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A Study to Evaluate the Effectiveness of Planned Teaching Programme on Knowledge and Attitude Regarding Active Management of Third Stage of Labor Among B.Sc. Nursing Part IV Students at Selected Nursing Colleges, Kota (Raj.)

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ABSTRACT

Background: *Globally, more than half million women die as a result of pregnancy and child birth related complications. Hemorrhage accounts more than 50% of direct causes of maternal deaths in the world, the death occurs typically in the postpartum period and most of them are due to PPH which occurs in low-income countries, where there are no birth attendants or where birth attendants lack the necessary skills or equipment to prevent and manage PPH and shock.*

Methods: *The research approach was quantitative in nature.*

Results: In the Experimental group, *the pre-test subjects scored 14.7750 mean score of knowledge and 26.8450 mean score of attitudes. After planned teaching program they scored 31.8000 mean score of knowledge and 77.3100 mean score of attitudes. The difference in mean score of knowledge score is 40.23% and in mean score of attitudes is 56.88%. It shows positive effect of planned teaching program on knowledge and attitude regarding AMTSL. It is evident that the demographic variables such as age, gender, type of family, place of residence, monthly family income, previous sources of information and marital status, the calculated* ***p-value is less than 0.05 (typically ≤ 0.05)*** *at $p<0.05$ level of significance.* ***It indicates strong evidence for the research hypothesis.***

Keywords: *Active Management of Third Stage of Labor, knowledge, attitude, Planned Teaching Programme*

INTRODUCTION

Labor or childbirth is series of events that take place in the genital organs in an effort to expel the viable products of conception (fetus, placenta and the membranes) out of the womb through the vagina into the outer world.[1] Labor is divided into four stages. The first stage starts from the onset of true labor pains and ends with full dilatation of the cervix. The second stage starts from the full dilatation of the cervix and ends with expulsion of the fetus from the birth canal. The third stage begins after the expulsion of the fetus and ends with expulsion of the placenta and membranes. The fourth stage is the stage of early recovery; it begins after the expulsion of placenta and membranes lasts for one hour.[2]

The third stage of labor begins after the baby is born and ends when the placenta separates from the wall of the uterus and is passed through the vagina. This stage is often called delivery of the "afterbirth" and is the shortest stage of labor. [3] The third stage of labor

typically lasts between 10 and 30 minutes; if the placenta fails to separate within 30 minutes after childbirth, the third stage is considered to be prolonged. If the third stage of labor lasts longer that 18 minutes, it is associated with a significant risk of PPH; and there is a six-fold increase in PPH when the third stage of labor lasts longer than 30 minutes.[4] Postpartum hemorrhage is the most common cause of maternal death in many low- and middle-income countries.[5]

Labor is defined as the process by which the fetus is expelled from the uterus. Progress of labor is measured with multiple variables.[6] Labour is divided into four stages. The first stage starts from the onset of true labour pains and ends with full dilatation of the cervix. The second stage starts from the full dilatation of cervix and ends with expulsion of the fetus from the birth canal. The third stage begins after the expulsion of fetus and ends with expulsion of the placenta and membranes. The fourth stage is the stage of early recovery; it begins after the expulsion of placenta and membranes lasts for one hour.[7]

The third stage of labour has traditionally been defined as the time between the birth of the baby and the delivery of the placenta and membranes. It is the third stage that is the most perilous for the woman because of the risk of postpartum haemorrhage (PPH). The third stage of labour typically lasts between 10 and 30 minutes; if the placenta fails to separate within 30 minutes after childbirth, the third stage is considered to be prolonged. If the third stage of labour lasts longer that 18 minutes, it is associated with a significant risk of PPH; and there is a six-fold increase in PPH when the third stage of labour lasts longer than 30 minutes.[8]

INCIDENCE OF MMR DUE TO PPH

Globally, more than half million women die as a result of pregnancy and child birth related complications[9]. Hemorrhage accounts more than 50% of direct causes of maternal deaths in the world, the death occurs typically in the postpartum period and most of them are due to PPH which occurs in low-income countries, where there are no birth attendants or where birth attendants lack the necessary skills or equipment to prevent and manage PPH and shock.[10]

Statistical values and research shows that the current maternal and infant mortality rate are 167 per lakh live birth and 40 per thousand live birth respectively which has been reduced from 178 per lakh birth and 52 per thousand live birth by active management of third stage of labour in 2017. Another way to characterize these deaths is to say that one woman dies every minute of every hour of every day. Postpartum hemorrhage accounts for one-quarter of the maternal deaths worldwide. The WHO estimates that obstetric hemorrhage complicates 10.5% of all live births in the world, with an estimated 13, 795 000 women experiencing this complication in 2000. Around 132 000 maternal deaths are directly attributable to hemorrhage, comprising 28% of all direct deaths. Differences in maternal mortality constitute the greatest inequality in health between developed and developing countries. While causes related to pregnancy and child birth kill about 600,000 in developing countries (99%), maternal deaths have become rare events in the developed world (1%).[11]

In India, due to increased prevalence risk factors such as grand-multiparty, no routine use of prophylaxis against obstetric hemorrhage combined with poorly developed obstetric services, obstetrics hemorrhage is responsible for 30% of the total maternal deaths. India accounts of maternal death because of poorly developed facilities and lack of trained attendants at

delivery, high proportions of death occur in low income countries. Majority of these deaths occur within few hours after delivery and in most cases are due to PPH.[12]

NEED OF THE STUDY

Postpartum hemorrhage is one of the world's leading causes of maternal mortality. Active management of the third stage of labor (AMTSL) is a feasible and inexpensive intervention that can help save thousands of women's lives. The inclusion of AMTSL in the WHO evidence-based manual Managing Complications in Pregnancy and Childbirth also attests to the international acceptance of this practice as the standard of care. The World Health Organization (WHO) Making Pregnancy Safer Technical Update on prevention of PPH by AMTSL recommends that "AMTSL should be practiced by all skilled attendants at every birth to prevent postpartum haemorrhage." As noted earlier, Africa Region has the highest maternal and new-born mortality and morbidity ratios among low- and middle-income regions. Ministry of Health and Social Welfare has been putting a rigorous effort in training service providers on Basic and Advanced Life Saving Skills. However, there is limited information on maternal and new-born care providers' competency or the impact of these trainings. Currently very little is known about the actual practice of AMTSL and given that PPH is a leading cause of maternal death in India, there is an important and urgent need for information from India on current practices regarding AMTSL as one of the strategies in reducing maternal mortality from PPH. This study will have advanced our understanding of current midwifery AMTSL practices, and provide the Ministry of Health and Social Welfare (MoHSW), midwives and their international partners with the descriptive information necessary to assess AMTSL practices and to identify major barriers to its use in order to reduce obstetric emergencies due to PPH and remarkably reduce PPH related maternal death and help in achieving MDG 5 by 2025. The world health organization (WHO) defines postpartum haemorrhage as vaginal bleeding in excess of 500ml after childbirth. Globally postpartum haemorrhage occurs in 10.5% of live births. It is the leading cause of maternal mortality worldwide. Maternal mortality is unacceptably high. About 830 women die from pregnancy- or childbirth-related complications around the world every day. It was estimated that in 2015, roughly 3,03,000 women died during and following pregnancy and childbirth. Almost all of these deaths occurred in low-resource settings, and most could have been prevented.[18-19.] A descriptive study was done to assess the normal labor practices in an Egyptian teaching hospital, where postpartum haemorrhage is the leading cause of maternal mortality. 176 normal births were directly observed. Women were interviewed postpartum and study findings were shared with providers.

Third-stage active management was correctly done for 15% of women observed. Most common deviations for the remaining 85% were, giving uterotonic drugs after placental delivery (65%) and without cord traction (49%). The preventive role actively managing the third stage can provide against postpartum haemorrhage was lost in the majority of the deliveries observed. Obstacles to adopting protocols shown to reduce haemorrhage should be explored, given the contribution of postpartum haemorrhage to maternal death in Egypt.[20,21]

METHODS

Study Setting and Period

The research approach was quantitative in nature. The present study is conducted at ***selected* colleges of Nursing, Kota *(Raj.)***. Data was collected from 16 May-15 June, 2023.

Study Design and Population

Pre-experimental i.e. one group pre-test – post-test design was adopted for the study. This study was intended to ascertain gain in knowledge and attitude by the clients who were subjected to planned teaching programme. Here only one group was observed twice, i.e., before and after introducing the independent variable. The effect of the treatment would be equal to the level of the phenomenon after the treatment minus the level of phenomenon before treatment. The target population for the present study was ***students of B.Sc. Nursing part IV at selected colleges of Nursing,*** **Kota** ***(Raj.)***

Sample Size

Total 200 B.Sc. Nursing part IV at selected colleges of Nursing, Kota (Raj.) met the eligibility criteria. The rational for selecting these settings for study was the researcher's familiarity with the setting, geographical proximity and availability of subjects.

Sampling Techniques and Approach

Non-probability convenient sampling technique was utilized to choose the example for this review. ***The quantitative approach*** was adopted to accomplish the objectives of the study that is to assess the knowledge and attitude regarding active management of third stage of labor among B.Sc. Nursing part IV students at selected nursing colleges, Kota (Raj.).

Tool for data collection

Based on the objectives of the study, a structured knowledge questionnaire towards AMTSL was prepared by the researcher for the present study. The interview consisted of a sequence of questions for collecting information about a particular topic from respondents. Questions were asked in Hindi related to knowledge, attitude and factors associated with AMTSL.

Data Collection Techniques

Pilot Study

A pilot study is a small preliminary investigation which has the same general character of the main study[55]. **Pilot study was conducted on 20 subjects** (who fulfilled the eligibility were selected for the study) **at Daswani College of Nursing, Kota** Before conducting the pilot study. The subjects were informed regarding the purpose of the study and written consent was obtained from them before conducting the pilot study. The findings of the study revealed that it was feasible to conduct the study and tool was relevant.

- **Reliability of Structured Knowledge Questionnaire** to assess the level of knowledge regarding active management of third stage of labor among B.Sc. nursing part IV students at selected nursing colleges, Kota (Raj.) was determined by Karl Pearson's correlation coefficient formula. **The value of 'r' was found to be 0.91,** hence reliable.
- **Reliability of likert scale** was assess the attitude regarding active management of third stage of labor among B.Sc. nursing part IV students at selected nursing colleges, Kota (Raj.). Karl Pearson's correlation coefficient formula was used to calculate value of 'r'. **The value of 'r' was found to be 0.82,** hence reliable.

Main Study

For main study A formal written permission was obtained from principals for conducting research study by the investigator before the collection of actual data. The investigator visited the selected nursing colleges on the given date. The purpose of the study was explained to the sample and assured the confidentiality of their identity and responses in order to ensure their co-operation and prompt response. An informed consent was taken from the sample. The pre-

test knowledge questionnaire and attitude scale were administered to the sample followed by planned teaching programme. The average time taken by the students to answer the tool was 30-35 minutes. Planned teaching programme was for 45 minutes. Post-test was administered to the same sample using the same tool on the 7th day after the Planned teaching programme. The average time taken for the post-test was 25 minutes.

Data Processing and Analysis

Data were coded and entered into SPSS Version 26 software for analyses. Descriptive analysis including frequency distribution, proportion and mean was performed to sum up the attributes of the review subjects. The data obtained was analyzed using frequency, percentage, mean, median, mean percentage, standard deviation in terms of descriptive and inferential statistics. The association of carcinoma of the cervix with demographic variables was tested using the Chi-square test with Yate's correction.

RESULTS

Socio-demographic characteristics of the study participants (Table 1 & 2)

Age in Years

Experimental group- Data presented in Table 4.1 and Figure 4.1 Show that majority 80 (40%) of subjects were within the age group of 21-23 years, while 48 (24%) of subjects were inside the age gathering of 18-20 years, 60 (30%) of subjects were inside the age gathering of 24-26 years and remaining 12 (6%) of subjects were inside the age gathering of above 26 years of age.

Gender

Experimental group- Data presented in Table 4.1 and Figure 4.2 Shows that majority of subjects 102 (51%) were male while 98 (49%) of subjects were female.

Religion

Experimental group- Data presented in Table 4.1 and Figure 4.3 Shows that majority of subjects 152 (76.00) were Hindu, while 36 (18.00%) of subjects were Muslims, 8 (4.00%) of subjects were Christian and remaining 4 (2.00%) of subjects were from Sikh and other religions.

Type of Family

Experimental group- Data presented in Table 4.1 and Figure 4.4 Shows that majority of subjects 128 (64.00) were belonged to joint family, while 72 (36.00%) of subjects were belonged to nuclear family.

Place of Residence

Experimental group- Data presented in Table 4.1 and Figure 4.5 Shows that majority of subjects 120 (60.00) had urban area of residence while remaining 80 (40.00) had rural area of residence.

Monthly Family Income in Rs.

Experimental group- Data presented in Table 4.2 and Figure 4.6 shows that majority of subjects 86 (43.00) have 20,001-30,000/ monthly income, while 56 (28.00%) of subjects have 10,001-20,000/ monthly income, 6 (3.00%) of subjects have below 10,000 and remaining 52 (26%) of subjects have 30,0001 and above monthly family income.

Marital Status

Experimental group- Data presented in Table 4.2 and Figure 4.7 shows that majority of subjects 136 (68.00) were unmarried and remaining 64 (32.00) subjects were married.

Previous Sources of Information

Experimental group- Data presented in Table 4.2 and Figure 4.8 shows that majority of subjects 120 (60.00) had Health personnel as sources of information, 50 (25.00) had teachers as previous sources of information, 22 (11.00) had Workshop/Seminar as previous sources of information and remaining 8 (4.00) had Books as previous sources of information.

Table 1: Frequency and Percentage Distribution of Samples

N=200

Demographic variables		Experimental Group	
		N	%
Age (years)	18-20 years	48	24
	21-23 years	80	40
	24-26 years	60	30
	Above 26 years	12	6
Gender	Male	102	51
	Female	98	49
Religion	Hindu	152	76
	Muslims	36	18
	Christian	8	4
	Sikh & Others	4	2
Types of Family	Nuclear family	72	36
	Joint family	128	64
Place of residence	Urban	120	60
	Rural	80	40

Table 2: Frequency and percentage distribution of samples

N=200

Demographic variables		Experimental Group	
		N	%
Monthly Family Income (In Rs.)	Below 10,000/-	6	3
	10,001-20,000/-	56	28
	20,001-30,000/-	86	43
	30,001 & above	52	26
Marital Status	Married	64	32
	Unmarried	136	68
Previous Sources of Information	Teachers	50	25
	Health Care Personnel	120	60
	Workshop /Seminar	22	11
	Books	8	4

SECTION-II: Analysis and Interpretation of Pre -Test Level of Knowledge with Unpaired 't' TEST

1) Table 4.3 shows Table 4.3 shows the pre-test knowledge of the experimental group in all viewpoints. In pretest, subjects are having an inadequate degree of knowledge. **Greater the p-value, stronger the evidence that we should accept the null hypothesis H01.**

2) Table 4.4 shows the post-test knowledge of the experimental group in all areas. In post-test, mean score of experimental group was 26.8450. **Lesser the p-value, stronger the evidence that we should reject the null hypothesis H01.**

3) Table 4.5 shows the pre-test attitude of the experimental group. In pretest, exploratory group having an Unfavorable attitude**. Greater the p-value, stronger the evidence that we should accept the null hypothesis H01.**

4) Table 4.6 shows the post-test attitude of the experimental group. In post-test, mean score of experimental groups was 77.3100 **Lesser the p-value, stronger the evidence that we should reject the null hypothesis H01.**

Table. 3: Unpaired 't' Test, Mean score and Standard deviation of Pre-test knowledge among B.Sc. Nursing part IV students regarding AMTSL

N= 200

Knowledge	Experimental group		Independent t Test		
	Mean score	Std. Deviation	t value	df	p value
Pre-Test	14.7750	2.26717	1.256	199	0.210

Table 4: Unpaired 't' Test, Mean score and Standard deviation of Post-test knowledge among B.Sc. Nursing part IV students regarding AMTSL

N= 200

Knowledge	Experimental group		Independent t Test		
	Mean score	Std. deviation	t value	df	p value
Post-Test	26.8450	2.62400	48.708	199	0.0001

Table 5: Unpaired 't' Test, Mean score and Standard deviation of Pre-test attitude among B.Sc. Nursing part IV students regarding AMTSL

N= 200

Attitude	Experimental group		Independent t Test		
	Mean Score	Std. deviation	t value	df	p value
Pre-Test	31.8000	6.93400	1.245	199	0.214

Table 6: Unpaired 't' Test, Mean Value and Standard deviation of Post-test attitude among B.Sc. Nursing part IV students regarding AMTSL

N= 200

Attitude	Experimental group		Independent t Test		
	Mean Score	Std. deviation	t value	df	p value
Post-Test	77.3100	4.81245	53.943	199	.0001

SECTION- III: Effectiveness of Planned Teaching Programme on Knowledge and Attitude Towards AMTSL

In the Experimental group, the pre-test subjects scored 14.7750 mean score of knowledge and 26.8450 mean score of attitudes. After planned teaching program they scored 31.8000 mean score of knowledge and 77.3100 mean score of attitudes. The difference in mean score of knowledge score is 40.23% and in mean score of attitudes is 56.88%. It shows positive effect of planned teaching program on knowledge and attitude regarding AMTSL.

Here in both variables as in Knowledge and attitude **p-value is lesser, stronger the evidence that we should reject the null hypothesis H01.**

SECTION IV: Chi-Square Test Showing the Association Between Pre-Test Knowledge Scores and Selected Demographic Variables

1) From table 4.9 and 4.10 it is evident that the demographic variables such as age, gender, type of family, place of residence, monthly family income, previous sources of information and marital status, the calculated **p-value is less than 0.05 (typically ≤ 0.05)** at $p<0.05$ level of significance. **It indicates strong evidence for the research hypothesis.**

2) From table 4.9 it is evident that the demographic variables such as religion, the calculated **p-value is higher than 0.05 (typically ≤ 0.05)** at $p<0.05$ level of significance. **It indicates strong evidence for the null hypothesis.**

3) From table 4.11 and 4.12 it is evident that the demographic variables such as age, gender, religion, type of family, place of residence, monthly family income, previous sources of information and marital status, the calculated **p-value is less than 0.05 (typically ≤ 0.05)** at $p<0.05$ level of significance. **It indicates strong evidence for the research hypothesis.**

CONCLUSION

1) **In the Experimental group,** the pre-test subjects scored 14.7750 mean score of knowledge and 26.8450 mean score of attitude. After planned teaching program they scored 31.8000 mean score of knowledge and 77.3100 mean score of attitude. The difference in mean score of knowledge score is 40.23% and in mean score of attitude is 56.88%. It shows positive effect of planned teaching program on knowledge and attitude regarding AMTSL.
2) From table 4.9 and 4.10 it is evident that the demographic variables such as age, gender, type of family, place of residence, monthly family income, previous sources of information and marital status, the calculated **p-value is less than 0.05 (typically ≤ 0.05)** at $p<0.05$ level of significance. **It indicates strong evidence for the research hypothesis.**
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4) From table 4.11 and 4.12 it is evident that the demographic variables such as age, gender, religion, type of family, place of residence, monthly family income, previous sources of information and marital status, the calculated **p-value is less than 0.05 (typically ≤ 0.05)** at $p<0.05$ level of significance. **It indicates strong evidence for the research hypothesis.**

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Table 7: Chi-square test showing the association between pre-test Knowledge scores and selected demographic variables

N=200

S. No	Variables	Pre-test knowledge scores		χ2 (Chi-Square)	df	Level of Significance
		< mean	> mean			
1	**Age (in years)**					
	18-20 years	38	10	**51.4052**	3	**P= <0.00001 S***
	21-23 years	44	36			
	24-26 years	10	50			
	Above 26 years	01	11			
2	**Gender**					
	Male	39	63	**5.7155**	1	**P= 0.01681 S***
	Female	54	44			
3	**Religion**					
	Hindu	72	80	**3.7371**	3	**P= 0.29128 NS***
	Muslims	13	23			
	Christian	05	03			
	Sikh & Others	03	01			
4	**Type of Family**					
	Nuclear Family	43	50	**7.906**	1	**P= 0.00492 S***
	Joint Family	29	78			
5	**Place of Residence**					
	Urban	47	73	**6.4851**	1	**P= 0.01087 S***
	Rural	46	34			

Table 8: Chi-square test showing the association between pre-test Knowledge scores and selected demographic variables

N=200

S. No	Variables	Pre-test knowledge scores		χ2 (Chi-Square)	df	Level of significance
		< mean	> mean			
1	**Monthly Family Income**					
	Below 10,000/-	5	1	**55.0107**	3	**P= <0.00001 S***
	10,001-20,000/-	48	8			
	20,001-30,000/-	24	62			

	30,001 & above	16	36			
2	**Marital Status**					
	Yes	06	58	**52.1431**	1	**P= <0.00001 S***
	No	87	49			
3	**Previous Sources of Information**					
	Teachers	36	14	**29.2707**	3	**P= <0.00001 S***
	Health Personnel	54	66			
	Workshop /Seminar	02	20			
	Books	01	07			

S=Significance NS= Not significant

Table 9: Chi-square test showing the association between pre-test Attitude scores and selected demographic variables

N=200

S. No	Variables	Pre-test Attitude scores		χ2 (Chi-Square) Chi-Square	df	Level of significance
		< mean	> mean			
1	**Age (in years)**					
	18-20 years	39	09	**20.64;02**	3	**P= 0.000125 S***
	21-23 years	42	38			
	24-26 years	38	22			
	Above 26 years	02	10			
2	**Gender**					
	Male	52	50	**7.8939**	1	**P= 0.00496 S***
	Female	69	29			
3	**Religion**					
	Hindu	83	69	**9.3252**	3	**P= 0.25266 S***
	Muslims	29	07			
	Christian	06	02			
	Sikh & Others	03	01			
4	**Type of Family**					
	Nuclear Family	51	21	**5.0267**	1	**P= 0.02496 S***
	Joint Family	70	58			
5	**Place of Residence**					
	Urban	65	55	**5.0354**	1	**P= 0.02483 S***
	Rural	56	24			

Table 10: Chi-square test showing the association between pre-test Attitude scores and selected demographic variables

N=200

S. No	Variables	Pre-test Attitude scores		χ2 (Chi-Square) Chi-	df	Level of signific-ance
		< mean	> mean			
1	**Monthly Family Income**					
	Below 10,000/-	05	01	**13.1333**	3	**P= 0.004364**
	10,001-20,000/-	44	12			
	20,001-30,000/-	46	40			**S***
	30,001 & above	26	26			
2	**Marital Status**					
	Yes	23	41			**P= <0.00001**
	No	98	38	**23.7609**	1	**S***
3	**Previous Sources of Information**					
	Teachers	43	07			
	Health Personnel	70	50	**28.7465**	3	**P= <0.00001**
	Workshop /Seminar	05	17			**S***
	Books	03	05			

S=Significance NS= Not significant

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