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A Randomised Controlled Trial to Evaluate the Effectiveness of Fenugreek (Methi) Versus Fennel (Saunf) on Lactation among Lactating Women in a Selected Community of New Delhi

Ajee Tomy Mathew¹, Manju Chhugani², Seema Rani Gupta³

¹Lecturer, Faran College of Nursing, Bangalore, India; ²Principal, ³Assistant Professor, Ruffaida College of Nursing, New Delhi, India

ABSTRACT

Introduction: A Randomized controlled trial to assess the effectiveness of fenugreek (*methi*) versus fennel (*saunf*) on lactation among lactating women in a selected community of New Delhi. The objectives of the study were to assess and compare the effects of fenugreek and fennel on lactation among lactating women, to compare the average ideal weight gain of babies according to their age and the obtained weight gain and to find association between lactation and selected demographic variables.

Method: The conceptual framework for the study was based on Ludwig von Bertalanffy Systems model. Quantitative approach was selected with 'randomized controlled pre-test post-test design'. 30 samples were chosen using convenient sampling technique and randomly allocated into experimental and control group using lottery method. The tools used were subject data sheet and test weight of the baby done using a digital baby weighing machine.

Results: The mean post lactational levels (4.73) after administration of fennel tea (experimental group) was higher than the mean pre lactational levels (4.56). The mean post lactational levels (4.75) after administration of fenugreek tea (control group) was higher than the mean pre lactational levels (4.58). The mean obtained weight gain of babies after intervention (0.16) was higher than the mean average (approx.) ideal weight gain (0.13) according to their respective ages. The mean post lactational levels in the experimental group (4.73) was lower than the mean post lactational levels (4.75) in the control group. The results indicated that both fenugreek and fennel were equally effective in increasing lactation and neither of them was more effective over one another. Among the demographic variables, only diet and monthly family income had statistical significant association with lactation.

Conclusion: Both fenugreek and fennel were found to be effective in increasing lactation.

Keywords: Fenugreek, fennel, lactation, lactating mothers, test weight of babies, effect

INTRODUCTION

Breastfeeding is natural (physiological) and instinctive and nearly all mothers do it, so one may ask what is there to learn and teach about breastfeeding? Focus of postnatal care is to make sure that the new mother is healthy and capable of taking care of the baby and knows how to breastfeed correctly and adjust to a new life with her baby.

After a woman gives birth, the establishment of a mature milk supply is dependent upon the presence of a mammary tissue, regular removal of milk from the breast, and a set of maternal hormones, prolactin and oxytocin. The volume of milk in a lactating breast is determined not only by the hormone levels in the blood but by the feedback mechanism of amount of milk removed from the breast and the frequency of removal of milk.²

Women often face challenges in their efforts to breast-feed their infants. One of these challenges may be a real or perceived insufficient milk supply.² There are many substances both naturally occurring and chemically

Corresponding Author:

Ajee Tomy Mathew

Lecturer, Faran College of Nursing, Bangalore, India

Email: ajeetomy@gmail.com

prepared known to increase the production or flow of milk. These substances are known as galactagogues. They include foods, herbal medicines, pharmaceutical drugs. Galactagogues can be helpful in solving milk supply issues not only by increasing milk production, but also by bolstering the nursing mother's confidence.² They assist initiation, maintenance and augmentation of maternal milk production.⁴

A large number of plant preparations are used as galactagogues around the world. In a global scale review, Bingel and Fransworth documented over 400 plant species that have been used to facilitate lactation, most of which were galactagogues.

Rachel Emma Westfall conducted a qualitative study and review on galactagogues herbs in British Columbia. This study revealed that galactagogue herbs use is an element of postpartum self-care for some women, and it also identified a need for clinical testing of the herbs.¹

The researcher felt that the use of easily available herbs as a means of galactagogue would be beneficial in improving lactation due to minimal side effects. Moreover administering herbs which are of daily use will be more easier for the mothers to consume henceforth providing self-efficacy not only to the mothers while breast-feeding but also satisfying her "little one" with the food he needs to relish at least till one year of its life.

The objectives of the study were

1. To assess the effect of fennel on lactation among lactating women.
2. To assess the effect of fenugreek on lactation among lactating women.
3. To compare the average ideal weight gain of babies according to their age and the obtained weight gain.
4. To compare the effects of fenugreek and fennel on lactation among lactating women.
5. To find association between selected variables and lactation among lactating women such as age, diet, frequency of breast feeding, occupation of mother, educational status of mothers, type of family to which she belongs to, gravida, parity and family income per month.

METHODOLOGY

- **Approach:** Quantitative (experimental)
- **Design:** Randomised controlled pre test post test design
- **Population:** lactating mothers residing in Sangam Vihar, New Delhi.
- **Sample:** 30 lactating mothers from 10 days to 3 months of postpartum residing in Sangam Vihar and who met the inclusion criteria.
- **Sampling technique:** convenient sampling was used to select the subjects and then randomization was done using lottery method to allocate the subjects to experimental and control group. 15 mothers were assigned to the experimental group and 15 mothers to the control group.

The criteria for selection of subjects were as follows:

Inclusion Criteria:

1. Lactating mothers in the age group of 20-35 years of age.
2. Mothers from 10 days up to 3 months of postpartum.
3. Mothers who are willing to participate and to receive fenugreek and fennel.

After obtaining permission from the administrative authority, the study was conducted in the household premises of women living in Sangam Vihar, an urban community of New Delhi. Ethical permission was obtained from the Institutional Review Board of Jamia Hamdard. The tools used for the study were:

1. Information sheet
2. Consent form
3. Screening sheet
4. Subject data sheet
5. Digital infant weighing scale
6. Recording sheet

Subject data sheet: Subject data sheet had two parts:

Section 1: Part A- Comprised of 11 questions related to demographic data such as age, gravida, parity, education status of the mother, occupation of the mother, type of the

family to which the mother belongs, diet of the mother, frequency of breastfeeding the child, type of delivery, family income per month and whether the mother was consuming any medications or not.

Section 11: Part B- consisted of questions related to age, sex, weight of the baby at birth and gestational age of the baby.

Digital infant weighing Scale-Gerber First Essentials Digital Baby Scale, model No. 78968 .The dimensions of the scale included 7.75x 23.0x13.5 inches. This scale measured children up to the weight of 20 kg. The scale could be used either on the battery mode or AC mode. This tool was used to measure the weight of the baby before and after breastfeeding.

Lactating mothers belonging to the experimental group were administered fennel tea and those who belonged to the control group were administered fenugreek tea for seven consecutive days.

In order to prepare fennel tea, two litres of potable water was boiled. One and a half tablespoon (3 teaspoons/ 14 grams) of fennel seeds was added and the solution was boiled for 10 minutes. The solution was allowed to cool. The seeds were strained using a strainer. Honey/

sugar was added to sweeten the tea if required. 300 ml of this tea was administered to the lactating mothers in the experimental group for seven consecutive days. This solution was prepared by the researcher in the household premises of the subjects which was to be consumed by the mother for the entire day.

In order to prepare fenugreek tea, two litres of potable water was boiled. One and a half tablespoon (3 teaspoons/ 14 grams) of fenugreek seeds was added and the solution was boiled for 10 minutes. The solution was allowed to cool. The seeds were strained using a strainer. Honey/ sugar was added to sweeten the tea if required. 300 ml of this tea was administered to the lactating mothers in the control group for seven consecutive days. This solution was prepared by the researcher in the household premises of the subjects which was to be consumed by the mother for the entire day.

The babies in both the experimental and control group were weighed before breastfeeding. The mother was asked to breastfeed the baby by keeping the baby on both the breasts. The baby was weighed in the same clothes and diaper after breastfeeding. Weight of the babies were recorded before and after breastfeeding on all seven days in the recording sheet.

RESULTS

Demographic data were compared using Fischer exact test and were found to be homogenous.

Table 1: Characteristics of subjects $n_1 + n_2 = 30$

S. No.	Demographic characteristics	Experimental group ($n_1 = 15$)		Control group ($n_2 = 15$)		df	Test value (test used)	p value	
		f	%	f	%				
1.	Age								
	a.	20-25 years	10	66.7	9	60	2	0.162 (Fisher exact test)	0.06
	b.	26-30 years	3	20	5	33.3			
	c.	31-35 years	2	13.3	1	6.7			
2.	Gravida								
	a.	Primi	6	40	9	60	1	2.269 (Chi-square)	0.13
	b.	multi	9	60	6	40			
3.	Parity								
	a.	nil	6	40	11	73.3	3	0.183 (Fisher exact test)	0.09
	b.	one	6	40	2	13.3			
	c.	two	1	6.7	0	0			
	d.	three	2	13.3	2	13.4			

Contd...

4.	Education								
	a.	Illiterate	0	0	1	6.7	4	1.00 (Fisher exact test)	0.76
	b.	Primary	10	66.7	5	33.3			
	c.	Secondary	5	33.3	8	53.3			
	d.	Graduate	0	0	1	6.7			
5.	Type of delivery								
	a.	Normal vaginal delivery	14	93.3	14	93.3	2	1.000 (Fisher exact test)	0.78
	b.	LSCS	1	6.7	1	6.7			
6.	Frequency of breast feeding the child?								
	a.	4-6 times a day	2	13.3	0	0	3	1.00 (fisher exact test)	0.87
	b.	7-8 times a day	12	80	14	93.3			
	c.	More than 8 times a day	1	6.7	1	6.7			
7.	Diet								
	a.	Vegetarians	0	0	1	6.7	4	0.165 (chi-square test)	0.68
	b.	Lacto-ovo-vegetarians	2	13.3	0	0			
	c.	Non-vegetarians	13	86.7	14	93.3			
8.	Occupation								
	a.	Private service	0	0	1	6.7			
	b.	House wife	15	100	14	93.3			
9.	Type of family								
	a.	Nuclear	6	40	6	40	1	6.667 (chi square test)	0.01*
	b.	Joint	9	60	9	60			
10.	Family income per month								
	a.	Rs.5,001- Rs.10,000/-	1	6.7	1	6.7	4	0.333 (fisher exact test)	0.03*
	b.	Rs.10,001- Rs.15,000/-	6	40	5	12.5			
	c.	Rs.15,001-Rs.20,000/-	5	33.3	8	53.3			
	d.	More than Rs.20,000	3	20	1	6.7			
11.	Whether taking any medicines or not?								
	a.	No	15	100	15	100			

* $p \leq 0.05$, significant at 0.05 level.

Findings related to association between lactation and selected demographic variables was computed using p value. The obtained p value greater than 0.05 was considered as statistically not significant and values lesser than 0.05 as statistically significant. Hence, the inference was drawn that among the above mentioned demographic variables, only diet and monthly family income was found to have association with lactation whereas the others did not.

Findings related to pre and post lactational levels as evident by test weight scores of babies in both the

groups were computed using range, mean, median and standard deviation.

The mean post lactational levels (4.729) was higher than the pre-lactational levels (4.566) in the experimental group. It indicated an increase in the lactational levels by 0.163.

The mean post lactational levels (4.75) was higher than the pre-lactational levels (4.584) in the control group. It indicated an increase in the lactational levels by 0.166.

The test weights of babies in both experimental and control group was analysed using t-test. In the experimental group, the obtained 't' value of 21.51 was significant at 0.05 level. This showed that the obtained mean difference between pre-administration and post-administration of fennel was a true difference and not by chance. This indicated that administration of fennel tea to lactating mothers for seven consecutive days was found to be effective in increasing lactation of lactating mothers as evident by the test weight of the baby.

In the control group, the obtained 't' value of 17.21 was significant at 0.05 level. This showed that the obtained mean difference between pre-administration and post-administration of fenugreek was a true difference and not by chance. This indicated that administration of fenugreek tea to lactating mothers for seven consecutive days was found to be effective in increasing lactation of lactating mothers as evident by the test weight of the baby.

Findings related to the average (approximate) ideal weekly weight gain of babies according to their age and the obtained weight gain was computed using 't' value and was found to be 4.55 which was significant at 0.05 level. Thus, it can be said that the mean difference of the obtained weight gain after intervention was true difference and not by chance. This indicated that administration of fenugreek tea and fennel tea to lactating mothers for seven consecutive days was found to be effective in increasing lactation of lactating mothers as evident by the increased weight gain of babies compared to the average (approximate) ideal weekly weight gain according to their age.

Comparison of lactational levels between post administration of fennel and fenugreek was computed using p value and was found to be 0.96 which was not significant at 0.05 level. This indicated that neither fenugreek nor fennel was found to be statistically more effective over one another.

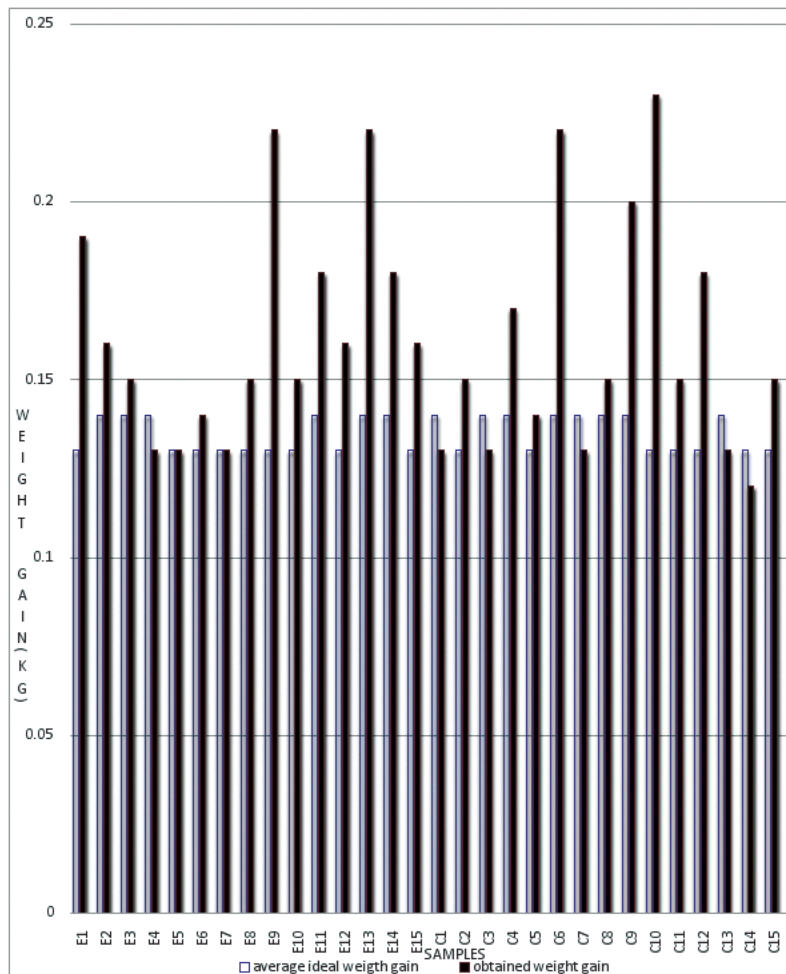


Fig. 1: Multiple bar diagram representing the average (approximate) ideal weight gain and the obtained weight gain of the babies.

DISCUSSION

The present study revealed that most of the mothers irrespective of their parity had faced lactational problems and many of them were reluctant to reveal it. This in turn directly or indirectly influenced the health of the little one. Administration of natural galactagogues such as fenugreek and fennel which aids in increasing lactation of mothers are beneficial for them. The findings revealed that administration of both fennel and fenugreek tea for seven consecutive days showed a marked increase in the lactational levels of the mother. Findings related to as to which galactagogue showed more increase, findings revealed that both fenugreek and fennel were equally effective in increasing lactation and did not have any marked change over one another.

LIMITATIONS

The study was conducted with small number of samples due to shortage of time for data collection and hence generalization of the findings was limited. Samples were selected from only one socio- economic strata and hence limiting the generalization. Fenugreek tea and fennel tea had been administered due to unavailability of capsules which are considered to bring more effect than tea. Although all the mothers were selected from the same setting irrespective of their gravida and parity, the groups were not homogenous with respect to type of family to which the mother belonged to and the family income per month.

CONCLUSION

There was a significant difference in the levels of lactation of those mothers who were administered fennel and fenugreek tea. There was a significant difference in the obtained weight gain of babies as compared to the average (approximate) ideal weight gain of babies according to their age. There was no significant difference in the levels of lactation of those mothers who were administered fennel tea as compared to the lactational levels of those mothers who were administered fenugreek tea.

RECOMMENDATIONS

Similar study can be replicated on larger samples for better generalization. Studies can be conducted for a longer period of time to find remarkable effects on lactation. Qualitative study can be done in which the

mothers can be interviewed so as to share their experience on increase in lactational levels after administration of natural herbs. Study can be done on primiparous mothers who are found to have faced more problems in lactation rather than multiparous mothers. Studies can be done to assess the effectiveness of other natural herbs which can be used as natural galactagogues. More studies on natural herbs can be encouraged to be conducted in nursing.

Conflict of Interest: There is no conflict of interest.

Source of Funding: Self

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Effect of Application of Cabbage Leaves on Breast Engorgement among Postnatal Women—A Literature Review

Angelina Makwana¹, Anjali Tiwari²

¹M.Sc Nursing, ²Assistant Professor and HOD, Dept. of Obstetrics & Gynaecological Nursing, Manikaka Topawala Institute of Nursing, CHARUSAT, Gujarat

ABSTRACT

The aim of researcher is to evaluate the effect of application of cabbage leaves on breast engorgement among postnatal women. Breast engorgement is a common physiological problem for lactating women that is caused by the sudden increase in the volume of the breast milk due to lymphatic and vascular congestion with interstitial oedema during the first two weeks of breast feeding. Adequate management of engorgement is important for successful long-term lactation. The goal of treatment of breast engorgement is to relieve discomfort and control swelling. The women were receiving Pharmacological and non-pharmacological methods like expression of breast milk, using of breast Pump binder, nipple shield, hot and cold application. Some of these methods are costly or may cause discomfort to women. So, natural therapy can be advised to the women in low cost which can be used easily even at home without guidance like cabbage leaves.

Keywords: evaluate, effect, cabbage leaves, breast engorgement, postnatal women

INTRODUCTION

Breast engorgement is one of the common breast complication occur in 2nd and 3rd postpartum day due to excessive production of milk, obstruction to outflow of milk or poor removal of milk by the baby.¹ According to International Institute for Population Sciences breast engorgement occurs in 72 to 85 percentages of postnatal women. Among every 10 women, 6 women suffer with breast engorgement.²

To study the same, the researcher reviewed many literature and it was obtained through various sources, printed as well as electronic which includes CINHALL (Cumulative index TO Nursing & Allied Health Literature), MEDLINE (Medical Literature Analysis & Retrieval System Online), PubMed, ProQuest & Google scholar.

MATERIAL METHOD AND FINDINGS

The study is mainly headed on the effect of application of cabbage leaves on breast engorgement among postnatal women.

A study was conducted on a sample of 114 breast feeding mothers on breast engorgement: pattern selected outcome (1994). For 14 days following birth, 114 breast feeding mothers rated the level of breast engorgement twice daily. Using a six-point engorgement scale individual engorgement rating were plotted by intensity over time to provide a visual display of each subject's management experience 4 distinct patterns of breast engorgement emerged. Mother experienced either a bell-shaped pattern, a multi model pattern, a pattern of intense engorgement, or a pattern of minimal engorgement. Characteristics of mother and infants, and feeding frequency were similar across the 4 breast engorgement patterns.³

A retrospective study was conducted of early puerperal complications as seen in a private health facility over a two-year period at Nigeria (2002-2003). 205 patients who had spontaneous vaginal delivery reported

Corresponding Author:

Ms. Angelina Makwana
M.Sc Nursing, Manikaka Topawala Institute of Nursing,
CHARUSAT, Gujarat
Email: ngmakwana95@gmail.com

early puerperal complications in the study period. The commonest early puerperal complication was fever 115(56.1%), Perineal pain 94(45.9%) and abdominal pain 76(37.1%); Breast engorgement accounted for 66(32.2%) and secondary post-partum haemorrhage occurred in 42(20.5%) of patients. Hence, the study identified breast engorgement as one of the complication which may affect on the postnatal mothers.⁴

A systematic review was done on common problems associated with breastfeeding and their management (2004). A comprehensive bibliographic review on the issue was performed by searching publications from the MEDLINE database and from national and international organizations. Books and some key articles cited in other sources were also selected. The review identified that several common problems that may arise during the breastfeeding period, such as breast engorgement, plugged milk duct, breast infection and insufficient milk supply, originate from conditions that lead the mother to inadequately empty the breasts. Incorrect techniques, infrequent breastfeeding, breastfeeding on scheduled times, use of pacifiers and food supplements were found as important risk factors that predispose to lactation problems. The study suggested specific measures to empty the breasts effectively in order to provide comfort to the lactating mother.⁵

A comparative study on chilled cabbage leaves and chilled gel packs in reducing breast engorgement (1995). selected a group of 34 lactating women with breast engorgement used chilled cabbage leaves on one breast and chilled gel-packs on the other for up to 8 hours, there was no difference in the post treatment ratings for the two treatments. Mothers reported a statistically significant drop in pain with both treatments; 68% obtained relief within one to two hours the majority of mothers preferred cabbage leaves. Hence, the study concluded that cabbage leaves is effective in reducing breast engorgement.⁶

An experimental study was conducted to evaluate the effectiveness of an information booklet on Home remedial measures which includes cabbage, massage, kangaroo mother care, hot and cold application and Jasmin flowers for breast engorgement among postnatal mothers in Mangalore (2013). 40 samples were selected using simple random sampling method. The study findings showed that the information booklet was highly effective in improving knowledge of the postnatal

mothers by providing an information booklet on home remedial measures for breast engorgement. The study concluded that there is need to aware the people about home remedial measures for breast engorgement using various awareness programme.⁷

A quasi experimental study was conducted to assess the effect of two different nursing care approaches on reduction of breast engorgement among postnatal women at postnatal ward and outpatient clinic at El-Manial Maternity hospital, Cairo Governate, Egypt (2016). A total of 90 postnatal mothers were randomly assigned into two groups (45 for each). Four tools were used to collect data; Maternal structured interviewing questionnaire, Six-points engorgement scale, Visual Analog Scale, and LATCH breastfeeding scale. Study findings showed that Pain score for the cold cabbage group reduced from 7.76 ± 1.3 during the pretest to become 2.28 ± 0.8 during the posttest. While the group who use warm compresses, their pain score reduced from 8.1 ± 1.15 to become 4.3 ± 0.7 during the post-test. Hence, both the interventions were found effective in reducing breast engorgement and prevention.⁸

A quasi experimental study was conducted to assess the effectiveness of Green Cabbage Leaves (GCL) and Hot Water Bag (HWB) Application on Breast Engorgement in Postnatal Mothers at Noida (2017). Time Series Design was used. 63 postnatal mothers (32 in experimental group and 31 in control group) who fulfilled inclusion criteria were selected as sample consecutively and they were assigned randomly to experimental group and control group respectively. The data were collected by using Six point Engorgement scale and Numeric Pain scale. Intervention was given in the form of Green cabbage leave application in experimental group whereas, Hot water bag application in control group for 15 minutes in six time for the six hour gap interval for two days duration. The Analysis of effectiveness of Green Cabbage Leaves Vs Hot Water Bag for reducing breast engorgement and pain was checked by repeated measure ANOVA. It was showed that from baseline to 20 minutes, mean engorgement and pain score in both the groups were same and then after six hours to 36 hours the mean and SD was decreased in both groups. On Comparison of Engorgement score within subject effect and between subject effect the F value was (9.746) which is more than table value (4.0) at 0.05% level of significance which indicates that

the reduction in engorgement was not by chance but because of the intervention. Study concluded that Green Cabbage Leaves are more effective than Hot Water Bag in reducing breast engorgement.⁹

A pre-experimental study was conducted to evaluate the effectiveness of chilled cabbage leaves application for relief of breast engorgement in volunteered postnatal mothers who are admitted in maternity wards of KLE Dr Prabhakar kore hospital Belgaum (2010). 30 postnatal mothers were selected having breast engorgement using convenient sampling technique. The major findings of the study on effectiveness of chilled cabbage leaves application for breast engorgement on reducing pain and severity of breast engorgement among postnatal mothers showed the mean pre-test score of postnatal women with breast engorgement before application of chilled cabbage leaves (14.86) is more than the mean post test score (1.33) after application of cabbage leaves on postnatal mothers with breast engorgement. Wilcoxon signed rank test shows that there is a significant difference between pre and post treatment scores $Z=4.792$ $P<0.001$. Hence chilled cabbage leaves application is effective in reducing pain and severity of breast engorgement.¹⁰

A controlled clinical trial was conducted to compare the effects of cabbage compression early breast care (CCEBC) and early breast care (EBC) on breast pain, breast hardness with general nursing breast care (GNBC) in primiparous women after cesarean birth at Obstetrics Department of Eulji University Hospital, Korea (2012). 60 participants were divided to 3 groups including CCEBC, EBC and GNBC. Each group was treated with its intervention respectively more than 10 minutes before breast feeding from day-2 to day-4 after delivery. The primary outcomes were breast pain and breast hardness. Both CCEBC and EBC showed significantly lower pain level than GNBC at day-4 after delivery. There are significant differences of breast hardness among three groups. CCEBC group showed significantly lower breast hardness compared with EBC and GNBC. Neither core body temperature nor breast skin temperature was significantly different among the 3 groups. The study concluded that CCEBC may be effective in relieving breast pain and breast hardness compared with EBC alone and GNBC in primiparous women after a cesarean birth. Hence, CCEBC and EBC may be recommended as nursing interventions to relieve postpartum breast pain and breast engorgement.¹¹

A quasi experimental study was conducted to assess the efficacy of cabbage leaves application on the breast engorgement among postnatal mothers at Punjab (2013). The sample for the study consisted of 60 postnatal mothers (30 in each experimental and control group) selected using convenience sampling technique. Data was collected by using interview schedule and observational checklist. Mean score of breast consistency in experimental group had a decrease of 1.90 while mean score in control group had decrease of only 0.80 ($p<.001$). Similarly, in breast tenderness 86.20% subjects in experimental group had no tenderness at day 3 compared to 58.62% subjects in control group. Thus, the study concluded that application of cabbage leaves were effective in reducing breast engorgement.¹²

A Quasi experimental study was conducted to assess the Effectiveness of cabbage leaves application on breast engorgement at Government Maternity Hospital, Tirupati (2014). With the use of purposive nonprobability sampling technique 40 mothers are selected. The tool used in the study was consisting 4 sections Section-I, contains identification Data, Section-II contains obstetrical history, Section-III contains neonatal Profile, Section-IV contains checklist for assessment of breast engorgement and visual analogue scale to assess pain. The pre interventional engorgement mean value in experimental group was 8.2 ± 2.167 and in control group value was 8.60 ± 0.45 . The post interventional mean value of experimental group is 3.7 ± 1.261 and the mean value of control group 8.24 ± 0.347 the 't' value obtained was 13.7 which was statistically significant at $p<0.001$. The study findings revealed that the cabbage leaves application was effective in control of breast engorgement. Thus, the study concluded that the cabbage leaves can be used as folk remedy and natural therapy for relieving breast engorgement, though breast engorgement can be curable in advance stage by promoting proper positioning, massaging, hot and cold application.¹³

A one group pre-test post-test was done to assess the effectiveness of cabbage leave application on breast engorgement on postnatal mothers admitted in the postnatal ward of a private hospital of district Amritsar, Punjab (2014). 30 postnatal mothers were selected using Purposive sampling technique. The intervention of compresses of cold cabbage leaves was given for 3 consecutive days on all research participants and each intervention lasted for a period of 15-20 min. All research

participants underwent this intervention 2 times a day. The results indicated that pre-treatment mean score of postnatal mothers was 5.06 (standard deviation [SD] 0.52 mean % 84.43, paired t test 5.25) and this result was statistically significant at $P < 0.001$ level. Posttreatment results indicated that on day 1 the posttreatment mean score of postnatal mothers was 4.07 (SD 0.45, mean % 67.66, paired t-test 4.87) and these results were statistically highly significant at $P < 0.001$ level. On day 2, the posttreatment mean score of postnatal mothers was 2.56 (SD 0.50, mean % 42.66, paired t-test 2.09) and these results were statistically highly significant at $P < 0.05$ level. On day 3, the posttreatment mean score of postnatal mothers was 1.26 (SD 0.44, mean % 21.11, paired t-test 5.88) and these results were statistically highly significant at $P < 0.001$ level. These results clearly indicated that the cabbage leave application is a very effective intervention in reducing breast engorgement in postnatal mothers.¹⁴

CONCLUSION

Various treatment measures are employed for breast engorgement. Various studies suggest that there is association between cabbage leaves on breast engorgement. Considering the cost factor, ease of use and no specialized skill requirement, cabbage leaves application can be considered as a fruitful breast engorgement treatment measure. Hence, Researcher is interested to evaluate the effect of cabbage leaves on breast engorgement among postnatal women.

Conflict of Interest: None

Source of Funding: Self

Ethical Clearance: Permission was obtained from Manikaka Topawala Institute of Nursing.

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Prevalence of Overweight among Adolescent Girls

Archana Gopinath¹, Amritha P.², Ranjini K. K.², Sariga P. P.², Varsha Venugopalan C. K.²

¹Senior Lecturer, SI-MET College of Nursing, Kannur. ²II year Post Basic BSc Nursing Students, SI-MET College of Nursing, Kannur, Kerala

ABSTRACT

Background: Overweight and obesity are the rising epidemics in the world today. Overweight occurs in approximate 30-60% of women with PCOS¹. PCOS is the one of the most leading cause of female infertility affecting 5-10% of reproductive age.

Objective: The study aims at identifying the prevalence of overweight among adolescent girls.

Methodology: A descriptive study design was adopted to conduct the study. A total of 150 samples of age group 13-14 years from Dinul Islam Sabha Higher Secondary School, Kannur. Convenient sampling technique was adopted to calculate population from different stream. Data were collected using predesigned questionnaire developed by investigators. Height and weight measured by using standardised weighing machine and tape measure. Data was analysed using descriptive (frequency, mean, median, percentage) and inferential statistics (chi-square test).

Result: Findings of study revealed that among the selected 150 adolescent girls, 5% had over weight, and the rest 95% had normal weight. Omission of breakfast, late dinner time, and hereditary factors contributed to overweight.

Conclusion: The study recommended the need for detailed curriculum based health education regarding overweight and its complication, and its prevention in schools as well as increasing awareness regarding the sequelae of overweight, thereby motivating the adolescent girls to incorporate healthy life style practices into their daily living.

Keywords: *overweight, adolescent girls.*

INTRODUCTION

Understanding the links between female adolescent development, weight gain, subsequent maternal obesity, and adverse pregnancy outcomes is critical if we are to improve the health of future generation. Excess weight gain during adolescence often persist into adult life and is compounded during child bearing years.

MATERIALS AND METHOD

A descriptive study design among the students of Dinul Islam Sabha Higher Secondary School, Kannur of 150 students of age 13-14 years. Convenient sampling method

was selected. Research tool included the socio demographic data, determination of body mass index, questionnaire to identify associated factors. Content validity was established through pre testing in 10 % of sample. Data analysis was planned in SPSS 16 version through descriptive statistics (mean, median, standard deviation, percentage) and inferential statistics (chi-square test).

RESULTS

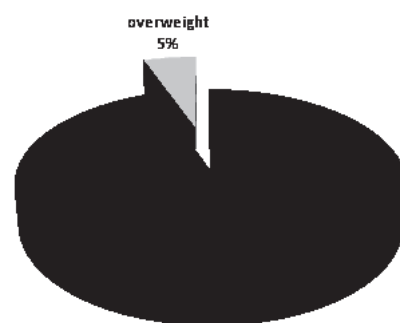


Figure 1 : Description of prevalence of overweight among adolescent girls

Corresponding Author:

Mrs. Archana Gopinath
Senior Lecturer, SIMET College of Nursing,
Mangattuparamba, Kannur, Parassinikadavu-670563
E-mail: archanagopinath2@gmail.com

Figure 1 showing description of prevalence of overweight among adolescent girls is revealed that 5% of students had over weight, and the rest 95% of students had normal weight.

Table 1: Description about relation of omission of breakfast and BMI N = 150

Source	df	Mean Square	F	Sig.
BREAKFAST	2	11.692	1.075	.044

Description about relation of omission of breakfast and BMI shows the level of significant of 0.044, that indicates there is a relation between omission of breakfast and BMI.

Table 2: Description on hereditary overweight related to overweight N = 150

Source	df	Mean Square	Sig.
Hereditary overweight	3	25.115	.048

Description on hereditary overweight related to overweight reveals point of significance of 0.048, which show there is a relation between hereditary overweight and overweight.

Table 3: Description based on dinner time and overweight N = 150

Source	df	Mean Square	Sig.
Dinnertime	3	30.608	.038

Table shows that level of significance of 0.038 which means there is a relation between dinnertime and overweight

DISCUSSION

In this study 95% (N=150) of adolescent girls of age between 13-14 years are not having overweight but the rest 5% of adolescent girls were having overweight. Dinner time and overweight are related (Sig= 0.038). Omission of breakfast also related to overweight (Sig = 0.044). Overweight is influenced by hereditary factors (Sig = 0.048).

CONCLUSION

The study recommends need for detailed curriculum based health education regarding overweight, its

complication and its prevention in schools as well increasing awareness regarding the sequelae of overweight, thereby motivating the adolescent girls to incorporate healthy life style practices into their daily living

Conflict of Interest: Nil

Source of Findings: Self.

Ethical Clearance: Ethical clearance obtained.

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An Exploratory Study on Relapse Cases of Tuberculosis Registered Under the Selected DOTS Centers at District-Mohali, Punjab

Chanchal Sharma

Assistant Professor, Department of Medical Surgical Nursing, Shivalik College Of Nursing, Bhattakuffar, India

ABSTRACT

The research study titled "An exploratory study on relapse cases of tuberculosis registered under the selected DOTS centers at District. Mohali Punjab" was based on the objectives; to identify the relapse cases of tuberculosis, to explore the factors contributing to relapse of tuberculosis, to find the association between prevalence of relapse cases of tuberculosis and factors contributing to relapse of tuberculosis with selected demographic variables. Survey approach with an exploratory design was adopted and was conducted in a selected DOTS centers. The conceptual framework was based on the Neumen system model of Nursing by Betty Neumen. The study had primary outcome variables as prevalence of relapse cases of tuberculosis and factors contributing to relapse of tuberculosis as reported by the subjects under registered DOTS centers. Forty three samples were selected by total enumeration technique. The tools used for the study were validated, pretested and the reliability was also established. The major findings of the study revealed that 90.7% were contributing to relapse of tuberculosis due to not residing alone. . Most of subjects (95.3%) had contributing to relapse of tuberculosis as reported by the subjects due to psychological factor. Majority of subjects (48.8%) had contributing to relapse of tuberculosis as reported by the subjects due to smoking and (34.9%) due to alcohol. Majority of subjects had suffered from minor ailments i.e. fever (except tuberculosis) during the period. Majority of subjects had taken desi medicines besides tuberculosis treatment and subjects had taken allopathic. Most of patients had kept fast at one time in 1 month. Most of subjects had 2 rooms in their house living with their family. Significant association was found between prevalence of relapse cases of tuberculosis with selected demographic variables. Significant association was found habits contributing to relapse of tuberculosis as reported by the subjects with age and dietary habits ($P < 0.05$).

Keywords: *Relapse cases of tuberculosis*

INTRODUCTION

TB Burden in India [Source: WHO-Global TB Report, 2010] India is the second-most populous country in the world; India has more new TB cases annually than any other country. In 2009, out of the estimated global annual incidence of 9.4 million TB cases, 2 million were estimated to have occurred in India, thus contributing to a fifth of the global burden of TB.¹

Shah A.G (2012) conducted a study on DOTS for TB relapse in India: A systematic review. In India, under the Revised National Tuberculosis Control Program (RNTCP), the percentage of smear-positive re-treatment cases is high. Relapse rate is high (almost 10%) in India which is higher than international studies. Majority of relapse cases present soon after completion of treatment (first six months). Risk factors for relapse included drug irregularity, initial drug resistance, smoking and alcoholism Sex and weight were not risk factors in India. The outcome of relapse cases put on treatment is positive but less effective than new cases. The study concluded that there are sound arguments and sketchy evidence that DOTS Category 2 treatment may not be adequate for retreatment patients.²

Corresponding Author:

Chanchal Sharma,
Associate professor, College of Nursing, Shivalik
Bhattakuffar , Shimla.
E-mail: ChanchalSharma317@gmail.com

Khurram M conducted a study on factors affecting relapse of TB. Objective of the study was to assess the factors affecting relapse of pulmonary tuberculosis. The results showed that age <40 years (64%), male gender (62%), inner city over crowded residence (100%), illiteracy (62%), income <Rupees 5000/month (72%), contact with TB patient (64%), no weight gain(52%), failure of DOTS implementation (100%) during previous ATT course, and anemia (70%) were present in ≥50% patients. Significant gender based difference was notable in employment status and weight gain during previous ATT course only. The study concluded that inner city, overcrowded residence and lack of DOTS implementation are most frequently noted factors in TB relapse patients.³

OBJECTIVES

- To identify the relapse cases of Tuberculosis registered under the selected DOTS centers at District. Mohali, Punjab.
- To explore the factors contributing to relapse of Tuberculosis as reported by the subjects registered under the selected DOTS centers at District. Mohali, Punjab.
- To find the association between prevalence of relapse cases of Tuberculosis & factors contributing to relapse of Tuberculosis as reported by the subjects with selected demographic variables.

MATERIAL & METHOD

The present study used a survey approach with an exploratory research design. Population for the present study comprises of all the relapse cases of tuberculosis in DOTS centers. The participants for the present study consisted of 43 relapse cases of tuberculosis in DOTS centers, who fulfill the inclusion criteria. Total enumeration sampling technique was used for this study.

The following data collection tools were developed by the investigator and used to collect the data;

Tool 1-Survey Performa: This was developed to identify the relapse cases of tuberculosis in DOTS centers.

Tool 2- Sociodemographic profile: This was developed to obtain data regarding demographic variables which were to collect personal information about the patients.

Tool 3: Semi structured interview schedule: It was developed to explore the factors contributing to relapse of tuberculosis as reported by the subjects in

selected DOTS centers. There are 30 items related to Personal factors, Social factors/Environmental factors, Psychological Health and habits. Score of 1 given if the subject answer is in yes for the item and score of 0 is given if answer is in No for the item.

DATA COLLECTION PROCESS

The data collection procedure was carried out with the semi structured interview schedule. Assurance of confidentiality of their response was given and anonymity was maintained throughout the study. At first rapport was established with the subjects and the purpose of the study was explained to them. It was assured to them that all data would be kept strictly confidential and will be used for study purpose. The researcher provided adequate instructions and explanations regarding the procedure to collect the data.

Ethical considerations: Approval from the ethical and research committee of Sri Sukhmani College of Nursing, DeraBassi District Mohali had been taken to conduct the research study. Permission for data collection was obtained from the civil surgeons of selected hospitals, informed written consent was taken from individual subject and confidentiality of the information was maintained.

FINDINGS

Descriptive and inferential statistics were used for the analysis of the data on the basis of objectives, using Statistical Package for Social Sciences (SPSS) version 20.

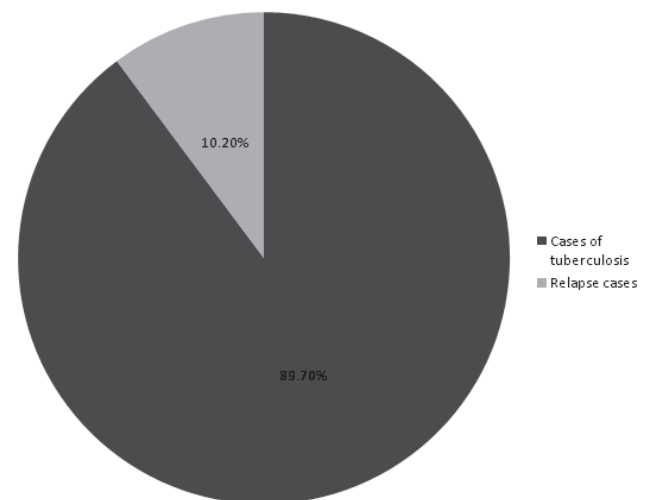


Fig.1 shows that out of 421 subjects 89.7% were cases of tuberculosis whereas 10.2% subjects were relapse cases of tuberculosis. Hence it is stated that prevalence of relapse cases of tuberculosis were 10.2%.

Description of the sample characteristics in terms of socio demographic variables: Majority of subjects (48.8%) were in age group 31-50 years. Most of subjects were male (76.7%). Majority of subjects (34.9%) were matriculate. Majority of subjects (20.9%) were in private job. Majority of subjects (20.9%) were unemployed and (20.9%) housewife. Majority of subjects (86.0%) were married. Majority of subjects (58.1%) had monthly income less than and equal to 5,000. Majority of subjects (69.8%) were non- vegetarian. Majority of subjects (76.7%) had 4-6 family members. Majority of subjects (55.8%) were in joint family. Most of subjects (25.5%) whose date of initiation of DOTS therapy started in the month of October 2012. All the subjects (100%) sources of information regarding tuberculosis were health personnel. All the subjects (100%) had one time relapse of tuberculosis after treatment. All the subjects (100%) were from category II.

Findings related to the Factors contributing to Relapse Cases of Tuberculosis as reported by subjects Registered under selected DOTS centers

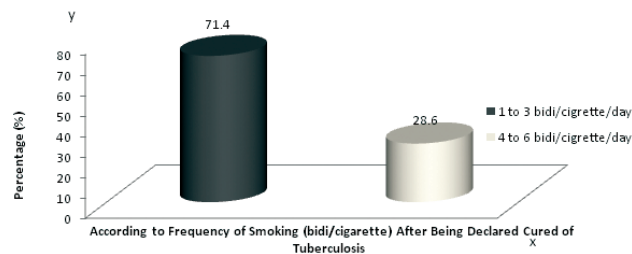


Fig.2. shows that 71.4% subjects had smoke 1 to 3 bidi/cigarette /day according to frequency of smoking, 28.6% subjects had smoke 4 to 6 bidi/cigarette /day after being declared cured of tuberculosis.Hence it can be concluded that majority of subjects (71.4%) had smoke 1 to 3 bidi/cigarette/day according to frequency of smoking after being declared cured of tuberculosis.

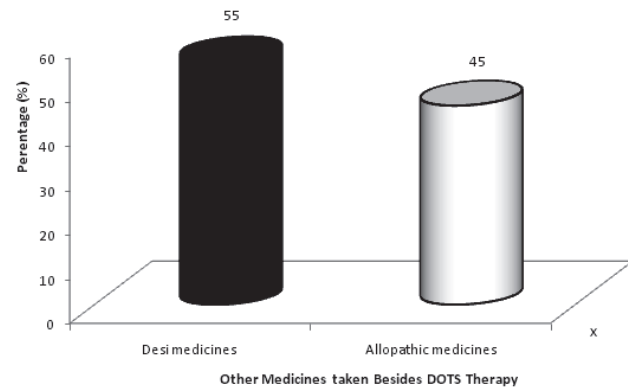


Fig.3 shows that out of 20 patients 55% of subjects had taken desi medicines besides DOTS therapy, 45% subjects had taken allopathic medicines besides DOTS therapy.Hence it is concluded that majority of subjects (55%) had taken desi medicines besides DOTS therapy.

Table 1: Association between prevalence of relapse cases of Tuberculosis with selected demographic variables N = 421

Characteristics	n	Relapse Cases	Non relapse cases	χ^2	df	P-value
Age in years						
17-30	110	10	100	9.0252*	3	0.0288
31-50	140	21	119			
51-70	90	10	80			
71 & above	81	2	79			
Gender						
Male	350	33	317	1.3953 ^{NS}	1	0.2374
Female	71	10	61			
Type of tuberculosis						
Pulmonary	300	43	257	19.3163**	1	0.0000
Extrapulmonary	121	0	121			
Date of initiation of DOTS therapy						
September2012	110	8	102	15.4676*	6	0.0168
October 2012	70	11	59			
November 2012	40	6	34			
December 2012	50	9	41			
January 2013	50	3	47			
February 2013	45	6	39			
March 2013	56	0	56			

Contd...

Category of tuberculosis						
Category I	156	0	156	86.5240**	2	0.000000
Category II	150	43	107			
Category III	115	0	115			

*Significant at p level<0.05 **Significant at p level<0.00 NS = Non Significant

Table 1. showed that prevalence of relapse cases of tuberculosis was significantly associated with age and date of initiation of DOTS therapy at the p level<0.05 (0.0252, df=3), (0.0168, df=6), type of tuberculosis and category of tuberculosis at the p level< 0.001 (0.000000,df=1), (0.000000,Df=2) except gender with demographic variables.

In personal factors majority of patients (27.9%) did not habit of washing hands before and after meals, according to health majority of patients (46.5%) had taken other medicines besides tuberculosis treatment and majority of patients (34.9%) were suffered from other medical problem, according to nutrition majority of patients (97.7%) were did changes in consumption of food item after being declared cured of tuberculosis. Majority of subjects (90.7%) were not residing alone and (79.1%) subjects were visiting hospital/health centre after declared cured for tuberculosis according to environmental/social factors.

In psychological factors, majority of subjects (95.3%) had anxiety after declared cured of tuberculosis, (93.0%) subjects had remain upset most of time during the period, most of subjects (53.5%) had experience fear of dying during the time. Most of subjects (48.8%) had habit of smoking and (34.9%) had habit of consuming alcohol which also contributes to relapse. Most of subjects (46.7%) had suffered from minor ailments i.e. fever (except tuberculosis) during the period and (26.7%) subjects had suffered from asthma. Majority of subjects (55%) had taken desi medicines besides DOTS therapy. According to changes in consumption of food item majority of subjects (90.7%) had increased wheat in their diet after being declared cured of tuberculosis, (39.5%) subjects had decreased intake of tea, (60.5%) subjects had no change in take of cheese. Majority of patients (57.14%) had kept one fast/ month. Majority of subjects (83.7%) subjects perception regarding had body weight had increased after initiation of DOTS therapy. Majority of subjects (89.5%) were visiting hospital/

health center 1 to 3 times/week after being declared cured of tuberculosis. Majority of subjects (71.4%) had felt stressed most of time during the period. Majority of subjects (71.4%) had smoke 1 to 3 bidi/cigarette/day according to frequency of smoking after being declared cured of tuberculosis. Majority of subjects (68.8%) had decreased consumption of alcohol and 18.8% subjects had consumed alcohol occasionally. Majority of subjects (81.8%) had used tobacco as a other substance abuse.

Significant association was found between habits contributing to relapse of tuberculosis with age and dietary habits at P level <0.05.

DISCUSSION

In present study it was found that out of 421 patients of tuberculosis, 43 subjects (10.2%) were relapse cases of tuberculosis. Majority of subjects (76.7%) were male. Study was conducted by Anaam, M.S; Ibrahim, M.I.M; Serouri AI, A.W; Bassili, A; Aldobhani, A. (2012) on relapse predictors among tuberculosis patients treated in Yemen's NTCP. A relapse rate (5.7%) was found.⁴ Akpabio S.Ubon, JT. Pierre de V illiers (2011) on patients with recurrence of pulmonary tuberculosis in a tuberculosis hospital among patients. 388 patients was found with retreatment tuberculosis. This comprised (66%) were male patients who were suffer with pulmonary tuberculosis.⁵

The study revealed that major factors which contribute to relapse of tuberculosis were environmental/social factors, psychological factors and habits like smoking (48.8%), and alcohol (34.9%). A similar study was conducted by Siddiqui S.M, Fakh AMH, Burney A W, Iftikhar R, Khan N (2012) on the Environmental and Host- related factors predisposing to tuberculosis.⁶

The study findings revealed that (54%) were male. Most common addiction was smoking (48%) and (69.6%) patients lived in over crowded houses (>_3 persons/room).

The present study is also supported by Khurram M, Yong M.I, Arshad M M, Khar T B H (2009) conducted on factors affecting relapse of tuberculosis. Age < 40 years (64%), Male gender (62%), income < 5000/month (72%) were present in patients. In present study < 31-50 years 48.8% , male were (76.6%), income< 5000/month (58.1%) were also affecting the factors of relapse of tuberculosis.³ Joannad D, Batist L A, Fatima D M, Arroes D R, Alencar X, Laurs C R (2008) conducted on smoking increases the risk of relapse after successful tuberculosis treatment. Tobacco smoking has been identified as a risk factor for developing tuberculosis.⁷

The study revealed that there is significant association between habits contributing to relapse of tuberculosis and their selected demographic variables. Lonroth K, Brian G W, Stephanie S, Ernesto J, Christopher D (2002) conducted a study on alcohol use as a risk factor for tuberculosis.⁸

The findings showed that significant association between alcohol taking with demographic variables.

LIMITATIONS

- Because of the sample size generalization of the present study is not possible.
- Randomization was not done because number of relapse cases of tuberculosis were not enough in selected area under study.

CONCLUSION

There were 421 cases of tuberculosis registered in the selected DOTS centers, out of which 43 relapse cases of tuberculosis was found. Most of subjects were in the age group 31-50 years. Most of subjects were male. Subjects were contributing to relapse of tuberculosis due to not residing alone and most of subjects were visiting hospital/health centre after declared cured for tuberculosis. Most of subjects had contributing to relapse of tuberculosis due to psychological factor. Majority of subjects had contributing to relapse of tuberculosis due to smoking and due to alcohol. Majority of subjects had suffered from minor ailments i.e. fever (except tuberculosis) during the period. Majority of subjects had taken desi medicines besides tuberculosis treatment and subjects had taken allopathic. Significant association was found habits contributing to relapse of tuberculosis with age and dietary habits.

Source of Funding: Self

Conflict of Interest: Nil

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Effect of Ginger Tea on Dysmenorrhoea among Adolescent Girls-A Literature Review

Divya Rohit¹, Anjali Tiwari²

¹M.Sc Nursing, ²Assistant Professor and HOD, Dept. of Obstetrics & Gynaecological Nursing, ManikakaTopawala Institute of Nursing, CHARUSAT, Gujarat.

ABSTRACT

This study aims to assess the effect of ginger tea on dysmenorrhoea among adolescent girls. It was observed that during adolescence, young people go through many changes as they move from childhood into physical maturity. One of the major physiological changes that take place in adolescent girls is menarche. After menarche many adolescent girls faces problems of irregular menstruation, excessive bleeding, and dysmenorrhoea. A variety of herbal medicines exhibited beneficial effects on dysmenorrhoea. Ginger is one of the herbal product and it is also helpful in relaxing the muscular spasms and in relieving the pain present during ovulation and during menstrual periods. So it was concluded that there is association between ginger and it's effect on dysmenorrhoea.

Keyword: effect, ginger tea, dysmenorrhoea, adolescent girls, school

INTRODUCTION

The period of adolescence is transition from childhood to adult life along with pubertal development and sexual maturation. During puberty, hormonal, psychological, cognitive and physical changes occur simultaneously.¹According to UNICEF there are 243 million adolescent girls in India so maintenance of adolescent reproductive health is very important.² According to report of Indian council of medical research dysmenorrhoea was the most common gynaecologic disorder among female adolescents, with a prevalence of 16.5%.³Dysmenorrhoea is interrupting their educational and social life. Lethargy and tiredness were persistent problems in girls with dysmenorrhoea.⁴

To study the same, the researcher reviewed many literature and it was obtained through various database includes CINHALL (Cumulative index TO Nursing & Allied Health Literature), MEDLINE (Medical Literature Analysis & Retrieval System Online), PubMed,& Google scholar.

Corresponding Author:

Ms. Divya Rohit
M.Sc Nursing, ManikakaTopawala Institute of Nursing,
CHARUSAT, Gujarat.
Email: rohitdivya80@gmail.com

MATERIAL AND METHOD

The study is headed mainly on the effect of ginger tea on dysmenorrhoea.

An experimental study was conducted to assess the effectiveness of ginger preparation on dysmenorrhoea among adolescent girls of Punjab (2017). 60 adolescent girls were selected through purposive sampling technique. After onset of menstruation to subjects on first day, pre interventional dysmenorrhoea among adolescent girls was assessed and after that, ginger preparation was administered for three times a day for 48 hours with interval of 6hrs between each intervention and at the end of sixth intervention post interventional dysmenorrhoea among adolescent girls was assessed. Pre-interventional mean dysmenorrhoea was 5.03 ± 1.983 and post interventional mean dysmenorrhoea was 2.78 ± 2.084 . The study concluded that dysmenorrhoea affects approximately 50% of menstruating adolescent girls and 10% are incapacitated for up to 3 days. Use of ginger preparation after onset of menstruation could help to relieve dysmenorrhoea.¹

A quasi experimental study was conducted to assess the effectiveness of active exercise and dietary ginger versus active exercise on primary dysmenorrhoea among adolescent girls of selected college and school of

nursing, Chandigarh and Mohali (2013). 64 adolescent girls with dysmenorrhoea were selected through random sampling method. The data was collected by using self administered questionnaire, numerical rating pain score and menstrual distress questionnaire. Group 1 were given dietary ginger and group 2 were given demonstration of active exercise and instructed to do it. The pre interventional mean pain score in group-1 was 5.09 ± 2.33 and in group -2 was 5.13 ± 1.99 . The post interventional mean pain score in group-1 was 2.91 ± 2.45 and in group-2 4.13 ± 2.12 at 60 days. The study concluded that if adolescent girls regularly using ginger preparation it would help to reduce dysmenorrhoea through natural resources.⁵

A Pre-experimental study was conducted to assess the effectiveness of ginger powder on intensity of pain in primary dysmenorrhoea among the nursing students at selected colleges, Jalandhar, Punjab (2015). 40 samples with primary dysmenorrhoea were selected through purposive sampling technique. Pre intervention pain score was obtained and thereafter 1.5 gm ginger powder was administered for 3 days (250mg BD/day) from the day of menstruation. Post intervention pain score was obtained after one month that is after the completion of second menstrual cycle. Study revealed that pre test mean pain rating score was 6.5 whereas post test mean pain score was 2.15. The study concluded that ginger powder can be used as complementary medicine in primary dysmenorrhoea which is natural painkiller and helps to relieve dysmenorrhoea.⁶

A quasi experimental study was conducted to evaluate the effect of ginger herbs on pain relieve of primary dysmenorrhoea among females of Shagra city at kingdom of Saudi Arabia.(2013). 120 female students were selected through convenient sampling method. Samples were divided in experimental group and control group. The data was collected using socio-demographic characteristics sheet, menstrual assessment sheet, verbal multidimensional scoring system and visual analogue scale/ score (VAS). The intervention group instructed to intake one table spoon of fresh ginger over 200 c.c warm water by average three cups daily started before menstruation by 3 days and continue used for first two days during menstruation. Pre interventional mean pain score was 2.66 ± 1.7 and post interventional pain score was 1.1 ± 1.2 (post 2nd menses cycles).The study concluded that dysmenorrhoea was most common

gynaecological problem and fresh ginger preparation proved effective to relieve dysmenorrhoea.⁷

A randomized clinical trial was conducted to assess the effectiveness of ginger in providing relief to patients of primary dysmenorrhoea at Toyserkan Azad University in western Iran (2010). 70 female students with primary dysmenorrhoea were selected through table of random number and the samples were randomly divided in to two equal groups: ginger group and placebo group. The data was collected using visual analogue scale and a likert scale. The collected data was analyzed by using SPSS. The pre and post interventional mean pain score in ginger group was 7.08 ± 1.02 and 4.81 ± 1.70 . The pre and post interventional pain score in placebo group was 7.61 ± 1.20 and 7.11 ± 1 . Study concluded that ginger preparation is more effective in relieving dysmenorrhoea if it is used during menstrual cycle.⁸

An experimental study was conducted to assess effectiveness of ginger tea versus mint tea in reducing dysmenorrhoea among adolescent girls of selected hostel, at Thrissur (2016). 45 adolescent girls with dysmenorrhoea were selected through Simple random sampling (Lottery) method. Samples were divided in two main group. Group 1 was divided into experimental group (taking ginger tea) and control group with no intervention. Group -2 was divided into experimental group (taking mint tea) and control group with no intervention. The data was collected using Karen Lee Richard's modified pain scale. The collected data was analyzed by using descriptive and inferential statistics. The pre interventional pain score in experimental group -1 were, 6.66% (mild), 66.66% (moderate), and 26.66% (Severe) and the post interventional pain scores were 66.66% (mild), 26.66% (moderate) and 6.66% (No pain). The pre interventional pain score in experimental group -2 were, 20% (mild) and 80% (moderate). The post interventional pain scores were 66.66% (mild), and 33.3% (moderate). The study concluded that ginger tea is an effective way of relieving dysmenorrhoea in home environment. Ginger is easily available and ginger tea is safe compare to analgesics.⁹

Non-equivalent pre-test and post-test control group study was conducted to assess the effectiveness of ginger tea on dysmenorrhoea among college students at Kanyakumari district (2016). 60 samples with dysmenorrhoea were selected through purposive

sampling technique. Samples were equally divided in to experimental and control group. The data was collected using numerical pain rating scale. The pain level was assessed and ginger tea 100ml administered for experimental group 3 times (morning afternoon and evening) for the first 2 days of menstruation. Post test was assessed second day evening for both experimental and control group. Study revealed that pre-test mean value for experimental and control group was 7.03 and 6.96. The post-test mean value for experimental and control group was 3.36 and 6.26. The study concluded that if adolescent girls use ginger tea during first 2 days of menstrual cycle for at least 3 times a day it is very useful in reducing dysmenorrhoea.¹⁰

A pre experimental study was conducted to assess the effectiveness of ginger powder on dysmenorrhoea among adolescent girls in a selected school at erode (2012). 30 adolescent girls with dysmenorrhoeal symptoms and between the age group of 16 – 18 years were selected through convenience sampling method. The data was collected using menstrual symptoms assessment scale. The collected data was analyzed by using descriptive and inferential statistics. A pre test was conducted then 1 gm ginger powder was given two times a day for 7 days and again post test was conducted. In pre test the mean score was 65.12 (SD= 8.74) and the post test mean score was 43.24 (SD = 6.72), The study concluded that, there was reduction of symptoms and level of pain in the adolescent girls after administration of ginger powder. There was need for educating adolescent girls on effective management of dysmenorrhoea.¹¹

A quasi experimental study was conducted to assess the effectiveness of ginger powder on dysmenorrhoea among nursing students in selected nursing colleges of Punjab(2017). 60 nursing students were selected(30 in experimental and 30 in control group) through purposive sampling method. The data was collected by using modified McGill pain questionnaire and standardize Wong Bakers faces pain rating scale. The collected data was analyzed using and inferential statistics. Pre test was done on 1st day of menstruation then prepared ginger powder were administered once a day on the start of menstruation till 3 days then post test was done. According to objective assessment in experimental group 66.7% had mild level of pain whereas in control group 56.7% had moderate pain. Study conclude that ginger having good impact on reducing dysmenorrhoea.¹²

CONCLUSION

Many measures are employed for relieving dysmenorrhoea. Various studies have shown that there is association between ginger and dysmenorrhoea. Hence, researcher is interested to assess the effectiveness of ginger tea on dysmenorrhoea among adolescent girls.

Conflict of Interest: None

Source of Funding: Self

Ethical Clearance: Permission was obtained from ManikakaTopawala Institute of Nurisng.

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Effectiveness of Structured Teaching Programme on the Knowledge and Practice of Partograph among Nurse Midwives

Dorathy Devakirubai. T¹, Devakirubai Rebirth², Ebenezer Ellen Benjamin³, Tunny Sebastian⁴

¹Professor, College of Nursing, ²Charge Nurse, Labour Room, ³Professor, College of Nursing, ⁴Lecturer, Department of Biostatistics, CMC, Vellore

ABSTRACT

Partograph is a graphical record used to monitor the progress of labour. It helps the caregiver to identify deviations from normal and make prompt decisions and interventions in treating complications related to labour. World Health Organization (WHO) recommends use of partograph to monitor all labour, still, it is not widely used in the developing world. Caregivers feel that completing the partograph is a time-consuming task. This study was undertaken with the aim to assess the effectiveness of structured teaching programme on knowledge and practice of partograph among nurse midwives working in labour room of a tertiary hospital. Knowledge was assessed using a self-administered questionnaire and a checklist was used to assess the practice of partograph among 51 nurse midwives. It was found that 74.5% of nurse midwives had moderately adequate knowledge and 52.9% of the nurse midwives had adequate knowledge before and after the structured teaching programme respectively. In regard to practice of partograph it was found that 62.7% of them had inadequate practice before the structured teaching programme. After the teaching programme it was found that 52.9% of the nurse midwives had moderately adequate practice. Practice was assessed three months after the structured teaching programme and it was found that 58.8% of them had moderately adequate practice. While comparing the knowledge and the skill before and after the intervention it was found that there was significant increase in knowledge and practice among the nurse midwives. It was also found that there was no significant correlation between knowledge and practice and also there was no association between knowledge, practice and the selected demographic variables. The findings of this study revealed that constant reinforcement and support with supervision will enable the nurse midwives to practice partograph adequately.

Keywords: *Effectiveness, Knowledge, Practice, Structured Teaching Programme, Nurse midwives, Partograph.*

INTRODUCTION

Each year 211 million women become pregnant³. About eight million women experience pregnancy related illnesses and over half a million women lose their lives every year because of complications of pregnancy and childbirth³. In developing countries, poor outcomes during labour account for 99% of maternal deaths and for every 100,000 live births an average of 450 women die⁵. Early detection of abnormal progress of labour with the use of the partograph could have prevented these deaths and also maternal morbidity as well as improved neonatal outcomes.

Partograph was originally produced by Huger Philpott and Castle in 1972, and later it was modified and adopted by the WHO in 1988 and recommended for worldwide use in all healthcare settings³. The partograph is a graphical recording of progress of labour and salient conditions of the mother and fetus plotted against time in hours. It is a cost-effective and affordable tool. Introduction of the partogram with agreed labour management protocol reduced both prolonged labour from 6.4% to 3.4%⁶ and proportion of labour requiring augmentation from 20.7% to 9.1%⁶. Emergency caesarian sections fell from 9.9% to 8.3%, intrapartum still births from 0.5% to 0.3%⁶. While world Health Organization calls for health personnel and midwives to use and manage protocol both in labour ward and management of labour complications in health center.

In spite of the recommendation by WHO, to use the partograph to monitor all labour, it is still not widely used in the developing world. Caregivers often feel that completing the partograph is an additional time-consuming task. They may also resist using the tool if they have insufficient knowledge and do not fully understand why they have been asked to use the tool. Hence this study was designed to assess the effectiveness of structured teaching programme on partograph with the following objectives:

1. To assess the level of knowledge of nurse midwives on partograph before and after the intervention
2. To assess the level of practice of nurse midwives on partograph before and after the intervention
3. To compare the level of knowledge of nurse midwives on partograph before and after the intervention.
4. To compare the level of practice of nurse midwives on partograph before and after the intervention.
5. To find the relationship between knowledge and practice of partograph among the nurse midwives before the intervention.
6. To find the association between knowledge and practice of partograph among the nurse midwives with the selected demographic variables before the intervention.

METHOD

A pre-experimental, one group pre-test post-test research design was used to assess the effectiveness of structured teaching programme on the knowledge and practice of partograph among the nurse midwives working in labour room. Total enumeration sampling technique was used and 51 nurse midwives with more than three months of experience were included for the study. Knowledge of partograph among the nurse midwives was assessed using a self-administered questionnaire before and after the intervention. The questionnaire was prepared by the investigator and validated. It consisted of two parts – Part: A consisted of Demographic data of the nurse midwives such as educational qualification, place of professional qualification, years of experience in labour room and inservice education programmes attended on partograph. Part: B consisted of 25 questions on knowledge regarding the use of partograph. Each

correct answer was given a score of 1 and incorrect answer was scored 0. Likewise practice of partograph was assessed by using a checklist consisting of 10 items. Partograph record that was filled by the nurse midwives and kept in the patient chart was audited after the delivery of the patient and scoring was done. When the components were filled then a tick mark is made in 'YES' column of the checklist and any incomplete data on the partograph record was marked as 'No'. Each 'YES' was given a score of 1 and 'No' was scored 0. The total scores of knowledge and practice were calculated converted to percentages and interpreted. Scores above 75% was considered as adequate, scores between 50% - 74% was considered as moderately adequate and scores less than 49% was considered as inadequate. Data was analyzed and interpreted using descriptive statistics, Frequency tables, Paired t test, Pearson correlation coefficient and Chi-square.

Nurse midwives who fulfilled the inclusion criteria were gathered in the class room twice during the day (8am & 3.30pm) on the first day of the study. Written informed consent was obtained from the participants which was followed by assessment of knowledge. The partograph record kept in the charts of the women in labour taken care of by the subjects on duty everyday was collected, audited and graded using a checklist. The pre-test data collection was completed in one-month time duration. After this structured teaching programme was conducted in three sessions in one day. This was followed by post-test assessment of practice which was done in the same way as that of the pre-test at 1 month and at 3 months. At the end of assessing the practice at 1 month, knowledge was assessed as described in the pre-test. The time duration taken to complete post-test was one month. Ethical clearance for the study was obtained from the Institutional Review Board.

RESULTS AND DISCUSSION

The data was analyzed using Statistical Package for Social Sciences (SPSS) Version 17.0. Descriptive statistics and frequency tables were used for description of all the variables. The significance of difference in knowledge and practice before and after the intervention was analysed using Paired t test. Pearson correlation coefficient and scatter plot was used to find out the correlation between knowledge and practice. The association between knowledge, practice and the demographic variables was identified using Chi square.

Demographic characteristics revealed that majority (90.2%) of the nurse midwives were diploma graduates and the rest (9.8%) of them were graduates with a BSc degree in nursing. Nearly 50.98% of them were trained in the institution where they were working while 49.02% were trained elsewhere. In regard to years of experience in labour room it was found that majority (41.18%) of the nurse midwives had more than six years, 7.84% of them had four to six years, 23.53% had two to four years of experience and 27.45% of them had less than two years. It was also found that only 25.49% of the nurse midwives attended inservice education programme on partograph, while the others (74.51%) hadn't attended any.

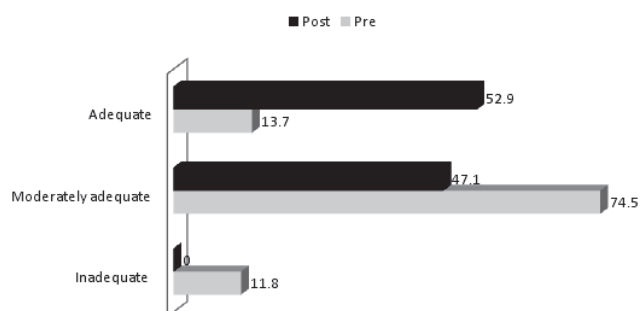


Figure 1: Knowledge of partograph among staff nurses before and after the intervention

The findings of the study revealed that majority (74.5%) of the nurse midwives had moderately adequate knowledge, while 13.7% of them had adequate knowledge and 11.8% of them had inadequate knowledge regarding partograph before the intervention. The mean pretest knowledge score was found to be 63.3 and the SD 9.8. The findings of the study after the intervention revealed that 52.9% had adequate knowledge and 47.1% had moderately adequate knowledge, while none of them had inadequate knowledge. The mean posttest knowledge score was 71.7 and SD was 9.7.

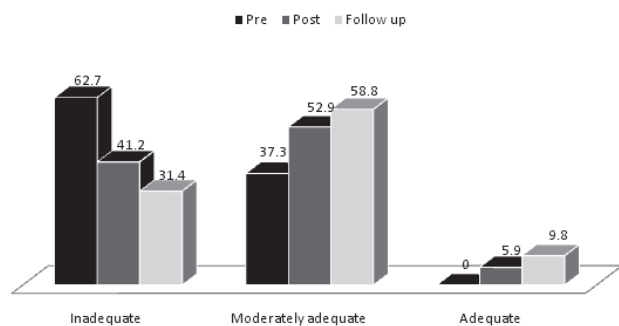


Figure 2: Practice of partograph among the staff nurses before and after the intervention

Assessment of practice before the intervention revealed that 62.7% of the nurse midwives had

inadequate practice and the rest 37.3% had moderately adequate practice, while none of them had adequate practice. The mean pre-assessment score was found to be 43.3 with SD of 13.6. 52.9% of the nurse midwives were found to have moderately adequate practice, while 41.2% had inadequate practice and 5.9% of them had adequate practice during the post assessment. The post assessment mean score was found to be 53.8 and SD 13.9. Likewise, 58.8% of the nurse midwives were found to have moderately adequate practice, 31.4% were found to have inadequate practice and 9.8% of them had adequate practice during the follow up assessment that was done after three months. The mean practice score during the follow up was 54 and SD 15.9. A study done on the effectiveness of a planned teaching programme on knowledge and skill in the use of partograph among the nurses working in the maternity unit found that the overall pretest mean knowledge score was 13.9 and the posttest mean knowledge score was 21.3. The overall pretest mean skill score was 5.57 and post-test mean skill score was 12.63².

Moreover, while comparing the level of knowledge before and after the intervention it was found that there was a t – value of -6.7 and a p value of <0.0001. Similarly, comparison of level of practice before and after the intervention showed a t – value of -4.5 and -4.2 at one and three months respectively while their p values were <0.0001 at both times. This reveals that the difference in knowledge and practice scores after the intervention were highly significant. In a study done to assess the effectiveness of planned teaching program on knowledge regarding partogram among fourth year B.Sc. nursing students of Karnataka College of Nursing at Bangalore revealed that comparison of the pre-test and the posttest knowledge scores was highly significant which showed that there was a significant increase in the knowledge after the intervention¹.

Pearson Correlation coefficient was used to determine the relationship between knowledge and practice of partograph. A Correlation coefficient of -0.09, p value 0.534 showed that there is no correlation between knowledge and practice. In contrary to this a study done on the effectiveness of a planned teaching programme on knowledge and skill in the use of partograph among the nurses working in the maternity unit found that there was a positive correlation ($r_{xy} = 0.5714$) between knowledge and skill².

It was also found that there is no association between the knowledge and practice and selected demographic

variables at 0.05 level of significance. Moreover, it was found that inadequate practices were more among diploma nurses when compared to BSc nurses. However, this was not statistically significant. A similar finding was also reported in a study done on the effectiveness of a planned teaching programme on knowledge and skill in the use of partograph among the nurses working in the maternity unit, where the variables such as professional qualification and inservice education showed an association with the pretest knowledge scores at 0.05 level of significance and no association was found between the pretest skill scores at 0.05 level of significance².

CONCLUSION

The process of labour is an enormous emotional and physiologic accomplishment for the women and her support person. Partograph is considered a valuable tool in the improvement of maternity service by allowing midwives and obstetrician to display intrapartum details in a pictorial manner. Time to time reinforcement and managerial support will help the caregivers to be consistent in their use of the partograph and thereby reduce as well as prevent maternal and neonatal complications and provide a happy parenting.

Source of Funding: Christian Medical College

Conflict of Interest: Nil

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Comparitive Study to Assess the Level of Social and Emotional Adjustment among Adolescents

Durgeshori Kisi¹, Vijetha Kottari², Veena Gretta Tauro³

¹Lecturer, Bir Hospital Nursing Campus Gaushala, Katmandu, Nepal, ²Head of Department of Pediatric Nursing, Masood College of Nursing, Mangaluru, Karnataka, ³Principal, Masood College of Nursing, Mangaluru, Karnataka.

ABSTRACT

The objectives of the study were 1) to assess the level of social adjustment and emotional adjustment among adolescents 2) to compare the level of social and emotional adjustment among adolescents 3) to find out the association between level of social adjustment and emotional adjustment among adolescents studying in selected urban and rural pre-university colleges and their selected demographic variables. The study involves descriptive approach and the design was a comparative descriptive design. The urban and rural pre-university colleges were selected by purposive sampling technique whereas sample of the study was selected by proportionate stratified random sampling technique. The sample size was 500 adolescents, 250 each from rural and urban pre-university College, Mangalore. The investigator collected the data for analysis and interpretation, using standardized scale like Adjustment Inventory for School Students (AISS) developed by A. K. P. Sinha and R. P. Singh. In order to examine the proposed association the data was tabulated, analyzed and interpreted using descriptive and inferential statistics.

The result revealed that majority of the adolescents in rural and urban Pre-university College had average level of social adjustment whereas very minimal number of subjects in rural and urban had obtained excellent level of social adjustment. Regarding emotional adjustment, majority of the subjects in rural and urban Pre-university College had good level of emotional adjustment whereas very minimal number of subjects in rural as well as in urban had very unsatisfactory level of emotional adjustment. There was no significant difference between the social adjustment and emotional adjustment of adolescents studying in selected urban and rural pre-university colleges. There was significant association between level of social adjustment and emotional adjustment among adolescents studying in rural and urban Pre-university College with their selected demographic variables.

Keywords: Assess, social adjustment, emotional adjustment, adolescents, urban and rural pre-university colleges.

INTRODUCTION

Adolescence is a transitional stage of physical and psychological human development that generally occurs during the period from puberty to legal adulthood (age of majority). Adolescence is usually accompanied by an increased independence allowed by the parents or legal guardians and less supervision as compared to preadolescence¹.

Today's adolescents and youth are 1.8 billion strong and make up one quarter of the world's population. It is reported that 19% of the world's population is in the age of 10 to 19 years. India is the largest population

of adolescents in the world being home to 243 million individuals aged 10 to 19 year. World's Children report stated that the India's adolescent population constituted 30% of the world's 1.2 billion. In Karnataka, the total population is 52.73 million and adolescent population constitutes 17% of the total population. In Dakshina Kannada, approximately 2, 00,000 adolescents are there between the age group of 12 and 16 years².

Adolescents are facing multitude of problems throughout the world. Adolescents suffer from different mal-adjustment problems at one time or the other during their development. The major problems that usually involved with these age groups are substance

abuse, internalizing disorders (depression, anxiety) and externalizing disorders (delinquency, aggression, educational difficulties, truancy). Many of these problems are of transient nature and are often not noticed and it can lead new challenges for these adolescents and symptoms of dysfunction may occur³.

Adjustment problems occur when an individual is unable to adjust or cope with a particular stressor. There has been a rise in the prevalence of mental illness and maladaptive behaviours among adolescents. WHO estimates show that up to 20% adolescents have one or more mental or behavioural problems⁴. A study conducted on students' adjustment problems in first year students at the University of the North, in South Africa revealed that 33-85% of the students experienced various adjustment problems⁵.

In the current scenario, urban and rural adolescents differ significantly on family, college, social and personal oversensitivity area than urban adolescents. The sense of uncertainty and lack of belongingness among adolescents especially in rural areas are due to prevailing conditions. Adolescents living in rural areas lack options of employment, career options and awareness which increase the sense of problems as compared to urban area adolescents⁶.

MATERIALS AND METHOD

The study design was a comparative descriptive design. Colleges were selected by purposive sampling technique whereas 500 adolescents were selected by proportionate stratified random sampling technique, 250 each from rural and urban pre-university College, Mangalore. The investigator collected the data using standardized scale like Adjustment Inventory for School Students (AISS) developed by A. K. P. Sinha and R. P. Singh. The tool has 40 items with 20 items in each of the two areas of adjustment i.e. emotional and social

adjustment. Responses are taken as 'Yes' and 'No' for each item. For each response indicative of adjustment '0' is given otherwise '1' is given. The high scores on AISS indicate poor adjustment; low scores indicate healthy adjustment. The minimum score on the AISS is '0' while the maximum score is 20 for each social and emotional adjustment.

FINDINGS

1. Majority of the adolescents, 103 (41.2%) in rural and 116 (46.4%) in urban Pre-university College had average level of social adjustment. The same number of the adolescents, 82 (32.8%) in rural as well as urban Pre-university College had good level of social adjustment. The adolescents obtained unsatisfactory level of social adjustment was 48 (19.2%) in rural and 32 (12.8%) in urban Pre-university College. The adolescents obtained very unsatisfactory level of social adjustment was 11 (4.4%) in rural and 8 (3.2%) in urban Pre-university College. Very minimal number of adolescents, 6 (2.4%) in rural and 12 (4.8%) in urban had obtained excellent level of social adjustment.

Majority of the adolescents, 116 (46.4%) in rural as well as 104 (41.6%) in urban Pre-university College had good level of emotional adjustment. The adolescents obtained average level of emotional adjustment were 67 (26.8%) in rural and 79 (31.6%) urban Pre-university College. The adolescents obtained unsatisfactory level of emotional adjustment were 41 (16.4%) in rural and 34 (13.6%) in urban Pre-university College. The adolescents obtained excellent level of emotional adjustment were 14 (5.6%) in rural and 27 (10.8%) in urban Pre-university College. Very minimal number of adolescents, 12 (4.8%) in rural and 6 (2.4%) in urban Pre-university College had very unsatisfactory level of emotional adjustment.

Table 1: Frequency and Percentage distribution of level of social and emotional adjustment of adolescents of Rural and Urban Pre-university Colleges n = 500

Level of social and emotional adjustment	Social adjustment		Emotional adjustment	
	Rural	Urban	Rural	Urban
	Percentage	Percentage	Percentage	Percentage
Excellent	2.4	4.8	5.6	10.8
Good	32.8	32.8	46.4	41.6
Average	41.2	46.4	26.8	31.6
Unsatisfactory	19.2	12.8	16.4	13.6
Very unsatisfactory	4.4	3.2	4.8	2.4

2. Comparing the level of social adjustment and emotional adjustment of adolescents, calculated t-value for social adjustment was 1.675 and for emotional adjustment was 1.281; lower than the table value 1.97 at 0.05 level of significance.

Hence there was no significant difference in level of social adjustment and emotional adjustment among adolescents of rural and urban Pre-university College.

Table 2: Mean, standard deviation and t-value of level of social and emotional adjustment n = 500

Variables	Areas	Mean	Standard deviation	Mean differences	t-value	P-value
Social adjustment	Rural	6.112	2.250	0.33	1.675	0.095
	Urban	5.779	2.187			
Emotional adjustment	Rural	5.220	2.819	0.316	1.281	0.201
	Urban	4.904	2.694			

Table value (t498) =1.97, p<0.05 * significant

3. There was significant association between level of social adjustment of adolescents in rural with gender ($\chi^2=21.26$, P<0.05). Similarly there was significant association between level of social adjustment of adolescents in urban Pre-university College with gender ($\chi^2=9.914$, P<0.05), monthly income of the family ($\chi^2=33.269$, P<0.05) and stream of the education ($\chi^2=17.43$, P<0.05). There was significant association between level

of emotional adjustment of adolescents in rural Pre-university College with gender ($\chi^2=16.566$, P<0.05), type of family ($\chi^2=21.686$, P<0.05), and education of mother ($\chi^2=29.489$, P<0.05). Similarly there was significant association between level of emotional adjustment of adolescents in urban Pre-university College with gender ($\chi^2=15.56$, P<0.05) and stream of the education ($\chi^2=25.516$, P<0.05).

Table 3: Association between the level of social and emotional adjustment of adolescents in rural and urban Pre-university Colleges with selected demographic variables n = 500

Variables	Demographic variables	Rural (n = 250)			Urban (n = 250)		
		χ^2	p	df	χ^2	P	df
Social adjustment	Gender	21.26	0.00*	4	9.914	0.042*	4
	Monthly income of the family	7.242	0.841	12	33.269	0.001*	12
	Stream of your education	7.442	0.49	8	17.43	0.026*	8
Emotional adjustment	Gender	16.566	0.002*	4	15.56	0.004*	4
	Type of family	21.686	0.041*	12	5.145	0.953	12
	Education of mother	29.489	0.021*	16	32.102	0.124	24
	Stream of your education	15.022	0.059	8	25.516	0.001*	8

p<0.05 * Significant

DISCUSSION

The findings of the study are discussed below.

1. Level of social and emotional adjustment among adolescents of rural and urban pre-university colleges: Majority of the adolescents, 103 (41.2%) in rural and 116 (46.4%) urban Pre-university College had average level of social adjustment

whereas very minimal number of adolescents, 6 (2.4%) in rural and 12 (4.8%) in urban had obtained excellent level of social adjustment.

Majority of the adolescents, 116 (46.4%) in rural and 104 (41.6%) in urban Pre-university College had good level of emotional adjustment. Very minimal numbers, 12 (4.8%) adolescents in rural

and 6 (2.4%) adolescents in urban Pre-university College had very unsatisfactory level of emotional adjustment.

The study findings are supported by a descriptive study on emotional intelligence and social adaptation of senior secondary school children in Hisar district of Haryana. The study revealed that 40% adolescent in rural area had good adjustment whereas the same percentage 35% of adolescent in urban area had good as well as average adjustment. The least, 6.67% adolescent in rural area had got very unsatisfactory adjustment where as 8.33% adolescent in urban area had got excellent adjustment⁷.

2. Comparison of level of social and emotional adjustment among adolescents of rural and urban Pre-university Colleges: The study revealed that calculated t-value for social adjustment was 1.675 and emotional adjustment was 1.281; lower than the table value 1.97 at 0.05 level of significance. Therefore the null hypothesis was accepted and research hypothesis was rejected. Hence there was no significant difference in social and emotional adjustment among adolescents of rural and urban Pre-university College.

The present study supported with descriptive study conducted on adjustment problems among school students in urban and rural schools of Visakhapatnam district, Andhra Pradesh. The F-value for social adjustment was 1.184 ($P < 0.05$) in urban and rural school students. The study concluded that there was no significant difference in social adjustment among students in urban and rural schools⁸.

The present study is supported with comparative study on certain areas of adjustment of higher secondary school's students in relation to habitat at Ahmedabad District. The t-values on emotional adjustment of urban and rural students were 0.65 at 0.01 level of significance. The study concluded that there was no significant difference in level of emotional adjustment among adolescents of rural and urban higher secondary school students⁹.

3. Association of level of social and emotional adjustment among adolescents of rural and urban Pre-university Colleges with selected demographic variables: The study revealed that

there was significant association between level of social adjustment of adolescents in rural with gender ($\chi^2=21.26$, $P < 0.05$). Hence null hypothesis was rejected and research hypothesis was accepted, i.e., there was significant association between level of social adjustment and gender.

The study revealed that there was significant association between level of emotional adjustment of adolescents in rural Pre-university College with gender ($\chi^2=16.566$, $P < 0.05$) and type of family ($\chi^2=21.686$, $P < 0.05$). Hence null hypothesis was rejected and research hypothesis was accepted, i.e., there was significant association between level of emotional adjustment and demographic variables like gender and type of family.

The present study is supported with descriptive study on adjustment of secondary school students. The t-value of male and female for social adjustment was 9.36 at 0.01 level of significance. The study concluded that there is association between levels of social adjustment of adolescents with gender. Regarding emotional adjustment the t-value of male and female for emotional adjustment was 6.47 at 0.01 level of significance. The t-value of student from nuclear and joint families for emotional adjustment was 9.93 at 0.01 level of significance. The study concluded that there was association between levels of emotional adjustment of adolescents with gender and type of family¹⁰.

CONCLUSION

Based on the analysis of the findings of the study, social and emotional adjustment among adolescents is a prerequisite for academic success. Health care professionals have a responsibility to be informed about the importance of development of social and emotional adjustment among adolescents. They also function more effectively among the adolescents by taking care of both preventive and promotive aspects in order to mould them into productive and fruitful citizens for the country. Health care educators should ensure that students are provided with a curriculum that offers the opportunity to increase student's understanding of the need for social and emotional adjustment.

Conflict of Interest: None

Source of Funding: Self funding

Ethical Clearance: Ethical clearance was obtained from ethical committee, on 10/02/2015 (Annexure 1). Written informed consent was obtained from the participants (Annexure 2). Code number was given for each participant. Instructions were given to the participants about the positive and negative statements in the Adjustment Inventory for School Student (AISS).

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Awareness and Practice on Management of Side Effects of Antipsychotic Drugs among Patients Receiving Maintenance Treatment at Unde Hospital, Srirampur

Rohidas S Bire¹, Eknath M Gawade²

¹Psychiatric nurse, Civil Hospital, Nasik, ²Associate Professor, PIMS DU CON, Loni Bk.

ABSTRACT

Introduction: The treatment of the mentally ill throughout time is not generally a pretty picture. In modern era after introduction of antipsychotic drugs there is tremendous improvement in psychotic illness symptoms. Antipsychotic drugs show good improvement in psychotic symptoms of disease but along with it having side effects which become reason for relapse in treatment.

Objectives: 1. To assess awareness & practice on side effects of antipsychotic drugs and its management among patients receiving maintenance treatment. 2. To find correlation between awareness and practice on management of side effect of antipsychotic drugs. 3. To determine association between awareness and practices on management of side effects of antipsychotic drugs with their selected demographic variables.

Methodology: A descriptive study design with cross sectional survey approach was used. The data was collected from 100 patients who are on maintenance treatment and receiving Antipsychotic drugs from Unde mental Hospital, Shrirampur. The self-prepared dichotomous questionnaires and checklist was used for data collection.

Results: Mean score of Awareness on side effects of antipsychotic drugs and its management was 54.62 with SD ± 3.33 and mean score on practice done to avoid side effects of antipsychotic drugs was 52.94 with SD ± 2.70 which indicates that patients receiving maintenance treatment had average level of awareness.

Conclusion: Antipsychotic medications have various side effects, those patients doing regular follow up and are on maintenance treatment should have knowledge regarding side effects of antipsychotic drugs to live the life normally and in productive way.

Keywords: Assess, Awareness, Management, Side effects, Practice, Antipsychotic drugs.

INTRODUCTION

Antipsychotics are those psychotropic drugs, which are used in the treatment of psychosis and psychotic symptoms. The original drugs used to treat psychosis are called "typical or conventional" neuroleptic drugs. Since their discovery in the 1950s, these drugs revolutionized the treatment of schizophrenia and other psychotic disorders. With the discovery of the newer antipsychotic drugs (called "atypical" antipsychotic drugs) in the 1990s, the treatment of these debilitating brain disorders has been revolutionized. While there are advantages and disadvantages to both classes of these antipsychotic drugs.¹

Need of the study: Antipsychotics have severe side effects on patients taking antipsychotic medications

like dry mouth, blurred vision, constipation, urinary retention, nausea, photosensitivity, sedation, extrapyramidal symptoms (Akinesia, akathisia, dystonia, tardive dyskinesia, neuroleptic malignant syndrome), Hypersalivation. Due to these side effects of antipsychotic medications patients skip the doses of medications which is main cause of relapse of disease. So it is necessary to be aware of side effects and its management to avoid relapses of disorders.²

People taking antipsychotic medicines may sweat less, which can cause the body temperature to rise. Anyone who takes this medicine should be careful not to become overheated during exercise or hot weather.

The various literatures shows that antipsychotic medications have various side effects, those patients

having true emotional insight and doing regular follow up or are on maintenance treatment should have knowledge regarding side effects of antipsychotic drugs and do the practices to minimize the side effects of antipsychotic drugs to live the life at normally and productive way.

OBJECTIVE OF THE STUDY

1. To assess awareness on side effects of antipsychotic drugs and its management among patients receiving maintenance treatment.
2. To assess practice on management of side effects of antipsychotic drugs among patients receiving maintenance treatment.
3. To find correlation between awareness and practice on management of side effect of antipsychotic drugs.
4. To determine association between awareness and practices on management of side effects of antipsychotic drugs with their selected demographic variables.

METHODOLOGY

Research approach: Cross sectional survey approach

Research design: Non experimental, descriptive study design.

Study setting: Study was conducted in Unde Mental Hospital Srirampur.

Sample size: The sample size for the study was 100 psychiatric patients with true emotional insight receiving antipsychotic medications with maintenance treatment and fulfills the inclusion and exclusion criteria.

Sampling techniques: Non probability, convenient sampling techniques were used for the samples to be included in the present study on the basis of inclusion and exclusion criteria.

Criteria for sample selection

Inclusion criteria: Inclusion criteria for the study were limited to patients receiving APD with true emotional insight who are;

1. Willing to participate.
2. Having side effect of antipsychotic drugs.

3. On Antipsychotic drugs since 50-60 days.
4. Above the age of 20 years.
5. Present during data collection procedure.
6. On maintenance treatment with antipsychotic drugs.

METHODS OF DATA COLLECTION

Tools and technique

Screening tools: To identify the sample/participants those having side effects of antipsychotic drugs.

The tool used to collect the data from samples is as follows

Section A: Socio demographic data of patients on antipsychotic drugs consist of age, gender, marital status, religion, Education, occupation, income, type of family, occupation, habits- chewing tobacco/alcohol consumption/smoking/other, Diet- veg/mix Since how many years you are on antipsychotic drugs,

Section B: Dichotomous questionnaires on side effects of Antipsychotic Drugs and its management containing total 24 items. In which 15 questions were on side effects and 09 questions were on management of side effects. Correct answer carries 1 score and wrong answer carries 0 score with maximum score of 24; Tool contains 18 positive items and 6 negative items.

Section C: Checklist to assess practice on management of side effects of antipsychotics drugs. Which consist of 19 items were correct answer carries 1 score and wrong answer carries 0 score with maximum score of 19, tool contains 14 positive items and 5 negative items.

Ethical Consideration: Written approval by Institutional Ethical Committee (IEC)/Institutional Research Committee (IRC) of Pravara Institute of Medical Sciences (DU), Loni ref No: PIMS/CON/46/2015/10/04/2015. The written consent was obtained from all patients participated in the study.

FINDINGS OF THE STUDY

I. Findings related to socio-demographic profile

1. Majority of participants (36%) was in age groups of 20-28 years followed by 19% of samples belong to 29-38 years, 20% belong to 39-48 years, 21% belong to 49-58 years of age group.

2. Majority of (61%) were male whereas as remaining (39%) were female.
3. Highest percentage (52%) of people was married, 31% of peoples were from unmarried category, 9% of peoples were widowed and 8% of peoples were divorced.
4. Majority (79%) of people were Hindus, 11% of peoples were Christian, (9%) of peoples were Muslim and 1% of peoples were from other category.
5. Highest percentage (28%) of the people was living in joint family, 27% of people were living in nuclear family and 15% of people live in extended family.
6. Highest percentage (67%) of the people was taking mix type of diet and 33% of them are taking vegetarian diet.
7. Highest percentage (30%) of people had primary education, 18% of peoples were illiterate, 23% of people had secondary education, and 17% of

people had higher secondary education & 12% of people were graduate and above.

8. Highest percentage (28%) of the people are engaged in agricultural works, 26% of people were doing other works like daily wages, 20% of them were house wife, 14% of people were labours, 10% of peoples were private sector employee & 2% of peoples were in government sector.
9. Highest percentage (29%) of the people are taking medications from 2-6 months, 21% of them are taking medications from 6 months to 1 year, 23% of people are taking medications from 1-3 years & 27% of peoples are taking medications from more than 3 years.

II. Findings about awareness on side effects of antipsychotic drugs and its management & awareness of practice to manage side effects of antipsychotic drugs

Table 1: Level of awareness on side effects and its management of APD n = 100

Sr. No.	Level of awareness	Frequency	Percentage
1.	Poor (0 – 8)	09	09%
2.	Average (9 – 16)	80	80%
3.	Good (17 – 24)	11	11%
Total		100	100%

Above table shows that 9% of people under this study have poor awareness on management and side effects of antipsychotic drugs, 80% of them have average level of awareness and 11% of them have good level awareness of side effects and management of antipsychotic drugs.

Table 2: Awareness on practice of management of side effects of antipsychotic drugs n = 100

Sr. No.	Level of awareness	Frequency	Percentage
1.	Poor (0 – 6)	09	09%
2.	Average (7 – 12)	77	77%
3.	Good (13 – 19)	14	14%
Total		100	100%

9% of people under this study have poor level of awareness on practice to manage side effects of antipsychotic drugs were as 77% of people have average level of awareness and 14% of people have good level of awareness. It shows that maximum (77%) of people have average level of aware ness on practice to manage side effects of APD.

Table 3: Overall mean Response on awareness of side effects of APD and practice on management of side effects of APD. n = 100

Particulars	Statement	Max.	Mean	SD	Mean %
Awareness on side effects and its management	24	24	13.11	±3.33	54.62
Practice	19	19	10.06	±2.70	52.94
Combined mean	43	43	23.17	±4.29	53.78

Distribution of mean, SD, and mean percentage of side effects of APD and practice on management of side effects of APD shows that the overall mean response on

awareness was (23.17±4.29) which is 53.78% of maximum score indicated awareness of side effects of APD.

III. Correlation between awareness and practice on management of side effect of antipsychotic drugs. R = 0.16

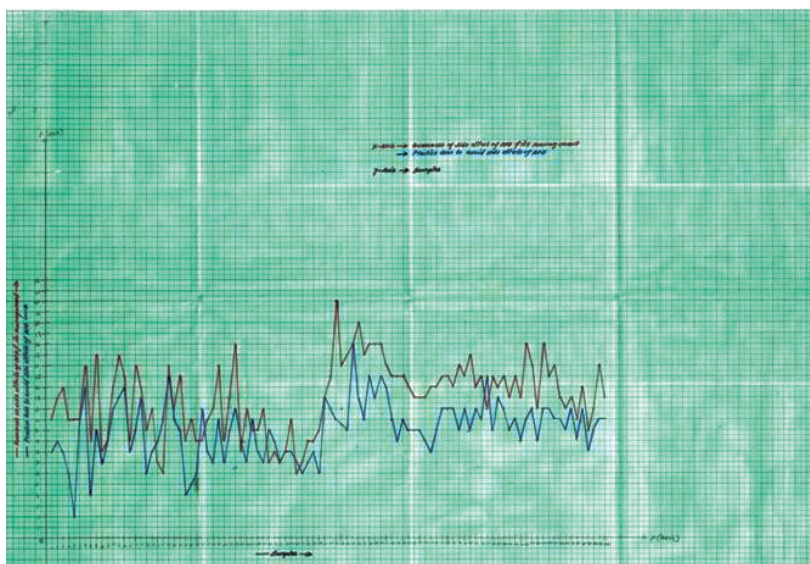


Fig No. I: Co-relationship between awareness and practice on management of side effects of APD

There was weak positive co relationship between awareness of side effects of APD and practice done to manage side effects of APD.

IV. Determine association between awareness and awareness of practices on management of side effects of antipsychotic drugs with their selected demographic variables.

Table 4: Association between awareness & awareness of practice with demographic variables n : 100

S. No.	Variables	Chi square value (calculate)	Chi square Table value	Level of significance
1.	Age	0.29	5.99	NS
2.	Sex	1.13	5.99	NS
3.	Marital status	5.91	5.99	NS
4.	Religion	2.74	5.99	NS
5.	Education	2.5	5.99	NS
6.	Occupation	2.96	5.99	NS
7.	Income	1.16	5.99	NS
8.	Habits	8.16	5.99	Significant
9.	Type of family	3.67	5.99	NS
10.	Since how many years taking medications	7.84	5.99	Significant
11.	Diet	5.39	5.99	NS
12.	Knowledge regarding side effects of APD	6.38	5.99	Significant

*Level of significance checked at 95% of confidence interval & at 2degree of freedom

There was highly significant association found between socio-demographic variables like habits, duration of taking medications, knowledge regarding taking medications with awareness on practice to

manage side effects of antipsychotic drugs whereas other socio-demographic variable does not found statically significant associated with awareness on practice to manage side effects of antipsychotic drugs.

DISCUSSION

Majority of patients (80%) receiving APD treatment had average level of awareness followed by (11%) of patients having good awareness and (9%) of patients having poor level of awareness. These findings were similar to the finding of Christine Smith and Sherrill Snelgrove (2008) was majority of patients (64%) were average level of awareness on side effects of the drug they were taking. (16%) had good level of awareness and (20%) of patients had poor level of awareness.³

The aspect wise mean response on awareness on side effects of APD were (55.13%) with SD \pm 2.28, awareness on management was (53.77%) with SD \pm 1.46 and that of practice was (52.94%) with SD \pm 2.70 this finding are consistent with studies carried out by Clark LR, Jackson M, Allen-Taylor L (2009) were mean % of awareness was (59.74%) with SD 2.75, and that of practice was (53.74%) with SD \pm 1.46.⁴

The majority of patients(77%) had average knowledge on practice to manage side effects of APD, followed by (14%) had good level of awareness and (9%) had poor level of awareness. This finding were similar to finding of Rumman KA, Sabra NA, Bakri F, Seita A, Bassili A (2008) were majority (87%) had average level of awareness on practice to manage side effects, (8%) of patients had poor level of awareness and (5%) of them had good level of awareness.⁵

There was positive co-relationship between awareness of side effects of APD and practice to manage side effects of APD. This finding were similar with the study carried out by Levenson, (2008) were there was also positive co-relationship between awareness of knowledge of side effects of psychotropic drug and practice done to avoid side effects of psychotropic drugs.⁶

CONCLUSION

Patients receiving treatment are aware of side effects of the drug they receive due to increase level of education, and getting information from instructional Medias like mobiles, television, health care team members, provide patients with lot of information to avoid skipping of the dose due to side effects of APD.

Hence it is emphasized that having conversation with patient will increase in level of awareness in patients.

Source of Funding: Self

Conflict of Interest: Nil

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Effect of Topical Application of Breastmilk on Separation Time of Umbilical Cord among Newborn-A Literature Review

Ekta Patel¹, Anjali Tiwari²

¹M.Sc Nursing, ²Assistant Professor and HOD, Dept. of Obstetrics & Gynaecological Nursing, Manikaka Topawala Institute of Nursing, Charusat, Gujarat.

ABSTRACT

The researcher aims to evaluate the effect topical application of breastmilk on separation time of umbilical cord among newborns. It was observed that infection is a major cause of newborn mortality, and can be caused by bacteria entering the body through a newly-cut umbilical cord. Each year, approximately four million neonatal deaths occur globally and infections account for 36% of these deaths. According to WHO, antibacterial factors are present in human milk. WHO has included breast milk application to the cord as harmless practices.¹ So, it was concluded that there is association between topical application of breast milk on umbilical cord and separation time of umbilical cord.

Keywords: *effect, topical application, breast milk, separation time, umbilical cord, newborn,*

INTRODUCTION

The World Health Organization estimates that 4 million children die each year during the neonatal period, with most deaths occurring in developing countries. Importantly, infections are the most common cause of neonatal mortality with approximately 1 million newborn dying annually worldwide from umbilical cord bacterial infection. After delivery, the umbilical cord serves no purpose. The necrotic tissue of the umbilical cord is a potential site for infection immediately after birth by bacterial contaminants. In 2015, approximately 45% of under-five deaths occurred during their first month of life.²

As cord infections should be preventable in most cases, it is important to identify best cord care practices to reduce neonatal mortality and morbidity and offer an alternative to widespread potentially harmful traditional practices.

To study the same, the researcher reviewed many literature and it was obtained through various database

includes printed and electronic databases like CINHAL (Cumulative index to Nursing & Allied Health Literature), MEDLINE (Medical Literature Analysis & Retrieval System Online), PubMed, Google scholar and online journals.

MATERIAL METHOD & FINDINGS

The study is headed mainly on evaluating the effect of topical application of breastmilk on separation time of umbilical cord among newborns.

A study was conducted to assess the effect of topical application of human milk, ethyl alcohol 96%, and silver sulfadiazine on umbilical cord separation time in newborn infants of Babool, Iran (2005). The 723 newborns of gestational age 36 – 42 weeks were randomly classified into four groups of 79 in mother's milk group, 78 in alcohol group, 77 in silver sulfadiazine group, and 78 in control group. Researcher telephonically contacted to mothers of neonate to record the date and time of the cord separation. The result suggested about the order of mean UCST in the four groups from shortest to longest were human milk, alcohol, control, and silver sulfadiazine groups, respectively. ANOVA model was used to compare the mean umbilical cord separation time and Duncan test was used for multiple comparisons. The study concluded that the breast milk application is more effective than ethyl alcohol and silver sulfadiazine.³

Corresponding Author:

Ms. Ekta Patel

M.Sc Nursing, Manikaka Topawala Institute of Nursing, CHARUSAT, Gujarat

Email: ektapatel501@gmail.com

A longitudinal study was done to assess the effect of topical application of breast milk and dry cord care on bacterial colonization and umbilical cord separation time in neonates at two different settings in Iran (2005). 180 newborns were divided into breastmilk application group and dry cord care group (90 each). The researcher had obtained an umbilical swab from the base of the cord three hours after birth and the third day of life and telephonically contacted to mother for recording cord separation time. There were significant differences between two groups in colonization rate. Cord separation time in breast milk group was shorter than dry cord care group ($p=0.016$). Thus, the study concluded regarding the topical application of breast milk on umbilical cord care leads to reduced bacterial colonization and cord separation time and can be used as easy, cheap, non injurious methods for umbilical cord care.⁴

A pilot study was conducted to compare the effectiveness of topical human milk, povidone iodine, and dry care among 150 newborn at two different settings large urban university hospital and at Ankara, Turkey in 2005-2006. 150 newborns were divided into three groups povidone iodine care, topical application of breastmilk and dry cord care group (50 each). An ongoing questionnaire about demographic information, cord separation time/date and signs of omphalitis was recorded through telephonic interview every day after the participants left the hospital. Interestingly, babies in the dry care or topical human milk group had shorter cord separation times than those in the povidone iodine group. The study concluded that the cultural practice of applying human milk to the umbilical cord stump appears to have no adverse effects and is associated with shorter cord separation times than are seen with the use of antiseptics.⁵

The single blinded clinical trial was done to assess the impact of ethanol, dry care and human milk on the time for umbilical cord separation among neonates at Shahid Sadougi University of Medical Sciences And Health Service, Yazad, Iran (2010). The 300 neonates were divided equally with help of number table as ethanol, mother's milk and dry cord care (100 each). Researcher recorded the time of cord separation through telephonic interview. The result suggested that separation times among human milk application was lowest ($p < 0.0001$) as compare to ethanol groups ($p < 0.003$). The study concluded use of human milk as topical therapy can decrease separation time in neonates compared other methods.⁶

A randomized clinical trial done to assess effect of topical application of human milk and dry cord care on umbilical cord separation time in healthy newborn infants at Iran(2010). 130 singleton and mature newborns were selected of gestational age between 37-42 weeks and were placed in two groups in topical application of human milk and dry cord care (65 each). The mothers were asked to apply the breastmilk on umbilical cord stump every 8 hourly in a day upto two days. The cord separation time related data was collected using phone contacts in both groups. Median time of cord separation in human milk application group (150.95 ± 28.68 hours) was significantly shorter than dry cord care group (180.93 ± 37.42 hours) ($P < 0.001$). Thus the study concluded topical application of breastmilk on cord reduces the cord separation time and it can be used as an easy, cheap and non invasive way for the cord care.⁷

The study was conducted to assess the effect of two different cord care regimens on umbilical cord stump separation time among neonates at Cairo university hospitals, Cairo Egypt (2011). Randomly selected 100 neonates were divided into breastmilk application group and distilled water cord care group (50 each). The data was collected using three tools structured interview schedule, cord swab bacteriological examination tool and follow up schedule for signs of cord infection tool. The comparison of two different groups was done using students' t-test, and chi square test was used to compare qualitative variable. The result showed that umbilical cord separation time was shorten in the breast milk group as compared to neonates in the distilled water group ($5.60 + 1.04$ & $7.92 + 1.08$ days). Breast milk application reduced incidence of omphalitis, and reduced bacterial colonization especially with pathogenic microorganisms as the same as distilled water. Hence, the study concluded that the use of topical application of breast milk on umbilical cord care was associated with shorter cord stump separation time than in distilled water.⁸

A quasi-experimental study was conducted to examine the effectiveness of topical application of human milk reduces umbilical cord separation time and bacterial colonization compared to ethanol among 100 newborns at Minia, Egypt(2012). The neonates were classified in human breast milk application and ethanol application group (50 each). The umbilical cord swab was taken to assess the bacterial colonization and mothers of newborns were contacted telephonically to

record date/time of umbilical cord separation time. The result showed human breast milk neonates had less colonization of the umbilical cord stump as compared to 70% ethanol treatment neonates. The mean cord separation time in the human milk and alcohol groups were 4.3 +/-1.4 (SD) and 8.2+/-2.2, respectively ($p<0.001$). Thus, the study concluded about the topical application of human milk reduces cord-separation time and pathogenic bacteria colonization and can be used as easy, cheap and non invasive methods for umbilical cord care in developing countries.²

A true experimental study was conducted to assess the breast milk application to reduce timing of cord separation at BLDEA's hospital & research centre, Karnataka (2013). Purposively 60 selected newborns were divided in experiment group and control group (30 each). Data was collected using baseline performance and observational checklist to assess the timing of cord separation which includes the observations like the appearance and process of separation of cord. The data was analysed using differential and inferential statistics. The result suggested about majority in experimental group (23) had their cord fallen between 4-6 days of breast milk application whereas in control group only 9 had their cord fallen in between 4-6 days. Hence, the study concluded breast milk has influence on falling of umbilical cord causing early separation thereby decreasing the exposure to environment resulting in less chances of infection.⁹

A quasi experimental study was conducted to assess the effectiveness of breast milk application on umbilical cord stump among 90 newborns of mothers who undergone caesarean section at two different settings maternity hospitals of Maharashtra (2014). Using non probability purposive sampling newborns were divided in experimental group and control group (45 each). The mothers of experimental group were advised for application of breastmilk on umbilical cord 2 times every day and upto 2 days after cord falls off. The cord for normality is checked for experimental and control group. The data collection was done using observation checklist on physiological parameters signs of cord separation. Median time of cord separation in human milk application group is (150.95±28.68 hours) significantly shorter than dry cord care group (180.93±37.42 hours) ($p<0.001$). The result showed that about complete separation of the cord occurs early (mean 5.22days)

in breast milk application group than in control group (mean 9.36days). Thus, the study concluded that there was need to implement the research findings in the clinical field, so as to avoid the gap between research studies and clinical practice.¹

An experimental study was conducted to assess the effect of topical application of mother milk on separation of umbilical cord newborn babies at two different settings obstetric and gynecological hospital, postpartum unit, affiliated to Ain Shams University, Cairo, Egypt and tertiary hospital in postpartum unit affiliated to Ministry Of Health, Al Riyadh, kingdom of Saudi Arabia (2015). Using simple random sampling 400 newborns were divided in breastmilk application group and control group at both different settings. The researchers asked the mother to apply milk drops on umbilical cord stump 3 times per day until cord separation and 2 days after. The data was collected using structured interview questionnaire, cord swab bacteriological examination tool, Follow up Timetable checklist for monitoring signs of cord healing and separation. The mean cord separation time and standard deviation was 4.2±20.45 in breast milk group as compared to 7.12±10.39 in dry cord care group. Hence, the study concluded that it is important to determine the best practice for umbilical cord care using topical application of breast milk in order to minimize cord infections in the millions of babies born each year.¹⁰

A comparative study done to assess the impact of topical application of human milk and chlorhexidine on cord separation time among healthy newborns at hospitals affiliated to Kashan university of medical Sciences, Iran (2015). The 174 neonates were randomly assigned into human milk application group and chlorhexidine group (87 each). The mothers of neonates in experimental group were asked to apply breastmilk on umbilical stump every 12 hours (2 times a day) to 2 days after the umbilical cord separation and controlled group received chlorhexidine solution, by a sterile gauze or swab, to the umbilical stump from three hours after birth and continued every 12 hours until two days after umbilical cord separation. The cord separation time was noted by the researcher through home visit of the newborn. The shortest cord separation time was 3 days in group topical human milk, and the longest was 5.3 days in group chlorhexidine. Thus the study concluded that Use of topical application of human milk on umbilical cord care was associated with shorter cord stump separation time than in topical chlorhexidine.¹¹

A literature review was done on effectiveness of application of breastmilk on umbilical cord to fasten umbilical cord removal compared to ethanol and dry care of newborn(2011-2015). The articles were obtained from Google Scholar, Ebsco, ProQuest and Journal Nursing Science from January 2011 up to October 2015. This literature review examined six true experiment journals to identify the effectiveness of topical breastfeeding/milk on the umbilical cord to fasten umbilical cord removal compared to ethanol and n dry care of newborn. The various studies of the effect of applying topical breastfeeding/milk on the umbilical cord removal, omphalitis, and bacteria colonization compared to 70% ethanol showed that the average time of umbilical cord removal was shorter (4.3 ± 1.4 days) compared to ethanol (8.2 ± 2.2 days). Omphalitis sign and complication were less or very rare in treatment group. Thus the literature reviews concluded that applying topical breastfeeding/milk on the umbilical cord hastened the umbilical cord removal compared to ethanol and dry care and reduced the risk of infection as well as decreased the number of pathogenic organisms commonly causing infection.¹²

CONCLUSION

Hence several studies reflect that there are in existence many measures for easy umbilical cord separation without the occurrence of infection. One of which being application of breast milk. Hence, the researcher is interested to evaluate the effect of topical application of breast milk on separation time of umbilical cord among newborn.

Conflict of Interest: None

Source of Funding: Self

Ethical Clearance: Permission was obtained from Manikaka Topawala Institute of Nursing.

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Perception on Evaluation of Teaching Effectiveness: A Case of School of Medicine and Health Sciences of Kenya Methodist University

Obare Mose Clive¹, Elijah Nyangena²

¹*School of Medicine and Health Science, Department of Nursing, Kenya Methodist University, Kenya;*

²*Department of Nursing University of Kabianga, Kenya*

ABSTRACT

Effective teaching is an art that should be judged based on the performance of the graduates program and achievement of curriculum outcomes. However, teaching is a complex and demanding activity that involves mastery of content, classroom control, techniques of organization, and command of teaching skills. The purpose of this study was to determine the effectiveness of teaching in the undergraduate degree programs in the School of Medicine and Health Sciences at the Kenya Methodist University (KeMU) main campus. This study focused on the full time face to face mode of instruction. A descriptive cross-sectional design and questionnaire were used. The sample was a total of 18 lecturers and 80 full time students in the School of Medicine and Health Sciences representing 4 different programs. An interview guide was designed to elicit views from the Chairmen of 4 Departments (CoD) in the School of Medicine and Health Sciences with full time students and Director of Quality Assurance and standards (DQA) regarding the teaching and learning process in the School. The findings showed that 89% of the lecturers stated that they demonstrated mastery of content compared to 49% of the students. The findings also indicated that teaching evaluation was viewed as a means to facilitate improvement within medical education. On the other hand 72% of the lectures appreciated that evaluation of their teaching effectiveness improved their performance and teaching skills. Thus teaching quality education was believed to be dependent on content, process, teacher and student characteristics as well as learning outcome, with an emphasis on the latter.

Keywords: *Perception, Teaching, Effectiveness, Evaluation, Competence, Learning*

INTRODUCTION

The aims of medical education principally center on the transmission of medical knowledge, and assisting health professions students to acquire the necessary knowledge, skills and attitudes associated with health profession and practice. As with all other professional preparation generally, medical education encompasses the three domains of learning, cognitive, affective and psychomotor. One way to enhance medical education is to evaluate the effectiveness of teaching in health

professions programs¹. An interest in evaluating teaching effectiveness has increased over time and this is also a pertinent issue for KeMU School of Medicine and Health Sciences, to meet the standards of the health profession by effectively offering quality medical education.

Effective teaching is an art that should be judged based on the performance of the graduates program and achievement of curriculum outcomes. However, teaching is a complex and demanding activity that involves mastery of content, classroom control, techniques of organization, and command of teaching skills. Teaching consists not only of instruction, but also of the systematic promotion of learning using various strategies².

It has been argued that though it was important to develop more comprehensive means to measure effectiveness, it is equally important to recognize that one

Corresponding Author:

Obare Mose Clive

School of Medicine and Health Science,

Department of Nursing,

Kenya Methodist University, Kenya

E-mail: obubaclive@yahoo.com

may not be able to accurately measure the art of teaching in conventional ways³. Various perspectives that include; determining effective teaching skills, beliefs about the teaching and learning process medical lectures and their students hold, criteria that should be used to assess teaching effectiveness, who should evaluate the various aspects of teaching, and other important elements should guide the assessment of effective teaching in medical education are equally important in learning and teaching process. Identifying these components is necessary for lectures to improve their teaching and, ultimately, enable medical students acquire the beliefs, the skills, and the knowledge that are needed in medical professional practice².

Documenting teaching effectiveness in medical education is essential to demonstrating education's accountability to the profession and to the society. For the teaching of prospective medical students to remain vibrant, regular evaluation is vital and it is equally important for medical lecturers to develop and improve their teaching skills by systematic evaluation. The evaluation of teaching leads to attainment of several important objectives which includes; improving the quality of teaching, assisting medical lectures to evaluate their own teaching, fulfilling the criteria of the academic institution, improving accountability in education, and identification of content areas for further development⁴.

Problem Statement: Evaluation is an important part of the education process in ascertaining the quality and achievement of curriculum outcomes. The challenge to improve quality of education is increasingly becoming critical in medical education and, especially, undergraduate health profession programs. This is in line with the requirements by the Commission for University Education (CUE) in Kenya in improving the standards of education by evaluating the quality of teaching and learning process. Ascertaining the teaching effectiveness is therefore, an important issue for students, lecturers and administrators at KeMU. Health science lecturers are deemed to be competent in the teaching and learning process to facilitate effective learning of students. However, there is need for evaluation and documentation of the effectiveness of the teaching and learning process. Furthermore, there is need to establish a baseline data on the teaching effectiveness at KeMU School of Medicine and Health Sciences. While the KeMU health professions programs have been operational since 2004, no research has been done on the subject which raises the need for the study.

METHODOLOGY

A cross-sectional survey was used in the study. The design is appropriate since it enabled the researcher effectively obtain views, opinions and characteristics as they existed in the population in relation to a specific topic under study⁵. Descriptive designs were effective in collecting information about peoples' attitudes, opinions, habits, education or social issues⁶. The target population was undergraduate students and lecturers in the School of Medicine and Health Sciences at the main university campus who were in session during the time of data collection, Chairpersons of Departments (CoD) and Director of Quality Assurance (DQA). The numbers of questionnaires distributed to the students were 94, with 80 (85%) returned while for the lectures there were 25 with 18 (75%) questionnaires answered and returned by the respondents.

Data was collected using self-administered questionnaire for students and lecturers and interview guide for the CoD's and DQA. The questionnaire had both open ended and closed ended questions. Also, interview guide was used to get data from the Chair of Departments in the School of Medicine and Health Sciences, and the Directorate of Quality Assurance.

The questionnaire were checked for completeness to ensure accuracy before they were coded and entered into computer. Descriptive statistics were used to describe the results from quantitative data. Qualitative data was organized into themes and presented narratively.

RESULTS

Competence in Content Delivery: From the table below it clearly showed that the respondents both the lecturers' views and students' views differed had a number of opinions. Both groups of respondents agreed that the lecturers provided clear and challenging course objectives. The students however, had a different opinion about organization and regular use of teaching aid. Whereby 52%; (n=42) indicated that the lecturers did not use teaching aids while 48%; (n=38) indicated that there was use. This provided conflicting information about the same practice and therefore the data suggested differences in respondent views. There was also a statistically significant relationship between use of teaching aids (p=0.003) with explanation of major principles and concepts (p=0.000) as shown in **Table 1**

Table 1: Competence Level Of the lecturers

	Lecturer				Student			
	Agree		Disagree		Agree		Disagree	
	Freq	(%)	Freq	(%)	Freq	(%)	Freq	(%)
Provision clear course objectives at the beginning of the course.	18	100%	0	0	70	89%	10	13%
Provision of challenging course objectives at the beginning of the course.	18	100%	0	0	63	78%	17	22%
Organization in the delivery of content.	16	89%	2	11%	60	74%	20	26%
Regularly use teaching aids/resources.	16	89%	2	11%	38	48%	42	52%
Clearly explain principles and concepts	18	100%	0	0	74	93%	6	7%

Adherence to Academic Policy: The respondent’s views on adherence of academic policy as per the university guidelines elicited responses with higher agreement frequencies. Both the students and the lecturers perceived that they did confer with the policy guidelines as shown in table 2. There was, although, a slight variation from the students respondents; with 13%; (n=10) and 8%; (n=6) disagreed about adherence to time deadlines and examination grading system respectively. There was however no statistical significance between attendance of classes as scheduled (p=0.128) and adherence to deadlines to hand in assignments (p=0.068) as shown in Table 2.

Table 2: Adherence to academic policies

	Lecturer				Student			
	Agree		Disagree		Agree		Disagree	
	Freq	(%)	Freq	(%)	Freq	(%)	Freq	(%)
Attendance of all scheduled classes	18	100%	0	0	76	95%	4	5%
Adherence to deadlines of the time schedule in administration of examinations and assignment in time	18	100%	0	0	78	98%	2	2%
Adherence to deadlines of time schedule for assignment in time	18	100%	0	0	70	87%	10	13%
Adherence to the laid down examination grading systems.	18	100%	0	0	74	92%	6	8%

Usefulness of the Evaluation Process: The usefulness of evaluation process as perceived by the respondents was as illustrated below. The findings showed that all the participant lecturers (100%; n=18) agreed that evaluation enables an individual to identify their weak areas but the students perceived differently whereby 17%; (n=14) disagreed while 83%; (n=66) agreed. On statistical test of significance ($\alpha = 0.05$) the comparison showed a statistical significance between evaluation to be carried out every trimester (p=0.001) and evaluation will help identify weak areas (p=0.000). As shown in Table 3.

Table 3: Usefulness of Evaluation Process

	Lecturer				Student			
	Agree		Disagree		Agree		Disagree	
	Freq	(%)	Freq	(%)	Freq	(%)	Freq	(%)
Evaluation increases confidence in my work	15	83%	3	17%	73	89%	9	11%
Evaluation process should be used every trimester.	17	94%	1	6%	70	87%	10	13%
Evaluation enables lecturers to improve teaching skills.	14	78%	1	6%	64	81%	26	32%

Contd...

Evaluation of teaching process enables the students to improve their performance.	9	50%	9	50%	60	75%	19	25%
Evaluation improves relationship between lecturers and students.	12	77%	6	33%	50	63%	20	37%
Evaluation enables the lecturers and students to identify my weak areas.	18	100%	0	0	66	83%	14	17%

Knowledge Level of the lecturers: The actual and perceived knowledge level of lecturers, the respondents had a chance to reflect with how they perceived self. The lecturers unanimously reported (100%; n=18) that they possessed high level of knowledge in content mastery, skill demonstration, and teach by use of current teaching methods. The student respondents however, had a different view with up to 50% (n=40) disagreeing with the idea that lecturers demonstrated skills in the skills laboratory while 83%; (n=58) agreeing that there was use of different teaching methods by the lecturers as shown in Table 4.

Table 4: Knowledge Level of the lecturers

	Lecturer				Student			
	Agree		Disagree		Agree		Disagree	
	Freq	(%)	Freq	(%)	Freq	(%)	Freq	(%)
Demonstration of mastery of content.	18	100%	0	0	68	85%	12	15%
Demonstration in skills laboratories	18	100%	0	0	40	50%	40	50%
Support teaching by current research findings	18	100%	0	0	50	63%	24	37%
Use relevant examples/illustrations	18	100%	0	0	66	82%	14	18%
Use different teaching methods	18	100%	0	0	58	83%	22	17%

DISCUSSION

Both Lecturers and students respondents agreed that competencies in content delivery was vital. This was in line with other studies showing that competencies in the educational processes determine educators' ability to effectively plan, implement educational activities and facilitate student learning^{7,8}. Most of the lecturers indicated that they demonstrated mastery of content (83%, n=15), similar to one study which argued that in order to be an effective teacher one has to have a mastery of content, knowledge of teaching and learning process, subject matter knowledge, experience, and the combined set of qualifications determines the teacher ways of delivery of content⁹.

Medical lecturers and students appreciated the usefulness of evaluation, 72% (n=13) strongly indicated that it has led to improved performance and teaching skills. A further 78% (n=14) strongly agreed that evaluation enables them to identify weak areas, while 22% agreed and 83% (15) strongly supported the practice of course evaluation while 17% (3). Medical educators'

perceptions of evaluation directly and indirectly influence academic achievement through their impact on enhancing the confidence of medical educators. Based on study findings and new methods of evaluation, effective teaching evaluation has an important role in the accreditation results¹⁰.

Educational experts believe that various spectrum of information resources are necessary to show a clear picture of the performance of educators because there is a tendency to value judgment in individual evaluation¹¹. This view is also supported by another study¹² that revealed that teacher evaluations can be a positive experience for both the teacher and the evaluator. The challenge is to make the evaluation process a meaningful and not simply an empty exercise. Therefore an effective evaluation system should identify teacher qualities. Identifying strengths and weaknesses along with providing an opportunity to improve these qualities will enhance teacher performance. Other studies have found that higher teacher performance leads to higher student achievement^{13,14}.

89% (n=16) of the lecturers strongly agreed that they demonstrated mastery of content while and 83% (n=15), strongly agreed they are able to demonstrate in the skills laboratories. From the findings majority of the lecturers 72% (n=14) were of the view that they strongly supported their teaching by current research findings while 22% (n=4) agreed. 89% (n=16) of the lecturers strongly indicated that they used different methods in the delivery of contents 100% (n=18) of the lecturers indicated that they use relevant examples and illustrations. The results are consistent with a related study¹⁵ in which teaching effectiveness was viewed as the ability of a teacher to have knowledge and skills in delivering content to students to master learning, as well as change their behavior. However, it has been argued that educators are often hired mainly based on their subject matter knowledge rather than their skills or experience in the educational processes⁷.

CONCLUSION

In line with the study objectives the respondents were of the opinion that the competence in content delivery by lectures was key to implementing learning outcomes. This also is in respect of the fact that the respondents agreed that mastery of content and use of various teaching strategies enhanced effective teaching. It would also be concluded that the evaluation of teaching enabled the identification of weak areas for improvement purposes. However, the view of students was that the evaluation process didn't improve the student lecturer relationship, student performance, or the teaching skills of lecturers

The development of a comprehensive standardized evaluation procedure was necessary for the institution in achieving a fair evaluation process. It was further observed that employment of different evaluation strategies should be considered in order to have quality evaluation outcomes and productive feedback. Hence, evaluation of teaching effectiveness should be continuous for feedback, accountability and developing strategies which enhance success.

In summary both lecturers and students adhered to the academic policies and the lecturers possessed competences in knowledge of subject content and in delivery of content. The findings concurred to the fact that lecturers do demonstrated mastery of the content they taught and supported by current research.

Continuous improvement of teaching process was essential to effective student learning which is basic to producing competent health professionals of the future.

Conflict of Interest: None

Source of Funding: Self

Ethical Clearance: Written permission consent was obtained before the study from the institutional Research Development Unit and Scientific & Research Ethics Review Committee of Kenya Methodist University. Verbal consent was obtained from respondents before administering the questionnaire and interview. Respondents were informed participation was voluntary. Anonymity and confidentiality was maintained throughout the study.

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Self-Management Behaviors among patients with Type 2 Diabetes at Manipal Teaching Hospital, Nepal

Gita Devi Ghimire¹, W. Ashalata Devi²

¹Lecturer, ²Assitant Professor, Manipal College of Medical Sciences (Nursing Programme), Kathmandu University, Pokhara Lekhnath-11, Nepal

ABSTRACT

Background: Diabetes is a serious and costly disease which is becoming increasingly common in Nepalese people. Public awareness of the self management behaviors of diabetes are an important step towards its control. The aim of this study was to assess the current status of diabetes self-management behaviors among type 2 diabetes patients.

Methods: A cross-sectional descriptive research design was used in this study. The non-probability convenience sampling technique was used to select the 115 diabetes type 2 patients attending medical OPD of Manipal Teaching Hospital during September month of 2016 and adopted version of Diabetes Self-management Questionnaire(DSMQ) was used to collect the data.

Results: The majority 68(59.1%) participants were between the age group of 36-60 years with mean age 60 years and more than half 62(53.9%) were female. The majority 75(68.2%) participants were following good glucose management practice but more than half 61(53%) participants had poor dietary control. More than half 58(52.7%) participants had poor self care in overall. The self-management behaviors were associated with sex, educational status, occupation and blood glucose level of the participants.

Conclusions: The majority of diabetes patients are good in glucose management but they are poor in diet control behavior and overall diabetes self-management behavior which are very important components for preventing diabetes related complications. So, public awareness program can be instituted in order to boost up the self-management behaviors among diabetes patients.

Keywords: Behavior; Diabetes; Self-management; Self-care.

INTRODUCTION

Diabetes mellitus (DM) is a group of metabolic diseases of prolonged hyperglycemia due to either the pancreas not producing enough insulin, or the cells of the body not responding properly to the insulin produced.¹ The prevalence of type 2 diabetes is rising at an alarming rate throughout the world, due to increases in life expectancy, obesity and sedentary lifestyles.² More than 80% of diabetes deaths occur in low- and middle-income countries.³ Factors like rapid urbanization, increasing

elderly population, and lack of national health insurances in developing countries make diabetes an important health issue in Nepal, which necessitates the exploration of the diabetes self-care behaviors.¹¹ Several challenges in diabetes management were identified, including high cost of treatment, limited health care facilities, and lack of disease awareness among patients. No specific guideline was identified for the prevention and treatment of diabetes in Nepal.²²

METHOD AND MATERIALS

A cross-sectional descriptive study was conducted at Manipal Teaching Hospital in September month of 2016. The respondents were the diabetic type 2 patients visiting for routine checkups in the medical OPD. Patients having severe conditions of disease and not

Corresponding Author:

Ms. Gita Devi Ghimire
Lecturer, Manipal College of Medical Sciences
(Nursing Programme)
Pokhara Lekhnath Metropolitan-11, Kaski
Email: ghimireg08@gmail.com

able to speak, walk and not able to perform their daily routine activities for the past eight weeks were excluded in the study. The non-probability convenience sampling technique was used to select the participants of age 30 and above who had type 2 diabetes of at least one year history. Usually, the average total of 400 diabetes patients used to come to medical OPD monthly for checkups, around one third (115) who meet the inclusion criteria were taken as a sample in this study. The researcher administered the adopted version of Diabetes Self-management Questionnaire (DSMQ) consisting of a sixteen structured items to collect the data through face to face interview. The original version of tool was translated into Nepali language and back to English language again by the help of professional Nepali and English teachers. The cronback's alpha test was done for internal consistency of Nepali version of questionnaire which was 0.823 and the original was 0.839. It was pretested to twelve participants who were not included in the main study analysis. Diabetes self-management questions were asked for each of the four domains glucose management, dietary control, physical activity and health care use.²⁰ Out of sixteen items, seven of these items were formulated positively and nine inversely with regard to what is considered effective self-care. All the sixteen items were rated on the scale of zero to three where zero denotes does not apply to me, one denotes applies to me some degree, two denotes applies to me to a consider-able degree and three denotes applies to me very much over the last eight weeks and scoring of the questionnaire involved reversing negatively worded items such that higher values are indicative of more effective self-care. The scale allows the summation to a sum scale as well as estimation of four sub-scale scores. Scale scores were calculated as sum of item scores and then transformed to a scale ranging from 0 to 10 (raw score/theoretical maximum score \times 10) as given in the original tool. So, a transformed score of 10 then thus represented the highest self-rating of the assessed behaviour. If "not required as a part of my treatment" had been marked in an item, it was not used and the scale score computation was adopted accordingly (by reducing the theoretical maximum score by 3 points). Then, the sub-scales scores and sum of total score were categorized as poor and good on the basis of median because data were not distributed normally.

Data were processed using the Statistical Package for Social Sciences (SPSS) version 16. Descriptive statistics

such as frequency, percentage, mean, standard deviation, median and interquartile range were done to describe the findings and chi square test was done to find the relationship between selected variables and self-management behaviours of participants. The study was clearly explained to the participants and informed consent was taken from each of them before the personal interview. The study was also given expedited approval from the Institutional Review Board of Manipal College of Medical Sciences and Manipal Teaching Hospital, Pokhara.

FINDINGS

Table 1: Sample Characteristics n = 115

Variables	Frequency	Percentage (%)
Sex		
Male	62	53.9
Female	53	46.1
Age group		
36-60 years	68	59.1
61- 84 years	47	40.9
Mean Age = 60 years; SD=10.39		
Educational status		
Illiterate	39	33.9
Literate	76	66.1
Occupation		
Service	11	9.6
Business	5	4.3
Unemployed	74	64.3
Retired	25	21.7
Duration of Illness(type 2 DM)		
Less than 5 years	54	47.0
6 to 10 years	35	30.4
More than 10 years	26	22.6
Treatment		
Only Diet	7	6.1
Oral medicine	80	69.6
Only Insulin	7	6.1
Oral and Insulin	21	18.3
Blood glucose (Fasting)		
Less than 130mg/dl	67	58.3
More than 130mg/ dl(Median=120; IQR=54)	48	41.7
Blood glucose (PP)		
Less than 180mg/dl	59	51.3
More than 180mg/ dl(Median=180; IQR=86)	56	48.7

Table 1 shows that more than half 62(53.9%) participants were male and majority 68(59.1%) were from age group of 36-60 years with mean age 60years. Majority 76(66.1%) were literate whereas around one third 74(64.3%) participants were unemployed. Maximum 54(47%) participants were suffering from diabetes type 2 since less than 5 years and majority 80(69.6%) of participants were under oral anti-glycemic agents. Likewise, more than half 67(58.3%) participants had latest fasting glucose less than 130mg/dl and latest post prandial glucose level was less than 180mg/dl among more than half 59(51.3%) participants.

Table 2: Diabetes Self Management Behaviors of Participants

Variables	Frequency	Percentages (%)
Glucose Management (n = 110)		
Poor Glucose Management	35	31.8
Good Glucose Management	75	68.2
Median = 8.66, IQR=1.33		
Diet Management (n = 115)		
Poor Dietary Management	61	53.0
Good Dietary Management	54	47.0

Contd...

Median= 7.50, IQR=1.67		
Physical Activity (n = 115)		
Poor Physical Activity	50	43.5
Good Physical Activity	65	56.5
Median= 6.66, IQR=1.11		
Health Care Use (n = 115)		
Poor Utilization of Health Care	43	37.4
Good Utilization of Health Care	72	62.6
Median= 7.77, IQR=2.22		
Sum of Diabetes Self-management[DSM] (n = 110)		
Poor DSM	58	52.7
Good DSM	52	47.3
Median = 37, IQR = 7		

Table 2 indicates that the majority 75(68.2%) participants had good glucose management with median 8.66 and interquartile range 1.33 whereas more than half 61(53%) participants had poor dietary control with median 7.50. Likewise, more than half 65(56.5%) participants had good physical activity and still 50(43.5%) participants had poor physical activity (median=6.66; IQR=1.11). Around two third 72(62.6%) participants had good utilization of health care with median 7.77 and the sum of diabetes self-management behavior was poor among more than half 58(52.7%) participants with median 37 and interquartile range 7.

Table 3: Association between selected demographic variables and sub-scales of Diabetes Self Management Behaviors

Variables	Glucose Management	Diet Control	Physical Activity	Health Care Use	Sum of DSM
Chi square Value(p-value)					
Age	0.49(0.48)	0.16(0.68)	0.96(0.32)	0.90(0.34)	1.61(0.20)
Sex	2.58(0.10)	0.61(0.42)	14.34(0.00)*	1.18(0.27)	4.23(0.04)*
Education	6.47(0.01)*	2.89(0.08)	7.83(0.00)*	3.23(0.07)	7.82(0.00)*
Occupation	4.80(0.02)*	2.13(0.14)	12.01(0.00)*	0.87(0.34)	7.98(0.00)*
Duration	0.61(0.43)	0.01(0.89)	0.31(0.57)	7.88(0.02)*	0.27(0.60)
Treatment	2.26(0.51)	5.07(0.16)	7.75(0.05)*	1.78(0.66)	3.06(0.38)
FBS	3.80(0.05)*	4.40(0.03)*	3.83(0.05)*	0.42(0.42)	7.98(0.00)*
PPBS	7.79(0.00)*	2.57(0.10)	6.26(0.01)*	2.45(0.11)	10.61(0.00)*

Chi square test =Statistically significant ≤0.05; *= significant, DSM= Diabetes Self-management

Table 3 illustrates that the glucose management behavior of the participants was significantly associated with their educational status (p=0.01), occupation (p=0.02), fasting blood sugar (p=0.05) and post prandial blood sugar(0.00) where as the diet control of the participants was significantly associated with their blood sugar level(p=0.03). Similarly, physical activity was found to be significantly associated with participants' sex(p=0.00),

educational status($p=0.00$), occupation($p=0.00$), type of treatment($p=0.05$), fasting blood sugar($p=0.05$) and post-prandial blood sugar($p=0.05$) but the health care utilization behavior of the participants was associated with only duration of having diabetes mellitus ($p=0.02$). Similarly, sum of diabetes self-management behavior of participants was significantly associated with their sex ($p=0.04$), education ($p=0.00$), occupation ($p=0.00$), fasting blood sugar level ($p=0.00$) and post-prandial blood sugar level ($p=0.00$).

Table 4: Association of selected demographic variables with Participants' Blood Sugar Level

Variables	Fasting Blood Sugar level	Post-prandial Blood Sugar level
Chi square value(p-value)		
Sex	1.40(0.23)	0.45(0.49)
Age	0.02(0.88)	1.39(0.23)
Education	7.20(0.00)*	3.89(0.04)*
Occupation	5.82(0.01)*	5.39(0.02)*
Duration of DM	19.11(0.00)*	5.53(0.01)*
Treatment type	8.15(0.04)*	2.74(0.43)

Chi square test =Statistically significant ≤ 0.05 ; * = significant

Table 4 depicts that the blood sugar levels of the participants were having statistically significant relationship with education ($p=0.00$), occupation ($p=0.01$), duration of having diabetes mellitus ($p=0.00$) and type of treatment they were getting (FBS= $p=0.04$) but no relationship with participants' age and sex.

DISCUSSION

The study revealed the diabetes self-management behavior of 115 patients with DM type 2 who were attending at Medical OPD for their routine checkups. Self-management or care is very important to maintain their blood sugar level throughout the life and to prevent the complications of diabetes. This study resulted the more than half (58.3%) participants had their fasting blood sugar level within the acceptable range (≤ 130 mg/dl with median 120mg/dl) which is slightly difference than the study of Shrestha et al.¹² The majority (68.2%) participants had practiced good glucose management behavior in this study but it contradicts with the study

of Johani¹³ - 85% did not measure their blood glucose frequently, followed by Oman¹⁴ and Daoud et al¹⁵ where 1% and 49% of respondents were doing regular glucose management respectively. This study showed that the more than half (53%) participants had poor dietary control in their daily life which is supported by the other similar studies ^{14,15 16}. But a study by Johani et al¹³ found the 29% were unable to manage their diet in Saudi Arabia. In the present study, 56.5% participants were doing good physical activity, still 43.5% had poor physical activity which have been established by ^{10,15,16}. But 47% of patients were not involved in any type of physical activity in Saudi Arabia¹³ and only 9.5% patients with DM type 2 were done exercise in Oman¹⁴. The study showed that around two third (62.6%) participants were using the health care well for their health problems and follow ups which might be due to easy access of health care center to them and faith up on the health workers.

The study resulted that the self-management behavior of the participants was poor in 52.7% and good among 47.3% participants. Similar finding was found in the study of Alrahbi¹⁴ where lack of diabetes self-management was reported. Unlike this result, 57.81% participants had good practices in the study of Chaurasia et al¹⁶ and 46% patients was described as good and 45% were described as fair in the study of Huang et al.¹⁷

In the present study, the glucose management behavior of the participants was significantly associated with their educational status ($p=0.01$), occupation ($p=0.02$), fasting blood sugar ($p=0.05$) and postprandial blood sugar ($p=0.00$) where as the diet control of the participants was significantly associated with their blood sugar level($p=0.03$) only. Similarly, physical activity was found to be significantly associated with participants' sex ($p=0.00$), educational status ($p=0.00$), occupation ($p=0.00$), type of treatment ($p=0.05$), fasting blood sugar($p=0.05$) and post-prandial blood sugar($p=0.05$). However, there was no association between age, sex, education, glucose management, exercise, and glycaemic control status in the study of Zambia.¹⁰ It seems that the diabetes patients who are educated and occupationally active might be involved in physical activity and glucose monitoring behavior in this study.

The study resulted that the health care utilization behavior of the participants was associated with only duration of having diabetes mellitus ($p=0.02$). It means that the participants who were suffering from diabetes

for longer duration, they used the health care facility more. Likewise, diabetes self-management behavior of participants was significantly associated with sex ($p=0.04$), education ($p=0.00$), occupation (0.00), fasting blood sugar level ($p=0.00$) and post prandial blood sugar level ($p=0.00$) in this study. Similarly, significant differences in diabetes self-care were seen based on educational level, treatment type, and blood glucose status.¹¹ Hence, diabetes self-management education must be tailored and education materials on self-care must be designed based on a patient's educational level. Similarly, being employed was associated with better self-care. But the different finding was indicated that there was no significant relationship between Diabetes Self-management and glycemic control in Oman.¹⁴

CONCLUSIONS

The current study concluded that the majority of patients with diabetes type 2 are good in glucose management, physical activity and health care utilization. But they are poor in diet management and over all diabetes self-management behavior which are very necessary components for preventing from diabetes related complications. So, public awareness program should be instituted to them in order to boost up the self-management behaviors by considering their educational status.

Conflict of Interest: No

Source of Support: No

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Is Long Term Use of Headphones Affect the Hearing Health? A Narrative Review Based on Literature

Himanshi¹, N. V. Muninarayanappa², Hepsi Natha³, Nageshwar V⁴, KMK sridhar⁵

¹M.Sc.Nsg II year, ²Professor, Principal, ³Associate Professor, ⁴Assistant Professor, ⁵PG Tutor
Teerthanker Mahaveer College of Nursing, TMU, Moradabad, U.P.

ABSTRACT

Introduction: Hearing loss is the most natural occurrence with aging. Approximately, 20-30 million people ages between 20-69 years have hearing loss due to noise exposure above 90 decibels (dB) of MP₃ players & headphones^[1]. However, the relationship between hearing impairment and uses of headphones is still unknown and no existing systematic review were found.

Method: A systematic search was conducted with PRISMA guidelines. The search was completed till 26th of Aug 2017. Two databases were examined: PubMed and EBSCO.

Results: The search identified 5426 initial matches which were screening by inclusion and exclusion criteria. Nine full text studies included in this narrative review and it does confirm that there is a relationship between hearing impairment and use of headphones, but studies were heterogeneous to permit systematic-analysis.

Conclusion: Ear is an significant important sense in human body. So, it is necessary to give regular attention. It is necessary to develop different educational activities which stimulate the awareness and reflection towards the widespread use of MP₃ devices with headphones^[7].

Keywords: *Hearing status, Headphone, Hearing loss, Hearing impairment, Personal listening devices*

INTRODUCTION

According to World Health Organization (WHO), when a individual and /or person is unable to hear with in normal threshold of 25 decibels (dB) or better in both ears, i.e. hearing loss. Loss in hearing can be categorized into different categories like mild, moderate, severe and profound. Worldwide, due to prolonged exposure by unsafe personal listening devices with headphones, nearly 1.1 billion young adults are at risk of hearing loss^[10]. Today, in this world with fast technological advancement, it is very easy to see adults, youngs and children using ear devices with headphones due to very easy availability and convenience of listening music anywhere, anytime in less cost^[3].

Usage of headphones, personal listening devices (PLDs) has very popular worldwide and it was estimated sales of 245 millions unit in the year of 2012^[3]. Hearing problems like distortion, tinnitus are no longer concern among young adult and elderly, portable amplifying devices for longer periods in the ears, closer intensity and higher volume, that attempt them to distant themselves with the outward noise and social communication^[11]. Adolescents, young adult and older adult are almost ages between 12-35 years old^[10].

Noise induced hearing loss may be evolving into significant problem in society and public health. More numbers of adolescents and youngsters already have symptoms like distortion or tinnitus^[1]. In younger adults, hearing impairment with communication causes social stigmatization & leads psychological disturbances such as low self-esteem and lack of confidence. Hearing loss has economic burden with ramification like poor job satisfaction due to poor performance leading low-socioeconomic status with low-income, health care costs and costs includes special education needs to the young with hearing loss^[4].

Corresponding Author:

Ms. Himanshi

MSc Nsg II year,

Teerthanaker Mahaveer College of Nursing,

TMU, Moradabad, U.P.

Email: manuangel8879@gmail.com

In some of the study, more than 40% of youngsters using PLDs were found developed NIHL due to prolonged use of headphones, music players and visits to dance clubs & pubs. There is a local perception that young adult being overly exposed to high music for a longer period of time during relaxing and/or leisure time without any concern over hearing health and safe use of PLDs.

Need for evaluate the hearing status of headphones users:

In some of the recent studies, Europe scientist stated that, continuous use of headphones & playing loud music could cause temporary & irreversible hearing problems^[9]. Evidence also accumulating that noise pollution is hazardous to the community although debates are ongoing about the affect. High intensity sounds in the recreational environmental could cause damage to the ears permanently^[9].

Estimated 5-10% of PLDs users may developing permanent hearing loss after prolonged use of PLDs. Although some studies investigating the hazardous effect of headphones and cellphones are very high enough to develop music-induced hearing loss and/ or NIHL, when it used at closer intensity with higher volumes for longer periods^{[2][4]}.

Hence, it was found essential for investigating the hearing loss amongst headphone users. This review is defined to summarize and report the affect of headphones on hearing status of headphones users.

AIM

- The aim of this narrative review is to find out the evidence regarding the relationship between hearing impairment and uses of headphones.

OBJECTIVES

- To conduct a narrative review examining and/ or analyzing the relationship between hearing impairment and use of headphones.

MATERIALS AND METHOD

Eligibility criteria of the articles were done on the basis of the following criteria:

Search Strategy Method: This narrative review is consistent with the Preferred Reporting Items for Systematic reviews and Meta-Analysis (PRISMA) guidelines. A comprehensive screening was performed

using two databases – PubMed and EBSCO. The search was till 26th of Aug 2017. All relevant titles and abstracts were read to assess the eligibility based on inclusion criteria. After reading the full-texts, the researcher removed non relevant articles where potentially relevant articles were evaluated by the other authors to confirm eligibility.

Initial search retrieved 5426 articles over which 64 were selected manually. 40 articles were excluded because of duplication in two databases. 24 records screened, then , out of that 15 were excluded full-text not related to the topic . Hence, 9 articles were screened which include 8 quantitative studies and 1 qualitative study.

Researcher excluded books, non- English manuscripts, conference abstracts without full text and non- full- text articles.

Diagnostic tool:

- Clinical audiometer machine, logoaudiometry(speech recognition rate and speech recognition thresholds), otoacoustic emission evoked by transient, distortion product otoacoustic emissions, tonal and vocal audiometry, tympanometry

Study Design:

- A retrospective, cross-sectional, randomized, case control study.
- Retrospective cohort study
- Survey study
- Descriptive transverse cohort study
- Epidemiological cross-sectional study
- Qualitative approach (phenomenological design)

Type of Participants:

- Students

Settings:

- Schools and colleges

Outcomes:

- The primary outcome is that there is any affect on hearing status due to long term use of headphones.

Publication Time Scale:

- Articles included in this narrative review from 2009 onwards.

Availability of Full-Text:

- Studies availability in full text form in two database include: PubMed and EBSCO.

FINDINGS

There were very limited studies published on the effects of long term use of headphones leads hearing impairment. Search strategy screened 5426 articles, and

no additional article was screened by bibliographies and reference list. All the, nine studies revealed that hearing impairment and/or NIHL can be developed using long-term use of headphones and/or personal listening devices at high volume and also supported that temporary deafness and tinnitus may lead in future life. A detailed explanation of the nine studies is given in Table 1. The sample size ranged from 60–7596 participants.

Table 1: A detailed description of included studies

Author & year	Research design	Findings of the study
Carolina et al ^[3] 2014 Brazil	Quantitative cross-sectional design	Significant difference between experimental and control group. Complaints were very common found in experimental group like puffed ear sensation. Some of the temporary symptoms revealed that it causes negative effects of listening MP ₃ players for an hour a day.
Sulaimamm et al ^[2] 2013 Malaysia	Cross-sectional descriptive study	This study results showed that there were weak correlation found between level of hearing & hearing thresholds. Also evaluated that risks for leisure noise induced hearing problems.
Gary et al ^[4] 2014 Singapore	Cross-sectional survey	Study finding described that one of six up to one developing leisure NIHL. It is needed to initiate a program among youngsters and younger adult for leisure noise prevention to prevent NIHL
Herrera et al ^[6] 2016 Brazil	Descriptive transverse cohort study	There was a significant correlation between gender and PLDs use but not significant with age. The study concluded that youngsters and adults are at risk of NIHL, it is needed to stimulate reflection and awareness towards use of PLDs and healthy hearing health.
Mutswang et al ^[5] 2014 Zimbabwe	Qualitative approach(phenomenological design)	Study showed that closer the intensity, higher the damage being imposed due to prolonged use of PLDs. The study found that many people uses headphones music habits as a therapy or peace and/or escaped from their problems
Huh et al ^[7] 2016 Korea	Epidemiological cross-sectional study	The study found positive relationship between headphone use and hearing loss, but headphones use were not statistically significant. This study showed the evidence that excessive headphones use & high level of exposure may develop the risk of NIHL.
Tuomi et al ^[12] 2009 South Africa	Survey study	Participant have less or no concern on how the excessive headphones uses might affect hearing health. This study revealed that the listening to personal listening devices and/ or with headphones at higher volume could be the causative factor for NIHL in future life
Naik et al ^[1] 2017 India	Randomized trial	The study clearly revealed the harmful effect of prolonged ear phone music usage by showing the significant numbers of persons having high frequency hearing loss. The students needs awareness regarding usage of headphones music at high volume may develop hearing loss.
Panda et al ^[11] 2010 India	Retrospective, cross-sectional, randomized	There were no statistically significance between users and non- users of headphones & audiologic abnormalities were seen within the users group. The study revealed that the intensive mobile phone use for long duration with headphones may cause inner ear damage.

Summary of Findings: This narrative review was conducted to find out the evidence on affect of long term use of headphones and hearing impairment. As reported

in Table 1, there are nine studies, and the study findings were too heterogeneous and allows meta-analysis for accuracy. This is the first narrative review which

searching the evidenced for the important question of does long term use of headphones affect hearing status among long term headphones users.

9 of the nine reviewed studies revealed that long term use of headphones significantly increases the chances and/or leads hearing loss in future life. Studies reported that there was significant correlation between hearing impairment and long term use of headphones.

Overall, current findings increasingly support that long term use of headphones affect the hearing status. Summing up, the majority of study supported that use of headphones has a negative impact on hearing among headphones users.

Future Significance: The results extended in this review supports that people need education on how to adapt better healthy hearing & safe use of PLDs & there's need to carry out continuous regular audiometric examination & it might be beneficial in case of an early identifiable NIHL. It offer assistance and referral at early stage and further measures should be follow-up.

Very few published articles evidenced the relationship between hearing impairment and long term of headphones among college students. Therefore, research is needed to prove the exact relation between hearing impairment and long term headphones use and higher methodological qualities is needed to reduce the risk of bias.

Strength:

- There is no previous narrative review on the affect of long term use of headphones on hearing status.
- An systematic search consistent with PRISMA guidelines.

Limitations:

- This narrative review is having a potential limitation that researcher excluded manuscripts of different language except English and conference studies without full-text. Database search was limited.
- Search strategy was refined to long term headphones use and hearing impairment only.
- Meta-analysis will give more accuracy to findings.

RECOMMENDATIONS

Based on all 9 studies which included in this narrative review, the long term use of headphones leads

hearing impairment. After analyzing these studies, some valuable points are found which are:

- Prevention is better than cure, when on a journey, walk/or relaxing seems to becoming a more common habit of plucking in headphones among young adults at high volumes.
- People needs awareness regarding fast technological advancement which is gradually taking over all world which being imposed the negative impact on healthy hearing status.
- Guidance on the communication system is needed and how it is closely connected with the hearing sense.

CONCLUSION

Researcher have done electronic systematic searched for and screened those studies that evaluated the relationship between the long term use of headphones and hearing status among young adults. The findings suggested that ear are most significantly important sensory organs of the human body, once it damage ,it can't be same before. It received information that might bring happiness, joy and sorrow. However, this is under our important concern to take care and continue the communication among all.

This narrative review noted that, during relaxing/ leisure people plucking in headphones music to resolve unpleasant life encounters through headphones , that were resulting in damaged healthy hearing and/ or leading NIHL.

Result of this narrative review will be importance for the researchers interests to find out the evidence regarding the relationship between the long term headphones use & hearing status.

Conflicts of Interests: There was no conflict of interest in this article.

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Ethical approval & consent to participant: In this narrative review, ethics approval and consent is not applicable.

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A Study to Assess the Knowledge of Nurses Regarding Partograph in a Selected Hospital at Chinakakani, Guntur (Dt.) Andhra Pradesh

Joseph Mary Meena¹, Rayapu Vasundhara²

¹Assistant Professor, ²Principal Cum Professor, NRI College of Nursing, Chinakakani, Guntur (Dt.) Andhra Pradesh

ABSTRACT

Introduction: During Pregnancy both the women and her developing child face various health risks. Maternal complications during intranatal period could be prevented by continuous monitoring. As part of the safe motherhood initiative, launched in 1987, the World Health Organisation have promoted a partograph with a view to improve labour management and reducing maternal and fetal morbidity and mortality.

Method: A descriptive study using stratified random sampling technique was conducted among 150 nurses in a selected Hospital, at Chinakakani, Guntur (Dt.) Andhra Pradesh, with an aim to assess the knowledge of nurses regarding partograph. Structured questionnaire consisting of 43 multiple choice questions was developed and utilized for collecting the data. Data were organized and analyzed by using descriptive and inferential statistics.

Results: Study revealed that only 6.67% of nurses had adequate knowledge, 24.67% had moderate knowledge and majority of them (68.67%) had inadequate knowledge. Significant association was found between knowledge of nurses on partograph and their education, age, place of work and previous knowledge of partograph.

Conclusion: Majority of nurses had inadequate knowledge. Hence there is a need for organizing inservice education programmes to nurses with regard to partograph

Keywords: Nurses, Knowledge, Partograph.

INTRODUCTION

Each year, more than 210 million women become pregnant, of whom, 20 million experience pregnancy related illness and 500,000 die as a result of the complications of pregnancy or child birth. In 1987, WHO launched the safe motherhood initiative, which aimed to reduce maternal morbidity and mortality by 50% by the year 2000. The initiative did not succeed but maternal health has always been a major focus of WHO.¹

Obstructed labour is an important cause of maternal morbidity. The literature suggests that in many countries, maternal mortality due to this cause is almost as prevalent today as it was 30 years ago. The partograph provides health professionals with a pictorial over view of the labour to allow early identification and diagnosis of the pathological labour. The WHO recommends the

usage of the partograph to monitor labour and delivery, with the objectives to improve health care and reduce maternal and fetal morbidity and death. Partograph is one such powerful tool available in our hands.²

The risk of women dying from pregnancy related causes during her life time is about 36 times higher in developing countries compared to women living in developed countries. The world maternal mortality rate by 2010 was 200 per 1,00,000 live births and in India maternal mortality rates by 2011 was 16.3 per 1,00,000 live births. The average worldwide maternal mortality rates were 207.2 per 1,00,000 live births. The maternal mortality ratio in Andhra Pradesh has declined to 134 per, 1,00,000 live births by 2007-2009. The Worldwide neonatal mortality rate was 16.19 deaths per 1000 live births in 2009 and in India 32 deaths per 1000 live births in 2010.³

Skilled management of labour using a partograph (a simple chart for recording information about the progress of labour) and the condition of a woman and her baby during labour, is key to the appropriate prevention and treatment of prolonged labour and its complications. Following the recommendation of the world Health organisation, the Maternal and Neonatal Health (MNH) programme promotes the use of the partograph to improve the management of labour and to support decision making regarding interventions. When used appropriately, the partograph helps provider to identify prolonged labour and know when to take appropriate actions.

Competent use of the Partograph can save lives by ensuring that labour is closely monitored and the life-threatening complications such as obstructed labour are identified and treated. Competencies required for a provider is the capability of attending a normal labour and birth, performing abdominal examinations to determine fetal descent and vaginal examinations to determine cervical dilatation, and plotting this information on a graph.⁴

Partograph helps to identify any deviation from the normal duration of labour process. It has several advantages. It can predict normal duration of labour early, so appropriate steps would be taken in time. Introduction of partograph in the management of labour has reduced the incidence of caesarean section rate and inturn the maternal mortality and morbidity rates.

OBJECTIVES

1. To assess the existing knowledge of nurses regarding partograph.
2. To find relationship between selected variables and knowledge of nurses requiring partograph.

REVIEW OF LITERATURE

The review of literature for the present study was gathered and organized under the following sections:

Section- I: Studies related to assessment of knowledge and utilization of partograph.

Section- II: Studies related to partograph in general.

MATERIALS AND METHOD

A descriptive survey design was used to conduct the study. The study was carried out among the nurses, who were working in a private General Hospital, Chinakakani, Guntur (Dt.) Andhra Pradesh. One hundred and fifty nurses (50 ANMs, 50 GNMs and 50 B.Sc. (N)s) were selected for the study using stratified random sampling technique. A structured questionnaire with part-A and Part-B, was developed and used for collecting the data from the subjects. Part-A consisted of six items on demographic variables (like Education, Age, Experience, place of work, knowledge of partograph and usage of partograph) and Part-B consisted of 43 knowledge items on partograph. The data collection was done personally by the investigator by administering the questionnaire to the study subjects during the month of February 2013. The responses of the nurses were organized and analysed by using descriptive and inferential statistics.

MAJOR FINDINGS

Section-I: - Findings related to sample characteristics:

The study findings revealed that there were equal number of nurses with ANM qualification (50 i.e. 33.33%) GNM qualification (50i.e.33.33%) and B.Sc. nursing qualification (50i.e.33.33%). More than three fourths(114i.e.76%) of nurses were in the age group of less than 27 years, (31i.e.20.67%) were in the age group of 28 to 37 years, (5i.e.3.33%) were in the age group of 38 to 47 years and none of the respondents were above 48 years of age. When it comes to experience, majority of nurses had 0 to 3 years of experience (86i.e.57.33%), followed by nurses who had 4 to 6 years of experience (48i.e.32%), 7 to 9 years to experience (13i.e.8.67%) and 10 to 12 years of experience (3i.e.2%). None of the nurses had more than 12 years of experience. One hundred and thirty one (87%) of nurses were working in Non-OBG wards and only (19i.e.13%) were working in the OBG wards. Majority (103i.e.68.67%) of nurses studied partograph previously and only (47i.e.31.33%) had not studied partograph, previously. Hundred and one respondents (67.33%) did not use partograph previously and (49i.e.32.67%) used partograph previously.

Section II: Findings related to knowledge of nurses regarding partograph: The results revealed that 43(86%) ANMs', 48(96%) GNMs' and 49(98%) B.Sc. (N)s knew that partograph comes in the 'form of

graph'. Thirty one (62%) ANMs, 47(94%) GNMs' and 46(92%) B.Sc. (N)s knew that 'Friedman' devised the Partograph. Thirty one (62%) ANMs', 47(94%) GNMs' and 48(96%) B.Sc. (N)s knew correctly that Partograph is 'a graphical record of all observations made on women during labour'. Thirty five (70%) ANMs', 49(98%) GNMs' and 49(98%) B.Sc. (N)s knew that partograph is used 'to monitor the progress of labour'. Thirty seven (74%) ANMs', 46(92%) GNMs' and 45(90%) B.Sc. (N) s knew that 'the information about name, age, EDD, obstetrical score, hospital number, date and time of admission, status of membranes and cervical dilatation' are included in partograph.

Seventeen (34%) ANMs', 39(78%) GNMs' and 31(62%) B.Sc. (N)s knew that in general the recordings are made in partograph on 'hourly' basis. Only 12(24%) ANMs', 22(44%) GNMs' and 21(42%) B.Sc. (N) s knew that fetal heart rate should be recorded 'once in 30 minutes' in the partograph. Seven (14%) ANMs', 30(60%) GNMs' and 28(56%) B.Sc. (N)s knew that 'I' is the symbol used to record when the membranes are intact. Nine (18%) ANMs', 29(58%) GNMs' and 19(38%) B.Sc. (N)s knew that 'M' is used to indicate the meconium stained liquor. Ten (20%) ANMs', 28(56%) GNMs' and 18(36%) B.Sc. (N)s answered correctly that 'C' is used to indicate that the liquor is clear. Eleven (22%) ANMs', 20(40%) GNMs' and 26(52%) B.Sc. (N)s knew correctly that '0' is the sign to use when the sutures are easily felt while examining the moulding of fetal head. Eighteen (36%) ANMs', 20(40%) GNMs' and 27(54%) B.Sc. (N)s knew that '—' is the sign used to indicate the absence of moulding. Seven (14%) ANMs', 31(62%) GNMs' and 22(44%) B.Sc. (N)s knew correctly that '+' is used to indicate that the fetal skull bones are touching each other. Twenty one (42%) ANMs', 32(64%) GNMs' and 26(52%) B.Sc. (N)s knew correctly that '++' is the symbol used when the fetal skull bones are overlapping.

Only 10 (20%) ANMs', 12(24%) GNMs' and 19(38%) B.Sc. (N)s knew that 'the time of admission in labour ward' is considered as zero time for the mothers who are in the spontaneous labour. Nineteen (38%) ANMs', 33(66%) GNMs' and 33(66%) B.Sc. (N)s knew correctly that 'the time of induction' is considered as zero time in an induced labour. Negligible number of ANMs' (4 i.e 8%), GNMs' (5 i.e 10%) and B.Sc. (N) s (13 i.e 26%) knew that the cervical dilatation should be checked 'once in 4 hours'. Ten (20%) ANMs',

28(56%) GNMs' and 19(38%) B.Sc. (N)s knew that the cervical dilatation has 'Two phases'. Twenty nine (58%) ANMs', 49(98%) GNMs' and 38(76%) B.Sc. (N) s answered correctly that "10cm" is the full dilatation of the cervix. Twenty four (48%) ANMs', 40(80%) GNMs' and 32(64%) B.Sc. (N)s knew correctly that both the 'latent phase and active phase' were included in partograph which was initially released by WHO. Thirteen (26%) ANMs', 21(42%) GNMs' and 15(30%) B.Sc. (N)s knew that 'latent phase' of cervical dilatation is omitted in the modified partograph of WHO. Fifteen (30%) ANMs', 24(48%) GNMs' and 18(36%) B.Sc. (N)s knew that 'latent phase' of cervical dilatation ends with 3cm dilatation. Seventeen (34%) ANMs', 24(48%) GNMs' and 18(36%) B.Sc. (N)s knew that during 'active phase' the cervix dilates from 3cm to 10cm. Thirteen (26%) ANMs', 33(66%) GNMs' and 32(64%) B.Sc. (N) s answered correctly that the cervix dilates at the rate of '1 to 1.5 cm/hr' in primigravida mothers.

Twenty one (42%) ANMs', 28(56%)GNMs' and 29(58%) B.Sc. (N)s answered correctly that alert line and action line in the partograph indicate the 'rate of cervical dilatation'. Nine (18%) ANMs', 14(28%) GNMs' and 16(32%) B.Sc. (N)s knew that 'alert line' on the partograph starts at the end of latent phase and ends with full dilatation of the cervix. Only 2(4%) ANMs', 9(18%) GNMs' and 19(38%) B.Sc. (N)s knew that '7 hours' is the normal time duration of alert line. Nineteen (38%) ANMs', 15(30%) GNMs' and 8(16%) B.Sc. (N) s answered correctly that if the marking of cervical dilatation for the patient moves to the right on alert line it indicates, that the 'dilatation is slow and the progress of labour is delayed'. Twenty two (44%) ANMs', 26(52%) GNMs' and 30(60%) B.Sc. (N)s knew that the action line is drawn '4 hours to the right of the alert line'. Eleven (22%) ANMs', 15(30%) GNMs' and 8(16%) B.Sc. (N)s answered correctly that if the graph of the cervical dilatation of mothers reaches the action line, we should understand that the 'progress of labour is delayed and intervention is needed'. Twenty six (52%) ANMs', 44(88%) GNMs' and 41(82%) B.Sc. (N)s knew that sigmoid [∫] curve is normally obtained by joining the points of cervical dilatation on the partograph.

Fourteen (28%) ANMs', 23(46%) GNMs' and 26 (52%) B.Sc. (N)s answered correctly that 'secondary arrest' is the term used, when the active phase of labour commences normally but stops or slows down

significantly for 2 hours or more prior to full dilatation of cervix. Only 9(18%) ANMs', 16(32%) GNMs' and 23(46%) B.Sc. (N)s knew that the station of the head is marked at the 'right end of the partograph'. Eighteen(36%) ANMs', 26(44%) GNMs' and 15(30%) B.Sc. (N)s knew that the uterine contractions are recorded 'once in an hour'. Twenty five (50%) ANMs', 34(68%) GNMs' and 22(44%) B.Sc. (N)s answered correctly that the uterine contractions should be observed 'for a period of 10 minutes continuously' to record in the partograph.

Eleven (22%) ANMs', 25(50%) GNMs' and 13(26%) B.Sc. (N)s knew that the uterine contractions are considered as weak contractions 'when the duration of each contraction is less than 20 seconds'. Fifteen (30%) ANMs', 16(32%) GNMs' and 18(36%) B.Sc. (N)s answered correctly that the uterine contractions are moderate 'when the duration is 20 – 40 seconds'. Eleven (22%) ANMs', 24(48%) GNMs' and 15(30%) B.Sc. (N)s answered correctly that the uterine contractions are said to be strong 'when the duration of contractions is more than 40 seconds'. Fourteen (28%) ANMs', 18(36%) GNMs' and 27 (54%) B.Sc. (N)s knew that the systole and diastolic readings of the mothers' blood pressure are 'joined with the vertical line' while recording in partograph. Eighteen (36%) ANMs', 28(56%) GNMs' and 23(46%) B.Sc. (N)s knew that the pulse is checked once in 'every 30 minutes'. Twenty (40%) ANMs', 30(60%) GNMs' and 34(68%) B.Sc. (N)s answered

correctly that the details of oxytocin administration is recorded in the partograph by mentioning the 'concentration in the upper box and dose in the lower box'. Nineteen (38%) ANMs', 31(62%) GNMs' and 31(62%) B.Sc. (N)s knew that the quantity of urine is recorded 'each time when the mother passes the urine'. Eighteen ANMs' (36%), 47(94%) GNMs' and 44(88%) B.Sc. (N)s knew that the mothers' urine during labour is tested for 'protein, acetone and glucose'.

Section 3: Findings related to knowledge level of nurses.

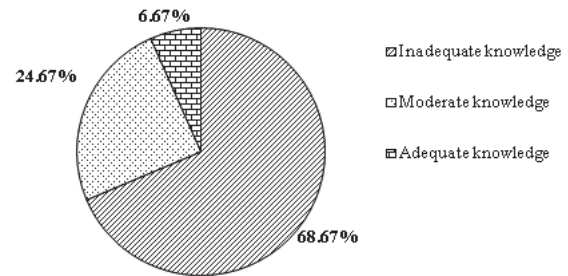


Figure 1: Knowledge level of Nurses Regarding Partograph.

Data in Fig.1 reveals that majority of the nurses (68.67%) had inadequate knowledge, 24.67% of nurses had moderate knowledge and only 6.67% of nurses had adequate knowledge regarding partograph.

Section 4: Relationship of the knowledge of nurses with the demographic variables.

Table 1: Association Between Knowledge of Nurses with Selected Demographic Variables. N = 150

S. No.	Variables	χ^2 calculated value	Table value	Df
1.	Education	58.6*	13.28	4
2.	Age	14.31*	13.28	4
3.	Experience	10.24 N.S.	16.81	6
4.	Place of work	10.98*	9.21	2
5.	Previous Knowledge of Partograph	11.82*	9.21	2
6.	Usage of Partograph	3.12 N.S.	9.21	2

Note: *Denotes significant at 0.001 level of significance. N.S Denotes not significant at 0.001 level of significance.

The above table denotes that significant association exist between nurses knowledge and their Education($\chi^2=58.6$), age ($\chi^2=14.31$), place of work ($\chi^2=10.98$) and their previous knowledge onPartograph ($\chi^2=11.82$) at 0.01 level of significance. No significant association was found between knowledge of nurses and their experience ($\chi^2=10.24$); and usage of partograph ($\chi^2=3.12$) at 0.01 level of significance.

DISCUSSION

This study was carried out to assess the knowledge of nurses regarding partograph. Findings of the study revealed that only 6.67% of nurses had adequate knowledge, 24.67% of nurses had moderate knowledge and 68.67% had in adequate knowledge. This is supported by a study conducted by FaridehRezaeiAbhari et al. in

which it was revealed that 96% nurses had inadequate knowledge and only 4% had adequate knowledge regarding partograph.⁶

In the present study it was found that significant association exist between knowledge of nurses and their education ($\chi^2=56.6$), age ($\chi^2=14.31$), place of work ($\chi^2=10.98$) and previous knowledge onpartograph ($\chi^2=11.82$) and knowledge of nurses regarding partograph, at 0.01 level of significance. No significant association was found between knowledge of nurses and their experience ($\chi^2=10.24$) and usage of partograph ($\chi^2=3.12$). The results of study conducted by Margeret M, O ofi et al in Nigeria are contradicting the results of the present study where it was found that significant association was existing between knowledge of the partograph and its utilization ($\chi^2=32.29$); experience and usage of partograph ($\chi^2=4.81$)⁷

CONCLUSION

The study results revealed that majority of nurses had inadequate knowledge and knowledge of nurses with regard to partograph was significantly associated with education, age, place of work and knowledge of partograph. Hence there is a need for organizing inservice education programmes to nurses with regard to partograph

Conflict of Interest: NIL

Source of Fund: Self

Ethical Clearance: Taken from the institutional ethical commitee.

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A Study to Assess the Knowledge Regarding Risk Factor of Hypertension and Lifestyle Practices among the Hypertensive Patients

Krishna kant

Demonstrator, Nursing College, UPUMS, Saifai, Etawah

ABSTRACT

Introduction :hypertension is known as “silent killer” because people who have it are often symptom free. It been recognized that hypertension is global problem with its prevalence increasing rapidly over the decades. The problem itself has no clinical signs and symptoms until the organ damage has taken place. The first and the most important step in the strategy for preventing hypertension is making people aware of the needs to prevent hypertension and the preventive measures.

Objectives: **1.** Determine the knowledge of hypertensive patients regarding risk factor of hypertension **2.** Determine the lifestyle practices of hypertensive patient **3.** Determine the relationship between knowledge score and practice score of hypertensive patient regarding risk factors of hypertension.

Methodology: The descriptive co-relational survey design & survey approach was used in this study to assess the knowledge regarding risk factors of hypertension and lifestyle practices among hypertensive patients and to seek the relationship between knowledge and practice. The total 100 patients selected by purposive sampling technique. The conceptual framework adopted for the study was based on general systems model (bertalanffy 1968). The data collection instrument of the study consisted of demographic profile, structured profile, and structured knowledge and practice questionnaire.

Result: The data shows that the mean percentage of knowledge score is 65.84 where as the mean percentage of practice score is 51.63 .the findings of the study shows there is a positive correlation between knowledge scores and practice scores indicating significant relationship between knowledge and practice of hypertensive patients related to risk factors of hypertension and lifestyle practices ($r_{(98)} = 0.51$, table value $r_{(98)} = 0.25$ $p < 0.05$).

Keywords: *hypertension, knowledge ,practice, lifestyle.*

INTRODUCTION

Hypertension is a condition where an individual has high blood pressure. Hypertension is a latent disorder in many people as it has a long asymptomatic phase. The problem itself has no clinical signs and symptoms until organ damage has taken place. High blood pressure is a major risk factor for cardiac, cerebral and renal disease. It is common symptomatic, readily detectable, usually easily treatable and often leads to lethal complication, if left untreated.¹

Hypertension is known as ‘silent killer’ because people who have it are often symptom free. It has been recognized that hypertension is a global problem with it

prevalence increasing rapidly over the decades. The first and the aware of the needs to prevent hypertension and the preventive measures with is the central philosophy health care .Hypertension is condition in which there will be a systolic blood pressure greater than 140 mm of hg and a diastolic pressure greater than 90mm of hg over a sustained period.²¹

The categories of blood pressure levels established by the seventh joint national committee (jnc vii) on the prevention, detection evaluation and treatment of high blood pressure were optimal and high normal optimal is systolic blood pressure less than 120 mm of hg and diastolic blood pressure is less than 80mm of hg. In normal category, systolic blood pressure is less

than 130mm of hg and diastolic blood pressure less than 85mm of hg. In high normal category of systolic blood pressure is 130-139 mm of hg and diastolic blood pressure is 85-89mm of hg.³

Hypertension is one of the leading causes of death and disability among adults. Elevated blood pressure accounts for 50% of all deaths in developed countries, ranking third with nearly 16% of all deaths because of those clients with high blood pressure 35% were not diagnosed, 51 % are not receiving therapy and 28% are receiving inadequate therapy. In most of the industrialized countries, the prevalence of hypertension in adult population has been reported to vary from 10% to 20% with 70% of this being mild hypertension. In India the prevalence of hypertension in adult population varies from 3% to 10% and the average figure is 4.8%.⁴

A study was conducted on “effect of lifestyle modification on blood pressure by race, sex, hypertension status and age by selecting 810 individuals with an average age of 50 years, 62% women, 34% African, Americans, 95% over weight and 38% hypertensive. The study reported that diverse groups of people can adopt multiple lifestyle changes that can lead to improved bp control and reduced cvd risk.⁵

The prevalence pattern of hypertension in developing countries is different from that in developed countries. India surveys has increased by 30 times among urban dwellers and about 10 times rural inhabitants. Community health concern, If hypertension is undetected and uncontrolled, can lead to heart attacks, heart failures, strokes and renal failure. Thus, patient’s understanding of their disease condition and lifelong care will enable them to solve problems when meeting new situations outside with the therapeutic regimen.⁶

A study was conducted on hypertension in adult population (20 to 60 years) of a rural area in Jammu and Kashmir State and revealed that prevalence of hypertension in adult’s population was observed to be 831% which was higher in females (10.08%) in comparison to males (6.34%) There was a consistent rise in prevalence rate from 1.4% to 31.93% with increase in age group from 20 to 25 years to 55 to 60 years in both sexes.⁷

The study was conducted to assess of knowledge, attitude, Practice (KAP) is a crucial of element of hypertension control developing countries where hypertension has lately been countries where hypertension has lately been recognized as a major health

problem therefore we examined KAP on hypertension in a random sample of 1067 adults aged 25 to by years from Seychelles islands (Indian ocean) KAP were assessed from an administered structured questionnaire. The age standards prevalence of hypertension decreasing blood pressure > 160/95 mm hg or taking antihypertensive medications was 36% in men and 25% in women aged 25 to by years among hypertensive persons 50% were aware of the conditions 34% were treated, and 10% had controlled BP in BP < 160/95 mmhg. Most persons. Whether non hypertensive, unaware hypertensive or awareness hypertensive, had good basic knowledge related to hypertension determinants and consequences. Results :- The efficiency of hypertension prevention and control programme so that delay in achieving effective hypertension control is minimized in countries experiencing next emergence of hypertension as a major health problem.⁸

Problem statement

“a study to assess the knowledge regarding risk factor of hypertension and lifestyle practices among the hypertensive patients in selected hospitals of gwalior district with a view to prepare an information booklet.”

OBJECTIVES OF THE STUDY

The objectives of the study are to:

1. Determine the knowledge of hypertensive patients regarding risk factors of hypertension by using structured knowledge questionnaire.
2. Determine the lifestyle practices of hypertensive patients by using structured practice questionnaire.
3. Determine the co-relationship between knowledge score and practice score of hypertensive patients regarding risk factors of hypertension.

Hypothesis

H1: There will be significant positive relationship between knowledge score and practice score of hypertensive patients regarding risk factors of hypertension.

METHODOLOGY

Research approach: a descriptive survey is designed to describe the prevalence or incidence of a phenomenon and to estimate the average value of the phenomenon

for a population. In this present study, the main aims was to assess the knowledge regarding risk factors of hypertension and lifestyle practices among hypertensive patients and to find the relationship between knowledge and practice and hence a descriptive survey approach was used.

Research design: descriptive co-relational survey design was used in this study to assess the knowledge regarding risk factors of hypertension and lifestyle practices among hypertensive patients and to seek the relationship between knowledge and practice. The purpose of a descriptive co-relational survey is to describe variables and examine relationships among these variables.

Setting of the study: the study was conducted in birla institute of medical research, gwalior which is one the hospitals in gwalior district.

Sampling and sampling techniques: the selection of sampling units form the population was by random procedure purposive sampling technique was adapted for the study.

Data collection instruments: the data collection instrument of the study consisted of demographic profile structured profile, and structured knowledge and practice questionnaire for collecting the data.

Selection and development of study tool: a structured knowledge and practice questionnaire was prepared to determine the knowledge and practice of hypertensive patients regarding risk factors of hypertension.

Section a: demographic profile : consisted of 11 items on demographic profile such as age, sex, religion, marital status, type of family, education, monthly income, occupation, type of housing, family history and dietary pattern.

Section b: structured knowledge questionnaire : knowledge related to risk factors of hypertension were assessed by knowledge questionnaire, which consisted of 32 questions. Each item had one correct response.

Section c: structured practice questionnaire : The practices related to the risk factors of hypertension were assessed by using questionnaire consisting of 30 items.

Data collection process: after obtaining permission from hospital authority the final data 100 samples selected through purposive sampling techniques. An information booklet on hypertension was provided to the patients to improve their knowledge.

RESULT AND DISCUSSION

Table 1: Frequency and percentage distribution of hypertensive patients on the basis of demographic profile n = 100

S. No.	Variables	F	%
1.	Age in year		
a.	30 to 40	8	8
b.	41 to 50	27	27
c.	51 to 60	35	35
d.	61 and above	30	30
2.	Sex		
a.	Male	72	72
b.	Female	28	28
3.	Religion		
a.	Hindu	69	69
b.	Muslim	10	10
c.	Christian	21	21
d.	Others	-	-
4.	Marital status		
a.	Married	68	68
b.	Unmarried	5	5
c.	Widow/widower	27	27
d.	Divorced	-	-
5.	Type of family		
a.	Nuclear	52	52
b.	Joint	48	48
c.	Extended	-	-
6.	Educational qualification		
a.	No formal schooling	4	4
b.	Primary school	40	40
c.	High school	33	33
d.	Collegiate education	23	23
7.	Monthly income of family in rupees		
a.	Below 2000	24	24
b.	2001 to 4000	36	36
c.	4001 to 6000	24	24
d.	6001 and above	16	16
8.	Occupation		
a.	Coolie	23	23
b.	Agriculture	22	22
c.	Business	31	31
d.	Employee	24	24

Contd...

9. Type of housing			
a.	Kutchha	18	18
b.	Semi-pucca	49	49
c.	Pucca	33	33
10. Family history of hypertension			
a.	Yes	83	83
b.	No	17	17
11. Dietary pattern			
a.	Pure vegetarian	16	16
b.	Vegetarian (consumes egg)	22	22
c.	Non-vegetarian	62	62

Table 2: Frequency and percentage distribution of hypertensive patients according to their knowledge score

Level of knowledge	Frequency	Percentage
Poor	1	1%
Average	84	84%

Table 4: Range, mean, standard deviation, median and mean percentage of knowledge and practice score of hypertensive patients on risk factors

	Range	Mean	S.d.	Median	Mean %
Knowledge score	21	21.07	3.57	20	65.84
Practice score	27	30.98	5.28	31	51.63

The data present in table 4 shows that the mean percentage of knowledge score is 65.84 where as the mean percentage of practice score is 51.63

Table 5: Correlation of knowledge and practice of hypertensive patients related to risk factor of hypertension n = 100

	Mean	Standard deviation	Correlation value	Significance
Knowledge score	21.07	3.57	0.51 (98)	Positive correlation
Practice score	30.98	5.28		

Table value = $r_{(98)} = 0.25$ $p < 0.05$

The data presented in the table 5 shows that there is a positive correlation between knowledge scores and practice scores indicating significant relationship between knowledge and practice of hypertensive patients related to risk factors of hypertension and lifestyle practices ($r_{(98)} = 0.51$, table value $r_{(98)} = 0.25$ $p < 0.05$). Therefore, null hypotheses was rejected and inferred that as the knowledge of hypertensive patients related to risk

Contd...

Good	15	15%
Total	100	100%

The data presented in table 2 shows that majority of the hypertensive patients (84%) had average knowledge and only 1% had poor knowledge regarding risk factors of hypertension.

Table 3: Frequency and percentage distribution of hypertensive patients according to their practice score

Level of practice	Frequency	Percentage
Poor	4	4%
Average	91	91%
Good	5	5%
Total	100	100%

The data presented in table 3 shows that majority of the hypertensive patients (91%) had average practice score regarding risk factors of hypertension.

factors of hypertension, their lifestyle practices become more favorable.

DISCUSSION

The findings of the study demonstrated that among the respondents. Majority of hypertensive patients were males (72%), age group of 51-60 years (35%), belonging

to hindu religion (69%), were married (68%), staying in nuclear family (52%), studied up to primary level (40%), monthly income between rs. 2001-4000 (36%), business people (31%) living in semi-pucca house (49%), had family history of hypertension (83%), taking non-vegetarian diet (62%).

Knowledge score:

- The findings of knowledge score revealed that 1% of patients had poor knowledge, 84% had average knowledge and 15% had good knowledge.
- The findings of the study also showed that the overall knowledge of hypertensive patients related to knowledge area k1 was highest (79%).
- The mean percentage of knowledge score was 65.84

Practice score:

- The findings of practice scores of hypertensive patients revealed that 4% had poor lifestyle practices, 91% had average practice score and 5% had good practice score.
- The highest practice score (74.38%) was attained on the practice area of the mean percentage of practice score was 51.63

Relationship between knowledge and practice of hypertensive patients related to risk factors of hypertension: The findings of the study shows that there was significant relationship between knowledge and practice ($r_{98} = 0.51$ table value $r_{98} = 0.25$, $p < 0.05$)

CONCLUSION

Public awareness is an important for the hypertensive patients about the knowledge & practice to achieve a better life style. As the saying goes, “**prevention is better than cure**”, there is a need for the health personnel to take active part in primary and secondary prevention of diseases. The principles of primary health care also stress on making health services available to all people. The study findings revealed that there is positive correlation between knowledge and practice

of hypertensive patients regarding risk factors of hypertension. Higher the knowledge better the practice related to risk factors of hypertension.

Conflict of Interest: nil

Source of Funding: self

Ethical Clearance: taken from institution advisory committee

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Comparison of Obsessive Beliefs and Family Functioning among Obsessive Compulsive Disorder Patients (OCD) and General Population in Selected Areas of Amabala, Haryana

Mala Kanchan¹, T. K. Kumar Ajesh²

¹Lecturer, Department of Mental Health Nursing, Netaji Subhash College of Nursing, India;
²Associate Professor, Department of Mental Health Nursing, M. M. College of Nursing, Maharishi Markandeshwar University, India

ABSTRACT

In India the 6-7% people suffering from common mental disorders and 1-2% for severe mental disorders. One in five people in India live with a mental illness. The number of minor ailments like neurosis, psychosomatic diseases are about 4-5 times higher in Haryana. Obsessive-Compulsive Disorder (OCD) is often a severe, frequently debilitating anxiety disorder that affects approximately 2% of the population. The study is to assess and compare the obsessive beliefs and family functioning among OCD patients and general population in selected areas of Haryana. A non-experimental research approach and descriptive comparative design was used. OCD patients and general population from selected areas of Haryana was used to collect the data. Total sample of the study was 57 (27 OCD patients and 30 general population). Convenience sampling technique was used to select the sample. A structured obsessive belief questionnaire of 7-point rating scale and general family functioning scale was used to focusing on obsessive beliefs and family functioning of OCD patients and general population. The mean obsessive belief score of OCD patients (244.56) was higher than mean obsessive belief score of general population (210.90). The mean general family functioning score of OCD patients (2.21) was higher than the mean general family functioning score of general population (1.92). The coefficient of co-relation between obsessive belief scores and general family functioning scores obtained by OCD patients and general population was (-0.06, -0.23) suggesting a negative co-relation between obsessive belief scores and general family functioning scores. The study concludes that there was significant difference in obsessive beliefs and general family functioning of OCD patients and general population.

Keywords: *Obsessive beliefs, General family functioning, OCD patients, General population.*

INTRODUCTION

Mental illnesses are medical conditions that can disrupt a person's thinking, feeling, mood, ability to relate to others and daily functioning.¹ According to the World Health Organization (WHO), 1 in every 4 people or 25% of individuals, develops one or more mental disorders at some stage in life.² A study done by Govt. of India in Haryana found that out of 1.9 crores of total population, 1,90,000 people are suffering from

serious mental diseases and require hospitalization for some period. The number of minor ailments like neurosis, psychosomatic disease are about 4 to 5 times higher.³ Obsessive-Compulsive Disorder (OCD) is often a severe, frequently debilitating anxiety disorder that affects approximately 2% of the population. The disorder appears cross-culturally around the world with similar prevalence rates. Although the etiology of OCD is not established, neurobiological, genetic, cognitive, and behavioral factors have been implicated. Obsessive-Compulsive Disorder is characterized by (a) obsessions, defined as unwanted, disturbing, and intrusive thoughts, images, or impulses that are generally seen by the individual as excessive, irrational, and ego-alien; and (b) compulsions, defined as repetitive behaviors and mental acts that neutralize obsessions and reduce emotional

Corresponding Author:

Mala Kanchan
Lecturer, Department of Mental Health Nursing,
Netaji Subhash College of Nursing, India
Email : sharma20kanchan@gmail.com

distress (American Psychiatric Association, 2000). Although in a limited number of cases a patient may have only obsessions or compulsions, the vast majority of patients experience both⁴. Findings from study of Viar et. al (2011) demonstrated that OCD symptoms were associated with some forms of obsessive belief. Abramowitz et.al.(2006) showed that dysfunctional beliefs predicted the severity of checking, washing and obsessional OCD symptom dimensions , but not neutralizing, ordering or hoarding symptom dimensions. Due to importance of belief, domains in development and maintenance of OCD and because of lack of clinical investigations .⁵ Family functioning plays an important role in the etiology and course of obsessive compulsive disorder(OCD) so understanding the types of problems families with OCD patients will help in creation of OCD specific family interventions.⁶ Thus the need for research in this area led to present study.

AIM AND OBJECTIVE OF THE STUDY

The main aim of the study was to assess and compare the obsessive beliefs and general family functioning among obsessive compulsive disorder (OCD) patients and general population.

MATERIALS AND METHOD

The present study was carried out in MMIMS&R Hospital, Mullana, Ambala, Haryana And Mullana village of Distt. Ambala Haryana. A non- experimental research approach and descriptive comparative design was used. OCD patients from MMIMS&R hospital Mullana, Ambala and general population from Mullana village of Distt. Ambala Haryana were selected as a sample for the study. Total sample of the study was 57(27OCD patients and 30 general population). Convenience sampling technique was used to select the

sample. Each of them gave written consent for the study.

A standardized 44 items obsessive belief questionnaire developed by obsessive compulsive cognition working group and 12 items general functioning scale were used to collect the data from subjects. A 7-point likert scale was used for the obsessive belief questionnaire and the items of this tools were grouped into three areas i.e. Responsibility and threat estimation, importance and control of thoughts and perfectionism.

A performa was designed to collect the relevant sample characteristics data. The content validity has been established satisfactorily. Overall scales reliability was satisfactory for both the obsessive belief questionnaire and general functioning by using cronbach alpha , it was found to be 0.8.

STATISTICAL ANALYSIS

Collected data were coded and tabulated using personal computer. Statistical package for the social science (SPSS) version 20 was used. The data obtained in the study would be analyzed using both descriptive and inferential statistics i.e. mean, median, standard deviation, t-test, chi square and Anova test.

RESULTS

The mean obsessive belief scores of the OCD patients and general population has been shown presented in Table 1. It must be noted that the mean obsessive belief score (244.56) of OCD patients was higher than the smean obsessive belief score of general population.

The data presented in Table 2 indicates that the mean general family functioning (2.21) score of OCD patients was higher than mean general functioning score of general population.

Table 1: Comparison of obsessive belief scores of OCD patients and general population

Group	Range	Mean	Mean%	Median	Standard Deviation
OCD patient (n=27)	71-264	244.56	79.40%	245.0	+16.88
General population (n=30))	132-264	210.90	68.47%	212.5	+33.85

Table 2: Comparison of general functioning scores of OCD patients and general population

Group	Range	Mean	Mean%	Median	Standard Deviation
OCD patients (n=27)	1-4	2.21	55.17	2.17	0.20
General population (n=30)	1.75-4	1.92	47.99%	2.04	0.48

Findings in the Bar graph 1 shows that 92.6% of OCD patients had strong beliefs whereas 46.7% general population had strong beliefs whereas 7.4% OCD patients had neutral beliefs and 53.3% had neutral beliefs.

Further in the Bar graph 2 shows that general population also had unhealthy family functioning

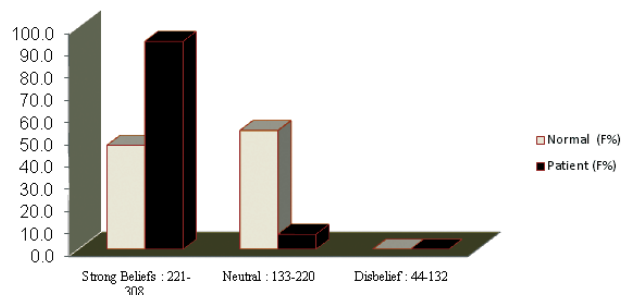


Figure 1: Bar graph showing the distribution of OCD patients and general population in terms of level of Obsessive belief score.

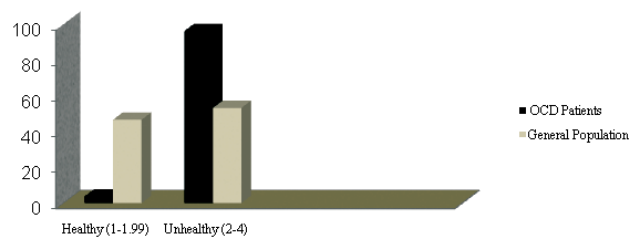


Figure 2: Bar graph showing the distribution of OCD patients and general population in terms of level of general family functioning scale.

CONCLUSION

The following conclusions were drawn from the study findings:

There was a significant difference in obsessive beliefs and family functioning of OCD patients and general population. General population also had obsessive beliefs and unhealthy family functioning. The recommendations for the study are: A similar study

can be conducted on a large sample too generalize the findings. And a comparative study can be conducted on assessing the obsessive beliefs and family functioning among rural and urban community.

Ethical Clearance: Ethical clearance has been taken from Maharishi Markandeshwar University ethical committee, Mullana, Ambala.

Conflict of Interest: No

Source of Funding: Self

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A Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge Related to HIV/AIDS among 1st Year GNM in a Selected College, Bhubaneswar, Odisha

Niyati Das¹, Purnima Sahoo²

¹Professor, ²Assistant Professor, Dept. of Pediatric Nursing, Kalinga Institute of Nursing Sciences, KIIT Deemed to be University, Bhubaneswar, Odisha

ABSTRACT

Background & Objectives: Acquired immune deficiency syndrome is a major emerging public health problem in India. According to an estimate made by the regional office of the WHO for south Asia, in the year 2000, India accounts over two third of HIV infected in this region. The projections of the WHO indicate that by 2010, half of the AIDS patients in the world will be in India. The total amount of annual economic loss due to HIV/AIDS in India is estimated to be Rs 3447 Billion.¹ These figures emphasize the societal burden by HIV infection in India. A pre- experimental research design was conducted in the month of April to assess the effectiveness of structured teaching program me **on knowledge related to HIV/AIDS among 1st year GNM students.**

Method: The present study was an evaluative approach with one group pre test & post test design. 45 samples were selected by purposive sampling technique method through the use of closed ended multiple choice questionnaire. The present study was conducted in 1st year GNM class room, Bhubaneswar, Odisha. The Data were analyzed by using descriptive & inferential statistics and interpreted in accordance with objectives.

Results: Study findings shows that a significant difference between pre test & post test knowledge was found ($t=59, p \leq 0.05$).

Conclusion: From this study it is evident that the STP was effective in improving knowledge of 1st year GNM students. There was no significant association between the level of knowledge & demographic variables.

Keywords: HIV, AIDS, Structured teaching programme, Knowledge.

INTRODUCTION

Acquired immune deficiency syndrome (AIDS) is caused by a human immunodeficiency virus (HIV) that weakens the immune system and makes the body susceptible to various diseases and unable to recover from diseases. HIV/AIDS is one of the most complex health problems in 21st century and has become a pandemic disease that threatens the world population. Since there is no treatment or cure in sight, the disease continues to spread at an alarming rate.²

In india, young people in the age group 15-24 years comprise almost 25% of the country's population, however, they account for 31% of AIDS burden in 2009. well known factors such as peer pressure, increasing level of social interaction with the opposite sex and

even house hold factors like broken family and poverty, contribute to increasing social activity and promiscuity.³

NEED FOR THE STUDY

Statistical analysis on HIV sentinel on surveillance done by NACO in 2007 shows that for five patients affected by AIDS, one is in his 20's. From the long incubation period of HIV, it is clear that many older Adolescents and young adults with AIDS were infected in their early age. There are several factors that contribute to the higher risk of HIV infection among Young people e.g. first sexual experience.⁴

In view of the above reason & the researcher's own experience regarding HIV/AIDS, the researcher is

interested to take up this problem to assess the knowledge of 1st year GNM students. It is felt to be essential for improvement in the knowledge about HIV/AIDS. So here comes the role of nurse to assess the asphyxia babies & to protect them from various complications. Hence it is important to educate the students about HIV/AIDS.

Statement of the problem: A study to assess the effectiveness of structured teaching programme on knowledge related to HIV/AIDS among 1st year GNM in KINS, KIIT University, Bhubaneswar, Odisha.

OBJECTIVES OF THE STUDY

1. To assess the knowledge among 1st year GNM students before and after structured teaching programme regarding HIV/AIDS.
2. To find out association in between pre-test and post-test knowledge regarding HIV/AIDS.

MATERIALS & METHOD

The research design used for this study was Pre-experimental design. The Research design used for this study was pre-experimental in nature. The study was conducted at KINS, 1st year GNM class room, KIIT University Bhubaneswar, Odisha. The sample included 50 students on the basis of inclusion & exclusion criteria were selected. Purposive sampling technique was used for this study. The tool consists of 2 section. Sect-1 consisting of section I (Socio-demographic variables such as age, gender, Religion, Education, family income per month, place of living, marital status, source of knowledge & section II (consisting of 20 items knowledge related to HIV/AIDS). The content validity of structured questionnaire was ensured by submitting the tool to the expert in the field of pediatrics for content validation.

Table 2: Range, mean, SD and mean%, on level of knowledge regarding HIV/AIDS of GNM 1st year students before and after structured teaching

Sl. No.	Items	Maximum Score	Range	Mean	SD	Mean score%
1.	overall	20	6-16	10.77	2.7	53.85
2.	overall	20	9-16	12.55	4.95	62.75

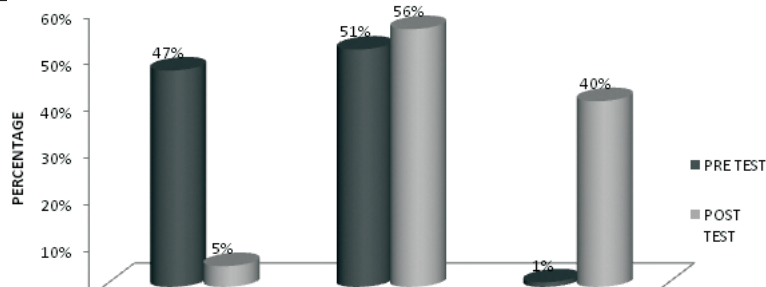


Figure 1: Bar diagram represents the pre & post test knowledge scores of 1ST year GNM students regarding HIV/AIDS.

RESULTS & FINDINGS

Table 1: Frequency & percentage distribution of GNM students according to their demographic variable

Demographic Variables	Frequency	Percentage
Age		
16-20	34	75
>20	11	25
Sex		
Male	03	7
Female	42	93
Religion		
Hindu	42	93.3
Muslim	01	2.2
Christian	02	4.4
Others	0	0
Family income per month		
<10,000	0	0
10,000-15,000	10	22.22
15,000-20,000	14	31.11
>20,000 rupees	21	46.66
Place of living		
Rural area	26	57.7
Urban area	19	42.3
Source of knowledge		
Electronic media	13	28.8
Publishing media	3	6.6
Health care workers	27	60
Relatives and neighbors	2	4.44

Fig. 1: Levels of pre test & post test knowledge score of 1st year GNM students regarding knowledge of HIV/AIDS that in pretest, (46.60%) of the students had inadequate knowledge & (2%) of them had adequate knowledge. But in post test majority (40%) of the students have adequate knowledge & (4.45%) have inadequate knowledge.

IMPLICATION

- Exploring of knowledge on HIV/AIDS among the nursing students is the single most effective methods in the prevention of disease, accidental transmission of microbes infections.
- This study will provide the basis for improving knowledge regarding HIV/AIDS and to further research into the topic or the area.

RECOMMENDATIONS

Keeping in view the findings of present study, the following recommendations were made since this study was carried out a small sample, the result can be used only as a guide for further study.

- The study can be replicated on large samples in different settings to have a wider generalization of findings.
- A similar study can be conducted among staff nurses or paramedical staffs.
- A study can be conducted using other strategies, information booklet and other manual etc.

CONCLUSION

The study findings implied that the STP has a vital role in improving the knowledge, we want to highlight the potential need to improve the level of knowledge among nursing students on HIV/AIDS. Most of the students gain knowledge from nursing school and college so we need to improve clinical practices and teaching of students.

Ethical Clearance: Taken from DRC(Departmental research committee) of kalings institute of Nursing sciences.

Source of Funding: Self

Conflict of Interest: nil

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Pregnancy Related Stress among Women with Spontaneous Pregnancy and in Vitro Fertilization/Embryo Transfer Pregnancy-A Literature Review

Ruchi Patel¹, Anjali Tiwari²

¹M. Sc. Nursing, ²Assistant Professor and HOD, Dept. of Obstetrics & Gynaecological Nursing, Manikaka Topawala Institute of Nursing, Charusat, Gujarat

ABSTRACT

The researcher aims to assess the pregnancy related stress among women with spontaneous pregnancy and in vitro fertilization pregnancy. It was observed that pregnancy related stress is higher in women with assisted reproductive technique due to infertility issues and inability of the mother to cope up with the infertility, outcome of reproductive technique and successful ratio of assisted reproductive technique that affects both maternal mental health and fetal outcome and further inquiry showed that there is a social stigma present in society about infertile women. So it was concluded that there is association between pregnancies related stress and pregnancy with assisted reproductive technique.

Keywords: *Pregnancy related stress, Spontaneous pregnancy, In vitro fertilization/embryo transfer.*

INTRODUCTION

A happy and trouble-free pregnancy is something that all parents and practitioners might hope for, but for many couples this is not the reality and many women can experience stress and anxiety and/or depression at some point during their pregnancy¹. World Health Organization estimates, that approximately 8%- 10% of couples experience some form of infertility problem. On a worldwide scale, this means that 50-80 million people suffer from infertility.²

To study the same, the researcher reviewed many literatures and it was obtained through various sources, printed as well as electronic which includes CINHALL (Cumulative index TO Nursing & Allied Health Literature), MEDLINE (Medical Literature Analysis & Retrieval System Online), PubMed, ProQuest & Google scholar.

MATERIAL METHOD AND FINDINGS

The study mainly focuses on the pregnancy related stress among women with spontaneous pregnancy and in vitro fertilization/embryo transfer pregnancy.

A prospective, longitudinal study was done to compare the pregnancy stress between women with spontaneous pregnancy and women with IVF/ET pregnancy living in central Taiwan 2015. Purposive samples of 163 women who had undergone IVF/ET and of 94 women who had undergone spontaneous pregnancy were enrolled as participants. Pregnancy stress was measured using the Chinese version of the self administered Pregnancy Stress Scale at the 9th, 12th, and 20th weeks of pregnancy. Study finding showed that the psychological stress experienced by IVF participants significantly increased with gestational week during the first 20 weeks of pregnancy ($p < .01$) but did not significantly increase in spontaneous pregnancy participants. Conclusion-study provides clinical evidence that the intensity and trend of stresses experienced by IVF participants significantly increase than the spontaneous pregnancy.³

A comparative study was done to assess the mental state of women with an IVF pregnancy and that of women

Corresponding Author:

Ruchi Patel,
M.Sc Nursing,
Manikaka Topawala Institute of Nursing,
CHARUSAT, Gujarat
Email: ruchi2494@gmail.com

who conceived naturally at the Kulakov Scientific Center for Obstetrics, Gynecology, and Perinatology in Moscow, Russia in 2015. 224 pregnant women were selected through purposive sampling, which was in the second and third trimesters: 62 women with an IVF pregnancy and 162 women who conceived naturally. Eysenck Personality Questionnaire (self-assessment of mental states) and Filippova questionnaire Style of Pregnancy Experiences tool were used for data collection. For increased insight into pregnant women's psychology and possible sources of their anxiety was used the projective drawing technique was used. No significant differences were identified in mental well-being in the two groups; this finding suggests that somatic complications during pregnancy were a general source of anxiety regardless of the reason for their occurrence. The second and third trimesters of pregnancy registered increased anxiety levels associated with experiences of reproductive loss and the presence of physical problems. The results of the projective tests in the IVF group also showed higher anxiety levels. Hence the study concluded that the IVF participants tended to be more anxious than the women who conceived naturally.⁴

A systematic review was done to assess the Psychological stress and adjustment in pregnancy following assisted reproductive technology and spontaneous conception published in 2014. Outcome variables were general anxiety, depressive symptoms, pregnancy, anxiety, quality of life, self-esteem, pregnancy attitudes and adjustment, and maternal-fetal attachment. 20 were included in the review. The review revealed that compared to women who conceive naturally or to general norms, women who conceived after an in vitro fertilization treatment had greater pregnancy anxiety, poorer quality of life, either the same or less depressive symptomatology, the same level of self-esteem, more positive attitudes toward pregnancy demands, and higher levels of maternal-fetal attachment. The review provided an insight into psychological reactions and adjustment in pregnancy after an ART treatment.⁵

A comparative study was done to assess the anxiety and psychological stress before prenatal screening in first-time mothers who conceived through IVF/ICSI pregnancy living in Lausanne, Switzerland in 2014. A group of 51 women who conceived through IVF/ICSI and a group of 54 women who conceived spontaneously completed the State Scale of the State Trait Anxiety

Inventory, the Fear of Bearing a Physically or Mentally Handicapped Child Subscale of the Pregnancy-related Anxiety Questionnaire, the Psychological Stress Measure, and the Prenatal Psychosocial Profile. Women who conceived through IVF/ICSI had more elevated levels of general anxiety and psychological stress than the women who conceived naturally. Study showed that there was high level of anxiety and psychological stress among IVF/ICSI compare to natural pregnancy.⁶

A longitudinal study was done to assess Patterns of emotional responses to pregnancy, experience of pregnancy and attitudes to parenthood among who had conceived by in-vitro fertilization (IVF) with couples who had conceived naturally in 2009. 57 IVF women and 55 of their male partners, and a control group of 43 pregnant women and 39 of their male partners were selected as samples scales measuring emotional responses to pregnancy, attitudes to pregnancy, parenthood and children were used as data collection tool. The IVF couples were interviewed about their experience of pregnancy. The IVF men were more anxious about the baby being injured during birth. The overall anxiety about losing the pregnancy was higher among the IVF couples from early to late pregnancy. The IVF women experienced the pregnancy in a more positive way and them parents compared to controls. The IVF men were more anxious about the baby being injured during birth. The interviews with the IVF couples confirmed the self-ratings. Hence the results suggested that it is important for healthcare providers to pay attention to an elevated anxiety among IVF couples and to give them extra time to discuss emotions during pregnancy and their future life as parents.⁷

A prospective study was conducted to assess the quality of life in pregnant women conceived through in vitro fertilization in University Medical Center Ljubljana, Division of obstetrics and gynecology, 2015. 75 women conceived after IVF and 78 who conceived spontaneously in the same time period. All the women were sent a self report questionnaire about demographic and reproductive history, health, pregnancy concerns, containing Subjective Quality of Life Scale (QLS), Positive and Negative Affect Schedule (PANAS), the Psychological Wellbeing Scale (PWB), Beck Depression Inventory (BDI), and Zung Self Assessment Anxiety Scale (SAS), Obstetric and newborn's data were obtained from medical records. Result showed

that the IVF mothers were just less satisfied in “friend/acquaintances” ($P=0.03$), a higher percentage had sexual problems prior to conception ($P=0.03$); The length of hospitalization during pregnancy was longer ($P=0.02$), and the preterm delivery rate was higher ($P=0.01$). Within group changes over gestation time indicated that IVF women, not controls, showed an increase in positive affect ($P=0.04$) and purpose in life ($P=0.05$). Hence the study showed that women had some social stigma in society related to IVF conceived pregnancy which caused increase the stress in women.⁸

A cross-sectional study on wellbeing of Slovenian women who conceived through IVF and those who conceived spontaneously was carried out at University Medical Centre Ljubljana in a 9 month period. Women between 5th and 26th weeks of pregnancy were eligible to participate in the study. The IVF women were recruited from the IVF registry, and the control group from among the pregnant women who came to regular gynecologic examinations at outpatient clinics. All the enrolled women were sent a questionnaire in order to obtain their basic sociodemographic Data and infertility history, and a subjective evaluation of experiencing stress in infertility treatment on the Likert and tests / inventories for the assessment of their psychological wellbeing. For the assessment of the women’s psychological condition, Beck Depression Inventory (BDI) Zung Self Rating Anxiety Scale (SAS) were used. The women’s quality of life was assessed using Subjective Quality of Life Scale (QLS) which assesses the importance of individual components of quality of life. The study results showed that women who undergo infertility treatment experience more stress.⁹

A comparative study was done to assess Stress and anxiety in IVF and non IVF pregnancies in Hamilton, New Zealand 2010. Participants in the study were 38 women pregnant from IVF, 31 IVF partners, 38 control women who conceived spontaneously, and 13 control partners. All participants completed a battery of psychometric measures including demographic questionnaires and seven self report inventories. IVF mothers and control mothers experienced higher anxiety and lower mood compared to their partners, and IVF couples reported lower quality of life. Focusing on IVF couples, the pregnancy experiences of partners revealed they felt more controlled in their relationship, irrespective of having prior children, and IVF couples with children felt less supported from family and their social network.

Study revealed that two or more treatment cycles had an effect on couple’s ability to cope. Thus, the study showed that women who had undergone with ARTs, needed extended professional care than spontaneous pregnancy.¹⁰

A prospective study was done to assess the impact of stress in in-vitro fertilization (IVF) in 2001-2006. 809 women a cohort of approximately 1578 couples were selected as a participant. Couples were excluded from the study in cases of PGD (Pre implantation Genetic Diagnosis) as completed the List of Recent Events (LRE) and questionnaires measuring perceived stress and depressive symptoms. Women who became pregnant reported fewer non-fertility-related negative life-events prior to IVF (Mean: 2.5; SD: 2.5) than women who did not obtain a pregnancy (Mean: 3.0; SD: 3.0) ($t(465.28) = 2.390, P = 0.017$). Logistic regression analyses revealed that the number of negative life-events remained a significant predictor of pregnancy (OR: 0.889; $P = 0.02$), Mediation analyses indicated that the association between negative life events and IVF pregnancy was partly mediated by the number of oocytes harvested during oocyte retrieval. Conclusion-study revealed that high level of depressive symptoms present in IVF pregnancy.¹¹

A Prospective clinical study was done to examine the influence of depression levels and coping on IVF outcome in women, taking into account the cause of infertility in university hospital, Gasthuisberg 1998. 98 women undergoing IVF treatment were selected as participant. Psychometric tests were administered at the first visit of the investigated treatment cycle. The non pregnant group reported increased expression of negative emotions. In the subgroup with a female indication for IVF, increased depressive symptomatology (correlated with increased expression of negative emotions) were associated with lower pregnancy rates (PRs), whereas in the subgroup with a male indication for IVF, increased depressive symptomatology (correlated with decreased expression of negative emotions) was associated with higher pregnancy rates. Hence the study showed that expression of negative emotions predicts depression levels and outcome in IVF.¹²

A comparative study was done to comparing stress levels in women entering IVF treatment with those of fertile controls as well as relating these levels to the outcome of IVF. State anxiety and personality profiles

as well as stress hormones were studied in 22 normally menstruating women entering IVF treatment for tubal infertility. The psychological evaluation included the Karolinska Scales of Personality (KSP) and state anxiety as measured by the STAI questionnaire. Comparison of the personality profiles of the two groups, showed that infertile women had significantly higher scores of suspicion ($p>0.05$), guilt ($p>0.05$), and hostility ($p>0.01$), but lower somatic anxiety (0.05) and indirect aggression (0.05) than fertile controls. However, significant differences were found in E2 (estrogen) and P4 (progesterone) AUC ($p>0.01$) in the luteal phase between those women who became pregnant and those who failed. There was a trend ($p<0.06$) toward higher state anxiety levels among the women who did not succeed in becoming pregnant after IVF treatment. Study showed that Psychological stress may affect the outcome of IVF treatment since state anxiety levels among those who did not achieve pregnancy were slightly higher than those who became pregnant.¹³

CONCLUSION

As infertility in present days has emerged drastically, as a researcher the investigator feels the need to study the pregnancy related stress among women who have conceived spontaneously as well as through IVF/ET. And the findings of the same can be utilized in future to develop measure for the betterment of the women who undergo IVF/ET.

Conflict of Interest: None

Source of Funding: Self

Ethical Clearance: Permission was obtained from Manikaka Topawala Institute of Nursing.

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Burden in Caregivers of Schizophrenic Patient of Psychiatry O.P.D & Ward of Manipal Teaching Hospital, Pokhara, Nepal

Sandhya Shrestha¹, Nisha Shrestha (Dwa)²

¹Master degree in Psychiatric Nursing, Manipal College of Medical Sciences (Nursing Programme),

²Master degree in Psychiatric Nursing, Pokhara University

ABSTRACT

Background: A Chronic mental illness such as schizophrenia is a challenging task for caregivers especially in the current era of de-institutionalization. The world health organization has estimated that about 40-90% of patients with schizophrenia live with their families. The objective of this study was to assess Burden in caregivers of schizophrenic patient attending Psychiatry Outpatient department and ward of Pokhara, Nepal.

Methods: This study is a hospital based descriptive survey study carried out in the Department of Psychiatry OPD and ward of Manipal Teaching Hospital over a time period from July 2015 to Sep. 2015. Data was collected by using Demographic Performa and family interview schedule by Pai and Kapoor. Data entry and analysis was done using SPSS version 19. Both Descriptive and inferential Statistics was used for data analysis. Ethical approval was taken from the Institutional committee of the Manipal Teaching Hospital, Pokhara, Nepal.

Results: Majority 54.2% of the caregivers was from age 41-65 years but Majority 63.9% of the schizophrenic patient were from age group 21-40 years. More than half 52.8% Caregivers were female and Majority 59.7% of the schizophrenic patient were Male. Majority 86% were getting treatment from more than 1 year. Majority 52.6% of the female Caregiver was having Moderate to severe burden. Financial burden (3.54 ± 1.45) was high burden in Caregivers of patients with schizophrenia.

Conclusion: Study findings shows Majority 52.6% of the female Caregiver were having Moderate to severe burden. High burden was found in financial burden (3.54 ± 1.45) of Caregivers of patients with schizophrenia.

Keywords: Burden, Caregiver, Schizophrenia

INTRODUCTION

Schizophrenia is a chronic and disabling illness that affects approximately 1% of the world's population.¹ Due to move from traditional institutional care to community care of psychiatric patients, relatives have become the most important caregivers for adults with major psychiatric disorders. Burden refers to the negative impact of the individual's mental illness on the entire

family.^{2,3} In developing countries where, most people with schizophrenia live with their families, the human and economic burdens are significant.⁴ Caring of schizophrenic patient leads to considerable amount of burden among caregivers.⁵ Therefore the researcher felt need to conduct study with purpose to find out the extent of burden of care among family caregivers living with schizophrenia.

METHOD

The study was conducted among Caregivers of Psychiatric patients attending Psychiatry O.P.D and ward of Manipal Teaching Hospital, Pokhara, Nepal. Data was collected by Purposive sampling (n=72) recruited from outpatients and Inpatient of Manipal Teaching Hospital, Pokhara, Nepal. The study was conducted in

Corresponding Author:

Sandhya Shrestha

Master degree in Psychiatric Nursing,
Manipal College of Medical Sciences
(Nursing Programme)

Mobile No: 9846038525

Email: Shrestha_sandhu@yahoo.com

July 2015 to Sep. 2015. Inclusion Criteria included for the caregivers was being a family members of patient, involvement of care of the patient since more than 6 month and age above 18 years. . The patient being cared for must have been diagnosed with schizophrenia for at least Six month and should under treatment regimen, able to understand Nepali, Those who are willing to Participate and those who are available at the time of study. Participant who had a chronic mental and medical disease were excluded.

Data collection was done with Demographic Performa, family burden interview schedule standardized by PAI and Kapur (1982)⁶ was used to assess the burden placed on the families of Psychiatric patients. The tool consist of 24 items classified into 6 different categories such as Financial burden, disruption of routine family activities, disruption of family leisure, disruption of interaction, effect on physical health of others, effect

on mental health of others. The burden was rated on a 3-point scale for each item, and a standard question to assess the “subjective” burden was also included in the schedule. The validity and reliability of the scale have been found to be satisfactory. The interrelated reliability for each item was reported to be more than 0.78 by the authors, which indicates that the present schedule is a reliable tool. Tool was translated into Nepali and back-translated it into English. This was done by Subject expert with a good knowledge of English.

Ethical approval was taken from the Institutional committee of the Manipal Teaching Hospital, Pokhara, Nepal. Participation was voluntary and the study as a whole was conducted according to the principles of the Helsinki Declaration. Data entry and analysis was done using SPSS version 19. Both Descriptive and inferential Statistics was used for data analysis.

RESULTS

Table 1: Demographic Characteristics of the Participant (n = 72)

Demographic Variables	Caregivers		Patients	
	Frequency	Percentage	Frequency	Percentage
Age				
21-40	30	41.7	46	63.9
41-65	39	54.2	25	34.7
<65	3	4.2	1	1.4
Sex				
Male	34	47.2	43	59.7
Female	38	52.8	29	40.3
Marital status				
Unmarried	11	15.3	25	34.7
Married	61	84.7	44	61.1
Others	-	-	3	4.2
Educational Status				
Illiterate	19	26.4	17	23.6
Primary	7	9.7	12	16.7
Secondary	14	19.4	9	12.5
Higher Secondary & above	32	44.4	34	47.2
Occupation				
Employment	32	44.4	10	13.9
Unemployed	40	55.6	62	86.1
Residence				
Rural	45	62.5	45	62.5
urban	27	37.5	27	37.5

Contd...

Family Type				
Nuclear	34	47.2	34	47.2
Joint	38	52.8	38	52.8

Table 1 reveals Majority 54.2% of the caregivers was from age 41-65 years but Majority 63.9 % of the schizophrenic patient was from age group 21-40 years. More than half 52.8% Caregivers were female and Majority 59.7 % of schizophrenic patients were Male. Majority 84.7% caregivers as well as majority 61.1% of schizophrenic Patients were married. 44.4% of the caregiver’s education status as well as 47.2 % of schizophrenic Patients were higher secondary and above .Majority 55.6% of care giver were unemployed .Majority 62.5 % were residing in rural area and 52.8% were living in a joint family.

Table 2: Demographic Variables of Caregiver such as Relationship to Patient, Consanguinity and time spend with patient (n = 72)

Demographic Variables	Frequency	Percentage
Relationship to Patient		
Parents	37	51.4
Siblings	13	18.1
Spouse	15	20.8
Children	5	6.9
Others	2	2.8
Consanguinity of family		
First generation	52	72.2
Second generation	10	13.9
others	10	13.9
Time spend with Patient		
1-12 hours	22	30.6
More than 12 hours	50	69.4

Table 2 shows Majority 51.4% Caregiver were Parents. Majority 72.2 % were from First generation Consanguinity and Majority 69.4% spends time more than 12 hours.

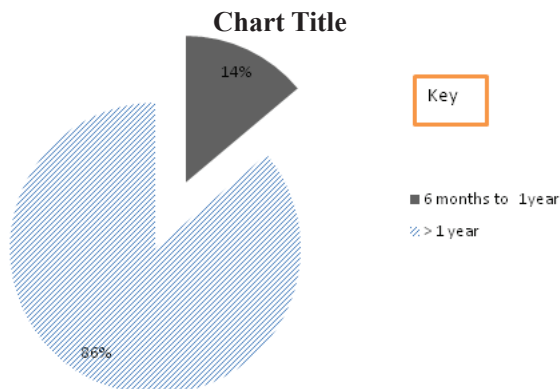


Fig 1: Pie showing treatment duration of Schizophrenic Patient

Fig 1 reveals Majority 86% were getting treatment duration from more than 1 year.

Table 3: Caregiver burden of the Participant (n = 72)

Category	No burden	Moderate burden	Severe burden
Male Caregiver (n = 34) (%)	61.8	38.2	-
Female Caregiver (n = 38) (%)	47.4	50.0%	2.6%

Table 3 shows Majority 52.6% of the female Caregiver were having Moderate to severe burden.

Table 4: Family burden Mean and SD among caregivers of patient’s with Schizophrenic (n = 72)

Categories	Mean score	SD
Financial burden	3.54	1.45
Disruption of routine family routine activities	2.51	1.62
Disruption of family Leisure	2.4	1.29
Disruption of family interaction	2.20	1.81
Effect on physical health on others	0.37	0.73
Effect on mental health on others	0.26	0.58

Table 4 shows Majority of the participants have highest mean score 3.54±1.45 in financial burden and least mean score in 0.26±0.58 in effect on mental health on others. Under item financial burden high mean score 0.96 ±0.20 was expenses of patient’s illness.

DISCUSSION

According to previous studies it was found that the burden of care was more in the caregivers of patients aging between 30 and 40.⁷The age of onset according to previous studies suggest that schizophrenia is an illness of late teenage and early adulthood which is similar with the current study.

Caregivers are more likely to be women in many parts of the world. In the United Kingdom, about 58% of

the caregivers are women.⁸ Asian studies found that about 70% of family caregivers are females.^{9,10} also study done by Ukpong D in Nigeria reveals caregivers caring for female patients had more burden than caregivers caring for male patients.¹¹ which is similar with the present study as 52.8% of caregivers were female.

Majority of caregivers of patients with schizophrenia were having high burden in financial burden, family interaction routine activities and family leisure which support present study as the burden was present in areas like finance, family interaction, routine activities and family leisure.¹² A study conducted by Senthil M J and e t a l also shows that the high burden in mean score of financial burden (9.39±1.24), which is similar to present study as Majority of caregivers of patients with schizophrenia were having high burden in Mean score of financial burden (3.56±2.46)¹³

CONCLUSION

Study findings shows among the Participant Majority 54.2% of the caregivers were from age 41-65 years but Majority 63.9 % of the schizophrenic patient were from age group 21-40 years. More than half 52.8% were female, Majority 59.7 % were Male. Majority 51.4% Caregiver were Parents. Majority 72.2 % were from First generation Consanguinity Majority 69.4% spend time more than 12 hours. Majority 52.6% of the female Caregiver was having Moderate to severe burden. Majority of caregivers of patients with schizophrenia were having high burden in financial burden (3.56±2.46). According to this study findings mental health professionals need to concerned and develop some program for families of schizophrenic patients to reduce their burden rates.

Conflict of Interest: No

Source of Funding: Self

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Effectiveness of Structured Teaching Programme on Knowledge in Practice Regarding Menstrual Hygiene among Female Students Studying in Selected Schools

Uma Kole¹, Namrata Devulkar², Sanjeev Badli³

¹Asst Professor, Department of Obstetric and Gynecological Nursing, ²Asst Professor and HOD,

³Senior Tutor, Department of Community Health Nursing, KLEU's Institute of Nursing Sciences, Belgaum, (Karnataka), India

ABSTRACT

Objective: To evaluate the effectiveness of structured teaching programme on knowledge in practice regarding menstrual hygiene among female students studying in selected schools

Methods: Pre-experimental research study was carried over a period of 3 months on 50 female students of VIII, IX, and X standard studying in Shaikh high school, Belagavi.Karnataka. All 50 students enrolled in study.

Results: Result revealed that, pretest scores of 50 adolescent girls had excellent knowledge 2(4%), 41(82%) were good and 7(14%) were having poor knowledge. Post-test scores of 50 adolescent girls had excellent knowledge 32(64%), 18(36%) were good and 0(0%) were having poor knowledge. Among demographic variables analysed in the study it was inferred that there is a significant association between knowledge score and the selected demographic variables regarding practice regarding menstrual hygiene among female students studying in selected schools knowledge scores at 5% level.

Conclusion: Structured Teaching Programme is the best methods to improve the knowledge which inturn practice regarding menstrual hygiene among female students studying in selected schools

Keywords: *menstrual hygiene, Structured Teaching Programme, female students, effectiveness.*

INTRODUCTION

Menstruation, also known as a period or monthly, is a regular discharge of blood and mucosal tissue from the inner lining of the uterus through the vagina. It is the normal physiological process in which each and every women faces throughout her reproductive age period. The period extending from the beginning of a period to the beginning of the next one is called menstrual cycle¹.

The first menstruation occurs between the age of 11-15 years with a mean of 13 years. The first menstruation is also known as menarche. Once the menstruation starts, it continues cyclically at intervals of 21-35 days with a

mean of 28 days. Every month there is 3-5 days bleeding from the uterus throughout the lifetime till menopause. Menopause is the ceasing of the menstrual cycle¹.

Ultimately, it ceases between the ages 45-50. The amount of blood loss is estimated to be 20 to 80ml with an average of 35 ml. Nearly 70% of total menstrual blood loss occurs in the first 2 days. The menstrual blood consists mainly of dark, altered mucus, vagina epithelial cells, and fragments of endometrium, prostaglandins, enzymes and bacteria².

Menstruation is regarded as something unclean and dirty in the society. Women have the mentality that the menstrual blood is unhygienic and stinking. This kind of wrong negative messages causes many girls and women to carryout dangerous hygienic practices. So all the adolescent girls who are attaining their menarche and even who have attended should be aware of the menstrual hygiene and its practices³.

Corresponding Author:

Uma Kole

Assistant Professor, Department of OBG Nursing,
KLEU's Institute of Nursing Sciences,
Belgaum-590010,(Karnataka), India

Menstrual hygiene day (MHD or MH day) is an annual awareness day, on 28th May, that aims to break taboos and raise awareness about the importance of good menstrual hygiene management (MHM) for women and adolescent girls worldwide. It is initiated by the German-based NGO WASH United in 2014⁴.

Inadequate menstrual hygiene is connected with several problems that females face, in different places and directly affecting their health⁴.

In India, a majority of girls are at risk for reproductive tract infection (RTI) because of poor menstrual hygienic practices and which can lead to various disabilities if not treated early on⁵.

According to India's 2011 census, 89% nation's rural population lives in households that lack toilets. This absence of proper sanitation presents public health challenges and affects Indian women disproportionately⁶.

An estimated 355 million Indian women and girls must find ways to cope with monthly menstrual hygiene. Most of these women either have no access to toilets or are faced with unclean laboratory facilities. Moreover, they usually wait until night time before using public toilets or fields which exposes to the various forms of physical attacks⁶.

A majority of rural women in India employ clothes and rags for feminine hygiene. These materials might predispose women to reproductive tract infection. Since it may be difficult for them to keep their used napkins clean and free from harmful bacteria⁶.

While commercially available sanitary pads provide possible alternatives, only 12% of Indian women can afford this option. An average woman also is estimated to throw away 125-150 kgs of tampons, pads and applicators in their lifetime. This amounts to 433 million such products per month to be discarded in India, expert's estimates⁷.

Washing reusable feminine products with soap and drying them in sunlight may be difficult due to lack of water, private facilities and cultural taboos associated with menstruation⁷.

MATERIALS AND METHOD

This was pre-experimental study carried out at Shaikh high school, Belagavi, Karnataka, Karnataka for a period of 3 months. The study was approved by the institutional research committee.

The tool used for the data collection consisted of: The self-administered structured questionnaire to assess the effectiveness of structured teaching programme on knowledge in practice regarding menstrual hygiene among female students studying in selected schools at Shaikh high school, Belagavi, Karnataka

Tool was divided into two parts section I & section II

Section I: Demographic data

Section I: Self-administered structured questionnaire on practice regarding menstrual hygiene

RESEARCH DESIGN

pre-experimental research design is the researchers overall plan for answering the research question.

Major Findings of the Study were: pre-experimental and inferential statistics had been used for data analysis. The data was presented in the form of tables and diagrams. Data was analyzed by computing mean, standard deviation, t value and chi-square.

Significant findings of the Study demographic Data of the Respondent

Age: In group of 50 samples 12(24%) female students found in the age group 12-13 years followed by 14(28%) in the age group of 13-14 years and 24(48%) female students were in between 15-16 years of age.

Religion: In group of 50 samples female students result shows that 12(24%) of female students belong to Hindu Religion and 38(76%) belongs to Muslim religion.

Education: In group of 50 samples 7(14%) of female students were post graduate & 16(32%) were graduates, 19(38%) were higher secondary and 8(16%) female students were undergone no formal education.

Type of family: In group of 50 samples 36(72%) female students belong to nuclear family and 14(28%) female students belong to joint family.

Residence: In group of 50 samples 47(94%) female students belong to urban area and 3(6%) female students rural area

Dietary pattern: In group of 50 samples 10(20%) female students are vegetarians and 40(80%) female students are non vegetarians.

RESULTS

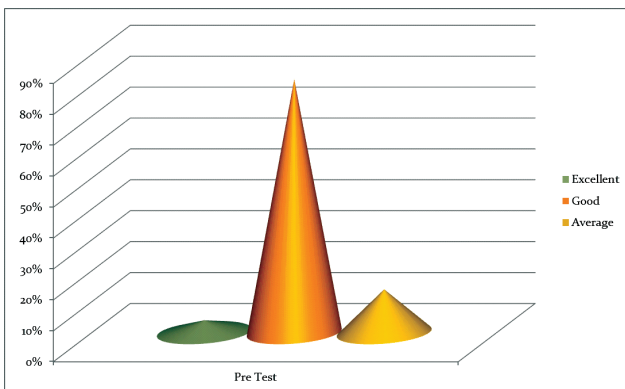
Analysis of the data shows that pretest scores of 50 adolescent girls had excellent knowledge 2(4%), 41(82%) were good and 7(14%) were having poor knowledge.

But in post test 50 adolescent girls had excellent knowledge 32(64%), 18(36%) were good and 0(0%) were having poor knowledge. which indicates that the Structured Teaching Programme improved the knowledge of female students.

Association between knowledge on Prevention of anemia and selected demographic variables: Analysis showed that the demographic variables such as Sex, total experience in years, type of family, monthly income e, suffered from respiratory infections and type of treatment pattern has statistically significant association with Knowledge regarding Prevention of respiratory tract infections.

Table No. 1: Mean, Mode, Median and standard deviation of female students regarding menstrual hygiene n = 50

Area of analysis	Mean	Median	Mode	SD
Pre test	10.4	10	10	2.474
Post test	15.16	15	18	2.60



Graph No. 1: Distribution of Pre-test Score of knowledge of female students regarding menstrual hygiene

Table No. 2: Distribution of Post-test Score of knowledge of female students regarding menstrual hygiene

Scores	Score range	Frequency	Percentage
Good (Mean + SD)	15-20	32	64%

Contd...

Average (Mean + SD)	8-14	18	36%
Poor (mean – SD)	0-7	0	0

The data presented in table no 1 shows that pretest scores of 50 adolescent girls had excellent knowledge 2(4%), 41(82%) were good and 7(14%) were having poor knowledge.

Post-test scores of 50 adolescent girls had excellent knowledge 32(64%), 18(36%) were good and 0(0%) were having poor knowledge.

DISCUSSION

The discussion is accordance with the objectives and hypotheses of the study to evaluate the effectiveness of structured teaching programme on knowledge in practice regarding menstrual hygiene among female students studying in selected schools.

Demographic variables: maximum number of adolescents female students 24(48%) belongs to the age group of 14-15years, Majority of religious status of adolescent female students were 38(76%) Muslim, More number of educational status of mother of adolescent girls were 19 (38%) were Higher secondary 16(32%), More number of Educational status of the father among adolescent girls 19(38%) were graduates and higher secondary respectively, More number of adolescent female students 36(72%) belongs to Nuclear family, Majority of adolescent girl’s 47(94%) stays in urban areas, Majority of adolescent girl’s 40(80%) are non-vegetarian and Majority of adolescent girl’s 24(46%) belongs to 10th standard.

In the present study the pretest scores of 50 adolescent girls had excellent knowledge 2(4%), 41(82%) were good and 7(14%) were having poor knowledge. Post-test scores of 50 adolescent girls had excellent knowledge 32(64%), 18(36%) were good and 0(0%) were having poor knowledge.

Effectiveness of structured teaching programme on knowledge in practice regarding menstrual hygiene among female students studying in selected schools

According to stated hypothesis (H1) the overall mean knowledge in pretest was found to be 10.4 and

mean knowledge in post test was 15.16, Hence, the stated hypothesis H_1 is accepted.

Association between pre-test scores and selected demographic variables: The study revealed that the chi square calculated value is greater than the chi square tabulated value, hence there is significant association between the age, religion, education status of the mother and father, type of family, residential area, dietary pattern and the standards among the adolescent girls of the pre-test. There is no significant association between age, religion and standards of education among the adolescent girl's during post-test and there was significant association among educational status of the mother and father, type of family, residential area and dietary pattern with the post-test. hence H_2 was accepted.

The investigator assumed that female students had some knowledge about practice regarding menstrual hygiene, it was also assumed that STP will be effective for increasing their knowledge regarding practice regarding menstrual hygiene.

The study attempted to examine the following research hypothesis:

H_1 : The mean post-test knowledge scores of female students exposed to structured teaching programme will be significantly higher than their mean pre-test knowledge scores at 0.05 levels.

H_2 : There will be significant association between pre-test knowledge scores and selected demographic variables at 0.05 levels.

CONCLUSION

The findings of final study revealed that there was a significant gain in knowledge scores of the female students after the session of STP at 0.05 level. The study concluded that STP had a great potential for accelerating the awareness regarding practice regarding menstrual hygiene.

Source of Funding: Self Funded

Conflict of Interest: Nil

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Effectiveness of a Planned Teaching Programme on Glasgow Coma Scale among Nurses Working in Critical Care Units of Selected Hospital, Pokhara, Nepal

W. Ashalata Devi¹, Manmaya Rana²

¹Assistant Professor, ²Lecturer, Manipal College of Medical Sciences (Nursing Programme), Kathmandu University, Pokhara, Nepal

ABSTRACT

The study was conducted among 35 staff nurses to find out the effectiveness of a planned teaching programme on Glasgow Coma Scale in the month of March- April 2017. An evaluative research approach and pre-experimental one group pretest and posttest research design was adopted for the study. The data was collected by administering a self structured knowledge and skill questionnaires after validity and reliability of the tool with non-probability purposive sampling technique. With prior permission from the ethical committee and written consent from the participants the pretest was taken from nurses. Then planned teaching was given to nurses with lesson plan and power point presentation with audio-visual video demonstration on Glasgow Coma Scale. Post test was taken from the nurses after 8 days of teaching. The data gathered were analyzed by calculating mean, mean percentage, SD and 'paired t' test. Results of the study showed that teaching programme was highly effective in enhancing the knowledge and skill of nurses regarding Glasgow Coma Scale, which will help in effective care of patients in critical care units.

Keywords: Effectiveness, Planned Teaching Programme, Glasgow Coma Scale, Nurses.

INTRODUCTION

The brain is the central unit that controls all the functions of our body. The proper functioning of the brain and its relationship with the world is known as consciousness. The level of consciousness is the sensitive and reliable indicator of the patient's neurological status. There are numerous tools used to determine level of consciousness. The most common standardized tool used to determine level of consciousness is the Glasgow Coma Scale (GCS).

BACKGROUND

The Glasgow Coma Scale is a common way to assess a patient's activity, by assessing the different area

of the patient's behavior including eye opening, verbal response and motor response. A patient is assessed against the criteria of the scale, and the resulting points give a score. The score can be assessed by Best Eye Response (4). Best Verbal Response (5) Best Motor Response (6) No motor response (1) Extension to pain (2) Flexion to pain (3) Withdrawal from pain (4) Localizing pain (5) Obeys Commands (6).¹

A study conducted among 40 staff nurses to assess the effectiveness of Planned Teaching Programme on Glasgow coma scale of Head Injury Patient in Intensive Care Units of Selected Government Medical College attached Hospitals of Gujarat State. The result showed that the mean Posttest Knowledge score 28.25 was higher than mean Pretest Knowledge score 14.0250 with the mean difference of 14.225. The mean posttest practice score 5.2 was higher than the mean pretest practice score is 1.37 with the mean difference of pretest and posttest practice score was 3.27. Significance of the difference between pretest and posttest knowledge and practice was statistically tested using 'paired t' test and it was found significant.²

Corresponding Author:

W. Ashalata Devi
Asst. Prof., MCOMS (Nursing Programme)
Pokhara, Nepal
Mobile: 977- 9827131300
Email id: ashman_206@hotmail.com

A study was conducted on Effectiveness of instructional video on Glasgow Coma Scale for EMS providers in Albert Einstein Medical Center, USA. Results found that before observing the instructional video, only 14.7% score all of the scenarios correctly, whereas after viewing the video, 64.0% scored the scenarios. Results were observed after viewing the video for those who used the GCS cards ($p = 0.001$; $RR = 2.0$; $95\% CI = 1.29$ to 3.10) than for those not using the cards ($p < 0.0001$; $RR = 10.0$; $95\% CI = 2.60$ to 38.50). The study concludes that Post-video viewing scores were better than those observed before the video presentation.³

A study among 50 staff nurses conducted to evaluate the effectiveness of Self Instructional Module (SIM) on Knowledge Regarding Care of Head Injury Patients among Staff Nurses Working in Selected Hospitals, Punjab. The study revealed that mean pre-test knowledge score was 13.16 with SD 2.333 and mean post-test knowledge score was 24.04 with SD 2.657 with calculated t-value 29.151 which indicates that there was statistically significant increase in the post knowledge score ($p < 0.05$). Findings of the study also indicated that there was no statistical significant relationship between post-test knowledge score of staff nurses with selected socio-demographic variables ($p < 0.05$).⁴

NEED OF THE STUDY

Patients in critical care units are usually fully dependent on nursing care to have a good prognosis. Quick recognition of acute events, for example, head injury, infection, hemorrhage or post surgery complications and the monitoring and recording of neurological observations are the challenges for nurses. Nurses those working in critical care setting should have competent in monitoring Glasgow Coma Scale to enhance the effective nursing care and ensure high levels of patient safety and quality care. So, the investigator has chosen this study to find out efficacy of planned teaching programme to evaluate the knowledge and skill regarding GCS of nurses and to enhance the effective nursing care in the critical care units.

METHODOLOGY

The study was conducted among 35 staff nurses of a selected Hospital, Pokhara, Nepal. in the month of March-April 2017.

Research approach: an evaluative research approach was used for the study.

Research design: A pre-experimental one group pretest posttest research design was adopted for the present study.

Variables:

Independent variables: Planned teaching programme on Glasgow Coma Scale.

Dependent variables: Knowledge and skill on Glasgow Coma Scale.

Setting of the study: Manipal Teaching Hospital, Pokhara, Nepal.

Sampling criteria:

Population: Staff nurses who were working in Critical Care Unit

Sample size: A total of 35 staff nurses

Sampling technique: Non-randomized purposive sampling technique

Inclusion criteria:

- Staff nurses who were working in critical care units
- Staff nurses who were present on the day of teaching programme
- Staff nurses who were willing to participate

Exclusion criteria: Staff nurses who were absent on the day of teaching programme

DATA COLLECTION METHOD

With prior formal permission from the ethical committee of MTH and written consent from the participants, a structured knowledge and skill questionnaire was administered to assess the nurses' knowledge and skill level on Glasgow Coma Scale. The Planned Teaching Programme was given to the nurses on the same day. After one week post test was conducted with the same structured knowledge and skill questionnaire among the nurses but only 31 participants were present during post test.

Tools used for the study:

Tool I: Socio-demographic proforma consisted of 6 questionnaires

Tool II: Structured knowledge questionnaire on GCS.

There were 20 multiple choice questions. For every right answer score given as 1 and for wrong answer score was 0. The scoring was graded as: Poor knowledge (1-7), Good knowledge (8-14), and Very good knowledge (15-20).

Tool III: structured skill questionnaire on GCS.

There were 12 multiple choice questions. For every right answer score given as 1 and for wrong answer score was 0. The scoring was graded as: Poor skill (1-4), Good skill (5-8), and Very good skill (9-12).

Statistical analysis

Descriptive statistics: Frequency and percentage distribution of demographic variables.

Inferential statistics: Paired t-test, Chi square test & Correlation coefficient.

RESULT

Section 1: Frequency and Percentage of nurses on the basis of their sample characteristics: Out of 35 nurses majority (71.4%) were below 25 years of age, majority (91.4%) had educational qualification of SLC (School Leaving Certificate), majority (82.9%) had professional qualification of PCL (Professional Certificate Level), about 34.3% of the nurses were working at NICU (Neuro Intensive Care Unit), about 38.6% had 2-5 years working experience and majority (85.7%) did not attend any training on critical nursing care.

Section 2: Knowledge of nurses on Glasgow Coma Scale

Table 1: Frequency and percentage distribution of pre-test & post test knowledge scores of nurses on Glasgow Coma Scale.

Knowledge scores	Pretest of nurses (N = 35)		Posttest of nurses (N = 31)	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Poor(1-7)	9	25.7	--	--
Good (8-14)	21	60	6	19.4
Very Good(15-20)	5	14.3	25	80.6

Maximum possible scores: 20

The data in table 1 showed that majority (60%) of the nurses had good knowledge on GCS in the pretest and majority (71%) of nurses had very good knowledge in post test.

Section 3: Skills of nurses on Glasgow Coma Scale

Table 2: Frequency and percentage distribution of pre-test & post test skill scores of nurses on Glasgow Coma Scale. N (Pretest =35; Posttest = 31)

Skill Scores	Pretest of nurses		Posttest of nurses	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Poor(1-4)	12	34.3	1	3.2
Good (5-8)	18	51.4	7	22.6
Very Good(9-12)	5	14.3	23	74.2

Maximum possible scores: 12

The data in table 2 showed that majority (51.4%) of the nurses had good skill in pretest and majority (74.2%) of nurses had very good skill in post test.

Section 4: Effectiveness of planned teaching programme for the nurses in terms of gain in knowledge score

Comparison of pretest and posttest knowledge score of nurses on Glasgow Coma Scale.

The effectiveness of the teaching programme on Glasgow Coma Scale was identified by computation of mean, median and standard deviation. This is depicted in table 3.

**Table 3: Mean Median and Standard Deviation of knowledge scores of nurses:
N (Pretest) = 35; N(Post test) = 31**

Knowledge	Mean	Median	Standard deviation
Pretest	10.58	9.00	3.57
Post test	16.32	17.00	1.79

Maximum possible scores: 20

The data in Table 3 showed that the posttest mean and median score (16.32 & 17.00) was higher than the pretest mean and median score (10.58 & 9.00) which indicate that the knowledge of the nurses improved after the teaching programme.

**Table 4: Mean, mean difference and t value of pretest and post test knowledge scores of nurses on Glasgow Coma Scale
N (Pretest = 35; Posttest = 31)**

Knowledge score	Mean	Mean difference	Calculated t value	Table value
Pretest	10.58	5.74	- 8.913*	2.042
Post test	16.32			

* $t_{(30)} = 2.042$, * = significant

The data presented in table 4 showed that mean difference between the post test and pre -test knowledge score is 5.74. In order to find out the significant difference between two correlated means of pre-test and post-test knowledge scores 'paired t' test was computed and found significant at 0.05 level.

Section 5: Effectiveness of planned teaching programme for the nurses in terms of gain in skill score

Comparison of pretest and posttest skill score of nurses on Glasgow Coma Scale.

Computation of mean, median and standard deviation of pretest skill and post test skill score.

**Table 5: Mean, Median and Standard Deviation of pretest skill and post test skill score.
N(Pretest) = 35; N(Post test) = 31**

Skill	Mean	Median	Standard deviation
Pretest	5.42	5.00	2.159
Posttest	9.38	10.00	1.994

Maximum possible scores: 12

The data in Table 5 showed that the posttest mean and median score (9.38 & 10.00) was higher than the pretest mean and median score (5.42 & 5.00) which indicate that the skill of the nurses improved after the teaching programme.

**Table 6: Mean, mean difference and t value of pretest and post test skill scores of nurses on Glasgow Coma Scale
N (Pretest = 35; Posttest = 31)**

Knowledge score	Mean	Mean difference	Calculated t value	Table value
Pretest	5.42	3.96	-9.36*	2.042
Post test	9.38			

* $t_{(30)} = 2.042$, * = Significant

The data presented in table 6 showed that mean difference between the post test and pre -test skill score is 5.74. In order to find out the significant difference between two correlated means of pre-test and post-test skill scores 'paired t' test was computed and was significant at 0.05 level.

Section 6: Association between the pretest knowledge scores of nurses with selected demographic variables.

To test the significance of association between the pretest knowledge scores and selected demographic variables, Chi Square was computed. There was significant association between the pretest knowledge score and selected variables such as educational qualification ($\chi^2 = 8.345$; $df = 2$) and professional qualification ($\chi^2 = 7.554$; $df = 2$), but there was no association between pretest knowledge scores and variables such as age, area of work and working experience.

Section 7: Relationship between pretest knowledge scores and pretest skill scores on Glasgow Coma Scale.

To test the significance of relationship between the pretest knowledge scores and pretest skill score, Pearson coefficient correlation was computed. There was significant relationship between the pretest knowledge and pretest skill on Glasgow Coma Scale ($r = 0.583$ at $P < 0.05$) which showed that as the nurses' knowledge increases their skills also increases.

DISCUSSION

The present study findings showed that regarding knowledge majority (60%) of the nurses had good knowledge on GCS in the pretest and majority (71%) of nurses had very good knowledge in post test. Regarding skill in pretest majority (51.4%) of the nurses had good skill in pretest and majority (74.2%) of nurses had very good skill in post test. The knowledge posttest mean and median score (16.32 & 17.00) was higher than the pretest mean and median score (10.58 & 9.00) which indicate that the knowledge of the nurses improved after the teaching programme. The skill posttest mean and median score (9.38 & 10.00) was higher than the pretest mean and median score (5.42 & 5.00) which indicate that the skill of the nurses improved after the teaching programme. The planned teaching programme on GCS was effective as the computed 'paired t' value for

knowledge ($t = -8.913$) and skill ($t = -9.36$) respectively and found significant at $P > 0.05$. There was significant association between the pretest knowledge score and selected variables such as educational qualification ($\chi^2 = 8.345$; $df = 2$) and professional qualification ($\chi^2 = 7.554$; $df = 2$). There was significant relationship between the pretest knowledge and pretest skill ($r = 0.583$; $P < 0.05$).

This study is similar with a study conducted by T. Marian, B. Preeti, M. Milka among 55 Nurses Working in Critical Care Units of KLE Dr. Prabhakar Kore Hospital and Medical Research Centre, Belgaum, to find out the effectiveness of a SIM on GCS. The study revealed that during pre-test, 41(74.55%) of the staff nurses had average knowledge and 46(83.64%) had average skill but after the administration of Self Instructional Module in post-test 38 (69.09%) of staff nurses had good knowledge and good skill 35(63.64%). There was significant relationship between the pretest knowledge and pretest skill ($r = 0.583$; $P < 0.05$). which is similar the finding of the study as the computed paired .t. test value (40.8) revealed that there was significant gain in knowledge and skill among staff nurses working in critical care units after administration of SIM.⁵

Findings of the present study is supported with the study done by Ahamed N, Dutta S. to assess the knowledge and practice among 60 staff nurses regarding monitoring Glasgow Coma Scale in selected hospital of Kolkata, West Bengal. The study revealed that the mean post test knowledge score (16.13) of the participants was higher than the mean pretest knowledge score 13.28 (0.21, $p < 0.20$) after their exposure to planned teaching program. The posttest mean score of practice (45.93) of staff nurses was higher than mean pretest practice score 28.88 (8.51, $p < 0.001$). There was no significant relationship between pretest knowledge and practice of staff nurses ('t' 0.03, $p > 0.05$) which is contradicting the present study finding.⁶

The findings of the present study were supported another study done by P. Sonal, H.N. Ravindra which showed the effectiveness teaching programme regarding GCS among 50 staff nurses. The study revealed that the post test mean score among staff nurses knowledge regarding Glasgow coma scale was 24.3 ± 3.95 higher than pre test mean score 11.7 ± 3.60 among staff nurses regarding Glasgow coma scale, the mean posttest knowledge scores (24.3) was higher than the mean pretest

knowledge scores (11.7). The computed 't' value was 17.02 and significant at $P > 0.001$ level of significance.⁷

CONCLUSION

The present study concluded that the Planned Teaching Programme on Glasgow Coma Scale was effective as nurses gained higher score of posttest knowledge and skill than the pretest knowledge and skill score and also the computed 'paired t' test was significant at 0.05 level of significance.

Ethical Clearance: Prior to the data collection, permission to conduct the study was taken from the ethical committee. Written consent from the participants was taken prior to the data collection.

Conflict of Interest: Nil

Source of Funding: Self

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Depression and Cognitive Functions in Elderly: A Community Based Study in Rural Area of Haryana

Purushottam¹, Krishan Kumar², Vikas³, Lipika Malik³, Ankur Jain⁴, Priti Singh⁵, Rajiv Gupta⁶

¹Associate Professor, Dept. of Psychiatry, ²Assistant Professor, ³M. Phil Scholar, Dept. of Clinical Psychology, ⁴Junior Resident, ⁵Professor, Dept. of Psychiatry, ⁶Director-cum CEO, Institute of Mental Health, IMH, UHS Rohtak

ABSTRACT

In India, most of the elderly live in the rural areas and the access to the health care facilities are not up to the mark. The depressive symptoms at this age sometime can be consider as on “normal” continuum and can be viewed as normal response to stress/psychosocial stress including age too by this age group, their family members and even by primary health care providers. There are enormous opportunities for alleviating depression among old age people if it is diagnosed and managed at early stage. There is scarcity of literature of community studies about depression among elderly in India. Taking into consideration the above factors, this study was conducted in a rural area with the objective to study the assess the depression and cognitive functions in elderly. For this purpose: in the present study, a sample of 20 elderly people who attended the camp organized by society for rural mental health (SRMH) at rural area of Haryana assessed on mini mental status examination and geriatric depression rating scale. Pearson r and Independent sample t-test was applied on obtained data. Results indicate that age was not correlated with depression whereas significantly negatively correlated -0.61 ($p < 0.01$) with MMSE score. Therefore one can conclude that late life depression often leads to cognitive decline which further could be a maintaining factor of depression.

Keywords: *Depression, Cognitive Function and Elderly.*

INTRODUCTION

Late-life depression refers to depressive syndromes defined in the American Psychiatric Association's Diagnostic and Statistical Manual (DSM-IV) and in the International Classification of Diseases (ICD-10) that begin in adults elder than 65 years age¹. The clinical picture of depression is different in older patients than younger adults because older patients with depression had more somatic complaints. Elderly individuals commonly display major depressive episodes characterized by hypochondriasis, low self-esteem, feelings of worthlessness, and self-accusatory trends with paranoid and suicidal ideation. Recent epidemiological surveys in India² have reported the prevalence rates of LLD to be around 20% to 25%.

Corresponding Author:

Krishan Kumar
Assistant Professor, Dept. of Clinical Psychology,
IMH, UHS Rohtak,
Ph. No. 08607494950
Email: keshusony@rediffmail.com

Late Life Depression is also associated with peripheral body changes and cognitive impairment. Elderly people not suffering from dementia, with major depression often have difficulties with concentration, speed of mental processing, and executive function³⁻⁴. The above deficits improve, but do not completely resolve, after remission of late-life depression⁵⁻⁷. It is often observed that symptoms or syndromes of depression often precede cognitive decline⁸ and dementia⁹. Similarity, elderly individuals who suffer from major depression and cognitive impairment are likely to develop dementia within a few years of onset of depression¹⁰⁻¹¹. Several studies have found that major depression with onset more than 10 years before the diagnosis of dementia¹² and lifetime history of depression¹³ is associated with increased risk for Alzheimer's disease. Therefore one can hypothesize that depression might increase the risk of cognitive decline and dementia in some older adults following treatment response or remission of depressive symptoms.

In India, most of the elderly live in the rural areas and the access to the health care facilities are not up to the mark. The depressive symptoms at this age sometime can be consider as on “normal” continuum and can be viewed as normal response to stress/psychosocial stress including age too by this age group, their family members and even by primary health care providers. There are enormous opportunities for alleviating depression among old age people if it is diagnosed and managed at early stage¹⁴. There is scarcity of literature of community studies about depression among elderly in India. Taking into consideration the above factors, this study was conducted in a rural area with the objective to study the depression and cognitive functions in elderly.

METHODOLOGY

The present study was conducted at a community camp at rural area of Haryana. The camp was organized by society for rural mental health (SRMH). In the present study a sample of 20 elderly people above the age of 50 years, who attended the camp were taken. All patients were male with a mean age of 60.20 ± 6.14. Patients who were taking any substance were excluded.

TOOLS

- 1. Mini Mental State Exam¹⁵ (MMSE; Folstein, Folstein, & McHugh, 1975):** It is a 30-item cognitive screening measure that assesses orientation, attention, language, and construction. It has been used to detect cognitive changes an individual over the course of treatment in patients with dementia and other organic disorders.
- 2. Geriatric Depression Scale¹⁶ (GDS) (Yesavage & Sheikh, 1986):** The Geriatric Depression Scale (GDS) is a self-report measure of depression in older adults. The participants respond in a “Yes/No” format. The GDS was originally developed as a 30-item instrument. Later a 15-item version was developed. The shortened form of the test is comprised of 15 items chosen from the Geriatric

Depression Scale-Long Form (GDS-L). This form can be completed in approximately 5 to 7 minutes, making it easy for people who are easily fatigued or are limited in their ability to concentrate for longer periods of time. Shorter 10, 4, and 1-item versions also have been developed.

Procedure: All the subjects who attended the camp and above 50 years of age were included in the study. At first investigator introduced himself and subjects were told in advance about the possible time involved in the study and only volunteer subjects who gave consent were taken in the present study. The selected subjects were assessed on mini mental status examination and geriatric depression rating scale.

Data Interpretation: The obtained data was subjected to a number of statistical analyses pertinent to research objectives of the study. The analysis included correlation (Pearson r) between age, depression and MMSE score and Independent sample t-test which analyzed MMSE score between depressed and non-depressed elderly.

RESULTS

Table 1: Correlation among age, depression and MMSE score in elderly (N = 20).

Variable	Age	Depression	MMSE Score
Age	-	0.25	-0.61**
Depression	-	-	-0.74***
MMSE Score	-	-	-

***Significance at 0.001 level

**Significance at 0.01 level

Table 1: Shows the correlation among age, depression and MMSE score in elderly. A perusal of table shows that age was not correlated with depression whereas significantly negatively correlated -0.61 (p < 0.01) with MMSE score. When scores of depression and MMSE were correlated it was found that depression was significantly negatively correlated with -0.74 (p < 0.001) MMSE score.

Table 2: Comparison of MMSE Score between depressed and non-depressed elderly based on Geriatric Depression Scale (Independent sample t-test).

Variables	Elderly Individuals		t-value	df	p
	Depressed (N = 09) Mean ± SD	Non-Depressed (N = 11) Mean ± SD			
MMSE Score	23.90 ± 2.30	21.00 ± 1.65	3.17	18	0.005**

** Significance at 0.01 level (2-tailed).

Table 2: Shows the comparison of MMSE Score between depressed and non-depressed elderly based on Geriatric Depression Scale. Elderly individual with depression had significantly higher score ($p < 0.01$) of MMSE than non-depressed elderly.

DISCUSSION

The main aim of the present study was to assess the depression and cognitive functions in elderly. For this purpose 20 elderly individual who attended the camp organized by society for rural mental health (SRMH) were assessed on MMSE and depression.

Results of the present study indicate that age was not correlated with depression whereas significantly negatively correlated -0.61 ($p < 0.01$) with MMSE score. It indicates that with the increase of age person is more likely to have depression and decline of cognitive functions. So one can hypothesized that elder individual are more prone to depression and cognitive decline.

Similar to our results Crum, Anthony, Bassett and Folstein (1993),¹⁷ conducted a population based distribution of Mini-Mental State Examination (MMSE) scores by age and educational level. Their results indicated that The MMSE scores were related to both age and educational level. There was an inverse relationship between MMSE scores and age.

When scores of depression and MMSE were correlated it was found that depression was significantly negatively correlated with -0.74 ($p < 0.001$) MMSE score. It indicates that depression and cognitive functions are negatively correlated which means that with the increase of depressive features patients are more likely to have declined in cognitive functions and vice versa. Our results also indicate that when MMSE Score were compared between depressed and non-depressed elderly based on Geriatric Depression Scale. Elderly individual with depression had significantly higher score ($p < 0.01$) of MMSE than non-depressed elderly.

Our results are consistent with previous literature which revealed that elderly people not suffering from dementia but with major depression often have difficulties with concentration, speed of mental processing, and executive function³. Later on Butters propose a model which is based on findings that late life depression is linked with both chronic elevation of

adrenal glucocorticoid production and cerebrovascular disease (CVD). These factors combined may lead to hippocampal atrophy and generalized ischemia which further leads to cognitive decline leading to further maintenance or causation of subsequent depressive episodes. So one can conclude that late life depression often leads to cognitive decline which further could be a maintaining factor of depression.

From the results of our study we very much agree that our study lacks generalizability as the sample size was small and present study was conducted at a community camp of rural Haryana where most of the population is not literate which can be confounding factor as we did not incorporate education level in our study.

Conflict of Interest: Nil

Source of Funding: Self

Ethical Clearance: There is no need of ethical clearance as the present study focused only on psychological variables and no active intervention was given to the participants included in the present study.

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Assessment of Social Skills and Self-Esteem of School Children with ADHD at Selected Settings

Golden Catherine T.¹, Nancy Grace. R.¹, Kanchana Mala K.², C. Kanniammal³, Judie Arullapan⁴

¹Ph D Scholars, SRM College of Nursing, SRM University, ²Research Guide, SRM Medical College and Hospital Research Centre, SRM University, ³Dean, SRM College of Nursing, SRM University,

⁴Asst Professor, College of Nursing, Sultan Qaboos University, Sultanate of Oman.

ABSTRACT

Attention Deficit Hyperactivity Disorder is a prevalent neurobehavioral disorder of childhood that affects scholastic skills, self-esteem and social functioning of school-age children. The objective were (i) to assess the level of social skills and self-esteem of school children with Attention Deficit Hyperactivity Disorder and (ii) to associate social skills and self-esteem with their selected demographic variables. Quantitative research approach utilizing non-experimental descriptive research design was adopted. The study was conducted in the selected Government, Matriculation and Public Schools. The samples were 140 school children aged 8-11 years utilizing purposive sampling technique. Social competence scale and Metcalfe behavioral checklist of self-esteem were the tools in the study. The analysis revealed 57.1 % (80) children to have moderate social skills, 41.4 % (58) have mild social skills, 1.4 % (2) have poor social skills and none have adequate social skills. With regards to self-esteem 64.3 % (90) of children have low self-esteem, 35.7% (50) have middle self-esteem and none have high self-esteem. The mean score for social skills was 54.24 and standard deviation 10.05 and for self-esteem the mean score and standard deviation was found to be 45 and 9.38. Type of caregiver and treatment underwent was associated with social skills and in self-esteem, religion and type of caregiver was associated.

Keywords: social skills, self-esteem, attention deficit hyperactivity disorder, school children

INTRODUCTION

Children with disabilities comprise nearly 5-8 percent of the Indian population. The World Health Organization (2010)¹ estimates that, in India, 2.5%-6.88% of children has developmental disabilities. ADHD is the most common neuro behavioral disorder of the childhood and can continue through adolescence and adult hood.

Attention deficit hyperactivity disorder (ADHD) is a chronic debilitating illness with onset in early childhood. The characteristic features of ADHD are hyperactivity,

impulsiveness and inattention and the children suffer at home, school and society. Visser, S.N., Danielson, M.L., Bitsko, R.H., Holbrook, J.R., Kogan, M.D., Ghandour, R.M., Perou, R. and Blumberg, S.J., (2014)² estimated 5.1 million children (8.8% or 1 in 11 of this age group 4-17 years) to have a current diagnosis of ADHD with 6.8% of children ages 4-10, 11.4% of children ages 11-14 and 10.2% of children ages 15-17 .The average age of current ADHD diagnosis was 6.2 years. Anshuman Naik, Shashikala Patel, Biswas D.A., (2016)³ identified ADHD among school going children in a part of rural India with Vanderbilt Attention Deficit Hyperactive Diagnostic Teacher Rating Scale. The prevalence rate of ADHD was found to be 3.66 %

ADHD is the most commonly diagnosed childhood disorder. It mostly affects the academic skills, social skills and self-esteem of school aged children. Children with ADHD have problems in interacting with others and often are insecure. The behavior of the children are disruptive and unpredictable affecting their social

Corresponding Author:

Dr. Judie Arullapan,
Asst Professor,
College of Nursing, Sultan Qaboos University,
Sultanate of Oman.
Email: dr.a.judie@gmail.com

skills and they are prone to develop low self-esteem. The social skills and self-esteem in children with ADHD affect their academic and social functioning. Children with ADHD are often restricted to self or too hyperactive and uncontrollable. They often are ignored by their peers and feel lonely which in turn affects their self-esteem.

School is a place that fosters a child’s psychological growth and development. Issues related to competence of the child makes the child prone to develop violent behavior towards others. Since the child with ADHD exhibits highly disruptive behavior they lack support from the school and the society. They are often ignored by others. Children also exhibit poor academic performance, poor self-esteem, issues in forming and maintaining relationships with family members and peers. These children are often put into situation that affects their self-perception. They are often explosive and at times shy and becomes more conscious to their surroundings.

Haas, S.M., Waschbusch, D.A., King, S. and Walsh, T.M., (2015)⁴ assessed the attributional styles and self-competence in children with conduct problems and ADHD. 72 elementary school children participated in the study. The study assessed the self-perceptions and attributions by providing them with positive and negative social situations. The mean of the elementary school-aged children is 9.72 and standard deviation is 1.65. The children with ADHD had lower global self-worth but high perceived self-competence

Mazzone, L., Postorino, V., Reale, L., Guarnera, M., Mannino, V., Armando, M., Fatta, L., De Peppo, L. and Vicari, S., (2013)⁵ reviewed the association between self-esteem and ADHD. Self-esteem of children with ADHD were assessed using the Self-esteem Multidimensional Test (TMA). The study findings revealed low self-esteem in study group than in the controls. The children with no drugs (47.1) and drug-treated (44.1%) had significantly higher pathological range than the control group children (8.8%). The study concluded stating the lower self-esteem profile to be common in children with ADHD

The current study aims at assessing the social skills and self-esteem in primary school children with ADHD. The objectives of the study were (i) assess the level of social skills and self-esteem of school children with ADHD and (ii) to associate social skills and self-esteem with their selected demographic variables. There is a need for early identifying of these issues in school age children as it affects the academic, family and the social

function of the child. Therefore this study necessitates the need to determine social skills and self-esteem of children with ADHD

MATERIALS AND METHOD

Quantitative research approach utilizing non – experimental descriptive research design was used in this study. The study was conducted in the selected schools of Kancheepuram district. 140 children based on DSM V diagnostic criteria for ADHD were selected based on Purposive sampling technique. Demographic variables were assessed with structured Questionnaire. Social skills were Social Competence Scale and self-esteem with Metcalfe behavioral check list of self-esteem. Permission was obtained from the institutional ethical committee. Prior to the data collection formal permissions were obtained from the schools. Informed consent was obtained from parents and from the children child assent was sought

Screened ADHD children from the selected Government, Matriculation and Public schools were selected. There were 140 samples who fulfilled the inclusion criteria. The parents were explained of the data collection period. The demographic variables were collected based on interview with parents. The teachers were asked to complete the Social competence scale and the Metcalfe behavioral check list of self-esteem for children aged 8 to 11 years of age. Descriptive and inferential statistics were used to analyze the data.

RESULTS

Table 1: Assessment of social skills and self-esteem of children with ADHD at selected schools

Social skills		
Social skills	Frequency	Percentage (%)
Poor social skills. (0-25)	2	1.4
Mild social skills. (26-50)	55	39.28
Moderate social skills (51-75)	83	59.28
Adequate social skills (76-100)	0	0

Table 2: Assessment of self-esteem of children with ADHD at selected schools Self-esteem

Self-esteem	Frequency	Percentage (%)
Low self-esteem. (0-40)	63	45
medium self-esteem (41-80)	77	55
high self-esteem (81-120)	0	0

Based on the Pearson Correlation Coefficient the value of R is 0.908. This is a strong positive correlation, which means that high X variable scores go with high Y variable scores (and vice versa).

$$r = \frac{\sum((X - My)(Y - Mx))}{\sqrt{((SSx)(SSy))}}$$

$$r = 11906.757/\sqrt{((14055.743)(12234.993))} = 0.908$$

DISCUSSION

The first objective was to assess the social skills and self-esteem of children with ADHD: Assessment of social skills revealed that majority 59.28 % (83) children had moderate social skills, 39.28% (55) had mild social skills, 1.4 % (2) had moderate social skills and none had adequate social skills. The mean score of social skills was 54.24 and standard deviation 10.05. The results were supported by a study conducted by Qian, Y., Chen, M., Shuai, L., Cao, Q.J., Yang, L. and Wang, Y.F., (2017)⁶ conducted a study to evaluate the effectiveness of skill training program for school-aged children with ADHD. The tool used in the study was Behavior Rating Inventory of Executive Function (BRIEF). The social skills prior to the intervention was in study group 135.89 ± 16.80 and in control group it was 146.09 ± 23.92 , $P = 0.04$

Assessment of the self-esteem reveals that 55 % (77) of children had medium self-esteem, 45% (63) had low self-esteem and none of them had high self-esteem. The mean score of self-esteem was 45 and standard deviation 9.38. Most of them had medium self-esteem and it varied from person to person. The results were also in accordance with the study conducted by Kita, Y. and Inoue, Y., (2017)⁷ conducted a study to assess the impact of attention-deficit hyperactivity disorder and oppositional defiant disorder on self-esteem and self-perception. Self-reported scales were used to

measure Self-esteem and depressive symptoms in 564 early adolescents. The study findings revealed that inattentive symptoms of ADHD decreased self-esteem and hyperactive-impulsive symptoms affected self-perception.

The second objective was to find out the association between social skills and self-esteem with their selected demographic variables: The analysis reveals that there was a significant association with the demographic variables such as type of caregiver and treatment underwent at $p < 0.05$ with chi square values 0.000 and 0.009 for social skills. There is no significant association with respect to other demographic variables.

Sürig, L., Purper-Ouakil, D., (2016)⁸ assessed the effects of treatment on ADHD. Children with ADHD face problems at schools and in their social life that in turn affects their self-esteem. Poor self-esteem is associated with the failure to seek treatment. The study concluded with the need for prompt treatments to improve self-esteem of children with ADHD.

The analysis reveals that there was a significant association with the demographic variables such as religion and type of care giver at $p < 0.05$ with chi square values 0.018 and 0.008 for self-esteem. There is no significant association with respect to other demographic variables. Social skills and self-esteem are to be intervened in school aged children with ADHD.

Tse, M., (2012)⁹ conducted a study to assess social skills and self-esteem of students with ADHD. Social Interaction Anxiety Scale Survey Schedule and the Rosenberg Self-Esteem Scale questionnaire was adopted for ADHD students and non-ADHD students. The results indicated significant with $F(2, 85) = 37.19$, $p = .001$. The ADHD group had social skills ($M = 1.90$) as compared to the non-ADHD group ($M = 0.83$) and was significant at $t = 8.56$, at $p = .001$. The ADHD group had lower scores ($M = 2.90$) as compared to the non-ADHD group ($M = 3.14$) which was significant with t value 2.40 at $p = .02$

CONCLUSION

ADHD is the common child mental health disorders now a days. There is a need for creating more awareness to the public on the issues faced by children with ADHD. This study assessed the social skills and self-

esteem of children with ADHD. The results concluded that children with ADHD had socialization difficulties and were with low self-esteem. The study necessitates the need for planning interventions to improve social skills and self-esteem. The study also warns the issues of children with ADHD.

IMPLICATIONS

- Nurses play a vital role in health promotion by creating awareness on ADHD and should develop skill in identifying problems of social skills and self-esteem
- Health care administrator can make recommendations in creating policies and plans in providing education to the parents and teachers for improving their social skills and self-esteem in children with ADHD.
- Researchers can conduct research at various settings to generalize the data related to ADHD children

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Impact of Pranayama on Quality of Life of Chronic Obstructive Pulmonary Disease Patients Admitted at Pravara Rural Hospital, Loni (Bk).

Heera Jayasheela

Associate Professor, Ph D Scholar, Pravara Institute of Medical Sciences(DU), Taluka Rahata, District Ahmednagar, Loni(Bk), Maharashtra.

ABSTRACT

Background: The World Health Organization (WHO) presumes COPD to be the third most cause of death in the world.

Objectives: (1) to assess the quality of life of COPD patients (2) to determine the effectiveness of Pranayama's on quality of life among the COPD patients and (3) to find association of impact of pranayama on quality of life with their socio demographic characteristics.

Material and Method: Thirty COPD patients in the age group of above 30 years were studied. They were assessed for the quality of life by St Georges Respiratory Questionnaire on first week of admission followed by the implementation of Pranayama training (Ohm Chanting, Surya Bedhana, Anilom Vilom, Ujjai Pranayam and Bhramari Pranayam) every four hourly twice in day till discharge. Follow-up home visit was conducted for every 15 days for three months. The post test assessment of quality of life was carried out after three month of intervention. The data were analyzed with descriptive and inferential statistics wherever required.

Results: The Quality of Life by using St George's Respiratory Questionnaire (SGRQ) shows that there was statistically significant decrease in the symptoms score (from 70 ± 2.5 to 64 ± 2.5 , $p=0.03$), activity score (from 60 ± 2.1 to 50 ± 1.7 , $p<0.005$), impact score from 51 ± 2.3 to 38 ± 1.6 , $p,0.008$) and total score (from 51 ± 2.2 to 4 ± 2.3 , $p=0.02$) in study group but not in control group. No significant association found between control and study group in respect of demographic characteristics ($p>0.05$) No significant association found between control and study group in respect of demographic characteristics ($p>0.05$). By applying Chi-Square test there is a significant association between demographic characteristics namely; History of exposure to smoke, Duration of exposure to pollutants, Duration of Illness and Control and Study group ($p<0.05$) and remaining characteristics are not significant ($p>0.05$)

Conclusion: The study findings shows that the Pranayama (Yogic Breathing) has an overall positive effect on improvement of quality of life of COPD patients.

Keywords: *Impact, Pranayama, Quality of Life and Chronic Obstructive Pulmonary Disease*

INTRODUCTION

Chronic obstructive pulmonary disease (COPD) is an important cause of morbidity and mortality and poses a major public health problem^[1] COPD is characterized by irreversible airflow obstruction, a gradual decline in lung function, loss of lung tissue, reduced quality of life, and high rates of mortality^[2]. By 2020, COPD is predicted to rank as the third leading cause of death worldwide, whereas its social burden will rank fifth^[1-3].

Corresponding Author:

Ms. Heera Jayasheela
Associate Professor, Ph D Scholar,
Department of Medical Surgical Nursing,
Pravara Institute of Medical Sciences(DU),
Taluka Rahata, Loni(Bk),
District Ahmednagar, Maharashtra-413 736
Email: heera.jayasheela00@gmail.com

Yoga originated in ancient India, and may denote the union between the individual self and the transcendental self. The body's organs and systems are cleansed through *asanas* (postures) and *pranayama* (controlling the breath).^[4]

A number of clinical trials have suggested that yoga training may improve the pulmonary function of patients with COPD, but the quality of these studies have not been evaluated systematically. ^[5-6] Researchers demonstrated that the Pranayama's, showed improvement of lung function parameters, improvement in the exercise tolerance, symptoms score, their usual activity and reduction on the impact of disease on their lives.^[7]

METHODOLOGY

The Quasi - experimental study, pre test post test design with control group approach were used. The present study was conducted in 30 COPD patients at medical wards of Pravara Rural Hospital, Loni (Bk). The patients who are above 30 years of age, able to follow and practice Pranayama's and willing to participate were included in the study. The Clients having Co-Morbid Illness like Cancer, Heart Failure, Ischemic heart disease, Psychiatric and Neurological disease and Unable to follow the Pranayama training were excluded in the study. The subjects were selected by non probability; purposive sampling method. Formal permission was obtained from concerned authority Medical Superintendent, Head of Department of Medicine and Chest Physician. The study proposal was reviewed and approved by the Research Ethical Committee, Subjects was selected according to the selection criteria and assured the confidentiality of the sample The tool were self administered questionnaire Socio Demographic Profile of COPD , Clinical Characteristics of COPD ,Pulmonary Function Test, Observational Checklist for Exercise and Quality of Life by St George's Respiratory Questionnaire .Pre test conducted on the first week of hospitalization to both study and control group. Subjects in the study group were trained for the following pranayama training -a). Om Chanting b)Anilom Vimon – Breathing through left nostril and exhale through right and alternative nostrils c) Surya bhedana – inhalation only with right nostril and exhalation via left nostril, d).Ujjai Pranayama–Ujjayi breath is also known as a diaphragmatic breath. In a normal breathing, diaphragm flexes but not the rib cage. And in the final stage the air moves to the upper chest and throat and it comes out of

the body from the nose. e)In Bhramari Pranayama the exhalation sound is very resembles to the humming sound of a bee, by this it is named as Bhramari pranayama. In this respiration process, your lips are purported to be shut, and you're purported to gently and swimmingly build a sound sort of a buzzing bee in your throat. The patients were made to practice the Pranayama's every four hourly two sessions each till they were discharged from the hospital; follow up home visit was conducted every 15 days till three months. Post-test was conducted for both the group after 3 month of implementing Pranayama programme. Four patients were dropped out from the study due to severity of disease and two patients migrated to different districts.

RESULTS

Findings related to socio demographic profile of COPD patients: Majority 14(93.33%) of the subjects were passive smokers in study group and 5(33.3%) females were exposed to biomass fuel. Highest 6(40%) of the subjects smoke above one packet per day and 2(13.3%) had below one packet per day in control group. Maximum8(53.4%) had allergy due to dust in study group and 5(33.33%) due to pollens in control group. Majority 7(46.7%) of the subjects had exposure to allergens above 5 years in study group and in control group. Most of the subjects 4(26.7%) had duration of illness below one year and 5(33.33%) In control group. Majority 100% of the subjects did suffer from co-morbid illness.Maximum7(46.6%) had regular treatment in study group and 10(66.7%) were not taking regular medication in control group. Majority (7(46.7%) of the subjects in control had allopathy treatment and 5(33.33%) had homeopathic treatment.

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

Findings related Effect of Pranayama on quality of life among COPD patients: Assessment of QOL by using St George's Respiratory Questionnaire shows that there was statistically significant decrease in the

symptoms score (from 70 \pm 2.5 to 64 \pm 2.5, $p=0.03$), activity score (from 60 \pm 2.1 to 50 \pm 1.7, $p<0.005$), impact score (from 51 \pm 2.3 to 38 \pm 1.6, $p=0.008$) and total score (from 51 \pm 2.2 to 4 \pm 2.3, $p=0.02$) in study group but not in control group.

Association of quality of life of Chronic obstructive disease patients with selected demographic profiles:

No significant association found between control and study group in respect of demographic characteristics ($p>0.05$). No significant association found between control and study group in respect of demographic characteristics ($p>0.05$) By applying Chi-Square test there is a significant association between demographic characteristics namely; History of exposure to smoke, Duration of exposure to pollutants, Duration of Illness and Control and Study group ($p<0.05$) and remaining characteristics are not significant ($p>0.05$)

DISCUSSION

Several studies have shown that specific inspiratory exercise diminish sensation of respiratory effort and improve the quality of life of COPD patients. A study on effect of yoga on COPD patients showed that lung parameters improved after the practice of yoga and useful adjunct form of therapy for COPD. Findings of the study revealed that after undergoing breathing exercises there is significant improvement ($P,0.001$) in the pulmonary functional parameter.^[8]This finding is consistent with the studies conducted by Holland AE (2012)^[9] and Gosselink R on breathing exercises for COPD patients.^[10]

CONCLUSION

The study findings has shown improvement in lung function parameters. Pranayama (Yogic breathing) has an overall positive effects on patients with COPD.

Conflict of Interest: Nil

Source of Funding: Self

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Study to Assess the Knowledge Regarding Fetal Well Being among Primigravidae Women

Sona¹, Raman Kalia², Bharat Pareek³

¹M.Sc (N), Lecturer, Guru Dronacharya College of Nursing, Yol cantt, Dharamshala; ²Principal,

³Vice- Principal, Saraswati Nursing Institute, Dhianpura Kurali.

ABSTRACT

Introduction: Becoming pregnant is happiest moment of women life. Until recently, the fetus was viewed legally as a non person. The fetus is increasingly viewed as a client separate from mother, although well being of fetus involves the mother. So, women needs to be strongly motivated to protect the health and well being of fetus. It should be focused on women's prior knowledge and use of fetal well being assessment methods, the week of gestation, communication and ability to understand. So, women should know the method of fetal wellbeing assessment, reasons for assessment and method of record keeping

Aim of the Study: The aim of the study is to assess knowledge regarding fetal well being among primigravidae women.

Material & Methods: A quantitative approach with descriptive research design was adopted. By Convenient sampling technique 200 primigravidae women were selected who were attending the antenatal clinic at Civil Hospital Roopnagar. Data was collected by structured interview schedule. Analysis of data was done using descriptive and inferential statistics.

Results: Analysis of the data revealed that 86.5% subjects had moderate knowledge related to fetal well being, where as 10% subjects had inadequate knowledge and only 3.5% subjects had adequate knowledge. The relationship or knowledge of the subject and their socio-demographic variables (age, educational status, family monthly income) was found to be significant ($p < 0.05$).

Conclusion: It shows that strong need of creating awareness and providing knowledge related to fetal well being among Primigravidae women.

Keywords: Knowledge, Fetal Well Being.

INTRODUCTION & BACKGROUND OF THE STUDY

Pregnancy is considered a precious event in every woman's life. It is filled with happiness, joy and surprises. All parents hope for a healthy baby, but may sometimes become sorrowful when danger sets in either to the mother or to the fetus. Pregnancy links mother and fetus together and is the basis for regenerating the generation.¹

Fetal period begins at 8th week following ovulation or 10 weeks after the onset of the last menstrual period and ends at delivery. At 8th week embryo can be recognized as human one and measures about 4 cm. When a woman is pregnant, she worries about baby's health that's perfectly normal and natural.²

The incidence of perinatal mortality accounts for about 90% of all fetal and infant mortality in the developed countries. The perinatal mortality rate in India in the year 2006 was about 37/1000 total births, with about 41 for rural areas and 24 for urban areas. In Karnataka total perinatal mortality rate is estimated to be about 34/1000 total births, with about 42 for rural areas and 80 for the urban areas.³

Corresponding Author:

Ms. Sona

Vill. Gehra, P.O Tihra, Tehsil Sarkaghat,

Distt Mandi, H.P.-175026

Mobile No.: 9459423270

Email: Sonaverma1990@gmail.com

During the past decade there has been a significant improvement in obstetrics in achieving the antenatal surveillance of high risk pregnancy. Since more than 75% of fetal death occurs in the antepartum period it is obvious that limiting fetal surveillance to intrapartum period will not achieve optimal perinatal outcome. To be clinically useful ante partum test should be readily available, easy to perform, consistently reproducible, cost effective, easy to interpret and reliable. So that appropriate interventions can be undertaken when necessary. Assessing of fetal well being by monitoring fetal movement count by antenatal mothers fulfils all the above criteria.⁴

Fetal well being measures are essential to predict pre term labour, reduce still births and diagnose congenital anomalies, etc. Many of the diagnostic measures are completed on an outpatient basis. Nurse plays a vital role in assessing their knowledge about these measures and their importance and also in providing information about it to them.⁵

Some of these tests pose risk to the fetus and possibly to the pregnant women therefore nurse should know about the accuracy and applicability of these tests and also must be certain that the advantages outweigh the potential risk and added expense. Hence the researcher felt that there is need for primigravidae women to have an adequate, up to date, knowledge based on technological advancement regarding fetal wellbeing.

OBJECTIVES OF THE STUDY

1. To assess the knowledge regarding fetal well being among primigravidae women.
2. To find association of knowledge with selected demographic variables.
3. To develop a pamphlet on fetal well being.

ASSUMPTION

1. Primigravidae women possess some knowledge regarding fetal well being.
2. Information pamphlet regarding fetal well being during intra uterine life of fetus will help the primigravidae women to know and identify earlier deviation from normal to abnormal.

MATERIAL AND METHOD

In present study, a quantitative approach with descriptive research design was adopted. By Convenient sampling technique 200 primigravidae women were selected who were attending the antenatal clinic at Civil Hospital Roopnagar. Data was collected by structured interview schedule used in the study. Analysis of data was done using descriptive and inferential statistics. A study was conducted in the month of February 2015. Formal written permission was obtained from the Senior Medical Officer, Civil Hospital Roopnagar After discussing the purpose and objectives of the study. Analysis and interpretation of data was done according to objectives of the study by using descriptive and inferential statistics.

ETHICAL CONSIDERATION

Written permission was taken from institutional Ethical committee, Principal, Saraswati Nursing Institute, Senior Medical Officer, CHC, Kurali and Senior Medical Officer, Civil Hospital Roopnagar. Informed consent was also taken from each study subject and confidentiality of responses was ensured/ maintained.

RESULTS

Table 1: Distribution of subjects according to their Socio-Demographic variables N = 200

Sr. No.	Socio-Demographic variables	n	%
1.	Age (in years)		
	18-20 years	33	16.50
	21-23 years	95	47.50
	24-26 years	66	33.00
	27-29 years	6	03.00
2.	Gestational age (in weeks)		
	7-16	37	18.50
	17-26	82	41.00
	27-37	81	40.50
3.	Educational status		
	Graduate and above	50	25.00
	Upto secondary	119	59.50
	No formal education	31	15.50

Contd...

4.	Occupation		
	Government job	03	1.50
	Private job	12	6.00
	Self-employed/ business	13	6.50
	Housewife	172	86.00
5.	Family Monthly Income (Rs)		
	Upto 10,000	84	42.00
	10,000-20,000	84	42.00
	20,000-30,000	22	11.00
	More than 30,000	10	05.00
6.	Religion		
	Hindu	86	43.00
	Sikh	110	55.00
	Muslim	04	02.00
7.	Type of family		
	Nuclear	52	26.00
	Joint	148	74.00
8.	Area of Living		
	Urban	51	25.50
	Rural	149	74.50

Contd...

9.	Pregnancy		
	Planned	88	44.4
	Unplanned	111	55.5
10.	Any complication during Pregnancy		
	Yes	02	1
	No	198	99

Table 2: Distribution of primigravidae women according to level of knowledge N = 200

Category	n	%
Adequate knowledge (more than 70% score)	7	03.50
Moderate knowledge (50-70% score)	173	86.50
Inadequate knowledge (less than 50% score)	20	10.00
Total	200	100%

Indicates that maximum 86.5% primigravidae women had moderate knowledge related to fetal well being and only 3.5% subjects had adequate knowledge whereas 10% women had inadequate knowledge.

Table 3: Association of Knowledge with selected Demographic variables N = 200

Sr. No.	Socio-demographic variables	n	Mean Knowledge	Calculated Chi square value (χ^2)	df and p value
1.	Age (In Years)				
	18-20years	33	16.33 ± 02.94	09.35*	df = 3, p<0.05
	21-23 years	95	17.27 ± 02.06		
	24-26years	66	18.51 ± 02.14		
27-29years	06	19.16 ± 02.22			
2.	Gestational age (In Weeks)				
	07-16 weeks	37	17.16 ± 02.66	01.39 ^{NS}	df = 2, p>0.05
	17-26 weeks	82	17.58 ± 02.53		
27-37 weeks	81	17.87 ± 01.98			
3.	Educational status				
	Graduate and above	50	19.04 ± 02.15	20.47*	df = 2, P<0.05
	Upto secondary	119	17.23 ± 02.01		
No Formal Education	31	16.51 ± 03.10			
4.	Occupation				
	Government job	3	17.00 ± 01.00	03.57 ^{NS}	df = 3, p>0.05
	Private job	12	18.75 ± 02.13		
	Self-employed/business	13	17.23 ± 01.73		
Housewife	172	17.52 ± 02.42			

Contd...

5.	Family Monthly Income (Rs)				10.16*	df = 3, P<0.05
	Upto 10,000	84	17.02 ± 02.45			
	10,000-20,000	84	17.75 ± 02.32			
	20,000-30,000	22	18.68 ± 02.05			
	More than 30,000	10	18.3 ± 02.86			
6.	Religion				01.92 ^{NS}	df = 2, p>0.05
	Hindu	86	17.30 ± 02.26			
	Sikh	110	17.74 ± 02.51			
	Muslim	4	16.25 ± 03.30			
7.	Type of family				03.78 ^{NS}	df = 1, p>0.05
	Nuclear	52	16.76 ± 02.56			
	Joint	148	17.87 ± 02.27			
8.	Area of Living				02.87 ^{NS}	df = 1, p>0.05
	Urban	51	17.98 ± 02.14			
	Rural	149	17.44 ± 02.41			
9.	Pregnancy				02.46 ^{NS}	df = 1, p>0.05
	Planned	89	17.94 ± 02.41			
	Unplanned	111	17.27 ± 02.33			
10.	Any complication during Pregnancy				01.68 ^{NS}	df = 1, p>0.05
	Yes	02	19.5 ± 02.12			
	No	198	17.56 ± 02.38			

There is a significant association between the demographic variables such as age, educational status and family income ($p < 0.05$) and no significant association between demographic variables such as gestational age, occupation, religion, type of family, area of living, pregnancy and any complication during pregnancy ($p > 0.05$).

Table 4: Mean percentage score of knowledge of subjects regarding Fetal well being: N = 200

n	Mean score	% of Mean score
200	17.79	59.3

The above Table mean percentage knowledge of subjects is 59.3 % regarding Fetal well being.

DISCUSSION

The results revealed that maximum 86.5% primigravidae women had moderate knowledge related to fetal well being and only 3.5% subjects had adequate knowledge whereas 10% women had inadequate knowledge. The relationship or knowledge of the subject and their socio-demographic variables (age, educational status, family monthly income) was found to be significant ($p < 0.05$).

CONCLUSION

The conclusion which is drawn from the study is that there is a strong need of creating awareness and

providing knowledge related to fetal well being among primigravidae women.

Conflict of Interest: Nil

Source of Funding: Self

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Effectiveness of Awareness Programme on Knowledge of Thalassaemia among Adolescent Students and their Motivation to Screen the Status as Thalassaemic Carrier in a Selected School, Howrah, West Bengal

Sampa Mondal¹, Smriti kana Mani²

¹Clinical Nurse, District Hospital, Howrah. Govt. of West Bengal, ²Principal, College of Nursing, Medical College & Hospital, Kolkata

ABSTRACT

Thalassaemia, the burden of inherited disorders of hemoglobin, the commonest group of single gene disorders in India is huge. A recent survey by Indian Council of Medical Research (ICMR)¹⁰ reveals 9 of every 100 people in Kolkata are affected by thalassaemia, a figure alarmingly high as compared to other major metros. According to ICMR, lack of awareness is the main reason for the high figure in Kolkata. Only education can reduce this barrier. So, this research was conducted to evaluate the effectiveness the awareness programme on knowledge and their motivation to screen the status regarding thalassaemia among adolescent students. A pre-experimental study was conducted and the design used one group pre-test post-test. Non probability convenient sampling technique was used to select class IX & X students. Two hundred students were selected by total enumeration technique. A valid and reliable structured knowledge questionnaire and HPLC Test was used to collect data. The findings of the study revealed that majority of the subjects are within 14-15 years, 55% were male and rest 45% were female. 71% students were unknown to the term Thalassaemia. Only 1% (2) had affected family member & relatives. There is a significant difference between mean pre-test and post-test knowledge score [$t=47$ “t” $df(199)= 1.97$; $p<0.05$]. The majority of the students (95%) agreed for thalassaemia screening. Report of thalassaemia screening showed 11% were thalassaemia carrier. There was deficiency in knowledge regarding thalassaemia among adolescent students. The awareness programme was effective in improving knowledge of adolescent students regarding thalassaemia and to motivate them for screening.

Keywords: Thalassaemia, awareness programme, effectiveness, selected factors

INTRODUCTION

Thalassaemia is the name of a group of genetic inherited disorders of the blood¹. More specifically, it is a disorder of the haemoglobin molecule inside the red blood cells. It is an inherited genetic disease, i.e. a disease that is passed from parents to children through the genes. Thalassaemia is the most common single gene disorder in our country.² In fact thalassaemia has emerged as a huge public health problem worldwide.² Increase in survival of patients with this disorder has led to more prevalence of this disease. It has been estimated that more than thirty million people³ carry the defective gene and over nine thousand thalassaemic children are born yearly in India. Prevalence of thalassaemic trait in India is 3% in general

population⁴ but among certain communities and religions like Punjabis, sindhis, Bengalis, jams and Muslims, the incidence of thalassaemic trait ranges between 8-15%⁵. The greater frequency of carriers for thalassaemia has been reported in Northern, Western and Eastern parts of India. The highest frequency of thalassaemia trait is reported in Gujarat (10.0 to 15.0%) followed by Calcutta (10.2%), Punjab (6.5%), Delhi (5.5%), Tamil Nadu (4.0%), Bengal (3.5%), Mumbai (2.6%), Maharashtra (1.9%) and Kerala (0.6%) (Verma, 2000). There being no positive cure for thalassaemia, the case management depends solely on palliative repeated blood transfusion; thus imposing a huge burden on the health care system and on the financial status of the affected families. Though efforts for prevention of the disease are going

on since several years in different regions of the country. The most effective approach is to reduce the burden on the society and reduce the disease incidence is through implementation of a carrier-screening programme before marriage.¹

OBJECTIVES

1. To prepare and validate awareness programme on thalassemia.
2. To assess the knowledge on thalassemia before and after giving awareness programme.
3. To evaluate the effectiveness of awareness programme on thalassemia among adolescent students.

4. To assess the association between pre test knowledge and some associated factors in terms of
 - Age
 - sex
 - Family history of thalassemia
 - Mass media exposure
5. To identify status of thalassemia after screening.

MATERIAL AND METHODS

A pre-experimental study was conducted. Non probability convenient sampling technique was used to select class IX & X and two hundred adolescent students. The study was conducted at Shyampur High School, Shyampur, District- Howrah, West Bengal.

Table 1: Schematic representation of data collection tools & techniques.

Sl. No.	VARIABLE	TOOLS	TECHNIQUE	NO. OF ITEMS
1.	SECTION A Personal data: Age, family history, mass media exposure.	Structured knowledge questionnaire	Questioning	5
	SECTION B knowledge regarding the awareness programme on thalassemia	Structured knowledge questionnaire	Questioning	30
2.	Thalassemia Screening By HPLC Method.			

The reliability of the tool was established by using test-retest technique. The reliability coefficient of test-retest was found to be 0.98.

The final data collection procedure was done on 18.9.14 & 25.9.14. Administrative permission was taken from Ethical committee, School Inspector, Head Master of Shyampur High School, Shyampur, Howrah and parents of adolescent students. The purpose of the study and the required nature of co-operation were explained to the participants before conducting the study. All students of class IX and X were selected by total enumeration technique. At first self introduction was given and then rapport was established with the respondent. Formal permission was obtained from 200 respondents. The participants were assured to maintain the confidentiality concerning their responses. Separate code numbers were used for each respondent. Pre-testing of the respondent to assess knowledge on thalassemia among adolescent students was done on day 1. After pre-testing, awareness programme was administered on the same respondents in one classroom. Post-test of the same respondents to assess the knowledge regarding

thalassemia was done through the administration of the same tool on day 7. Formal permission was taken from respondents who were interested in screening test. For thalassemia screening blood sample drawn from 189 respondents on day7. Data were collected, compiled and statistically analyzed on selected parameters based on objectives of the study

RESULTS

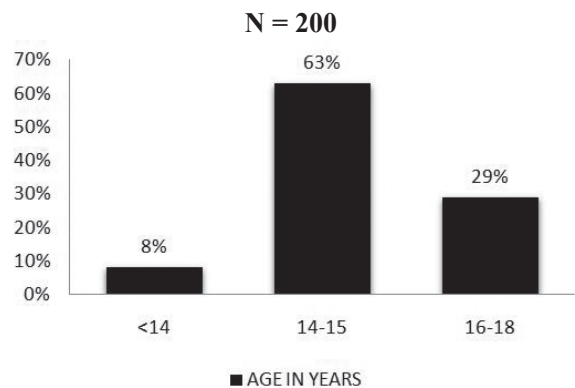


Fig. 1: Bar diagram showing percentage distribution of subjects according to different age group.

The majority of the subjects (63%) are within age 14-15 years where only 8% are in below 14 years.

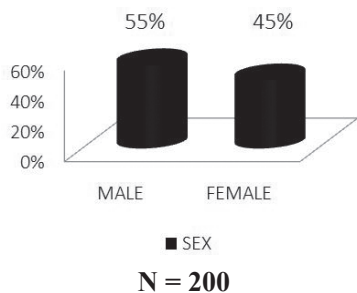


Fig. 2: Bar diagram showing percentage distribution of subjects of different sex

Out of 200 subjects, 55% are male and rest 45% is female.

71% subjects unknown to the term thalassemia. 29% subjects knows the term thalassemia, Out of these students, only 36% students heard the term thalassemia from their family member, 21% students heard from electronic media & printed material and 43% students heard from their text book.

The majority of the subjects (99%) have no effected family member. Only 1% (2) has affected family member & relatives.

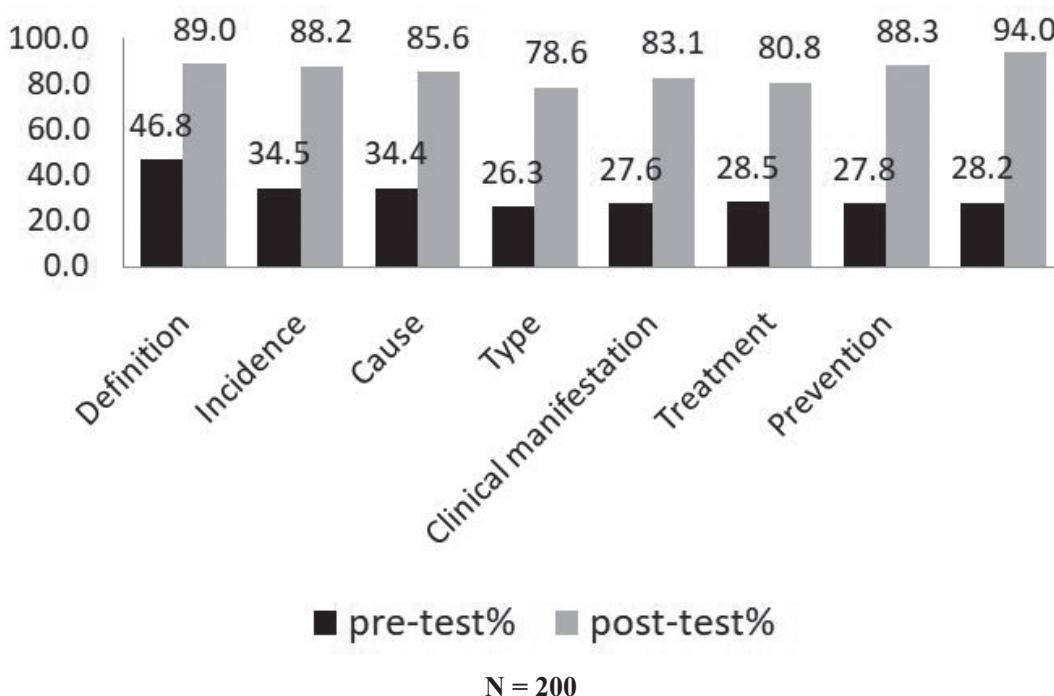


Fig. 3: Bar diagram showing mean percentage of pre-test and post-test knowledge score in different area of thalassemia.

Mean post-test score is higher than that of mean pre-test knowledge score in different areas of thalassemia. It shows that highest mean post test score percentage is 94% in the area of usefulness of screening where the mean pre-test score percentage is 28.25%. Whereas the lowest mean post-test score 78.6% in the area of types of thalassemia in which pre-test mean score percentage is 26.3%.

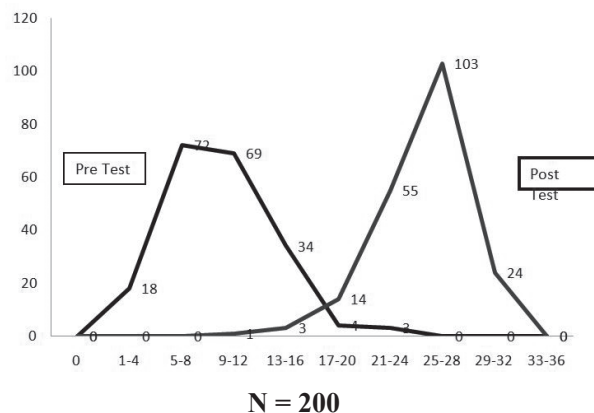


Fig. 4: Frequency polygon to show the gain in knowledge between of pre-test and post-test knowledge score on thalassemia.

The mean of pre test knowledge score (9.33) and mean of post test knowledge score (25.40); and median of pre test knowledge score (9) and the median of post test knowledge score (26) are plotted in the graph. Frequency polygon to show the gain in knowledge between of pre-test and post-test knowledge score on Thalassemia.

Table 2: Actual and modified gain score in different knowledge areas of thalassemia N = 200

Sl. No.	Knowledge area	Max. possible score	Pretest mean	Pretest mean %	Post test mean	Post test mean %	Actual gain %	Possible gain	Modified gain
1.	DEFINITION	3	1.40	46.83	2.67	89.01	42.18	1.6	.79
2.	INCIDENCE	3	1.03	34.5	2.64	88.18	53.68	1.97	.81
3.	CAUSE	4	1.37	34.37	3.42	85.62	51.25	2.63	.77
4.	TYPE	5	1.31	26.3	3.93	78.60	52.30	3.69	.71
5.	CLINICAL MANIFESTATION	5	1.38	27.6	4.15	83.1	55.5	3.62	.76
6.	TREATMENT	5	1.42	28.5	4.04	80.80	52.30	3.58	.73
7.	PREVENTION	3	.83	27.83	2.65	88.33	60.5	2.17	.83
8.	USEFULNESS OF SCREENING	2	.56	28.25	1.88	94	65.75	1.44	.91

Maximum modified gain score is in the area of usefulness of screening which is 0.91. The minimum gain is in the area of its type 0.71.

Table 3: Mean, mean D, SD, SDD, SEMD & 't' value of pretest and post-test knowledge score. N = 200

Knowledge	Mean	MeanD	SD	SD _D	SE _{MD}	't' test
Pre-test	9.38		3.859116			
		25.41		4.91	0.34	47*
Post-test	25.41		3.130651			

"t"(199)= 1.97 ; p<0.05 *significant

The obtained mean difference is statistically significant as evident from "t" value of 47 for df 199 at 0.05 level. This shows the obtained mean difference is a true difference and not by chance. Hence null hypothesis is rejected and research hypothesis is accepted. It indicates that there is a significant gain in knowledge through the awareness programme.

Table 4: Association between pre test knowledge score and some selected factors

VARIABLES	PRE TEST KNOWLEDGE SCORE		Chi square	df	Table value	significance
	Below median	at & above median				
Affected family member & relatives:						
present	7	9	6.96	1	3.84	significant
Absent	525	1851				
Mass media exposure:						
Family member & Relatives	10	10				
Electronics and printed material	6	6	3.97	2	5.99	not significant
text-book	6	19				

Chi square value pre-test knowledge score and thalassemia affected family member & relatives is 6.94 at 0.05 level of significance which is significant.

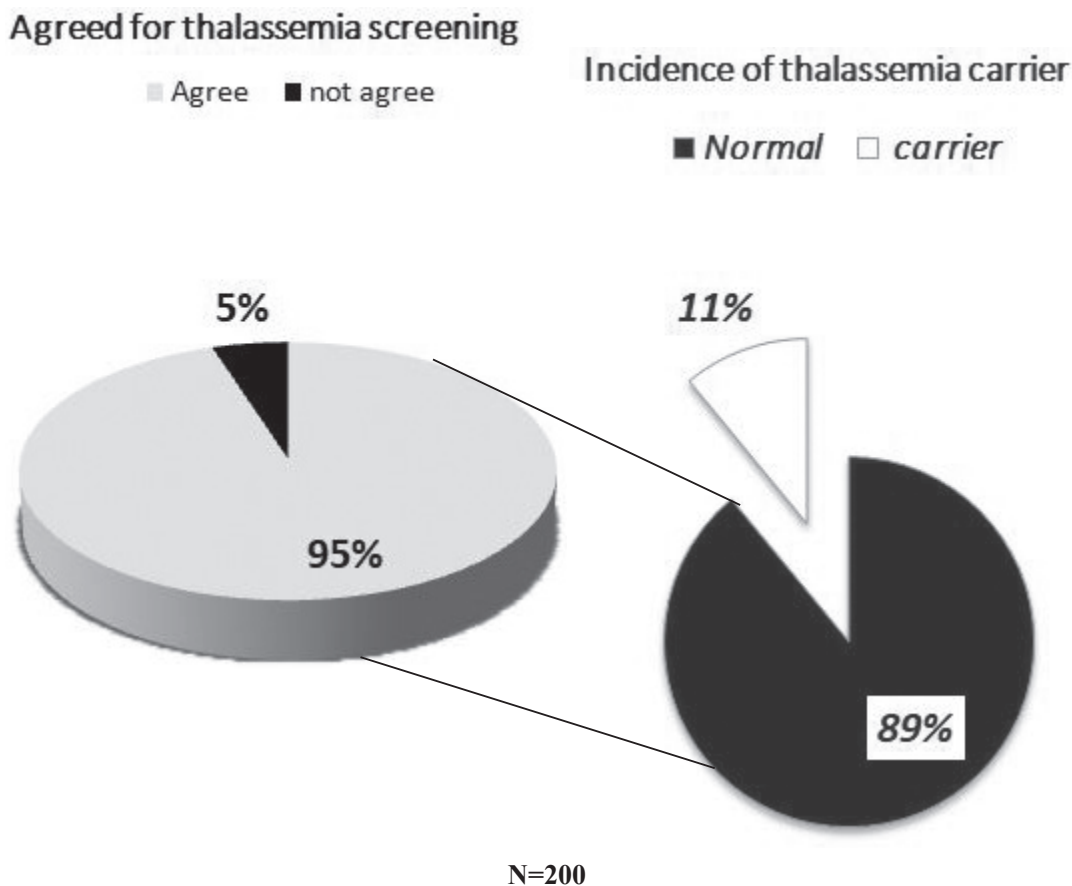


Fig. 5: Pie diagram showing percentage distribution of motivated for thalassemia screening and incidence of thalassemia carrier.

The majority of the subjects (95%) have agreed for thalassemia screening but, 5% are not agreed for thalassemia carrier and majority of the subjects (89%) are not thalassemic carrier (normal) but 11% are thalassemic carrier.

The result of the present study is supported by another one study²⁹ that was conducted at Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, India on July, 2009, by Tamhankar PM, Agarwal S, Arya V et.al. to determine the feasibility and acceptability of premarital screening for beta thalassemia. Premarital testing for thalassemia carrier state was carried out adult college students. Screening was carried out by high performance liquid chromatography (HPLC). Results were the carrier from College students group was 4.04% (38/939). Present study shows 11% Thalassemia carrier among adolescent students. So, premarital screening is acceptable and the most effective strategy for control thalassemia.

The result of the present study resembles the study conducted by Dr. F. R. Shah, Dr. Nirali Shah, Dr. Hinal Gajjar et.al. conducted a study to know the incidence of beta thalassemia trait¹⁴ of AMC medical & paramedical college students. A total 1888 students were analysed in the months of September to November 2012 for screening of beta thalassemia trait. Result: Male: Female was 1:2. On analysis of 1888 cases, 132 (7%) cases showed thalassemia trait where present study shows Male: Female is 11:9 and 11% thalassemia carrier among adolescent students. So, Prospective prevention through population screening is one of the best possible strategies for prevention of Thalassemia.

CONCLUSION

Following conclusion can be drawn from finding of the study that deficit in knowledge is found regarding thalassemia in all content areas among adolescent

students. They also gave consent for thalassemia screening. The awareness programme is effective in improving knowledge of adolescent students regarding thalassemia. A major outcome of thalassemia carrier screening is a reduction in the incidence of thalassemia major which is serious & major cause of morbidity. So, premarital screening is acceptable & the most effective strategy for control of thalassemia in developing countries like India.

Recommendations: A similar study could be replicated by using a large sample. Similar study could be conducted among nursing students, among pre marital age group and marriage couple who are planning for pregnancy. Follow up study could be conducted to find out the effectiveness in terms of change behaviour.

Ethical Clearance: Taken from

- Ethical Committee, Medical College & Hospital, Kolkata.
- Directorate of Medical Education, Swasthya Bhavan, Kolkata
- Directorate of Health Services, Nursing Branch, Swasthya Bhavan, Kolkata
- Sub –Inspector of school

Source of Funding: Self

Conflict of Interest: Nil

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A Study to Assess the Knowledge and Attitude of Staff Nurses Regarding the Inhibition of Vertical Transmission of HIV at a Selected Maternity Hospital, Bangalore

Chanchal Huidrom¹, Dhanalakshmi²

¹Assistant Professor, Department of Obstetrics & Gynecology Nursing, School of Nursing Science and Research, Sharda University, Greater Noida; ²Associate Professor and H.O.D, Department of Obstetrics & Gynecology Nursing, Padmashree College of Nursing, Bangalore.

ABSTRACT

Back ground of the study: The Human Immunodeficiency Virus is an RNA virus characterized by the enzyme reverse transcriptase. It exist in two structurally similar forms HIV-1 and HIV-2, sharing approximately 50 per cent of their nucleotide sequence.³ The host cells are the CD4 antigen bearing T helper lymphocytes, which are depleted in the active disease. Therefore, the main problem in clinical illness with AIDS is profound immunosuppression, rendering the patient susceptible to opportunistic infections and neoplasia.⁴

Statement: A study to assess the knowledge and attitude of staff nurses regarding the inhibition of vertical transmission of HIV at a selected Maternity Hospital, Bangalore.

Objectives:

1. To assess the knowledge of staff nurses regarding the inhibition of vertical transmission of HIV.
2. To assess the level of attitude of staff nurses regarding the inhibition of vertical transmission of HIV.
3. To correlate the knowledge and attitude of staff nurses regarding the inhibition of vertical transmission of HIV.
4. To associate the knowledge and attitude of staff nurses regarding the inhibition of vertical transmission of HIV with their selected demographic variables.

Keywords: Knowledge; attitude; inhibition of vertical transmission.

INTRODUCTION

“No child should be born with HIV; no child should be an orphan because of HIV no child should die due to lack of access to treatment”. *Ebube Sylvia Taylor*

Vertical transmission of human immunodeficiency virus (HIV) from mother to child, also known as perinatal transmission, accounts for almost all new HIV infections in children.¹

Vertical transmission occurs when HIV is spread from an HIV+ woman to her baby during pregnancy, labor and delivery or breastfeeding. For an HIV+ woman not being treated for HIV, the chance of passing the virus to her child is about 25% during pregnancy, labor and delivery. If she breastfeeds her infant, there is an additional 12% chance of transmission.²

Transmission of HIV infection is predominantly through sexual intercourse, blood-borne and vertical transmission to the fetus. In advanced disease there may be an increased risk of miscarriage, preterm delivery and intra uterine growth retardation.⁴

Vertical transmission can be Antepartum, Intrapartum and Postpartum. The factors increasing

Corresponding Author:

Mrs. Dhanalakshmi

Associate Professor and H.O.D,

Department of Obstetrics & Gynecology Nursing,

Padmashree College of Nursing, Bangalore.

vertical transmission are disease factors such as maternal viral load, seroconversion in pregnancy, advanced maternal disease and low CD4 count and obstetric factors like vaginal delivery, prolonged rupture of membranes, preterm delivery, chorioamnionitis, low birth weight, coexistent STD and syphilitic infection of placenta, antepartum invasive procedures and intrapartum invasive procedures and also breastfeeding is another risk factor which increases the risk by 14%.⁴

Vertical HIV transmission is the most common route of HIV infection in children and is now the source of almost all AIDS cases in children in the United States. Most of the children with AIDS are members of minority races/ethnicities.⁵

The transmission of HIV from an infected mother to her child can be reduced to less than two percent by intensive interventions in the antenatal, intranatal and postnatal periods. The methods includes primary prevention of HIV infection, early identification of seropositivity in pregnant women, prevention of unwanted pregnancies, prevention of mother-to-child transmission of HIV by appropriate antiretroviral therapy, special interventions in maternal management during labour, appropriate care and follow up of the newborn.⁵ Latex condoms, when used consistently and correctly, are highly effective in preventing the transmission of HIV.⁶

MATERIAL AND METHOD

Research approach: Descriptive approach was considered the best to assess the knowledge, and attitude of Staff Nurses regarding the inhibition of vertical transmission of HIV.

Research design: The research design selected for the study was a Non-experimental descriptive correlational design was adopted for the study.

Research Variables: Two types of variables were identified in this study. They are

- **Study variable:** knowledge and attitude of the Staff nurses.
- **Demographic variable:** age, qualification, designation, area of work, total years of working experience, years of working experience in maternity

ward, previous exposure to any information and source of information on the inhibition of vertical transmission of HIV.

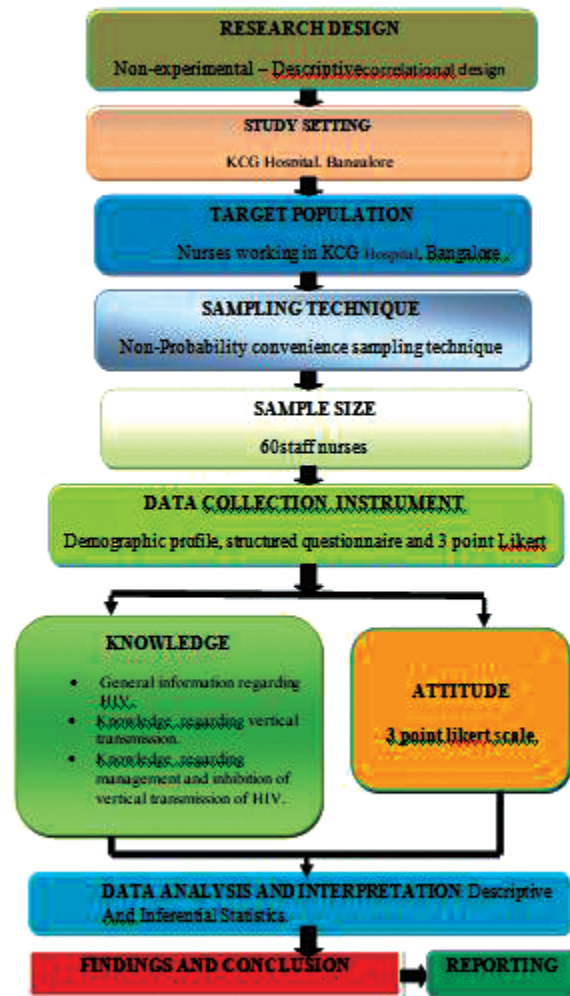


Fig. 1: Schematic Representation of Study Plane

Setting of the study: The study was conducted at KCG Hospital, Bangalore.

Population: In the present study, the accessible population includes Staff Nurses working in maternity wards KCG Hospital, Bangalore which are 120 Staff Nurses.

Sample and sampling technique: In this study samples were 60 Staff Nurses working in maternity wards in KCG Hospital and technique is non probability convenience sampling technique.

Sample size: A sample size of 60 Staff Nurses was selected based on the inclusion and exclusion criteria.

Criteria for sample selection

Inclusion criteria:

- Staff nurses who are registered with the Degree or Diploma certificate (GNM, B.Sc., P.B.Sc) working in selected maternity hospital, Bangalore.
- Staff nurses who are willing to participate in the study.

Exclusion criteria:

- Staff nurses who are not available during the time of data collection.

FINDINGS

Results: This section present the analysis and interpretation of the data collected from 60 staff nurses, in order to assess the knowledge and attitude. The data was collected through structured questionnaire, which was prepared, based on the objectives of the study. The collected data was organized, analyzed and interpreted by using descriptive and inferential statistics.

Interpretation and conclusion: The study revealed that more than half of the staff nurses have moderately adequate knowledge and unfavourable attitude regarding the inhibition of vertical transmission of HIV. Nurses are playing an important role in disease prevention and health promotion too. In the present study, nurses have inadequate knowledge and this should be improved by providing inservice education, conducting workshops and conferences on this area and developing an Institutional protocol for the provision of awareness for a better future.

DISCUSSION

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

Characteristics of the demographic variables:

As represented by Table 1, the characteristics of the demographic variables described in terms of their frequency and percentage distribution which picturizes that 20 (33.3 %) of staff nurses belongs to 31–35 years

of age group, Qualification wise the distribution of the staff nurses includes 55 (91.7 %) are GNM, Designation wise the distribution of staff nurses includes 55 (91.7%) are staff nurses, Area of work 21(35.0%) were from postnatal ward, Total year of working experience 19 (31.7%) were 11 years and above years of experience, Years of working experience in maternity ward wise the distribution of the staff nurses includes 17 (28.3 %) were 7 years to 10 years of experience, 56 (93.3%) staff nurses had previous exposure regarding inhibition of vertical transmission of HIV and source of information 39 (69.6%) were got from In-service education.

The first objective was to assess the knowledge of staff nurses regarding the inhibition of vertical transmission of HIV: Out of 60 staff nurses assessment, Table 2 depicts the level of knowledge of Staff Nurses regarding the inhibition of vertical transmission of HIV. About 52 (86.7%) of the staff nurses have Moderately adequate knowledge, 6 (10.0%) have Inadequate knowledge and 2 (3.3%) have adequate knowledge.

The present study represents the Range, Mean, Standard Deviation (SD), mean percentage of knowledge of the Staff Nurses regarding the inhibition of vertical transmission of HIV. The maximum score is 28. The present study shows that the sample had a range of 3-7, mean of 5.25 (75.0 % of mean percentage) with a standard deviation (SD) of 1.00 was obtained for knowledge on general information, the range of 2-5, mean of 3.93 (65.5 % of mean percentage) with a standard deviation (SD) of 0.67 was obtained for knowledge regarding vertical transmission of HIV, the range of 4-13, mean of 9.43 (62.8 % of mean percentage) with a standard deviation (SD) of 1.97 was obtained for knowledge regarding management and inhibition of vertical transmission of HIV. The overall knowledge total score of mean is 18.72 (66.7%) with SD of 2.87.

The above finding is supported by a Cross-sectional survey that was conducted to assess the knowledge and practice of prevention of mother-to-child transmission of HIV among traditional birth attendants in Lagos State, Nigeria. Multistage sampling method was used to select 108 registered TBAs in 2 local governments areas who were interviewed using a pre-tested questionnaire. All the respondents were aware of HIV but their awareness of PMTCT specifically was not as high. They were also deficient in certain measures to prevent infection of patients and themselves. The study concluded that

most of the TBAs did not have adequate knowledge and practice of PMTCT illustrating the need for periodic PMTCT training for TBAs.⁷

The second objective was to assess the level of attitude of staff nurse regarding the inhibition of vertical transmission of HIV: As narrated in Table 3.a the level of attitude of staff nurses regarding cord blood banking. Among the total, 38 (63.3%) of them had moderately favourable attitude regarding cord blood banking and 1 (1.7%) of staff nurses had favourable attitude.

The present study represents the range, mean, mean percentage and SD of of attitude of staff nurses regarding cord blood banking. The maximum score of the tool is 64. The overall attitudel score range from 25-50, mean value of 35.13 (54.9% of mean percentage) with SD of 6.93.

The above finding was supported by an a community based cross-sectional survey was undertaken using multistage cluster sampling in two rural districts through interviews and focus group discussions among women who delivered at home with a TBA, those who had an institutional delivery and TBAs. 45% of TBAs interviewed knew the principles of PMTCT and 8% delivered a woman with known HIV-positive status in previous year. Findings revealed that TBAs were willing to expand their scope of work regarding activities related to PMTCT. The study concludes that there is a need to reinforce their knowledge on MTCT prevention measures and better integrate them into the health system.¹⁰

The third objective was to correlate the knowledge and attitude of staff nurses regarding the inhibition of vertical transmission of HIV: The correlation between knowledge and attitude was $r = 0.981$ and positive and statistically significant at $P < 0.05$. It evidence that there was a relationship between knowledge and attitude.

Hence it shows that Hypothesis H_1 : there is a significant association of knowledge with selected demographic variables of Staff nurses regarding inhibition of vertical transmission of HIV is accepted.

The above finding was supported by a Review on the guidelines for preventing mother-to-child transmission in Malaysia revealed that mother-to-child transmission (MTCT) of human immunodeficiency virus (HIV) is a devastating consequence of HIV infection during pregnancy and is largely preventable. Evidence-based interventions such as universal antenatal screening,

provision of antiretroviral therapy, delivery by elective caesarean section and avoidance of breastfeeding have ensured that the rates of MTCT remain low in Malaysia. This review discusses the most recent advances in the management of HIV infection in pregnancy with emphasis on antiretroviral treatment strategies and obstetric care in a middle income country.⁸

The fourth objective was to associate the knowledge and attitude of staff nurses regarding the inhibition of vertical transmission of HIV with their selected demographic variables: The Chi- Square analysis was carried out to determine the association of knowledge with the selected demographic variables and it is found to be associated with variables such as Age and years of working experience in maternity ward.

The result of the Chi- Square analysis presented is indicated that there is significant association of attitude with selected demographic variables and it is found to be associated with age and years of working experience.

Knowledge is having association with the selected demographic variables such as Age and years of working experience in maternity ward at $P < 0.05$. Hence there is a significant association of knowledge with the selected demographic variables, hence Hypothesis H_2 is accepted. And attitude is also having association with the selected demographic variables such as age and years of working experience in maternity ward at $P < 0.05$. Hence there is a significant association of knowledge with the selected demographic variables.

Hence Hypothesis H_2 : there is a significant association of attitude with selected demographic variables of Staff nurses regarding inhibition of vertical transmission of HIV is accepted is also accepted for attitude.

The above finding was supported by a study on HIV-1-mother-to-child transmission and associated characteristics in a public maternity unit in Presidente Prudente, Brazil was conducted to determine prevalence of HIV-1 vertical transmission in mother-infant pairs. The files of 86 HIV-1-infected mothers and their newborns referred to a Public Hospital from March 2002 to March 2007 were analyzed. The HIV-1-RNA viral load of the newborns was determined by bDNA. The HIV-1 vertical-transmission rate was 4.6%. Children that were born in the pre-term period and breastfed were

at a higher risk of HIV-1 infection than children born at term and not breastfed. About 22.9% of mothers did not know the HIV-1 status of their newborns eight months after delivery. The study suggests that it is necessary to increase the identification of HIV-1 infection in pregnant women and their newborns as well as to offer and explain the benefits of ARV prophylaxis.⁹

CONCLUSION

The present study assessed the knowledge and attitude of staff nurses regarding the inhibition of vertical transmission of HIV. The results revealed that majority 52 (86.7%) of the staff nurses have moderately adequate knowledge, 35 (58.3%) of staff nurses had unfavourable attitude. The demographic variables such as age and years of working experience in maternity ward shows significant association with the level of knowledge of the staff nurses regarding the inhibition of vertical transmission of HIV while the other demographic variables have no influence. Demographic variables does not have much influence with the level of attitude of the staff nurses except the age and years of working experience in maternity ward shows significant association with the level of attitude of staff nurses regarding the inhibition of vertical transmission of HIV.

Conflict of Interest: There is no conflict.

Source of Funding: Self

Ethical Clearance: Taken

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A Descriptive Study to Assess the Prevalence of Anemia among the Adolescent Girls at Selected Schools in Thiruvallore District, Chennai

M. Helen¹, Lalitha Janakiraman², Iatha Venkadesan³

¹Reader, Apollo College of Nursing, Ambattur to Vanagaram Main Road, Chennai; ²Senior Consultant, KKCTH Hospital; ³Principal, Apollo College of Nursing, Ambattur to Vanagaram Main Road, Chennai

ABSTRACT

Anemia is a major public health problem in young children and pregnant women in South East Asia, but a paucity of data on anemia in adolescent girls in India.

Objectives: To determine the prevalence of anemia in adolescent school children and association between hemoglobin level and demographic, nutritional and menstrual factors.

Method: A total 294 adolescent school girls aged 9 years to 18 years were enrolled for the study, after ethical consideration the relevant information was obtained. Anthropometric assessment was done and venous blood of the study participants were taken and analyzed by SLS method to confirm anemia.

Results: The results revealed that 18.3% of the adolescent girls were having severe anemia, their HB level is <8gm/dl and 57.4% of them were having moderate level of anemia, their HB level is 8.1gm – 10 gm/dl. Only 18.7% of them were having normal level of HB, that is 12gm/dl and above. There was no significant association between the demographic, dietary and menstrual variables and the level of hemoglobin.

Conclusion: The prevalence of anemia was higher among the adolescent girls, which is a matter of concern, relevant intervention strategy and constant monitoring are needed while providing nutritional supplementation program to eradicate anemia. Education also must focus on the promotion of cheap available of community dietary resources.

Keywords: Prevalence, Anaemia, Adolescent girls.

INTRODUCTION

Iron deficiency anemia had remained the top cause of disability in India for 10 years now. Since it mostly affects women and children, the impact of anemia is best understood by looking at maternal deaths and school dropout rate. It is the top cause of maternal deaths in India (50 percent). In children iron deficiency anaemia severely affects cognitive performance. It also impact language skills, motor, and coordinating skills. Anemia also affects the immune system and increases chances of infections and inflammatory disease, further affects individual productivity¹.

The Government is also spending Rs. 2.07 lakhs Crore on other schemes to improve nutrition. The public distribution system and Mahatma Gandhi Rural Guaranteed Act (India Spend reported in 2016). Globally 1.62 billion people are anemic, while among

the preschool children the prevalence of anemia was seen in children less than 10 years. Iron deficiency is one of the most common causes of anemia, World Health Assembly target of a 50% reduction of anemia in women of reproductive age by 2025.²

Nutritional anemia is the major Public health problem worldwide particularly in developing countries among women of reproductive age. As per National Family Health Survey more than half of women in India (55 percent) have anemia including 39% with mild anemia 15% with moderate anemia and 2% with severe anemia due to iron deficiency in their diet.³

In Tamil Nadu, 1-10 per 100 adolescent girls are prone to anemia and iron deficiency seen in 50% of adolescent girls during their reproductive life (Government of Tamil Nadu, 2004). A cross sectional study identified the prevalence of anemia among the

girls of K.V. Kuppam, NorthArcot, Ambedkar districts of Tamil Nadu 36.5%, with severe anemia being 2.1%, moderate 6.3% and mild anemia 36.5%. There was an increase in the prevalence of anemia as age increased. The prevalence of anemia was 40.7% in pre menorrhage girls as compared to 45.2% in post menorrhage girls.⁴

A descriptive study was conducted by Kang (2011) prevalence of anemia and iron depletion in the population aged 10 years or older. The survey was conducted among 7,607 individuals of which 3,337 males and 4,270 females. As for females, the prevalence of anemia was 8.8% in 15 to 17 years old, 16.7% in 18 to 49 years old and the prevalence of iron depletion was 17.2% at ages 10 to 14 years, 24.1% at 15 to 17 years, 33% at 18 to 49 years. The results of the study showed that the prevalence of anemia and iron depletion was high in women of reproductive age and in the elderly.⁵ As a result adolescent health is an increasingly important component of Global health. Keeping this in our mind the investigator is very much interested to conduct prevalence study among adolescent girls.

Statement of the Problem: A Descriptive Study to Assess the Prevalence of Anemia among the Adolescent Girls at Selected Schools in Thiruvallore District, Chennai.

Objectives of the Study

- To assess the level of hemoglobin among the adolescent girls
- To find out the association between selected demographic variables and the level of hemoglobin among the adolescent girls.
- To find out the association between selected dietary variables and the level of hemoglobin among the adolescent girls.
- To find out the association between selected menstrual variables and the level of hemoglobin among the adolescent girls.

MATERIAL AND METHOD

Settings: The study was conducted in the selected schools in Thiruvallore district, the state capital of Chennai located on the south coast of India. Apparently school adolescent girls the aged between 9 years to 18 years were chosen for the study. Children having health problems prior to data collection and unwilling individuals were excluded from the study.

Study Design: This is a descriptive study, all the adolescent girls and their parents were informed about

the purpose and the methods of research and the voluntary nature of participation in the study verbally and in written form.

Ethical Consideration: Informed written consent was obtained from the parents of each adolescent girl after the study objectives were explained. The study protocol was approved by the Apollo College of Nursing Ethical Committee, Chennai.

Data collection: A pretest questionnaire was applied to obtain relevant information of demographic and social data, age, standard, type of family, family income etc. The detailed dietary history including the type of diet, consumption of green leaves, consumption of beverages, salads and fruits etc. obtained from the study participants. Menstrual data including age at menarche, menstrual duration, dysmenorrhea and number of sanitary napkins used per day were collected in details.

Anthropometric measurements: Body weight and height were measured by using standard equipment and procedure. Body Mass Index(BMI) for each adolescent girls was calculated based on the ratio of weight(Kg) to height in square meter.

Blood Samples: Venous blood was collected according to the agreement of participants. The blood was analyzed SLS (Sodium Lauryl Sulphate) to diagnose anemia. All the diagnosed adolescent girls with anemia (Hb less than 8 gms to 11.9 gms) were included in the study.

Statistical Analysis: Anemia was defined as Hb concentration less than 8gm/dl was severe anemia, 8-9.9gm/dl was moderate anemia, 10-11.9 gm/dl was mild anemia and 12gm/dl and more than that was considered no anemia. Descriptive characteristics (mean and standard deviation) and percentage were performed for each parameter separately. Chi Square and "t" test were used to examine the relationship between hematological indicators. The strength of association is measured by 95% of confidence interval.

RESULTS AND DISCUSSIONS

Demographic Variables of the Adolescent Girls: Moderate number of the adolescent girls in the age group of 12years 66(22.4%) studying in 7th standard 62 (21.1%), majority of them were from nuclear family 248 (84.4%) and they were from Hindu religion 258(87.8%). While assessing their income moderate number of adolescent girls 79(29.6%) were in the income range from Rs.4810 -8009, very few of the adolescent girls 6(2%) only have the income of above Rs. 32050 and majority of the adolescent girls having two siblings in their family 184(62.6%).

Dietary Variables of the Adolescent Girl: Majority of the adolescent girls 250(85%) of them were eating non vegetarian diet, moderate number of them 128(43.5%) were consuming tea or coffee two times per day, half of them 166(56.5%) were consuming green leaves one time per week and majority of them 222(75%) were not consuming salads as well as 210 (71.4%) of them were not taking fruits in their diet.

Menstrual Variables of the Adolescent Girls: While analyzing their menstrual history moderate number of them 99(37.7%) were not attained menarche. Out of 195 adolescent girls, who attained menarche, considerable number of them 60(20.4%) were attained menarche at the age of 12 year old also majority of them 164(85%) had irregular menstruation and nearly half of them 86(44%) had 5 days duration of the menstrual flow and majority 140(72%) of them were had premenstrual symptoms and nearly half of them 90(46%) were using 4 pads per day.

Table 1: Frequency and Percentage Distribution of Prevalence Anemia among the Adolescent girls

Variable	Normal (≥12 gm)		Mild (10.1 – 11.9gm)		Moderate (8.1 – 10 gm)		Severe (<8 gm)	
	n	p	n	p	n	p	n	p
Anemia	55	18.7	17	5.78	169	57.4	53	18.03

While assessing hemoglobin level of the adolescent girls 18.3% of them were having severe anemia, their HB level is less than 8gm and 57.4% of them are having moderate anemia, their HB level is 8.1 gm. to 10 gm., and 18.7% of them were having normal level of hemoglobin that is 12gms and above. This result is consistent with the cross- sectional study was conducted by Akramipour et al., (2009) to determine the prevalence of iron deficiency anemia among adolescent school girls aged 14-20 years from 20 different high schools located in three educational areas of Kermananshah, Western Iran. The prevalence of anemia (Hb<12mg/dl) among adolescent girls was 21.4%. There were 47 girls (12.4%) with iron deficiency anemia (Hb<12g/dl and ferritin <20 micro g/I). Around 57.3% anemic girls were iron deficient. The findings showed that there was no significant difference between the presence of anemia and level of education of parents. The programs of health system and supplementation of a weekly iron dose is recommended.⁶

Association of Demographic, Dietary, Menstruals Variables of the Adolescent Girls with Their Level of Hemoglobin: There was significant association between the age, education, income, type of family and number of siblings present in their family with the level of hemoglobin. While associating their dietary variables there was significant association between type of food they take, consumption of green leaves and consumption of salads with the level of hemoglobin. While associating their menstrual variables there was significant association between age at menarche, duration of their menstrual flow, usage of pads per day with the level of hemoglobin.

So therefore hypothesis that were stated that, “ There was no significant association between the demographic, dietary and menstrual variables and the level of hemoglobin” was rejected.

CONCLUSION

The present study showed the magnitude of anaemia among adolescent school children. All adolescent school children need to have constant motivation and guidance, which may reduce the incidents of anemia. As well as constant monitoring and intervention strategy of nutritional supplements necessary to eradicate anemia among adolescent children with special emphasis. Health care providers need to educate and supplement iron and folic acid tablets to all adolescents in order to prevent maternal mortality rate in future.

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Conflict of Interest: There are no conflict of interest.

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Our Contact Info

Prof (Dr) R K Sharma

International Journal of Nursing Education

Institute of Medico-Legal Publications

501, Manisha Building, 75-76, Nehru Place

New Delhi -110019

Tel no: +91 - 09971888542

Email: editor.ijone@gmail.com, Website: www.ijone.org



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OUR CONTACT INFO:

Dr R K Sharma

Editor

Institute of Medico-Legal Publications

501, Manisha Building,

75-76, Nehru Place

New Delhi -110019

Tel no: +91 - 09971888542

Email: editor.ijone@gmail.com

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