A STUDY TO ASSESS THE EFFECTIVENESS OF INFORMATION EDUCATION AND COMMUNICATION MATERIAL ON KNOWLEDGE OF NEONATAL DANGER SIGNS AMONG RURAL POSTNATAL MOTHERS IN SELECTED AREAS OF GURUGRAM, HARYANA.

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Abstract

Introduction: Young infants and newborns frequently exhibit vague symptoms along with indicators of serious illness. Nine neonatal danger signs were identified by the World Health Organization (WHO). The symptoms encompass an incapacity to feed or inadequate feeding practices, convulsions, fast breathing, intense chest constriction, fever ($\geq 37.5°C$), hypothermia ($\leq 35.4°C$), yellow soles, inactivity or only a small amount of movement upon stimulation, and signs of a localized infection (umbilicus red or draining pus, skin boils, eyes draining pus, etc.).**Methodology**: In this study IEC (information education and communication) material are used and give education to Rural mothers with the help of A.V. aids, charts, pamphlets. By face-to-face interaction data collection is conducted. **Result:** We collect data from 60 postnatal mother's and conducted a pretest and post-test by using the structured questionnaire. Pretest result score that shows 20% (12) had inadequate and 66.7% (40) had moderate and 13.3% (8) had adequate knowledge. And post test data shows 1.7% (1) had inadequate knowledge and 40% (24) had moderate knowledge and 58% (35) had adequate knowledge. A paired "t" test was used to determine the significance, the calculated 't' value is 7.41 was deemed significance at 0.05 level. **Conclusion**: Based on the findings of the study, it is concluded that postnatal mothers are able to increase their knowledge, after administration of IEC (information education and communication) material**.**

Key Words: IEC information education and communication, neonatal danger signs, postnatal mothers

INTRODUCTION

2.6 million Newborns worldwide died within the first four weeks of their lives due to preventable causes; this accurately accounts for 46% of all deaths among children under five. Twenty-five percent of newborn deaths worldwide occur in Africa.6- Half of all newborn deaths worldwide were caused by five countries, including Ethiopia. Ethiopia has a newborn mortality rate of 30 per 1000 live births, according to recent data.

Around the world, millions of mothers and their infants are raising their children in a culture that discourages seeking medical attention. The fact that many women do not often seek official medical attention during the postpartum period has a significant 18 impact on both the survival of the newborn and the mothers' ability to seek healthcare. Research conducted in Ethiopia reveal that a significant proportion of mothers nearly 80% were hesitant to seek care, contributing to a rise in neonatal mortality. Fortunately, early detection of NDSs is a crucial first step towards improving the health of newborns. The child's morbidity and mortality may increase as a result of this.15 Reduced infant mortality and better neonatal outcomes have been associated with early detection of NDSs.16 Given the prevalence of home births and early hospital discharges, families ought to be able to Understand the caution of infant to the hospital if they exhibit any symptoms of neonatal illnesses.

Need of the Study

Research on postnatal mothers' understanding of neonatal danger indicators is now underway, and it is essential because it allows us to quickly evaluate postnatal mothers' attitudes and knowledge about these symptoms. Nowadays, mothers who live in rural areas lack education and are thus not as knowledgeable about newborn danger indicators as they should be about their signs, symptoms, causes, and therapy. We are able to deliver appropriate and useful knowledge about warning signs thanks to this research study and the IEC module. After the mother received health education, it is simple to evaluate the improvement.

Research has repeatedly shown that women who are more aware of the warning signs of a newborn have better habits for providing care and are better at getting help from medical professionals when it's needed. The larger conversation on maternal empowerment and autonomy in healthcare decision-making is furthered by studies on mothers' awareness of neonatal danger signs. Health care professionals enable moms to take a proactive approach to ensuring the safety of their newborns by providing them with the knowledge and abilities to recognize possible indicators of neonatal distress. In addition to boosting moms' self-assurance and efficiency, this empowerment creates a culture of knowledgeable healthcare seeking in which mothers feel empowered to speak out for their babies' needs inside the healthcare system.

MATERNIAL AND METHODS

Study objectives
- To assess the pre- test knowledge score regarding management of danger sign of neonates among postnatal mothers, at selected area of Gurugram.
- To assess the effectiveness of information, education and communication material on management of danger of neonates among postnatal mothers at selected area of Gurugram.

- To find out the association between posttest knowledge score regarding management of danger sign with selected demographic variables.

Study design: Quasi experimental (pre-experimental group design) design.
Setting: The research was carried out at the rural area of the Gurugram, Haryana.
Sample and sampling technique: 60 Postnatal mothers' & non-randomized convenient sampling techniques.

Tools Description:
DESCRIPTION OF THE TOOL

SECTION A: Performs were designed in order to gather demographic data. Age, marital status, educational attainment, occupation, residual area, religious affiliation, economic level, number of living children, kind of delivery, baby's birth weight, breastfeeding practices, and gestation time are the twelve variables on the demographic proforma.

SECTION B: Self Organized-survey. To evaluate the effectiveness of IEC material on knowledge of Newborn danger sign among mothers who have recently given birth.

Section A: - Demographic profile: -
This consist of Age, marital status, educational attainment, occupation, residual area, religious affiliation, economic level, number of living children, kind of delivery, baby's birth weight, breastfeeding practices, and gestation time are the twelve variables on the demographic proforma.

Section B: - Self organized - Survey.
To evaluate the effectiveness of IEC material on knowledge of Newborn danger sign among mothers who have recently given birth**.**

Data collection duration:
After receiving formal administrative clearance from village authority, nursing faculty, dean, and faculty. The village authority hosted a study in the month of march 2024.

Data analysis
It was intended to evaluate demographic factors using descriptive statistical methods like means and percentage and to analyse effectiveness of IEC material was use inferential statistical technique, such as T test, Chi- square test to establish correlations to demographic variables. The level of significance chosen was at $p \leq 0.05$.

RESULTS AND DISCUSSION
Arrangement of the Analyzed Data: The analyzed data was organized according to the objectives and presented under the following sections:
Analysis of data is presented in following section:

SECTION A

Frequency and percentage Dispersion of Demographic characteristics

It deals with demographic data which collect the sample characteristics, which comprised Age, marital status, educational attainment, occupation, residual area, religious affiliation, economic level, number of living children, kind of delivery, baby's birth weight, breastfeeding practices, and gestation time are the twelve variables on the demographic proforma.

Data presented in Figure no.1 reveal that –

➢ The majority of participants (55%) are between the ages of 25 and 50, with 45% coming from the 18 to 24 age group.

➢ 98.3% of the population is married, whereas the proportion of single people is very small.

➢ The distribution of participants is fairly equal across educational levels, with graduation (40%) and senior secondary (41.7%) being the most prevalent.

➢ The vast majority, 73.3%, are stay-at-home moms, with the remaining 20% working in the commercial sector and the other 5% in government positions.

➢ 8.3% of people live in rural areas, the largest share, followed by urban (28.3%) and semi-urban (13.3%) areas.

➢ At 91.7%, Hinduism is the most common religion among participants; lesser numbers of participants are Christians and Muslims. 45

➢ The distribution of participants is rather even in terms of income brackets; the biggest percentage (43.3%) falls between $21,000 and $30,000.

➢ The majority of participants (58.3%) have a single living child, while 38.3% have two living children.

➢ The distribution of spontaneous normal vaginal births (53.3%) and cesarean sections (45%) is almost similar.

➢ The babies of participants are approximately evenly distributed between those who weigh more than 2.5 kg (51.7%) and those who weigh between 2.1 and 2.5 kg (48.3%).

➢ A significant proportion of the participants (71.7%) exclusively breastfeed, whereas a lesser proportion (10%) use formula or combine nursing and formula feeding (18.3%).

➢ Pre-term pregnancies (6.7%) and post-term pregnancies (25%) were the next most common lengths of pregnancy, with the majority (68.3%) lasting for more than 37 weeks.
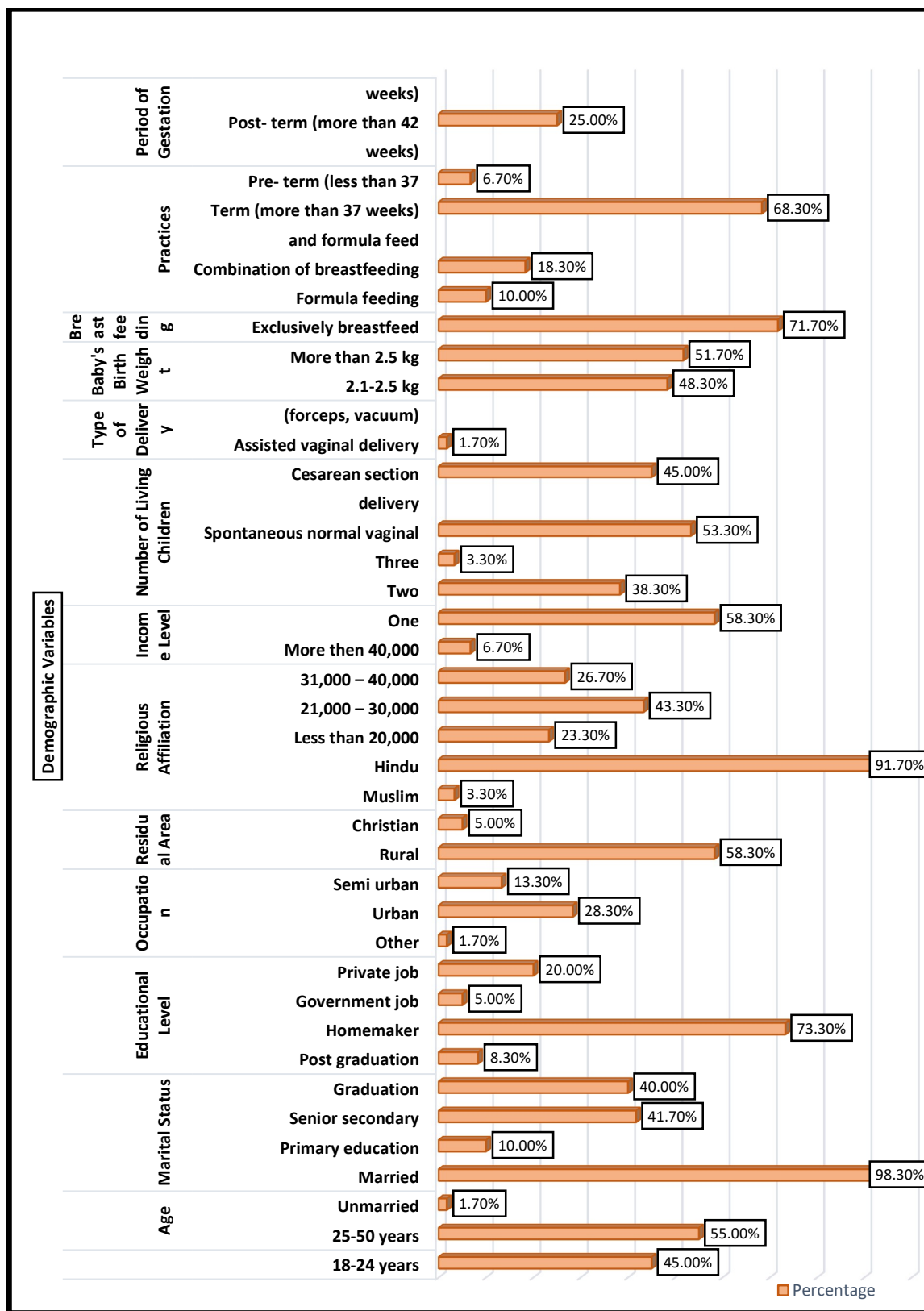
Fig. no. 1: Bar diagram showing the frequency percentage distribution of demographic variables

SECTION- 2
Finding related on knowledge of the postnatal mothers about neonatal warning indicators.

Level of knowledge	Range of score	Pre test		Post test	
		No. of Respondent	Percentage of score	No. of respondent	Percentage of score
Inadequate	0 - 5	12	20%	1	1.7%
Moderate	6 - 10	40	66.7%	24	40%
Adequate	11 - 15	8	13.3%	35	58.3%

The pre test score displayed in the table 2 depicts that 20% (12) had inadequate and 66.7% (40) had moderate and 13.3% (8) had adequate knowledge regarding neonatal danger signs among postnatal mothers. Similarly, the post test score depiced that 1.7% (1) had inadequate knowledge and 40% (24) had moderate knowledge and 58.3% (35) had adequate knowledge regarding neonatal danger signs among postnatal mothers.

TABLE 3: KNOWLEDGE SCORE: MEAN, MEDIAN, STANDARD DEVIATION, AND RANGE AND POSTNATAL MOTHERS ABOUT NEONATAL DANGER SIGNS.

Area and analysis	Mean	Median	Standard deviation	Range
PRETEST	7.95	8	2.52	3 - 13
POSTTEST	10.88	11	2.05	5 - 15

Data depicted in table no. 3 shows that the pre -test knowledge score ranged from 3 - 13, against the possible score maximum range from 0 – 15 the mean pre-test knowledge score is 7.95 compared to the highest possible score of 15. The standard deviation and median of the pretest of knowledge 8 and 2.52 is the score according to. post- assessment knowledge span from 5 - 15 whereas the mean posttest knowledge score are 10.88. After the test, the knowledge score is 11 on the median and 2.05 on the standard deviation.

TABLE NO. 4: MEAN, STANDARD DEVIATION, MEAN DIFFERENCE, STANDARD MEAN PERCENTAGE, "T' VALUE, DEGREE OF FREEDOM AND P VALUE OF GAIN PRE TO POST TEST KNOWLEDGE SCORE OF NEONATAL

Knowledge score	Mean	Standard deviation	Mean difference	Calculated "t" value	Df	P value
Pre test	7.95	2.521	2.930	7.41	59	50.00
Post test	10.88	2.051				

DANGER SIGNS AMONG POSTNATAL MOTHERS

Data depicts in the table no. 4 demonstrates that the average difference in the pre- and post-test scores were 2.930. this indicate Considering that the information education and communication material helped to increase the post-test knowledge score. A paired "t" test was used to determine the significance of the increase in knowledge score from the pre- to post-test. The resultant value of "t" = 7.41 was deemed formal significant at the 0.05 level.

Therefore, the study hypothesis H1 is validated and the null hypothesis is not supported by the findings. This suggests that after receiving IEC material, postpartum moms have learned a great deal about newborn warning signs.

Table No 5: Finding related to association of level and knowledge score of postnatal mothers with their chosen demographic factors.

ASSOCIATION OF POSTTEST KNOWLEDGE SCORES WITH SELECTED SOCIO-DEMOGRAPHICVARIABLES.									
Variables	Sample Characteristics	ADEQUATE	MODERATE	INADEQUATE	Chi Test	P Value	df	Table Value	Result
Age	18-24 years	17	10	0	1.106	0.575	2	5.991	Not Significant
	25-50 years	18	14	1					
Marital Status	Unmarried	1	0	0	0.726	0.695	2	5.991	Not Significant
	Married	34	24	1					

					χ²	p	df	Table value	Significance
Educational Level	Primary education	4	2	0	2.752	0.839	6	12.592	Not Significant
	Senior secondary	14	11	0					
	Graduation	13	10	1					
	Post graduation	4	1	0					
Occupation	Homemaker	26	17	1	1.598	0.953	6	12.592	Not Significant
	Government job	2	1	0					
	Private job	6	6	0					
	Other	1	0	0					
Residual Area	Urban	11	6	0	1.133	0.889	4	9.488	Not Significant
	Semi urban	5	3	0					
	Rural	19	15	1					
Religious Affiliation	Christian	2	1	0	0.234	0.994	4	9.488	Not Significant
	Muslim	1	1	0					
	Hindu	32	22	1					
Income Level	Less than 20,000	8	6	0	1.577	0.954	6	12.592	Not Significant
	21,000 – 30,000	15	10	1					

Data in table no. 5 depicts that postnatal mothers regarding neonatal danger signs not discovered to possess any significant correlation with the population they have chosen variables at 0.05 level of significance.

DISCUSSION OF THE FINDINGS
In the present study, the investigator aimed to assess the effectiveness of information, education and communication material on knowledge of neonatal danger signs among rural postnatal mothers in selected areas of Gurugram

Discussion is done under the following categories:
1. Finding related to knowledge of the postnatal mothers regarding neonatal danger signs.
The findings of the study revealed that in pre-test score 20%. Participants had inadequate knowledge 66.7% had moderate and 13.3% had adequate knowledge regarding neonatal danger signs. Similarly, the post-test scores depicted that half of the participants 58.3% had adequate knowledge, 40% had moderate and 1.7% had inadequate knowledge regarding neonatal danger signs. The average knowledge scores for the pretest and posttest were 7.95 and 10.88, respectively. This demonstrated that the post-test score had significantly increased from the pre-test score. 59 So, we can say that the knowledge was increased after administration of information, education and communication (IEC) material.

2. Finding related to effectiveness of information, education and communication.
The pre-test and post-test mean differences were 2.93. This suggests that the IEC approach contributed to a higher knowledge score on the post-test. In order to determine the significant

increase in knowledge score from the pre- to post-test, a paired "t" test was used. The resultant value of t=7.41 was deemed significant at the 0.05 level. In the current study, postnatal mothers' understanding of neonatal danger indicators was greatly increased by the IEC program.

Findings were supported by the study done by P.Kul, L.Kumari, A.Kaur (2016), Regarding the pre- and post-test total knowledge scores of the analyzed sample, there was a very statistically significant difference with p<0.001. Additionally, the findings showed that the mean overall knowledge score at the post-test (17.63) was greater than the mean in the pre-test (9.30).

3. Finding related to association between level of knowledge with their selected demographic variables.

There was not much found to be having significant association between the level of knowledge of postnatal mother regarding Neonatal danger sign with selected demographic variable.

The study findings was supported by study done by Mamata Das, Primi Kumar, Mallika Saha, Baishali Purbeys, Debolina Sarkar, Tithi Mahata Association between demographic data of the primipara mothers with knowledge regarding identification of neonatal danger signs, only education of the mother is associated with the knowledge(p<0.05).

CONCLUSION

Based on the findings of the research, it is determined that the understanding of the postnatal mothers in relation to neonatal danger signs was increased. 60

The main aim of the study to assess the efficiency with which IEC material on postnatal mothers regarding neonatal warning indicators. From the present research showed that in pre-test 20% had inadequate knowledge and 66.7% had moderate knowledge and 13.3% had adequate knowledge. Similarly, the post test score depicted that 1.7% had inadequate knowledge and 40% (24) had moderate knowledge and 58.3% (35) had adequate knowledge regarding neonatal danger signs among postnatal mothers. The mean post test percentage score was found to be 0.05.

The IEC program was effective on postnatal mothers regarding neonatal danger signs knowledge was increased and 't' test was 7.41 was formal significant at 0.05 level. There was not much found having significant correlation between post-test understanding of postnatal mothers with a few chosen demographic parameters were included Within this research.

In this study showed that the IEC program improving the knowledge of postnatal mothers regarding neonatal danger signs.

Ethical approval

The study was approved by the institutional ethical committee of the SGT University.

Informed consent

Informed consent was obtained from the participants.

Data and materials availability

Upon justifiable request, the corresponding author will make all of the sets gathered during this investigation available.

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