back muscle strains. Prevention strategies such as education and awareness on proper body mechanics, relaxation and ergonomic advice can treat the musculoskeletal disorders and help to maintain healthy nurses caring for her clients.

Keywords: *Nurses, shift duty, Musculoskeletal disorders, Ergonomics, Back muscle strain.*

BACKGROUND

Nursing is a healthcare profession focused on the detail-oriented care of individuals, means she assesses, plans, implements and evaluates care independently and typically provides anything from basic triage care to assistance in serious trauma care and surgery. A professionally registered nurse begins his/her career at the age of 21-22 years up to the age of 58-60 years, a span of 36-38 work years. He/she spends the maximum part of his/her life in the service of mankind. He/she receives credit for the healing touch, caring smile and gentle care. But at the same time she also becomes prone to work related health problems which can be physical and psychological in nature, one of physical problems commonly is musculoskeletal disorders like back pain,

leg pain, neck pain etc[1].

Pain is the number one symptom or complaints that causes people to seek health care and leading cause of low productivity at work[2].

Musculoskeletal disorders i.e. MSDs are commonly seen among health care workers, with the nursing population that constitutes about 33% of the hospital workforce particularly at high risk and accounting of 60% of the reported occupational injuries[3].MSDs are reported to significantly impact quality of life, causes loss of work restriction , transfer to another job or disability than any group of diseases with the considerable economic toll on the individual, organization and the society as a whole. Repetitive movement, awkward postures and high force level are the three primary risk factors that have been associated with MSDs[4]. Nurses routinely perform activities that require lifting heavy loads, lifting patients, working in awkward postures , and transferring patients out of bed , from the floor . These work tasks put nurses at high risk for acute and cumulative MSDs.

Need of the Study: Musculoskeletal disorders have become increasingly common worldwide during the past decades. It is a common cause of work-related disability among workers, with substantial financial consequences due to workers compensation and medical expenses[5]. Various work-related factors have been established as predisposing the disorders like frequent heavy lifting and awkward back postures for back pain, repetitiveness for neck and shoulder disorders, and psychosocial stressors for back, neck, and shoulder complaints.

The Bureau Of Labour Statistics recently reported that MSDs were the most common type of nonfatal injury or illness reported by nearly 80,0000 nursing, psychiatric, and home health aids from 1995 to 2004[6].

According to American Nursing Association (2010) the occurrence of musculoskeletal injuries may have a profoundly discouraging effect on the current nursing shortage in light of an aging nursing work force . ANA determined one of the major reason nurse leave health care job because of MSD. ANA emphasized that nurses have right to safe work environment which includes handling and moving patients without the risk of debilitating injury . These injuries usually occur on shoulder , neck , hand , and lower back . This can be reduced as Ergonomic injury cost health care organization millions of dollars each year[7] .

Musculoskeletal conditions are an increasingly common problem across the globe due to increased longevity and increased exposure to risk factors of physical activities. The increase is predicted to be greatest in developing countries, and there is thus an urgent need for the implementation of strategies and policies that will prevent and control these conditions[8]. Changing people's behavior is a challenge; targeting those at highest risk is potentially more effective, providing that there are both affordable ways of identifying those at risk and affordable interventions. The key strategy is to raise awareness among the health professionals, their policy makers and public of the importance of musculoskeletal health, of what can be achieved by prevention and treatment, and to ensure that policies reflect this. It is also necessary to educate the health-care workers to recognize the early signs of musculoskeletal conditions and the public to know when to seek care.

MSDs represent the occupational problem among nurses , however the data on musculoskeletal health of nurses in India are sparse . This study sought to determine prevalence of MSDs among nurses associated job risk factors and the coping strategies towards reducing the risk .

Once knowledge and awareness is aroused in staff nurses , there will be possibility of decreased MSDs .

Statement of Problem: *"A study to assess prevalence of musculoskeletal disorders among staff nurses in selected hospitals of Pune city."*

Objectives:

- To assess symptoms of musculoskeletal disorders in staff nurses.
- To assess common musculoskeletal disorders in staff nurses.
- To associate prevalence of musculoskeletal disorders with demographic variables.

Operational definition: Musculoskeletal disorders**:** Musculoskeletal disorders (MSDs) are inflammatory

and degenerative conditions that affects the muscles , tendons , ligaments , cartilage , spinal discs , joints or peripheral nerves , usually leading to ache , pain or discomfort.

Assumption: i. There may be increased prevalence of musculoskeletal disorders among nurses.

ii. The prevalence of MSDs among nurses may have relation with demographic variables.

Hypothesis: Ho: There is no association of prevalance of MSDs with demographic variables.

METHODOLOGY

Research approach: Quantitative approach

Research design: The researcher has adopted a descriptive research design to assess the prevalence of musculoskeletal disorder among staff nurses in selected hospitals in Pune city .

Setting of the study: Selected hospitals in Pune.

Population: Staff nurses of selected hospitals in Pune city .

Sample : 100 Staff nurses in selected hospitals of Pune city .

Sampling technique: Non probability purposive sampling technique is used for the present study.

Sampling criteria -

Inclusion criteria:

- Nurses who are working in hospitals and nursing homes.
- Nurses who have 5 or more than 5 years of working experience .
- Nurses who are willing to participate in the study .

Exclusion criteria:

- Nurses working in community setting.
- Nurses working in administration departments.
- Nurses working in teaching institutes.
- Nurses having less than 5 years of working experience .

Development of tool: The structure questionnaire self -reported was prepared for assessing the prevalence of MSDs among staff nurses.

Description of tool:

Section I : Demographic data which includes age, gender , body mass index , designation in nursing , work status in last 12 months , Number of hours per week spent in direct patient care in last 12 months, year of experience, practice setting .

Section II: 15 Questions related to general health and medical history of staff nurses.

Section III : 67 Questions to assess for musculoskeletal symptoms among nurses.

Validity and Reliability of the Tool: For the content validity of the tool it was assessed by 10 experts i.e from orthopedics specialty, medical surgical nursing etc. The tool was found to be valid. Reliability was done by test-retest method, r = 0.949. Pilot study was done to find the feasibility of the study. The subjects included in this pilot study are marked for exclusion in the final study .

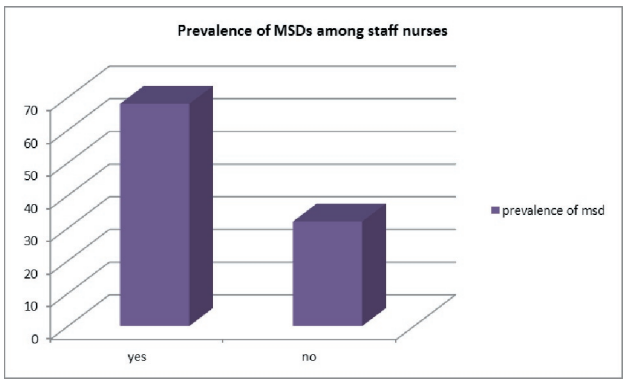
Data collection procedure: Formal written permission was taken from Medical and Nursing Superintendent of the selected hospital. Approval from the Ethical committee was obtained. Informed, written, valid consent taken from participants.

Data Analysis: The gathered data were analyzed and interpreted in the light of objectives. Section I and Section II included Descriptive statistics described in percentage. Section III- Inferential statistics by Chi-square calculation to find out the association of prevalence of MSDs with demographic variables.

Results: Section I Table 1: Analysis of demographic data

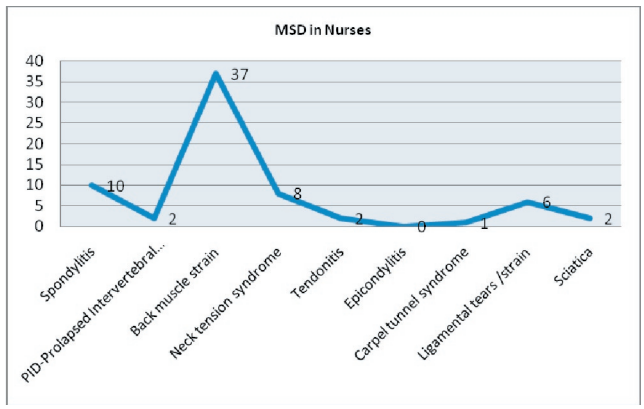
Demographic variable	Categories	Frequency	Percentage
Age	20 -29	23	23%
	30-39	27	27%
	40-49	32	32%
	>50	18	18%
Gender	Male	2	2%
	Female	98	98%
BMI	< 18.5	7	7%
	18.5 - 24.9	50	50%
	25 - 29.9	29	29%
	> 30	14	14%
Designation in nursing	Staff nurse	82	82%
	Sister in charge	18	18%
Work status in last 12 months	General duty	38	38%
	Shift duty	62	62%
No. of hours per week spent in direct patient care	48 hrs @8 hrs / day	38	38%
	60 hrs @12 hrs /day for 3 days	62	62%
Years of experience	5 -10 years	20	20%
	10.1 -15 years	28	28%
	>15 years	52	52%
Practice setting	General ward	45	45%
	ICU	18	18%
	OT	16	16%
	OPD	21	21%

Section II :- Analysis to assess prevalence of MSDs among staff nurses.



Graph 1: Showing nurses suffering from MSDs.

Section III :-Analysis to assess common MSD among staff nurses.



Graph 2: Showing majority of the nurses were suffering from back muscle strain.

SECTION IV

Table 2: Analysis to associate prevalence of MSDs with demographic variable

Variable	Category	Prevalence rate	Common MSDs (BMS)	Calculated Chi Sq Value	Tabulated Chi Sq Value
AGE	20 -39	30	5	0.02	0.87
	40 - 59	38	7		
DESIGNATION IN NURSING	Staff nurse	56	5	5.35	0.02
	Sister in charge	12	5		
WORK STATUS	General duty	29	6	0.00	1.33
	Shift duty	39	8		
HOURS OF WORK	48 HRS	29	5	0.04	0.98
	60 HRS	39	7		
YEARS OF EXPERIENCE	5 - 15 years	25	6	0.75	0.38
	>15 years	43	10		

From the above summary table it is clear that demographic variables such as age , work status and hours of works have significant association with prevalence of common MSDs, i.e Back Muscle strain

DISCUSSION

- Maximum samples were from the age group of 40-49 years (32%)
- Majority female nurses (98%) than males (2%) participated in the study.
- Majority of the nurses has Body Mass Index ranging from 18.5 to 24.9 (50 %), which is normal.
- Majority of the participants (82%) were staff nurses than sister-in charges (18%)
- Shift duty nurses (62%) are working 60 hours per week, were more as compared to general duty nurses (38%) working 48 hours.
- Majority of the staff nurses with experience of more than 15 years (52%).
- General wards nurses were more in study (45%) as compared to other departments staff nurses.

Data analysis related to assess prevalence of musculoskeletal disorders:

- Majority of the nurse (68%) were suffering from MSDs- Musculoskeletal disorders. There is an increased prevalence of MSDs among staff nurses.

Data analysis related to assess common musculoskeletal disorders:

- Most of the nurses were suffering from back muscle strains (37%), following spondylitis (10%), neck tension syndrome(8%), ligament tear(6%), prolapse of Intervetbral discs (2%), sciatica (2%), tendonitis (2%) and carpel tunnel syndrome (1%).

Data analysis to determine association between prevalence of musculoskeletal disorders and demographic variables:

Chi Square test applied to find out the association of demographic variables with Musculoskeletal disorders.

- Calculated value is 0.025, tabulated value is 0.87, since tabulated value is greater than calculated value this rejects the null hypothesis and indicates association of age with common MSD at $p < 0.05$ level of significance.
- Calculated value is 5.35, tabulated value is 0.02, since tabulated value is less than calculated value this accepts the null hypothesis and indicates no association of designation in nursing with common MSD.

- Calculated value is 0.00, tabulated value is 1.33, since tabulated value is greater than calculated value this rejects the null hypothesis and indicates association of work status of nurses with common MSD.

- Calculated value is 0.004, tabulated value is 0.918, since tabulated value is greater than calculated value this rejects the null hypothesis and indicates association of hours of work of nurses with common MSD.

- Calculated value is 0.75, tabulated value is 0.38, since tabulated value is less than calculated value this accepts the null hypothesis and indicates no association of years of experience of nurses with common MSD.

DISCUSSION

The findings of the study have been discussed with reference to the objectives and hypothesis and with findings of other studies.

A descriptive study on work related MSDs among hospital nurses conducted by Sorayamma (2013) concluded that 81 % samples among a total of 250 samples reported that they had experienced work related Musculoskeletal symptoms like pain or discomfort in their occupation lives. The respondents reported a 12 month prevalence rate of work related MSDs at any body region to be 81%. This study found a high prevalence of MSDs among nurses especially at the body region such as lower back, shoulder, neck and knee[9].

A descriptive study aimed at finding out prevalence of MSDs among nurses in two teaching hospitals, Jafar H et al (2013). The results of the study showed that there was a high prevalence rate of MSDs among nurses. Back muscle strain MSDs were common among nurses, MSDs were prevalent in age groups of 26-31, 50 years and above. MSDs disorders was found to be prevalent in male nurses than in female nurses, while it was observed that MSDs was more prevalent in nurses working in Operation theaters and medical wards[10].

CONCLUSION

To conclude with the help of above findings this study provides us with evidence that increased prevalence of MSDs are present among nurses. From a total of 100 samples, 68% of them suffers from various musculoskeletal disorders, which show high prevalence of MSDs among nurses. Most of the nurses were suffering from back muscle strains. Prevention strategies such as education on proper body mechanics, training on ergonomics, on proper lifting and transfer techniques may be helpful. Physiotherapy interventions like spinal muscle strengthening, lower and upper limb exercises, relaxation and ergonomic advice can treat the musculoskeletal disorders.

Source of Funding: Self

Conflict of Interest: Nil

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A Study to Assess the Knowledge and Practice of Mothers in Care of Newborn Receiving Phototherapy in a Selected Hospital, Kochi

Mahima Mary Punnen[1], Anila K P[2], S Deepa[3]

[1]Postgraduate Nursing Student, [2]Professor [3]Lecturer, Department of Child Health Nursing, Amrita College of Nursing, Amrita Institute of Medical Sciences, AMRITA Vishwavidyapeetham University, Health Sciences Campus, Kochi, Kerala

ABSTRACT

Background: Newborn period is the crucial period of life. Newborn undergo many profound physiological changes at birth. Hyperbilirubinemia is a common problem for term and preterm newborns around the world.

Objective: objectives of the study were to determine the level of knowledge and practice of mothers in care of newborn receiving phototherapy. Also to find out the relationship between level of knowledge and practice.

Materials and method: A quantitative descriptive study was done among 50 mothers of newborn receiving phototherapy. The data were collected by using structured questionnaires on knowledge and self reported practice checklist on care of newborn receiving phototherapy.

Results: The study findings revealed that, 36(72%) of the mothers had average knowledge and 8(16%) had good knowledge and 6(12%) had poor knowledge on care of newborn receiving phototherapy. Among the subjects 40(80%) of mothers had average practice and 10(20%) had good practice in care of new born receining phototherapy. There was a positive correlation (r=0.819, p=0.01) found between level of knowledge and practice of mothers incare of newborn receiving phototherapy

Conclusion: Phototherapy is a primary treatment for reducing the bilirubin levels that cause jaundice in premature and newborn babies. Mothers should be aware and special care to be given for newborns receiving phototherapy, to prevent many complications.

Keywords: *mothers, newborn, phototherapy, knowledge, practice.*

INTRODUCTION

Newborn period is the crucial period of life. Newborn undergo many profound physiological changes at birth .Neonatal hyperbilirubinemia resulting in clinical jaundice is a common problem among infants particularly during the first week of life. Hyperbilirubinemia can be managed by exclusive breastfeeding and phototherapy. Internationally overall detected rate of hyperbilirubinemia (bilirubin >5 mg/dl) among 1690 newborns was 39.7/1000 live births. Rate of plasma bilirubin levels in the range of 15-20 mg/dl was 13/1000 live births; levels >20 mg/dl were observed in 3.5/1000 live births. In India hyperbilirubinemia is a common problem and have the incidence of 70-80% among newborns.[1]

Corresponding author :
Anila K.P
Professor, Amrita College of Nursing, Amrita Institute of Medical Sciences, AMRITA Vishwavidyapeetham University, Health Sciences Campus,Kochi-41, Kerala
Email id: anilakp@aims.amrita.edu
Contact no.09447409895

Physiological jaundice of the term newborn usually appears after 30 hrs. Peak level of serum bilirubin (a maximum of 12mg/dl) is reached on the 4th or 5th day and icterus disappears by 7 to 14 days. In premature babies maximum bilirubin level reaches 12 to 15mg/dl on 5th to 7th day and icterus disappears by 14 days to a month.[2]

Khalesi N and Rakhshani F conducted a cross sectional study to determine the knowledge, attitude and behaviour of mothers on neonatal jaundice among 400 subjects in Iran. The mean of knowledge score was 7.25±2.1 out of 13.5. Although knowledge of mothers about diagnostic methods was acceptable, it was not sufficient about causes, complications, harmful symptoms and prevention of the disease. The mean of attitude score was 18.5±3.7 out of 25. The mean of behaviour score was 6.8±2.3 out of 10.5. Knowledge had a significant association with history of neonatal jaundice (p=0.033), mother's age (p<0.001), and child's birth rank (p=0.001). There was also a significant association between mother's attitude and their educational level (p<0.001). Results showed a direct correlation between knowledge, attitude and behaviour (P<0.001). The study concluded that the increasing mothers' knowledge about jaundice of neonates can be the first step to enhance healthy behaviours; through education programmes during pregnancy.[3]

Rabiyeepoor S, Gheibi S and Jafari S conducted a descriptive-analytical study to determine knowledge and attitude on neonatal jaundice among 200 postnatal mothers in Motahari Hospital, Urmia,Iran.The mean knowledge score was 6.65 (SD=3.5) out of 15 and the mean attitude score was 25.9 (SD=4.48) out of 35. The knowledge of mothers on causes, treatment and complications of neonatal jaundice was not adequate. Knowledge and attitude scores were correlated with the past experiences of neonatal jaundice and educational levels. Conclusion: There are still misconceptions on the risk factors, treatments and complications of neonatal jaundice among mothers. Special educational programs are needed to increase the awareness of mothers.[4]

Care of newborn is very essential for preventing many complications thereby save the life of a newborn. Hyperbilirubinemia and complications of phototherapy may lead to death of the newborn. If the mother is well aware about the care of newborns receiving phototherapy, she can protect her baby from occurrence of complications. The information obtained can be used to assist health care practitioners in designing educational programs to improve maternal knowledge of neonatal jaundice as well as the care of newborn undergoing phototherapy.

MATERIALS AND METHOD

Research design: A quantitative approach with descriptive design was used.

Sample and sample size: Mothers of newborn receiving phototherapy and who were available during data collection were included in the study. The sample size was 50.

Research settings: Maternity wards of a selected hospital, Kochi.

Data collection instruments

Tool I: Semi structured questionnaire to assess the knowledge of mothers in care of newborn receiving phototherapy. It has two sections.

- **Section A: Socio demographic data:** Socio demographic data includes nine items regarding age, religion, family type and education of mother, occupation of mother, number of children, mode of present delivery, previous knowledge regarding phototherapy.
- **Section B: Structured knowledge questionnaire:** A structured questionnaire was used for assessing the knowledge of mothers in care of newborn receiving phototherapy. Twenty questions were included in the questionnaire. Each correct answer carries one mark and wrong answer carries zero mark. Maximum score is 20. The scores are categorized as:
  - Good Knowledge: 67-100%
  - Average knowledge: 34-66%
  - Poor Knowledge: <33%

2) Tool II: Self reported practice checklist

Self reported practice checklist was used for assessing the practice of mothers in care of newborn receiving phototherapy. Each correct answer carries one mark and wrong answer carries zero mark. Maximum score is 20. The scores are categorized as:

- Good Practice: 67-100%
- Average Practice: 34-66%
- Poor Practice: <33%

Validity and Reliability of the Tool

The validity index was found to be 0.9. The reliability of the tool was established by split half method (r=0.8).

Data analysis

The data were analyzed using descriptive and inferential statistics

Ethical consideration

Permission had been taken from the research committee of Amrita College of Nursing and Thesis Review Committee of AIMS, Kochi. Consent was obtained from the subjects.

RESULTS

Section I: Description of subject characteristics

Table 1: Distribution of subjects based on demographic characteristics n=50

Variable	Fre-quency	Percen-tage
Age in years		
20-30	41	82
31-40	9	18
Religion		
Hindu	22	44
Christian	18	36
Muslim	10	20
Family type		
Nuclear	37	74
Joint	13	26
Education of mother		
High school	8	16
Higher secondary	26	52
Degree	11	22
Post graduate	5	10
Occupation of mother		
House wife	39	78
Government employee	5	10
Private employee	3	6
Others	3	6
Number of children		
1	22	44
2	14	28
3	10	6
>3	4	8
Mode of present delivery		
Normal	24	48
Caesarean	26	52
Previous knowledge		
Yes	20	40
No	30	60

The data depicted in the table 1 shows that 41(82%) mothers were of age group 20-30 years, 9(18%) were 31-40years. Among mothers 37(74%) belongs to nuclear family and 13(26%) belongs to joint family and 26(52%) of mothers were educated up to higher secondary. Most of the mothers 39(78%) were housewives.

Section II - Description of knowledge of mothers in care of newborn receiving phototherapy

n=50

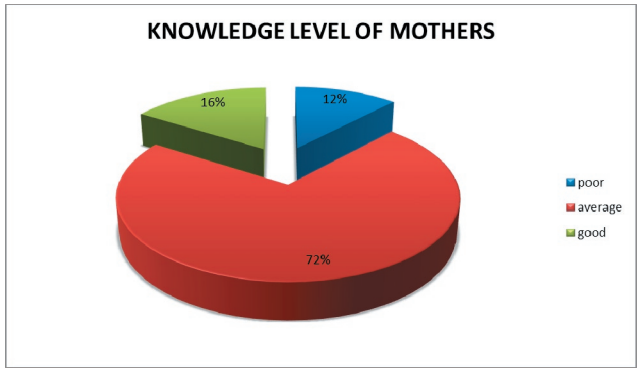

Figure 1: Pie diagram showing knowledge level of mothers

Figure 1 depicts that among 50 mothers of newborn receiving phototherapy, 36(72%) had average knowledge, 8(16%) had good knowledge and 6(12%) had poor knowledge in care of newborn receiving phototherapy.

Section III - Description of practice of mothers in care of newborn receiving phototherapy

n=50

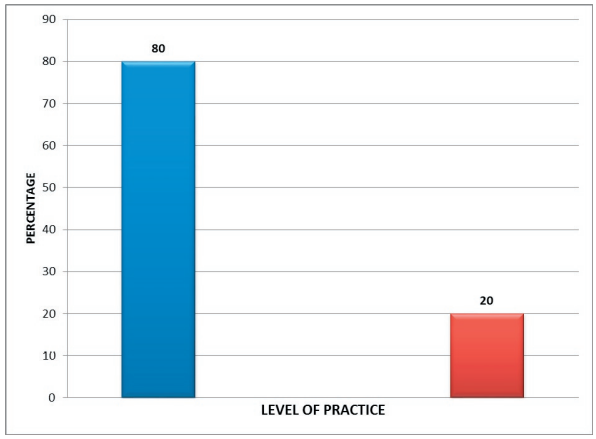

Figure 2: Bar diagram showing practice level of mothers

Figure 2 illustrates that among 50 mothers of newborn receiving phototherapy, 40(80%) had average practice and 10(20%) had good practice in care of newborn receiving phototherapy.

Table 2: Correlation between knowledge and practice score of mothers in care of newborn receiving phototherapy n=50

Variable	r value	p value
Knowledge score Practice score	0.819**	0.01

The data presented in table 2 explains that there is significant positive correlation between knowledge and practice of mothers in care of newborn receiving phototherapy. It can be interpreted that as the knowledge of mothers regarding care of newborn receiving phototherapy is good, they will have better practice.

DISCUSSION

The first objective was to determine the knowledge of mothers in care of newborn receiving phototherapy. Among 50 mothers of newborn receiving phototherapy, 36(72%) had average knowledge, 8(16%) had good knowledge and 6(12%) had poor knowledge in care of newborn receiving phototherapy. A similar study finding was reported by Yuen S, Chong S Y and Paeds M conducted on knowledge, attitude and practice of mothers regarding neonatal jaundice in Malaysia. Most mothers (93.9%) knew that phototherapy was an effective treatment for neonatal jaundice while 87 (43.9%) mothers mentioned both phototherapy and exchange transfusion. However 144 (72.7%), 111 (56.1%), 33 (16.7%), 55 (27.8%) and 28 (14.1%) erroneously thought that sunlight, goat's milk, drugs, herbal medicine and traditional healer respectively were effective treatment for neonatal jaundice. This study reveals that participants have some knowledge on various aspects of neonatal jaundice. However there are still many misconceptions on neonatal jaundice. Therefore it is important that more emphasis is made on educating mothers on this common but potentially serious condition.[5]

Juliana Iasmin de Souza Fernandes, Adriana Teixeira Reis, Cristiane Vanessa da Silva, Adriana Peixoto da Silva conducted a descriptive study, using a qualitative approach to find out the motherly challenges when facing neonatal phototherapy treatment conducted by interviewing 10 mothers whose babies experienced neonatal phototherapy. Mother's reactions towards phototherapy treatment represent mixed and ambivalent feelings. Since it is an uncontrollable situation for them, it causes pain, sadness, concern, guilt and a feeling of postponement regarding the return to their homes. Majority of them were having inadequate knowledge regarding phototherapy. Some of their verbatim such as "I don't know if it's burning","I wonder if he is going to get darker on only one side of his body?" "I keep thinking 'is it hurting?'" etc. reveal their lack of knowledge.[6] These findings are in par with the present study findings were only 12% had good knowledge regarding care of new born receiving phototherapy and remaining 88% had average to poor knowledge regarding care of new born receiving phototherapy.

CONCLUSION

The study findings showed that most of the mothers had average knowledge and practice in care of newborn receiving phototherapy. This indicates an urgent need to educate mothers regarding care of new born receiving phototherapy and thereby preventing the complications of neonatal jaundice such as bilirubin encephalopathy.

Conflicts of Interest: Nil

Source of Funding: Self

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Introduction of Competency based Learning in Fourth Year BSc Nursing Student

Manisha Kadam

Professor, Sadhu Vaswani College of Nursing, Pune

ABSTRACT

Competency-based education is a framework for designing and implementing education that focuses on the desired performance characteristics of health care professionals. Present study is aimed to assess the confidence of final-year student's bachelor's programmes, in their skills in intrapartum from the list of midwifery competencies of the ICM. **Overall goal is to** facilitate consistent standard practice and make competent to work during clinical experience in final year BSc Nursing Student. The Quasi Experimental Research one group pre test post test Design is selected for the study at Sadhu Vaswani College of Nursing. A total 20 final year BSc Nursing students were selected for study. Informed consent considered for all subjects. The main study tools were self administered questionnaire, attitude scale and observational checklist to assess knowledge, attitude and practices on per vaginal examination.Intervention was given by Lecture & Demo. & Redemo, on per vaginal examination. Post test was conducted on knowledge, attitude and core competencies immediate after intervention. Students were divided in Group for session. The result shows that knowledge score in the present study that 13 students (65%) out of 20 showed an poor knowledge whereas 7 students (35%) out of 20 showed a good knowledge on per vaginal examination in pre test whereas after Competency based learning on per vaginal examination 17 student out of 20 showed excellent knowledge score whereas 3 students (15 %) out of 20 showed good knowledge score. There is no much difference observed in attitudes after competency based learning. When skills are assessed for per vaginal examination, result found that only 20% students able to perform examination of vagina before competency based learning which is improved by 100 % after post test. There are also poor skills observed in examination of cervix and pelvis assessment which is seen improved 70 % in post test. Pelvis assessment skills scored 20% in pre test which is poor. This is improved after competency based education by 90 %.

Keywords – *Competency based learning, per vaginal examination, health care profession, Final year BSc Nursing student.*

INTRODUCTION AND BACKGROUND OF STUDY

Skilled birth attendance (including midwifery) is crucial to saving lives and promoting health of women and newborn infants. Some studies seem to assume that the midwifery workforce across countries has uniform competence, scope of practice, and identity, which is regrettably not the case. Basic or core sets of competencies are needed to achieve the results described in these studies.[1]

The International Confederation of Midwives (ICM) provides a list of the basic competencies expected from a pre-service midwifery education to qualify as a midwife, within the scope of practice defined by the ICM. The ICM recommends at least 18 months of midwifery education post-nursing or 3 years of direct entry education to achieve these sets of competencies. There are many pathways to midwifery found across countries: a direct entry curriculum, post-registration (nursing) curriculum, or embedded within a nursing curriculum.[4]

India follows the integrated education pathway, having two formal pre-service education programmes for nursing and midwifery implemented across the country: a 3.5-year vocational training awarding a diploma by the schools of nursing and a university-based 4-year

programme awarding a bachelor's degree by the nursing colleges. The time allotted to midwifery in both these programmes is about 11–19%. All the graduates get a joint registration as registered nurse (RN) and registered midwife (RM). They get absorbed as general staff nurses in hospitals, expected to provide care under any medical speciality, one of them being maternity care.[5]

Competence is, on the other hand, 'the ability to do something successfully or efficiently'. Poor performance and lack of confidence among newly qualified nurses was found to be a direct consequence of pre-registration programmes, lacking practice-based training. According to Bandura, confidence is the strength of self-efficacy. Norman and colleagues found a number of factors which facilitated confidence, many of which emphasize student–teacher relationships, such as learning, experiencing, and achieving; feeling secure and receiving positive feedback; familiarity and receiving support and encouragement; working with staff at the teaching practice placement; and being treated well.[2]

Self-efficacy' or self-regulation is an important attribute of competency, having three dimensions: confidence, level (magnitude, or difficulty of tasks the individuals think they can perform), and generalizability (extent of transfer to other areas of functioning). When applied to the midwife, confidence would concern task performance and perseverance when confronting difficulties and setbacks in the work situations. Butler et al. identified 'being a safe practitioner' as one of the essential competencies required of a midwife at the point of registration. Being a safe practitioner included the ability to detect deviations and take appropriate action, and respond to emergency situations.[5]

Fang-qin Wu et al conducted study on Application of nursing core competency standard education in the training of nursing undergraduates. The purpose of study was to evaluate the effectiveness of nursing core competency standard education in undergraduate nursing training. Teaching outcomes were evaluated using comprehensive theoretical knowledge examination and objective structured clinical examination. Result showed that the performance in the health information collection, physical assessment, scenario simulation and communication in the experimental group were significantly higher than those of the control group ($p < 0.05$). The study concluded that nursing core competency standard education is helpful for the training of nursing students' core competencies.[6]

Neeraj Agrawal, et al conducted study on Effectiveness of virtual classroom training in improving the knowledge and key maternal neonatal health skills of general nurse midwifery students in Bihar, India: The objective of the were to evaluate the effectiveness of virtual classroom training in improving the MNH-related skills of the nursing-midwifery students. This study used a pre- and post-intervention design without a control group. The result of the study showed mean student score assessed before the intervention was 21.3 (95% CI, 19.9–22.6), which increased to 62.0 (95% CI, 60.3–63.7) post-intervention. This difference was statistically significant. When adjusted for clustering using linear regression analysis, the students in post-intervention scored 52.3 (95% CI, 49.4%–55.3%) percentage points higher than pre-intervention, and this were statistically significant. The study recommended that Virtual classroom training was found to be effective in improving knowledge and key MNH skills of GNM students in Bihar, India.[7]

Given the facts that midwifery is part of nursing in India with much less duration than what is internationally recommended, we assumed that measuring confidence would partly reflect the quality of the teaching–learning experience the midwifery educational institutions are able to provide to their students and could also partially help to assess their fitness to practice as confident and competent midwives, post-registration.[3]

This study aimed to assess the confidence of final-year student's bachelor's programmes, in their skills in intrapartum from the list of midwifery competencies of the ICM.

Problem statement:

To assess the Effect of competency based learning regarding per vaginal examination in fourth year BSc Nursing student

Overall goal

To facilitate consistent standard practice and make competent to work during clinical experience in final year BSc Nursing Student.

OBJECTIVE OF THE STUDY

1. To assess the knowledge before and after the competency based learning

2. To determine the skills before and after the competency based learning

3. To Assess the attitude before and after competency based learning

4. To find out the effectiveness of competency based learning on per vaginal examination

Hypothesis

Hi - The mean post-test knowledge, attitude and core competency score of subject exposure to competency based learning on per vaginal examination will be significantly higher than the mean pre-test score on knowledge, attitude and core competency score per vaginal examination

Assumption

The study assumes that:

The student will have some knowledge regarding per vaginal examination

Students will be improved in their skills after competency based learning regarding per vaginal examination

Inclusion criteria

Final year BSc nursing Student who are going to post for maternity internship post

Student those who are willing to participate in the study

MATERIALS AND METHOD

Research Approach: Quasi Experimental Research Design

Study Design: One group Pretest - Post test design

Investigator observed the group prior to the intervention on Knowledge attitude and core competencies on per vaginal examination

Intervention – Lecture & Demo. & Redemo. On assessment of per vaginal examination was administered to the same group and the Post test is conducted on knowledge, attitude and core competencies immediate after intervention

Study settling: the study is conducted in selected Nursing Colleges in Pune city.

Variable

Independent variable - Core competency regarding per vaginal examination

Dependent variable – Knowledge, attitude and core competency of the final year student

Population: BSc Nursing student

Samples – Final year Basic BSc Nursing students who is planned to post for maternity internship posting

Sampling Method – Purposive Sampling Method

Sample size: Total 20 students, volunteered for the study. All 20 students are in fourth year BSc nursing waiting for their internship posting.

Data collection instrument: In this study data was collected by structured knowledge questionnaire, attitude scale and observation checklist on per vaginal examination based on review of literature and discussion with experts.

Part I – Structured knowledge questionnaire on per vaginal examination

Part II – Attitude scale on per vaginal examination

Part III – Observation checklist of per vaginal examination

Ethical Clearance-

1. The study was approved by the Sadhu Vaswani College of nursing Research and Ethical committee.

2. A written informed consent of all students was taken after explaining them the purpose of the study. All the students were assured that their willingness or unwillingness to participate in the present study to be conducted

3. Students were divided in Group for session

4**.** Explanation and Demonstration is done followed by pretest.

The study was conducted in two sessions:

Session 1

Pre test is conducted on knowledge attitude and skill on per vaginal examination. The topic i.e. Per vaginal examination was taught by the lecture method.

Session 2

The Competency based learning process was explained to all students. All students were divided into two groups for demonstration of per vaginal examination. After it students are allowed to practice with each other and post test is conducted on same day.

Analysis of data is done by descriptive and inferential statistics.

OBSERVATION AND RESULTS

The data is analyzed and presented under following session

Section 1: Determine the pre test and post test knowledge score regarding per vaginal examination

Section 2: Determine the pre test and post test attitude score regarding per vaginal examination

Section 3: Determine the pre test and post test Practice score regarding per vaginal examination

Section 4: Analysis of effectiveness of competency based learning regarding per vaginal examination

Section 1: Assessment of pre test and post test knowledge score regarding per vaginal examination

Table 1: Assessment of Knowledge score in the study group (N=20)

Knowledge score	No of students (f) (Pre test)	%	No of students (Post test)	%
(Poor) 0 - 5	13	65	0	0
(Good) 5-7	7	35	3	15
(Excellent) 7-10	0	0	17	85
Total	20	100		100

Section 2: Assessment of pre test and post test attitude score regarding per vaginal examination

Table 2: Comparison of pre test and post test attitude score regarding per vaginal examination

N =20

Attitude Score	No of students Score (Pre test) %	No of students score (Post test) %
I believe this helps me to take initiative to perform per vaginal examination	88	92
I feel this method should used to learn all skills	85	87
It is essential for all health professionals to be able to use competency based learning in clinical procedures	81	87
I am satisfied with the amount of teaching and demonstration I have received.	84	84
This helps to improve communication and recording updated	92	92
Total		

Section 3: Analysis of pre test and post test Practice score regarding per vaginal examination

Table 3. Comparison of pre test and post test Practices score of students on Per vaginal Examination

N =20

Sr. No	Step/Task	No of students Score correct practices (Pre test) (f)	%	No of students score correct practices (Post test)(f)	%
1	Self Preparation and patient preparation	20	100	20	100
2	Examining the vulva	20	100	20	100
3	Examining the vagina	4	20	20	100
4	Examining the Cervix	3	15	14	70
5	Assess pelvis	4	20	18	90
6	After care	16	80	20	100
7	Record all findings from the vaginal examination.	20	100	20	100

Section 4: Analysis of effectiveness of competency based learning regarding per vaginal examination

Table 4. Effectiveness of competency based learning on Per vaginal Examination in terms of knowledge attitude and practices

Variable		Mean	SD	Paired 't' test	df	Level of significance
Knowledge	Pre test	5.35	.812	-16.1	19	At 0.05 P value 0.0000
	Post test	8.50	.88			
Attitude	Pre test	4.35	.72	-.3269	19	At 0.05 P value 0.004036
	Post test	6.6	.04			
Practice	Pre test	4.35	.81	-11.828	19	At 0.05 P value 0.0000
	Post test	6.60	.502			

DISCUSSION

Table 1 shows Assessment of pre test and post test knowledge score regarding per vaginal examination. It is evident that 13 students (65%) out of 20 showed a poor knowledge whereas 7 students (35%) out of 20 showed a good knowledge on per vaginal examination in pre test, after Competency based learning on per vaginal examination 17 student out of 20 showed excellent knowledge score whereas 3 students (15 %) out of 20 showed good knowledge score.

Table 2 depicts the pre test and post test attitude score regarding per vaginal examination.

When assessed for attitudes overall, the results were same after competency based learning. The student felt there is need of competency based learning for clinical procedure.

Table 3 shows Comparison of pre test and post test Practices score of students on per vaginal Examination. When skills were assessed for per vaginal examination, it was found that only 20% students were able to perform examination of vagina before competency based learning which is improved by 100 % after post test. There are also poor skills observed in examination of cervix and pelvis assessment which is seen improved 70 % in post test. Pelvis assessment skills scored 20% in pre test which is poor. This is improved after competency based education by 90 %.

Table 4 Effectiveness of competency based learning on per vaginal Examination in terms of knowledge

attitude and practices. The pre test mean knowledge score was 4.35 and the post test mean was 6.60 with mean difference -2.25 with SD 0.81 and 0.502 respectively. The paired‘t’ test value was -11.828 at df= 19 at 0.05 level, shows significant increase in knowledge after competency based learning. The pre test attitude mean score was 21.5 and post test mean was 22.10 and SD was 1.147 and .91 respectively. The paired‘t’ test value was -3.269 at df = 19 significant at 0.05 level. Also pre test mean practice score was 5.35 with SD 0 .812 and post test was 8.50 with SD 0.88. The paired’t’ test value was -16.09 at df= 19 significant at 0.05 level. It is concluded that the competency based learning was considerably effective in increasing the knowledge, attitude and practices on per vaginal examination.

CONCLUSION

Competency based learning would be an innovative method for teaching student in safe environment before exposing them in actual clinical area. The early practical experience would be closely combined with conceptual explanations of what was done, in an environment where students develop some confidence to start the journey towards competence. The present study has shown that the performance of students was better when they were taught by competency based learning. The study also shows that competency based learning enhances learning process and improves skill capacity of the students for per vaginal examination. This helps them to increase their confidence and interest to practice independently in clinical area.

The health-professions in the 21st century should increase their accountability to society for improving health. Education systems can improve the efficiency and effectiveness of their mission through competency-based learning and a focus on the performance requirements for all health professionals.

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Conflict of Interest - Nil

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The Self Assessed Clinical Judgment Competencies of Newly Graduated Nurses Post Internship in Kenya

Wachira Serah[1], Mageto Irene[2], Mapesa Job[3]

[1]Department of Nursing, Daystar University, P.O Box 44400- 00100 Nairobi,[2]Department of Nursing, University of Nairobi, [3]Department of Nutrition, Kenya Methodist University, P.O. Box, 45420- 00100 Nairobi

ABSTRACT

Aim: The purpose of this study was to determine the self assessed clinical judgment competencies of new graduates post internship in Kenya as a way of evaluating whether the internship program is adequate in assisting the new nurse graduates become safe practitioners.

Background: Nursing is a practice discipline that requires theoretical knowledge to be translated into clinical practice; that is patient care. Educators, employers, and other stakeholders have raised concern that new nurse graduates are not competent to offer safe patient care even after one year of internship. In order to promote patient safety there is need to evaluate the ability of the nurses in order to identify gaps in training.

Method: The research design was descriptive cross sectional. Data was collected using structured self - assessment electronic data collection tool. This was administered to the respondent's via a web link. The study population was 183 new nurse graduates who had completed their internship program and had been licensed by the Nursing Council of Kenya between January 2011 and October 2013.The sampling was done using stratified random sampling with clusters based on the university where they did their undergraduate training. Statistical Package for Social Sciences (SPSS) version 17 was used to analyze the data.

Results: The results showed that new nurse graduate's competency is at advanced beginner level for the majority of the respondents with a very small percentage being competent in the aspects of clinical judgment.

Conclusion: From this finding it can be concluded that new nurse graduates who complete internship in Kenya have inadequate clinical judgment abilities and may require more assistance to develop these skills.

Keywords: *Nursing, competencies, new nurse graduates, clinical judgment, Kenya.*

BACKGROUND

Nurse graduates, are expected to have the ability to critically think and have the capability to make independent clinical decisions that will ensure patient safety[1,2] At the time of entering the workforce, new graduate nurses find that they have neither the practical expertise nor the confidence to practice in clinical environments [3]

According to Smith and Crawford[4], about 40% of new nurse graduates have been reported to make medication errors with 50% failing to recognize life-threatening complications. This is possibly due to the inability to translate classroom theory into practice. Whether the focus is on public officials, health care professionals, or educators, the expectation of accreditation organizations is that standards of acceptable performance will be adhered to and the public trust will be safeguarded[5]

Corresponding author:
Wachira Serah
Daystar University, Nairobi, Department of Nursing,
P.O BOX 7700-00100, Nairobi, Kenya.
Email: serahkiarie@gmail.com, Phone: +254722635468

Employers of nursing graduates assume that the nursing degree and the state licensing body certify competent performance[6]. The Joint Commission for Accreditation of health care Organizations (JCAHO) requires that clinical competence be assessed for all nursing staff and holds institutional leaders accountable for ensuring that competency of all staff is assessed, maintained, demonstrated, and continually improved[5].

The legal and financial implication of employee performance and safe practice in a rapidly changing practice environment makes continuing professional competency development concern health care providers. Del Buenos stressed the importance of assessing what employees can **do**, not what they **know**[7]. He further states that there is a commonly known gap between excellent test takers who have difficulty performing a procedure or recognizing warning signs in a patient experiencing difficulty. The increased complexity of the scope of practice for RNs requires a workforce that has the capacity to adapt to change. It requires critical thinking and problem solving skills and the ability to analyze and communicate data[8].Recent research has been focusing on assessing readiness for practice in order to identify deficiencies in knowledge and clinical practice in new nurse graduates[9,10] Determination of competencies aim to ensure that entry-level graduate registered nurses are able to provide safe, competent, ethical nursing care in today's realities and are well equipped with the knowledge and skills to adapt to changes in health care and nursing.

The competence and skills of new nurses following graduation should be subject to ongoing improvement and development through planned interactions with other professionals in their field of practice[11].Karahan *et al* concurs with Tabari-Khomeiran *et al* by further stating that determining the areas where newly employed nurses feel themselves to be insufficiently skilled is important for patient safety, cost reduction, and improving the quality of care[12]. The identification of areas of perceived weakness will help bachelor education in nursing to ensure that the education they provide meshes accurately with clinical needs. In addition, new nurses differ in the specific areas in which they feel themselves to be insufficiently prepared, and evaluation of specific competences allows the implementation of remedial training programs designed to meet the needs of individual. Given the array of individual differences in nursing performance, Del Buenos recommends that employers and educators assess competencies before assigning nurses to practice settings or advancing them in educational programs[7].

In Kenya, a nurse graduate undergoes one-year internship before being licensed as a professional nurse[13]. It is therefore expected that by this time, the nurse is competent to perform all the technical basic nursing skills, will demonstrate clinical judgment and a high level of professional practice. Kenya like other countries has had shortage of nurses, which has led to increasing number of new graduates in the practice environment who are required to take up more responsibilities than it was in the past. However, it is not clear how adequately prepared the nurses are in terms of making clinical decisions as exemplified by the multiple drug errors committed and compromised patient care hence, the need to determine the self assessed clinical judgment competencies of new nurse graduates by the end internship.

METHOD

This study was conducted in Kenya. The Republic of Kenya is a sovereign state in East Africa. The respondents were drawn from all over the country depending on the university they attended. The research study design was descriptive cross sectional. This design was selected because it would be summative of the nurse's knowledge and skills. It helped identify problems within the current practices and thus develop theories for future research on the topic. The target population consisted of 550 new graduate nurses from various Universities who completed their internship program between January 2011 and October 2013. The sample population was 183 respondents sampled from 338 respondents whose contacts were accessible

The researcher utilized stratified random sampling to select the sample from the target population. Stratification of the target population was done based on the type of university the new graduates completed their training from. Once the list of all the nurse graduates licensed from 2011 to 2013 had been obtained from The Nursing Council of Kenya, the graduates whose telephone contacts were in the Nursing Council of Kenya database were placed in their strata (University where the graduate nurse completed their training) then simple random sampling was used to sample a representative

proportion from each stratum.

Data collection was done using an electronic data collection tool, which was created, based on the study objectives using the Survey Face web survey creator. The web link was sent to the participants via their email addresses. The Statistical Package for Social Sciences (SPSS) Version 17 was used for descriptive analysis of competence and demographics.

RESULTS AND DISCUSSION

Out of a calculated sample size of 183, only 148 respondents participated in the study the other 35 could not be accessed either because they declined or their email addresses were not available. Out of 148 data collection tools sent out, 105 were received back constituting a response rate of 71%. During data cleaning, 29 questionnaires were noted to be incomplete and were therefore not included in data analysis; leaving 76 duly completed for data entry and analysis. This lowered the response rate to 51%.

This study evaluated the self-assessed competence of new nurse graduates post internship in Kenya working in various hospitals and centers. The study addressed 7 aspects of clinical judgment as follows: the ability to recognize changes in patient condition, interpret patient assessment data, prioritize care, initiate independent nursing action, anticipate physician's orders, capacity to discuss treatment modalities with the physician and ability to recognize inappropriate treatment modality. The self assessed competences were rated based on the Benner theoretical model of Novice to Expert[14]. Majority of the participants (68.4%) self assessment score was at advanced beginner level with only 26.3% at the competent level. This findings are similar with the study by Karahan *et al* which found out that majority of new nurse graduates were neither competent nor incompetent but partially competent a scale that aligns well with a novice (incompetent), advanced beginner (partially competent) and competent[12]. These findings mean that these nurses are not yet ready to work independently even after internship. In a sector that is demanding seamless transition to enhance patient safety this trend requires urgent attention.

This study found out that the new nurse graduates lacked adequate clinical judgment skills according to their own self evaluation. The aspects that recorded the least competency is the ability to recognize changes in patient condition (11.8% competent), capacity to discuss treatment modalities with a physician and give suggestions (14.5% competent), and the ability to prioritize care (15.8% competent). This finding concurs with the study by Del Bueno that found out that 65% to 76% of new graduate nurses did not meet the expectation for entry level clinical judgment[7]. According to Aiken *et al*., the top three reasons for poor patient outcomes are nurses who lack the competence to detect impending patient deterioration, administer appropriate treatment and properly manage complications[15].

These findings disagree with Del Bueno[16] study that found out that it took eight months of clinical experience before new nurse graduates felt competent in their clinical judgment since these new nurses had already had a minimum of one year of clinical practice by the time of data collection. On the other hand the findings concur with those of Berkow *et al* who found out that among the competencies evaluated, the new nurses scored lowest in recognition of changes in patient status with less than 25% competent in this area[9].

A number of factors including new medical advances and the increasing patient acuity have led to increases in the complexity of nursing practices and the demands made upon nursing staff. To fulfill their duties, nurses require an increasingly wide education in background theory as well as in practical skills, thus there is need for re-evaluation of the educational curriculum for training nurses in the light of changing conditions and requirements. The nursing Council of Kenya undergraduate curriculum provides minimal clinical experience for nurses to develop clinical judgment skills. The internship program on the other hand is most of the time unsupervised thus the nurse graduates ends up entering the workforce with clinical judgment gaps. There is need to evaluate the internship program to make it more efficient as well as identifying ways of developing clinical judgment during the training.

STUDY LIMITATIONS

This study used a self-assessment tool to gather data on level of competency of new nurse graduates, the data gathered may contain reporting bias and needs to be interpreted with that consideration

CONCLUSION

Overall the competency level of new nurse graduates is at advanced beginner level even after internship program. This means that although the Nursing Council of Kenya licenses nurses to practice as competent professionals, these nurses are not yet ready to function independently and requires more supervision and mentorship to achieve competency.

Conflict of Interest- None

Source of Funding- Self

Ethical Clearance- Permission to conduct the study was granted by The Kenya Methodist University Research Committee as well as the Nursing Council of Kenya research committee. Informed consent was observed by explaining to the respondents the purpose and objectives of the study, data collection methods and the significance of the study; respondents then signed a consent form sent to them online as part of the data collection tool. To maintain anonymity, responses from the respondent were delivered to the administrator data collection site and there was no way of identifying the exact person who filled the questionnaire except the identity of the university they graduated from. The research study posed no harm to participants; therefore there were no compensation considerations. The respondents were informed of their right to withdraw any time without victimization.

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Barriers to Higher Education in Nursing: Sindh, Pakistan

Mehr-un-Nisa Mustafa

Sister Tutor, Post Graduate College of Nursing Hayatabad Peshawar, Pakistan

ABSTRACT

Nurses who are educationally prepared can make a difference in the outcome of health care. It is a consensus that nurses need to possess advanced up-to-date knowledge that enable them to analyze complex problems, take critical decisions, and move on to appropriate actions. The objective of this study was to identify, the demographic profile of the selected respondents and the barriers to higher education in nursing as perceived by the respondents selected from private and public hospitals.

This descriptive exploratory study was conducted in eight teaching hospitals/ institution in Sindh, Pakistan. Using multistage sampling, data were collected through a questionnaire that was pilot tested and validated. Organizational, cultural and political barriers were identified as the main important barriers that hinder nurses from getting higher education. The study emphasized that nursing is a vital profession in the health care system and nurses need scientific knowledge and skills to enhance their practice and provide quality care to their clients. Due to lack of higher education in nursing, the nurses' lag behind other professions, this in turn projects a low image of the nursing profession in the Pakistani society. It is recommended that nurses go for higher education.

Keywords: *Nursing, Higher education, Pakistan, Health care system.*

INTRODUCTION

In Pakistan, the dominant education for nurses is general nursing diploma. This is a three-year programme where the student nurses are taught the basic nursing knowledge, skills and attitudes to prepare them for practice. After completion of the diploma program, nurses can go for further education in the field of nursing but there are certain facilitating or hindering factors to their higher education and this study aimed in identifying these factors.

METHODOLOGY

Descriptive exploratory research design was used in which multistage sampling methodology was employed. Stage I was the stratified random sampling of teaching hospitals/institution in the province of Sindh, Pakistan. In this stage from a total of 29 teaching hospitals/ institution; which included government 16 (Federal 3, and Provincial 13), one local and 12 private institutions, 8 were selected. Stage II was a simple random sampling in which a total of 686 male and female Registered Nurses, Basic Pay Scale (BPS) Grade of 14-20 and working in these institutions were included in the sampling population. Taking 20% as sample size 137 nurses were included. However, the actual number of sample for this study was 159 and the data was collected from these nurses using the researcher made questionnaire. Items for the questionnaire were derived from the literature, discussions with experts and colleagues in the profession, and researcher's personal experiences and observations. The tool was a Likert type scale with responses ranging from strongly agrees to strongly disagree. The items were designed in such a way that responses towards the agreement options were considered as barriers to higher education. Responses towards the disagreement options were considered as least important barriers. There were a total of 29 statements listed and they were grouped into 6 categories. The content validity was obtained by

Corresponding author:
Mehr-un-Nisa Mustafa
Sister Tutor, Post Graduate College of Nursing
Hayatabad, Peshawar, Pakistan
Tel: 92 21 3219063315
Email ID: mehr_mustafa@yahoo.com

sending the tool to three experts to ensure soundness and completeness of the content of the tool thus, after getting experts' feedback essential modification was done for the actual data gathering. The tool was pilot tested in the private and public institutions, which were not part of the 8 selected hospitals. Alpha= 0.7 ensured that the tool was statistical reliable. The central variables under study were barriers to higher education. Institutional approval and participants' informed written consents were obtained. To maintain the anonymity data sets were coded and the hard data was secured in lock and the soft data was pass word protected. Data analysis was carried out in two stages; descriptive analysis and univariate analysis. Descriptive analysis was performed to describe the demographic profile of the study participants n= 159. Since the outcome variables were the opinion of nurses about different barriers, the outcome variables were measured on ordinal scale. Therefore, a non-parametric tests that is the Kruskal Walli's test (non parametric alternative of ANOVA) and Mann Whitney U test (non parametric alternative of two independent samples T test) were used to assess the statistical significant differences in the opinion regarding cultural barriers, personal barriers, organizational barriers, language, ideology and political barriers with respect to gender, ethnicity, religion, age, grades, organizational affiliation, number of children, ages of children, number of persons of household, marital status, and setting. A two sided p value of <0.05 was used to assess the statistical significance.

FINDINGS AND DISCUSSION

The **demographic analysis** is presented in Table 1a and 1b. Participants' age ranged between 19 to 74. Among all (n = 159) majority of the respondents (92.5%), were females. Sixty one percent (61%) of the nurses were Christian and remaining (39%) were Muslims. Majority of the respondents were married (62.3%); were having children (80.8%); living in a nuclear family (58%); and, belonged to urban areas (78.6%). Ethnic distribution of the participants was as Punjabi (73%), Muhajir (11.3%), Pathan (9.4%), Balochi (4.4%) and the remaining were Sindhi. Most of the participants (67.9%) were having a monthly income of PKR 5001-10,000/ month where 1 US $ was equal to

59.5 PKR[1].

Table 1a. Demographic Analysis of Respondents (n = 159)

Variables	Frequency	Percentage
Age		
<=30	55	34.5
31-40	65	40.8
41-50	28	17.6
>50	11	6.9
Gender		
Male	12	7.5
Female	147	92.5
Religion		
Muslim	62	39.0
Christian	97	61.0
Marital Status		
Married	99	62.3
Single	60	37.7
Number of children (n=99)		
No child	19	19.2
1-2	42	42.4
3-5	38	38.4
Family Structure		
Nuclear	92	57.9
Joint	67	42.1
No. of persons in household		
<5	50	31.4
5-10	95	61.7
>10	14	9.1
Ethnicity		
Pathan	15	9.4
Punjabi	116	73.0
Sindhi	3	1.9
Balochi	7	4.4
Muhajir	18	11.3
Setting		
Urban	125	78.6
Rural	34	21.4
Income (PKR)		
<=5000	23	14.5
5001 - 10000	108	67.9
10001 - 20000	27	17.0
20001 – 30000	1	0.6

Eighty-three (83%) percent of the respondents were working in the BPS Grade 14 and the remaining were working in (BPS-grade) 16 and 17. Sixty eight percent (68%) of the respondents were working in the hospitals run by public sector; 18. 9% were working in private hospitals and remaining were working in the semi government hospital. All of the participants were having a diploma in General Nursing. Only four participants (2.5%) had a BScN (Bachelors of Nursing) degree. Nearly all (90.6%) of the respondents attended primary and secondary schools using the Urdu medium, however, English is the medium of instruction for all nursing institution. These details are presented in table 1b.

Table 1b. Demographic Analysis of Study Participants (n = 159).

Variables	Frequency	Percentage
Grades of Nurses		
≤15	132	83.0
16	11	6.9
≥17	16	10.1
Designations		
Charge nurse	126	79.2
Head nurse	13	8.1
Nursing supervisor	1	0.6
Deputy nursing superintendent	2	1.2
Assistant nursing instructor	2	1.2
Nursing instructor	10	6.2
Vice principal	1	0.6
Principal	4	2.4
Organizational affiliation		
Private hospital	30	18.9
Public Hospital	109	68.6
Semi Private Hospital	20	12.6
Professional qualification		
Undergraduate degree (BScN)	4	2.5
Diploma (General Nursing Diploma and Diploma in midwifery plus Diploma in ward Administration/ Diploma in Teaching Administration)	155	97.48
Years of experience as nurse		
< 5 years	32	20.1
5-10	36	22.6
11-15	42	26.4
>15	49	30.8
Previous educational background		
Urdu Medium	144	90.6
English Medium	14	8.8
Sindhi Medium	1	0.6

Barriers to Higher Education in Nursing as Perceived by Nurses

Among the personal barriers the statement "Are not interested to get higher education" has 49.06% in the disagreement option while it only has 15.1% and 32.1% in the strongly agree and agree options respectively. Similarly in the category of ideology barriers the statement "Nurses don't believe in higher education" got a 47.17% in disagree option and only 9.4% and 40.3% in the strongly agree and agree options respectively. The same is true for the statement "It's useless to get higher education" and "Higher education does not change nurses' image" where both statements got higher percentage in the disagree options (see Table 2).

Table 2. Opinion of Nurses Regarding Different Barriers (in percentage)

S.#	Nurses are not able to get higher education because they have to:	0	1	2	3
	Cultural Barriers				
1	Look after their children and family	27.7	57.2	14.47	0.63
2	Manage their house life as well as professional life	36.5	57.9	5.66	0.00
	Personal Barriers				
1	Are not interested to get higher education	15.1	32.1	49.06	3.77
2	Don't have money	35.8	56.6	6.29	1.26
3	Don't have time to study	21.4	54.1	23.90	0.63
4	Children are young	25.2	63.5	9.43	1.26
5	Are not confident enough to go for higher education.	17.6	47.2	33.33	1.89
6	Educational institutions are far from our home.	23.3	56.0	20.13	0.63
7	Cannot live away from my house	27.7	57.2	15.09	0.00
8	Are satisfied with my present position	18.9	47.2	30.82	3.14
	Organizational Barriers				
1	There are no funds for higher education.	42.1	55.3	2.52	0.00
2	Nurses are not sponsored by any funding agency.	42.1	51.6	6.29	0.00
3	Nurses don't have the opportunities to get higher education	25.2	59.7	15.09	0.00
4	Information is not provided timely regarding admission process for higher education	40.3	54.7	5.03	0.00
5	Support services of our institution does not facilitate my admission process for higher education	37.1	58.5	4.40	0.00
6	Opportunities for education are provided on seniority basis	36.5	50.3	11.32	1.89
	Language. Education and Schooling Barriers				
1	Cannot speak English	33.3	56.6	10.06	0.00
2	Cannot understand in English	23.9	57.2	18.87	0.00
3	Were educated in an Urdu medium school.	30.2	59.1	9.43	1.26
4	Were educated in a public (Govt.) school.	27.0	53.5	17.61	1.89
5	Will not be able to pass the course	18.9	50.3	29.56	1.26
	Ideology Barriers				
1	Higher education will not change nurses' present professional position	20.1	50.3	28.93	0.63
2	Nurses don't believe in higher education.	9.4	40.3	47.17	3.14
3	Its useless to get higher education	12.6	35.2	45.91	6.29
4	Higher education does not change nurses' image	15.1	40.3	40.88	3.77
	Political Barriers				
1	Most of the time there is a favoritism in selecting the candidates for higher education	46.5	46.5	6.92	0.00
2	I can get promotion even without higher education	18.9	61.0	19.50	0.63
3	Nursing leaders do not want their junior nurses to progress	24.5	45.3	28.93	0.63
4	Nursing leaders are insecure in their present positions	28.9	47.8	22.64	0.63

0= Strongly Agree, 1=Agree, 2= Disagree, 3 = Strongly Disagree

The three most important barriers as identified by the participants are of organizational category based on the combined percentages of both the strongly agree and agree options found in Table 3. Majority of the respondents perceived unavailability of funds, 97.5%lack of appropriate organizational support (95.6 %) and lack of timely information as the most important barriers that hinder nurses from getting higher education (see Table 3). Other important barriers as identified by respondents include management of personal and

professional life, unavailability of sponsoring agency, favoritism, lack of financial resources, poor English language skills and language of instruction at primary and secondary schooling level.

Table 3. Nine Most Important Barriers as Perceived by Respondents

S#	Barriers	Category	f	%	Rank
1	There are no funds for higher education.	Organizational	155	97.5	1
2	Support services of our institution does not facilitate my admission process for higher education	Organizational	152	95.6	2
3	Information is not provided timely regarding admission process for higher education	Organizational	151	95.0	3
4	Manage their house life as well as professional life	Cultural	150	94.3	4
5	Nurses are not sponsored by any funding agency	Organizational	149	93.7	5
6	Most of the time there is a favoritism in selecting the candidates for higher education	Political	148	93.1	6
7	Don't have money	Personal	147	92.5	7
8	Can't speak English	Language/Education and Schooling	143	89.9	8
9	Were educated in Urdu medium school	Language/Education and Schooling	142	89.3	9

The last nine statements in the ranking of the barriers were considered as the least important barriers (table 4). Although percentage wise the last six statements may appear to have higher percentage of those agreeing with the statements, the researcher decided to take the last one third in the ranking as the least important barriers. If the combined percentages of disagree and strongly disagree options were computed, it yields the same results in terms of the least important barriers. Majority of the respondents perceived "Are not interested to get higher education" (47.2%), "It's useless to get higher education" (47.8%) and "Nurses don't believe in higher education" (49.7%) as the least important barriers.

Table 4. Nine Least Important Barriers as Perceived by Respondents

S#	Barriers	Category	f	%	Rank
1	Are not interested to get higher education	Personal	75	47.2	27
2	It's useless to get higher education	Ideology	76	47.8	26
3	Nurses don't believe in higher education.	Ideology	79	49.7	25
4	Higher education does not change nurses' image	Ideology	88	55.3	24
5	Are not confident enough to go for higher education.	Personal	103	64.8	23
6	Are satisfied with my present position	Personal	105	66	22
7	Will not be able to pass the course	Language/Education and Schooling	110	69.2	21
8	Nursing Leaders do not want their junior nurses to progress	Political	111	69.8	20
9	Higher education will not change nurses present professional position	Ideology	112	70.4	19

In this study organizational barriers (92.2%), cultural barriers (89.4%), language, education and schooling barriers (82%) and political barriers (79.85%) were identified as the hurdles hindering nurses from getting higher education in nursing. Figure 1 depicts ranking of the barrier categories as perceived by the respondents.

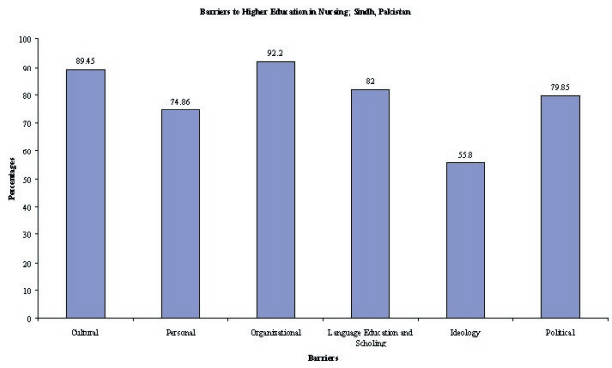

Figure 1: Barriers to higher education by categories as perceived by the respondents.

DISCUSSION

Findings of the study revealed that lack of funding resources, support services, and timely information are the main barriers, which hinder nurses from getting higher education. This finding supports the results of the study in which money and time were identified as main constraints to education. Participants of the study also stressed the importance of financial assistance and scholarship[2]. Managing personal and professional life demands were also found as a strong barrier for female nurses. This finding supports results of previous studies that have identified family responsibilities, work responsibilities and financial problems as the most common barriers to education[2-6]. In this country women are still expected to perform all household chores including child rearing[7] even if they are holding their own career. This is inherent in the family structure and in the role expectations in this society. Female nurses then would find it difficult to go for higher education especially if they are married.

Favoritism as a barrier was heavily identified by the respondents. Although not documented in the literature, favoritism among nurses does exist as substantiated by the results of this study. Many nurses may lack the courage to confront the issue for fear of being discriminated or at worse losing their jobs. They prefer to be silent about this as a means of keeping a smooth flow of interpersonal relationship especially with those above them in the hierarchy. It would be difficult for any nurse to publish the issue of favoritism because of both internal and external politics.

Another strong barrier identified in this study was poor English language skill. According to Amarsi[8] "Students entering nursing are from diverse background, with English being their third or fourth language and many students enter with little or no proficiency in English" (p.213). These students eventually graduate and practice nursing in an environment where people speak Urdu hence, they are not given the opportunity to exercise speaking in English. It is then clear why the respondents looked at English language as a barrier to higher education.

The first of the least important barriers was related to interest to higher education very closely followed by the statement that "higher education is useless". These findings reflect the sentiment of respondents that they value higher education and that they are interested in it. They are just met with the setbacks that they identified as the barriers.

The respondents believed that higher education might change the image of nurses. They also felt confident that they could tackle higher education in spite of the barriers. This attitude shows a lot of promise for higher education in nursing in the country.

CONCLUSIONS

The findings of this study provided the evidence base through empirical research about the prevailing problems surrounding nursing and nursing education in the province of Sindh. There is a strong probability that the same situation may be present in the other provinces of Pakistan.

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Conflict of Interest: None

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Ethical Clearance: Received from Aga Khan University.

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Effectiveness of Video Teaching on Knowledge Regarding Health Hazards of Electronic Devices

Violin Sheeba

Ph.D Scholar, Meenakshi Academy of Higher Education & Research, Maher University, Chennai

ABSTRACT

Health hazards of electronic devices is a conditions, that has to be prevented so that the incidence and prevalence can be reduced. Interventions like ergonomic instructions and education help to improve the health condition of adolescents. To protect adolescence from harm, all health staff must take effective action as appropriate to their role. Parents are also to be educated about impact of electronic devices on adolescence. The purpose of this study was to assess the effects of electronic devices on the health of adolescence and to provide guidelines to safe guard them from harmful effects on their health. A pre-experimental study was done to assess the effectiveness of video teaching on knowledge regarding health hazards of electronic devices among adolescence. One group pre test post test design was carried out among 60 adolescence. The samples were selected by using non-probability convenience sampling technique and knowledge questionnaire was used to collect the data. The statistical analysis revealed that, the 't' value for knowledge was (t=9.304), this indicates the significant difference between the pre and post test levels of knowledge at 0.05 level of significance.

Keywords: *Electronic devices, Knowledge, Adolescence, Health effects*

INTRODUCTION

Electronic devices are an integral part of adolescence's life in the twenty-first century. The world of electronic devices however is changing dramatically. Television which dominated the media world through the mid-1990s, now competes in an area crowded with cell phones, computers, iPods, video games, instant messaging, interactive multiplayer video games, virtual reality sites, Web social networks, and e-mail[1].

Youth are creative in their uses of new technologies, and this creativity can lead to against for parents, teachers and health care providers. Teens can download violent videos, send sexual text messages or explicit self-photographs to their friends, but it is unclear whether or how electronic effects or how cognitive processing may be affected. Some neuroscientists worry about the impact of all of this new technology on the developing adolescent brain[2].

Over the long term, computer can cause physical damage. Using a mouse and keyboard for many hours every day can lead to repetitive stress injuries. Back problems are common among people who spent a lot of time sitting at computer desks. Late-night computer sessions cut into much-needed sleep time. Long-term sleep deprivation causes drowsiness, difficulty concentrating, and depression of the immune system. In addition to, when someone spends hours at a computer is obviously not getting any meaningful exercise, So, computer can indirectly lead to poor overall physical condition and even obesity. Playing for long periods of time on the computer can strain adolescence eyes or can worsen existing eye conditions. Also, symptoms include eye discomfort, headaches, itchy eyes and difficulty in focusing. So, It is important to rest the eyes while working on the computer. Unfortunately, it also more prone to postural, muscular and skeletal disorders like tendonitis, nerve compression and carpal tunnel syndrome. Plus, some of the special effects of video games may induce seizures[3].

Health hazards of electronic devices is a conditions, that has to be prevented so that the incidence and prevalence can be reduced. Interventions like ergonomic instructions and education help to improve the health

condition of adolescents. As adolescents are the most vulnerable population, the preventive aspect has to be taken into more consideration. Hence the investigator thought that imparting knowledge by using video teaching programme on health hazards of electronic devices among adolescents.

MATERIALS AND METHOD

The ethical clearance was obtained from the ethical committee of MAHER University, Chennai with the Registration No. 4414014 Dated: Jan 2014. Permission obtained from the school authorities to conduct the study. Assurance was given to the subjects that anonymity, confidentiality would be maintained. Pre experimental (one group pre test – post test) design was used. Investigator selected 60 samples from 11th standard by using convenience sampling method. Pretest was conducted by the investigator for 60 students by using structured knowledge questionnaire. On the next day video teaching was given on health hazards of electronic devices to them by using LCD projector. After one week post test was done for the group. The collected data were analyzed by using descriptive and inferential statistical methods.

RESULTS & DISCUSSION

Table : 1 - Effect of video teaching on knowledge regarding health hazards of electronic devices

N=60

Overall Knowledge	Mean	SD	Paired 't' test	Level of significance
Pretest	14.23	4.30	9.304	59df 2.0*
Post test	21.96	4.05		

*Significant

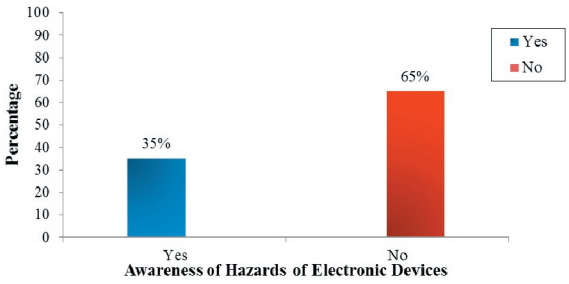

Figure 1: Distribution of samples according to the Awareness of hazards of electronic devices

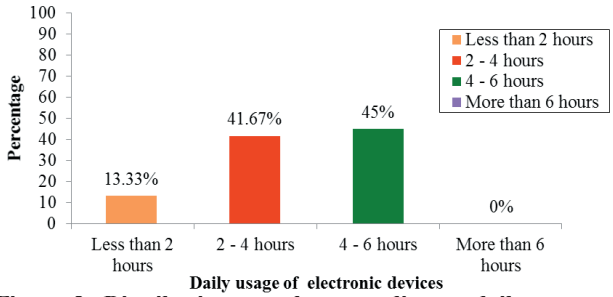

Figure 2: Distribution samples according to daily usage of electronic devices

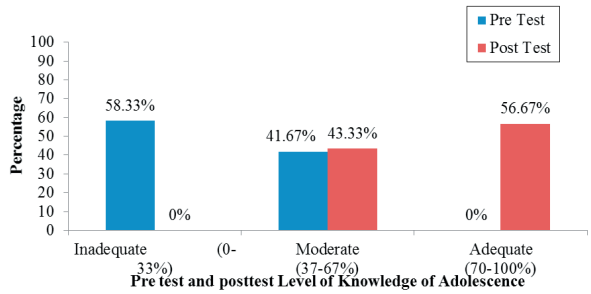

Figure 3: Distribution samples according to pre test and post test knowlege

The present study findings revealed that out of 60 students 34 (56.67%) had adequate knowledge, 26 (43.33 %) had moderate knowledge and none of them inadequate knowledge regarding health hazards of electronic devices after the video-teaching programme. The result of the test scores indicates that video teaching was effective to the adolescence regarding health hazards of electronic devices.

The above findings were significantly consistent with the study conducted by Andrea Donitta .G, (2011). She assessed the effectiveness of video assisted teaching on knowledge regarding the ill effects of mobile phone usage among the adolescent. Out of 30 samples 90.0% of the samples had inadequate knowledge 10.0% had moderate knowledge and no samples had adequate knowledge about the ill effects of mobile phone usage.

A similar study was conducted by Edward L, et al (2010). He assessed the effectiveness of planned teaching programme on knowledge regarding adverse effects of television and video or computer game playing with fast food intake by preschool-age children in USA among 240 parents. The result was twenty-two

percent of parents reported that their child ate at fast food restaurants at least once per week, for each1-hour increase of TV/video or computer game watched per day, the odds ratio (OR) for consuming fast food > or =1 time per week was 1.60 (95% confidence interval, 1.03 2.49). The findings raise the possibility that greater exposure to TV and video or computer game use may influence preschool children's consumption of unhealthy foods and cause health problems.

CONCLUSION

The study findings revealed that there was highly significant difference in the level of knowledge among adolescents after conducting video teaching regarding health hazards of electronic devices among adolescents. All health staff must take effective action as appropriate in order to prevent any harmful diseases for the adolescences. Parents are also to be educated about impact of electronic devices on adolescence. Adolescents are needed to be aware about the ill effects of mobile phone usage thus being responsible for their own health.

Source of Funding : Self

Conflict of Interest : Nil

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