A Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge Regarding Dangerous Signs of New Born Among the Postnatal Mothers at Selected Hospitals, Lucknow

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ABSTRACT

Aim: This study aimed to determine the effectiveness of structured teaching programme on knowledge regarding dangerous sign of new born among postnatal mothers at selected hospital Lucknow, Uttar Pradesh India and to find out various factors associated with it.

Materials and methods: An evaluative research approach with Pre-experimental one group pretest posttest design and convenient sampling technique were used to select 60 postnatal mothers at selected hospitals Lucknow, Uttar Pradesh, India. A self-structured knowledge questionnaire was used for assessing the knowledge among the subjects. SPSS version 25 was used for data analysis. **Result**: There was significant difference between Pre-test and Post-test intervention level of knowledge (t=40.533, p=0.0001) regarding dangerous sign of newborn among postnatal mothers. There was no significant association between pretest knowledge score about dangerous sign of newborn among postnatal mothers with their demographic variables (p>0.05). **Conclusion:** Structure teaching programme was effective to enhance the knowledge of dangerous sign of newborn among postnatal mothers.

KEYWORDS: Effectiveness, structured teaching programme, knowledge, dangerous sign of newborn, demographic variables

INTRODUCTION
Background:

Newborn baby is going through many changes in getting used to life in the outside world. This adjustment almost always goes well but there are certain warning signs you should watch for with newborns. These include :Not urinating (this may be hard to tell, especially with disposable diapers),No bowel movement for 48 hours, Fever, Breathing fast, Pulling in of the ribs when talking a breath retraction, Wheezing, grunting, or whistling sounds while breathing etc.[1] In poorly resourced areas key risk factors and associations are infection, hypothermia, lack of breast feeding failure to recognize signs of illness in their baby and failure to provide adequate basic resuscitation at birth. Education package focused on improving neonatal mortality therefore include information on maintaining warmth; drying; wrapping ; so skin to skin contact ;supporting breast feeding infection prevention including hand washing, cord care, recognizing signs of illness in their newborn baby and infant and basic life support.

Children who die within the first 28 days of birth suffer from condition and disease associated with lack of quality care at birth or skilled care and treatment immediately after birth and in the first days of life. The majority of all neonatal deaths (75%) occurs during the first week of life, and about one million newborn die within the first 24 hours. pre term birth, intrapartum related complications, infections and birth defects cause most neonatal deaths in 2016. From the end of the neonatal period and through the first 5 year of life, the main causes of death are pneumonia diarrhea birth defects and malaria.

Malnutrition is the underlying contribution factor, making children more vulnerable to severe diseases.

A secondary aim was to explore the socio demographic factors of mothers that influence knowledge of the WHO recognized dangerous signs and the health seeking behavior of these mothers and or caregiver.[4] Before we asses a newborn for dangerous signs, we should place the baby in warm environment, take a weight and establish and IV line. Then we should manage as follows: if the baby is not breathing or is gasping for air you should start resuscitation immediately, if the child has respiratory distress that is the breathing rate is greater than 60/min, chest retraction etc.. Unconscious could be due to serious bacterial infection, birth asphyxia, neonatal tetanus or bilirubin toxicity. you should establish the cause by taking through history and treat by accordingly. control convulsion using Phenobarbital preferably iv 10-20 mg /kg give slowly while you watch the breathing. if Unable to breastfeed The cause of this include serious bacterial infection, birth asphyxia or low birth weight, we should give dextrose 10mls/kg iv or nasogastric tube to prevent hypoglycemia. this can be followed by giving breast milk as soon as possible according to the condition of the baby.

Maternal knowledge level about neonatal dangerous signs was very low. Therefore intervention modalities that focus on increasing level of postnatal mother education, access to postnatal mother services are needed. Postnatal mother can have a great role in caring new born baby and identifying neonatal danger signs. And the need to increase educational efforts aimed for all postnatal women in the hospital as wells in the community.[9] mothers can have a great role in caring newborn baby and identified neonatal danger signs. the finding of study revealed that there is poor understanding of neonatal danger signs 174 (88.3%). The existing knowledge gap in this key area of neonatal danger signs affect the success of childcare services; this need to increase educational efforts aimed for all postnatal mothers in the hospitals as well as in the community.[10]. There is urgent need to strengthen the teaching and training of expectant postnatal mothers across all maternal socio demographic variables on these danger signs and the most appropriate measures to take when they occur.

Need for study:
A new born is referred to who have completely covers the normal gestational age 38 weeks and its weight is 2.5-3.5 kilogram and normal from birth to 4 weeks (28 days) age the baby is called neonate or newborn. Performing reflexes, spontaneous and normal color." The dangerous signs include in new born are: Not feeding well, Hypothermia, Hyperthermia, Convulsion, Drowsy or unconsciousness, Body movements only when stimulated or no body movement if stimulated, Fast breathing, Grunting and Sever chest in drawing, Central cyanosis.

The care seeking behavior among the postnatal mothers underlines an urgent need to generate awareness among them too able to recognize the danger sign in the newborn. Operational interventions include promoting behavior changes among the community to avail newborn care services and building linkage with health facility in majority of cases correct knowledge and care seeking behavior during illness of newborn were lacking among students and this should be promoted through improve coverage with existing health services. Every year 3 million newborn die during their first seventh day of life accounting for 75% of all neonatal death mainly neonatal mortality rate NMR of 4 per 1000 live birth whereas the average NMR is33 per 1000 live birth mainly the highest number of death occur in south Asia.

Adequate mothers and care giver knowledge of neonate dangerous signs is important for reducing infant mortality and morbidity. In this study we assessed the mothers knowledge of the key dangerous signs of newborn. slightly more than one third of women appeared to have a satisfactory knowledge of the neonatal dangerous signs and the proportion of women with knowledge of each frequently reported dangerous signs was even less than fifty percent. the majority reported that they have had an experience at least one danger sign with their baby, which is corroborated with the proportion postnatal mothers that appeared to know at least one danger signs.[26] This study makes the postnatal mothers to come forward for the awareness regarding dangerous sign of newborn illness which will ranked the interventions in day to day life and will be make effective to do the practice in home as well as community.

Objectives of the study:
1. To assess the pre-existing knowledge regarding dangerous signs of newborn among the postnatal mothers at selected hospitals, Lucknow.
2. To evaluate the structured teaching programme on knowledge regarding dangerous signs of newborn among the postnatal mothers.
3. To identify the difference between pre-test and post-test knowledge regarding dangerous signs of newborn among postnatal mothers.
4. To find out the association between pre-test Knowledge regarding dangerous signs of newborn among the postnatal mothers with their selected demographical variables.

OPERATIONAL DEFINITIONS:

1. ASSESS

It refers to the statistical measurements of the knowledge of postnatal mothers regarding Dangerous signs of Newborn by using structured questionnaire.

2. EFFECTIVENESS

In this study effectiveness refers to the extent of structure teaching programme to achieve that desire improvement in knowledge of postnatal mothers in dangerous signs of newborn baby.

3. KNOWLEDGE

In this study knowledge refers to correct response from postnatal mothers regarding Dangerous sign of Newborn as selected through self-administered questionnaire before and after the Structured Teaching Program.

4. STRUCTURED TEACHING PROGRAMME

It refers to systematically organized teaching programme including cause of Neonatal Dangerous signs and Neonatal illness related death, prematurity and congenital abnormality as it affects the neonatal live birth rate per year etc. prepared by the investigator to educate the postnatal mothers on dangerous signs of newborn baby.

5. DANGEROUS SIGNS

In this study a Newborn Dangerous signs refers to presence of clinical sign that would indicate high risk of neonatal morbidity and mortality and the need for early therapeutic interventions which includes poor sucking, lethargy, or drowsiness rapid or difficulty in breathing, hyperthermia and hypothermia yellow colors of palms and soles, abdominal distention, bleeding from cord, diarrhea loose or bloody stool, convulsions and vomiting.

6. MOTHERS

In this study refers to those who are postnatal mothers
1. Structured Teaching Programme improves the knowledge of postnatal mothers regarding dangerous signs of new born.
2. This study will help the mothers to assess and care of Dangerous signs of Newborn baby.
3. This study will help the mothers to educating regarding Dangerous signs of Newborn.

ASSUMPTION:

1. Postnatal mothers may have knowledge about dangerous signs of new born baby.
2. Negligence leads o complications.
3. Postnatal Mothers will have some interest to know more about danger sign of new born baby.
4. Structured teaching programme may effective for postnatal mothers regarding dangerous signs of new born baby.

5. Knowledge level of postnatal mothers may vary with their selected demographic variables.

HYPOTHESIS:

H1. -There will be significant difference between pre-test and post- test knowledge score regarding Dangerous signs of Newborn among the postnatal mothers.

H2. -There will be significant association between the level of knowledge regarding Dangerous signs of Newborn among the postnatal mothers with their selected demographic variables.

DELIMITATION:

The study is limited to:
1. Postnatal Mothers from selected hospitals Lucknow.
2. Postnatal Mothers who are willing to participate in the study.
3. Postnatal Mothers who are available during the period of study.

METHODOLOGY:

RESEARCH APPROACH:

An evaluative research approach was adopted in this study.

RESEARCH DESIGN:

Pre experimental one group pretest posttest design.

Research Setting:

Selected hospitals in Lucknow.

Population:

The population in the study was postnatal mothers.

SAMPLES:

The postnatal mothers at selected hospitals in Lucknow.

SAMPLE SIZE:

60 postnatal mothers in selected hospitals Lucknow.

SAMPLING TECHNIQUES:

Purposive sampling technique was used in this study.

Variables:

Dependent Variables: Knowledge of postnatal mothers regarding dangerous signs.

Independent Variables: Structure teaching programme on dangerous signs of newborn.

CRITERIA FOR SAMPLE SELECTION:

Inclusion criteria: The study includes:

High risk postnatal mothers who are planned to stay for 2 weeks

Lowest caesarean section postnatal mothers

Postnatal mothers who are willing to participate in the study

Postnatal mothers who can understand, read and speak Hindi and English language

Exclusion criteria: The study excludes:
Postnatal mothers who are not willing to participate in the study

Postnatal mothers who are discharged within a short time.

DESCRIPTION OF THE TOOLS:
It consists of two parts i.e. Section I, Section II

Section I: - It consisted of demographic variables information such as age, sex, education, income, no. of living children, etc.

Section II: - The structured questionnaires on knowledge of dangerous signs of new born and its management were prepared.

There is 30 structured questionnaire used in this study. Every item was of multiple choice type with one correct answer carrying one mark with remaining options zero mark. The maximum score was 30 and minimum score 0. The score graded as 21 to 30 were considered good knowledge, 11 to 20 were considered as average knowledge, 0 to 10 were considered as poor knowledge.

CONTENT VALIDITY OF THE TOOL:
Tool was validated by experts from Obstetrics and gynecologist and obstetrics and gynecological nursing departments, suggestions given by experts were incorporated and tools are finalized.

RELIABILITY:
The tool after validation was tested for reliability. The tool was tested by administering for 10 postnatal mothers who are admitted in the department of obstetrics and gynecology Veerangana Avanti Bai Mahila Chikitsalay, K.K Hospital; Lucknow. In order to establish reliability of the tool, the split half method was used. Correlation of the half test was found by using Karl Pearson correlation coefficient formula and reliability co-efficient of the whole test was established by Spearman Brown's Prophecy formula that is r=2r/1+r.The calculated "r" value was 0.82 and the tool was found to be reliable.

PILOT STUDY:
Pilot study was conducted on 10 postnatal mothers at selected hospitals to find out the validity and reliability of the tool. Pilot study was conducted in postnatal mothers at Veerangana Avanti Bai Mahila Chikitsalay, K.K Hospital, Lucknow UP, 10 postnatal mothers who met in inclusion criteria was selected by using purposive sampling technique, structured questionnaire was administered to the 10 sample. The reliability of the tool was done by using split half method and reliability found as r=0.82, which denotes

the tool is reliable, applicable, feasible and practicable in all aspects to conduct the main study.

DATA COLLECTION PROCEDURE:
The data collection was done for 5weeks at Veerangana Avanti Bai Mahila Chikitsalay, K.K Hospital, Lucknow. Before conducting the study, I obtained formal permission from the head of the institution. Total 60 postnatal mothers were included in the study. After explaining the importance and purpose of study the tool was administered for data collection. 30-40 minutes were taken for conducting interview. After the pre-test the administered the structured teaching programme on knowledge regarding "dangerous signs of new born. All the queries were cleared. The post test was conducted after 1- 2 weeks using structured interview schedule with knowledge questionnaire the same procedure was applied for all the samples.

PLAN FOR DATA ANALYSIS:
The data obtained were analyzed in terms of objectives of the using descriptive and inferential statistics. SPSS version 25 was used for data analysis and 0.05 was the level of significance.

RESULT:
Table 1 Frequency and Percentage distribution of Age and Religion, subjects (n=80)

S. No.	Demographic variable	Frequency (f)	Percentage (%)
	Age		
	a.16-20 years	9	15.0%
1.	**b.** 21-25 years	28	46.7%
	c. 26-30 years	18	30.3%
	d.30 years	5	8.3%
	Religion		
	a. Hindu	51	85.0%
2.	**b.** Muslim	3	5.0%
	c. Christian	5	8.3%
	d. Others	1	1.7%

Table1 shows that, the Frequency and Percentage distribution of demographic variables like age and religion of postnatal mothers.

In the Age group, the majority of 9 (15%) of postnatal mothers are in between the age group 18-20 years,28 (46.7%) postnatal mothers are in the age group of 21-25 years, 18 (30.3%) students are in between 26-30years of age group, 5 (8.3%) postnatal mothers are in the age group of 30years.

Regarding religion of postnatal mothers, 51 (85%) postnatal mothers are Hindu, 3 (5%) postnatal mothers are Muslim, 5 (8.3%) Postnatal mothers are Christian and 1 (1.7%) postnatal mothers are belongs to others religion.
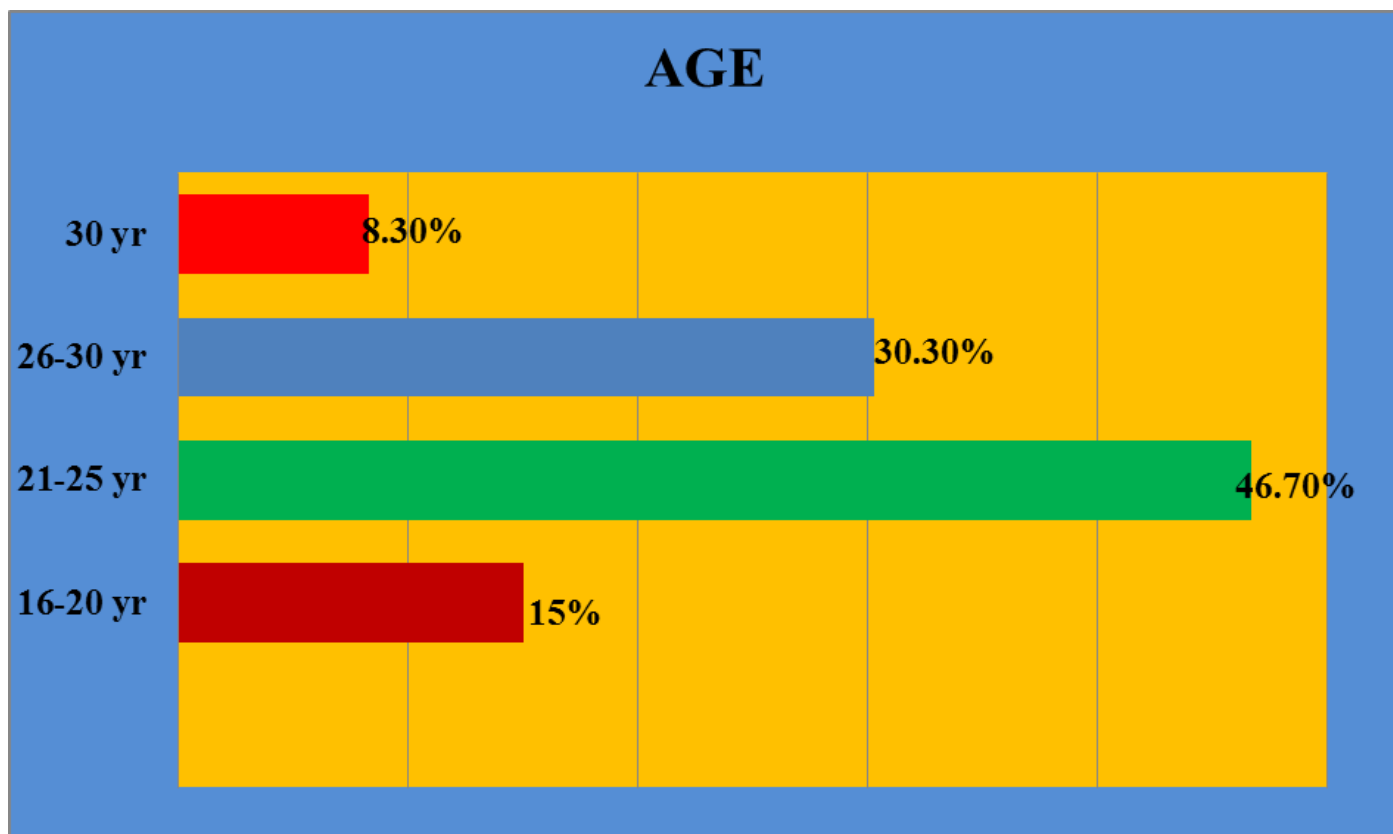
Figure 1:- Bar diagrams reveals the frequency and percentage distribution of Postnatal mother's age
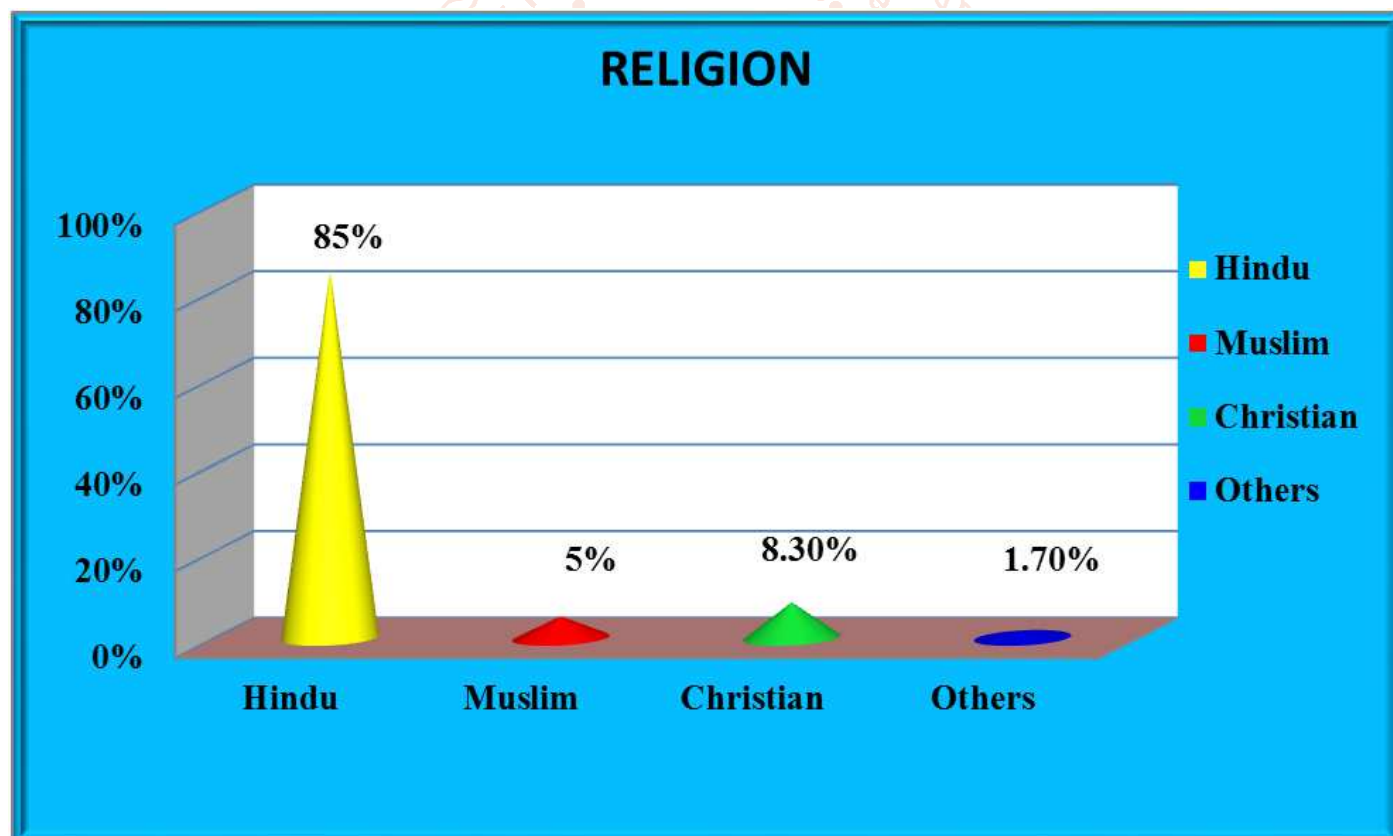
Figure 2:-Cone diagrams reveal the frequency and percentage distribution of postnatal mother's religion.

Table 2 Comparison of pre and post-test knowledge level regarding dangerous signs among post natal mothers of newborn baby

	Mean	(f)	Std. Error Mean	"t" value	Df	Significant
Pre-test	10.45	60	0.329	40.533	59	0.0001
Post-test	24.28	60	0.373		59	0.0001

**Significant at p<0.0001 level

Table 2 shows that Paired t test value is 40.533 which are significant at 0.0001 level.

H_1-There is a significant difference between pre-test knowledge and post-test knowledge scores among postnatal mothers on dangerous signs of new born baby.

The table represents the mean of pre and post-test knowledge of dangerous signs among postnatal mothers of newborn baby. The paired "t" test was carried out and it is found to be invariably significant at $p<0.0001$ level. Hence research hypothesis (H_1) is accepted. It provide for evidence that the structured teaching program was significantly effective in improving the postnatal mothers knowledge on dangerous signs.

ASSOCIATION BETWEEN POST-TEST LEVEL OF KNOWLEDGE REGARDING DANGEROUS SIGNS WITH THEIR SELECTED DEMOGRAPHIC VARIABLES.

Table 3 Chi-square test showing association between post-test levels of knowledge regarding dangerous signs with their selected demographic variables.

Sl. No	Demographic variables	Knowledge of Level (median=10)		Calculated value (x^2)	Df	P value
		≤ 10	>10			
1	**Age**			0.61	3	0.89 (NS)
	a. 16-20	5	4			
	b. 21-25	13	15			
	c. 26-30	10	8			
	d. >30	3	2			
2.	**Religion**			4.08	3	0.25 (NS)
	a. Hindu	28	23			
	b. Muslim	1	2			
	c. Christians	1	4			
	d. Others	1	0			
3.	**Occupation**			11.29	3	0.01* (S)
	a. Govt sector	1	4			
	b. Private sector	6	3			
	c. Non-governmental organization	1	8			
	d. Home maker	23	14			
4	**Additional qualification**			20.33	3	0.001* (S)
	a. Illiterate	5	2			
	b. Primary sector education	11	0			
	c. Intermediate education	11	10			
	d. Graduation education	4	17			
5	**Family income per month**			3.13	2	0.21 (NS)
	a. <Rs 5000	14	7			
	b. Rs 5000-Rs 10000	12	17			
	c. Rs 10000-Rs15000	5	5			
	d. Above Rs 15000	0	0			
6	**No. of living children**			0.42	2	0.81 (NS)
	a. Only one children	13	13			
	b. Two children	13	10			
	c. Three children	5	6			
	d. Four and above	0	0			
7	**Types of family**			2.72	3	0.44 (NS)
	a. Nuclear family	14	15			
	b. Joint family	11	12			
	c. Single parent family	5	2			
	d. Step family	1	0			

8	**Previous knowledge regarding dangerous signs of newborn**			2.05	3	0.56 (NS)
	a. Awareness campaign	9	11			
	b. Hospital instruction	8	4			
	c. Family and friend education	9	7			
	d. Mass media communication	5	7			
9	**Previous experience in handling dangerous signs of newborn**			0.05	1	0.63 (NS)
	a. Yes	12	13			
	b. No	19	16			
10	**No. of hospital visit of mothers for their neonatal dangerous signs**			0.88	3	0.83 (NS)
	a. Less than 2 times	14	13			
	b. 2-4 times	7	6			
	c. 4-6 times	5	7			
	d. >6 times	5	3			

Note: N.S-Not significant, S- Significant at P<0.05 level

H2- There is a significant association between the level of knowledge regarding Dangerous signs of Newborn among the postnatal mothers with their selected demographic variables.

The result of the chi-square presented in table 4.4 indicates that there is significant association between post-test knowledge score with demographic variables such as age, religion, occupation, additional qualification, family income per month, no. of living children, types of family, previous knowledge regarding dangerous signs of newborn, previous experience in handling dangerous signs of new born baby, No. of hospital visit of mothers for their neonatal dangerous signs that there is statistically association at p<0.05 level. Hence the research hypothesis (H$_2$) is accepted.

DISCUSSION

A study was undertaken to assess the effectiveness of structure teaching programme on knowledge regarding dangerous signs among postnatal mothers in selected hospitals at Lucknow. In order to achieve the objectives of the study, purposive sampling technique was used to select the samples. The data was collected from 60 postnatal mothers at Obstetrics and gynaecology department, by structured questionnaire. The findings have been discussed with reference to the objectives. The data was organized, analysed and presented in five sections:

1. To describe the socio-demographic variables of postnatal mothers.

2. To assess the pre-existing knowledge level regarding dangerous signs among postnatal mothers of new born baby.

3. To evaluate the effectiveness of structured teaching programme on knowledge regarding dangerous signs of new born baby among postnatal mothers.

4. To identify the difference between pre-test and post-test knowledge regarding dangerous signs of new born among the postnatal mothers.

5. To identify the association of knowledge regarding dangerous signs of new-born among the postnatal mothers with their selected socio-demographic variables.

SIGNIFICANT FINDINGS OF THE STUDY:

Distribution of samples according to the socio-demographic variables.

➤ Age: Majority (46.7%) of postnatal mothers were aged between above21-25years.

➤ Religion: Majority (85%) of postnatal mothers were Hindu.

➤ Occupation: Majority (61.7%) of postnatal mothers are home maker.

➤ Additional qualification: Majority (35%) of postnatal mothers have intermediate and graduate education.

➤ Family income: Majority (48.3%) of the postnatal mother earnsRs5000-Rs 10000

➤ Number of living children: Majority (43.3%) of the postnatal mothers were having one children.

➤ Type of the family: Majority (48.3%) of the postnatal mothers belongs to nuclear family.

➤ Previous knowledge regarding dangerous signs of newborn : Majority (33.3%) of the postnatal mothers having knowledge through Awareness campaign

➤ Previous experience in handling dangerous signs of new born baby: Majority (58.3%) of postnatal mothers were having no idea about handling dangerous signs of newborn baby.

➤ No. of hospital visit of postnatal mothers for their neonatal dangerous signs: Majority (45%) of the postnatal mothers were visit the hospital less than 2 times.

Research hypothesis (H₁) is accepted.

NURSING IMPLICATIONS:
➤ The investigator has drawn the following implications from the studies which are the vital concern for nursing education, nursing practice, nursing administration and nursing research.

RECOMMENDATIONS:
➤ Similar studies can be replicated on larger samples for wider generalization mainly in the community.

➤ With true quasi experimental and descriptive design.

➤ To assess the comparative knowledge level between primigravida and multipara postnatal mothers.

➤ A similar study can be conducted by using pretest with an instruction module.

➤ Manuals, information booklets can be developed and distributed regarding dangerous signs among postnatal mothers.

➤ Similar studies can be conducted as comparative study in rural and urban settings.

➤ To assess the knowledge level of postnatal mothers on dangerous signs of newborn baby.

CONCLUSION -
On conclusion the present study was aimed at assessing the knowledge level of postnatal mothers of newborn baby regarding dangerous signs. The relevant data was collected and analyzed statistically based on the objective of the study. Among 60 postnatal mothers of newborn baby, no one is having adequate knowledge regarding management of dangerous signs, 48.3% having moderate and 51.7% having inadequate knowledge regarding dangerous signs. The research reveals that there was significant difference in pre and posttest knowledge of postnatal mothers of newborn baby regarding dangerous signs. The study also reveals that there was an association between demographic variable and pre-test knowledge level of postnatal mothers of newborn baby regarding dangerous signs.

Many studies also supported there was lack of knowledge regarding dangerous signs among postnatal mothers of new born baby.

The following conclusion was drawn on the basis of data analysis.

➤ Structured teaching programme is effective in improving the knowledge of postnatal mothers of new born baby regarding dangerous signs.

➤ The findings of the study revealed that there was a significant association of knowledge with selected demographic variables such as, occupation, Additional qualification.

➤ There was no association between age, religion, family income, No. of living children, types of family, Previous knowledge regarding dangerous signs of newborn, Previous experience in handling dangerous signs of new born, No. of hospital visit of mother for their neonatal dangerous signs.

Conflicts of interest:-There are no conflicts of interest

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