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A study to evaluate the effectiveness of demonstration on knowledge regarding prevention of neonatal hypothermia among prime para mother at selected hospital.

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Abstract: *A newborn infant is classified as homoeothermic; however, its capacity to maintain warmth can be easily compromised by extreme environmental temperatures. The initial 28 days of life present the highest risk of mortality for the child. Hypothermia is regarded as a silent threat to neonates. Given that the thermal regulation of a neonate is crucial for sustaining life, it is essential for the mother to evaluate the infant's condition and ensure that the temperature remains within a normal range. Pre-experimental research design (one group pre-test and post-test design). Total of 30 primi para mothers were selected by simple random sampling technique. The data was collected by using self-structured knowledge questionnaire. The study results revealed that pre-test and post-test level of knowledge regarding prevention of neonatal hypothermia among primi para mother. In pretest, Majority of primi para mother 25(83.3%) had moderately knowledge and 5(16.7%) had Inadequate knowledge. In post- test, Majority of primi para mother 16(53.3%) had moderately knowledge and 14(46.7%) had Adequate knowledge. The study concluded that the demonstration on knowledge regarding prevention of neonatal hypothermia among prime para mother is more effective.*

Key words: *Neonatal Hypothermia, Primi para mothers, Knowledge.*

1. INTRODUCTION:

A neonate is a god's divine precious gift given to a mother. Hence the birth of a neonate is one of the most awe inspiring and marvellous joyful events that occur in every woman's life time. The cry of neonate is the only means of communication and brings a message that “I need care”. This also at keeping the newborn safe from the environmental and practical harm such as maintaining the normal body temperature Within one minute of birth the normal newborn adapts from a dependent fetal existence to an independent one; capable of breathing and carrying on life process. Thus these first hours are crucial because multiple organ systems are making the transition from intrauterine to extra uterine functions. **(1)**

Warm is one of the basic needs of a newborn baby. It is critical to the baby’s survival and wellbeing. Unlike adults, newborn babies are often not able to keep themselves warm especially if the environmental temperature is low. This results in low body temperature. The temperature of the newborn is the series of measures taken at birth and during first day of life to ensure that the baby doesn’t become either too cold (hypothermia) or too hot (hyperthermia) and maintains a normal body temperature of 36.5 0C -37.50C (97.7 - 99.50F). Newborns are more prone to get hypothermia because of their limited ability to generate and conserve heat. Hypothermia is an essential aspect of neonatal care especially in the immediate neonatal period. So great care is necessary by cloth the baby properly and to maintain the

surrounding temperature and humidity, which suits the individual infant. [2] Neonatal Hypothermia has been defined by WHO as body temperature below the normal range (36.5°C – 37.5°C) and has been sub-classified into three grades: mild (36.0°C – 36 .5°C), moderate (32.0°C – 35.9°C), and severe (<32.0°C) hypothermia. [3]

Each year an estimated 3.6 million neonatal deaths occur, primarily due to infection, complications of preterm birth, and intra-partum related hypoxic events Infections are estimated to account for approximately one-third of the global burden of neonatal death, with estimates rising to more than half in high mortality settings. [4]

Caring for a newborn is one of life's biggest challenges to care for a newborn child and can be somewhat more difficult than caring for an older infant. a newborn baby's basic need is pretty clear; to be comfortable and to be fed. Hypothermia in neonate is a common problem and is associated with increased morbidity and mortality. Prevention of Hypothermia is therefore an essential aspect of neonatal care especially in the immediate neonatal period. [5]

Hypothermia is considered as silent Killer in neonates. Thermal Protection of the new born babies is considered as one of important essential neonatal care. The healthy newborn infant born at term between 38 to 42 weeks, cries immediately after birth, establishes independent rhythmic respiration quickly adapts with the extra uterine environment, having an average birth weight and no congenital anomalies. The transition from intrauterine to extra uterine life is perhaps the greatest challenge any human being can fall in the curse of lifetime. Approximately 3% to 7% of all newborns require some form of support. [6] Prevention of Hypothermia is an essential aspect of neonatal care especially in the immediate neonatal period. Heat production by shivering (or) muscle activity is minimal so great care is necessary both to clothe the baby properly and to maintain the surrounding temperature and humidity, which suits the individual infant [7]

The most effective management strategy for hypothermia is its prevention. So, preventing hypothermia and maintaining a neutral thermal environment is important to prevent other complications. It can be done by mothers of the neonate and educating mother regarding measures of thermoregulation like kangaroo care, rooming in, mummifying and promoting breast feeding etc. [8]

In India the neonatal mortality rate (NMR) dropped significantly from 69 per 1000 live births in 1980 to 53 per 1000 live births in 1990. In recent years, however, the NMR has remained almost static decreasing only from 48 to 44 per 1000 live births from 1995 to 2000 and from 2011 to 2015 it has come down 22 to 28 per 1000 live birth. Hence, there is a need to evaluate the effectiveness of demonstration on knowledge regarding prevention of neonatal hypothermia among prime para mother these instances provoked the investigator to select this study.

2. MATERIALS & METHODS:

Design: Pre-experimental research design (one group pre-test and post-test design) was adapted for the present study.

Sample Size: 30 primi para mothers with were selected for the study.

Sampling Technique: Probability simple random sampling technique was used to select the samples.

Data collection Procedure: Permission obtained from the Principals of east coast hospital Puducherry and 50 primi para mother. Admitted in east coast hospital. The selection of primi para mother was based on inclusion criteria. Informed consent was obtained from study subject in oral and written form. The primi para mother were given freedom to withdraw from the study at any time.The data were analyzed based on the objectives of the study using Descriptive statistics as frequency, percentage distribution, mean, and standard deviation. Inferential statistics will be used for comparison for paired t test and Association between the pre-test level of knowledge regarding prevention of neonatal with demographic and clinical variables such as chi square test.

3. RESULTS:

Frequency and Percentage wise distribution of demographic and clinical variables among primi para mother. Out of the 30 primi para mother mothers who were interviewed, Majority of the primi para mother 16(53.3%) of study population were in the age group are <20 years, 14(46.7%) were Rural, 16(53.3%) were Nuclear family, Educational status 18(60%) were not education, Occupational status 15(50%) were Clerical, 13(43.3%) were Single, 12(40%) were Christian, Educational status of Mother 16(53.3%) were Primary, 17(56.7%) were Caesarean delivery and Weight of the baby 13(43.3%) were 3kg.

Percentage wise distribution of pre-test and post-test level of knowledge regarding prevention of neonatal hypothermia among primi para mother. In pretest, Majority of primi para mother 25(83.3%) had Moderately knowledge and 5(16.7%) had Inadequate knowledge. In post- test, Majority of primi para mother 16(53.3%) had Moderately knowledge and 14(46.7%) had Adequate knowledge. **(Figure 1)**

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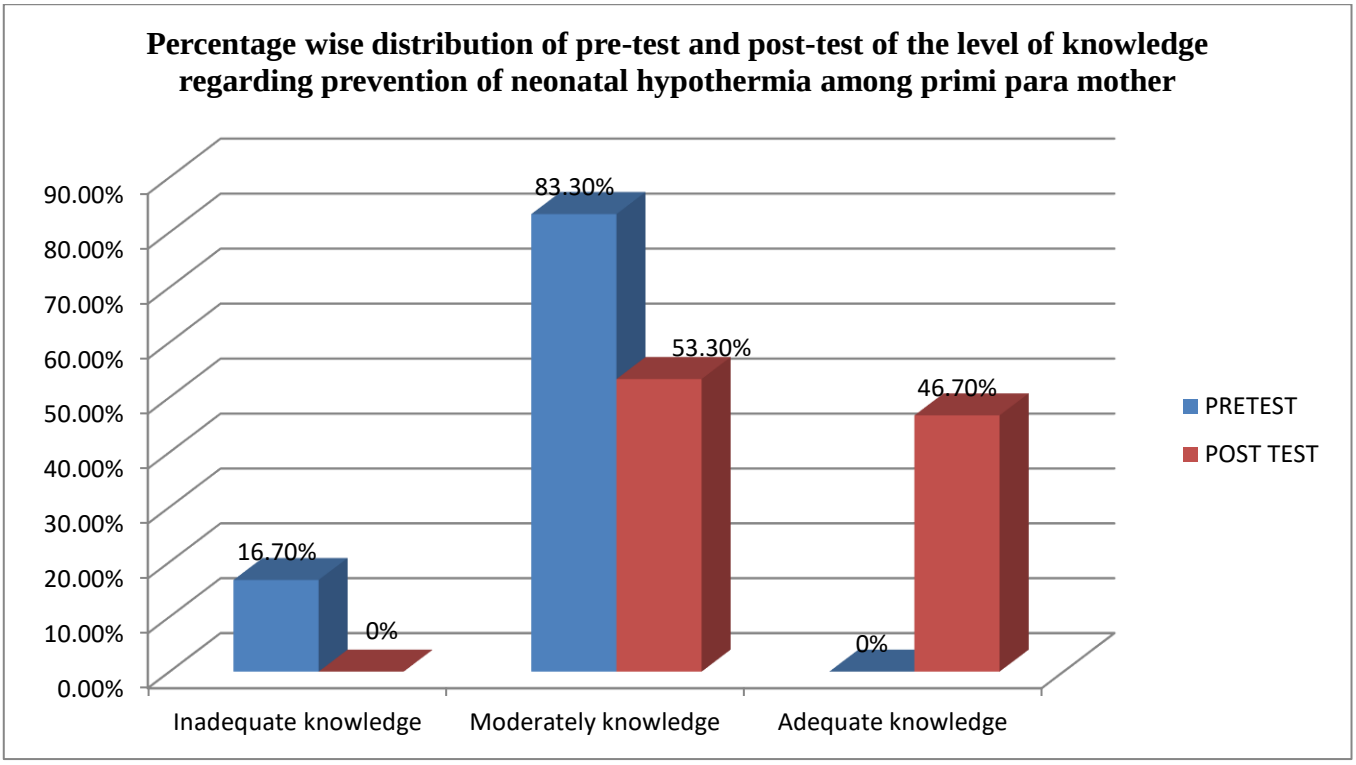

Figure 1: Percentage distribution of pre-test and post- test level of knowledge regarding prevention of neonatal hypothermia among primi para mother

The mean score of effectiveness of demonstration knowledge regarding prevention of neonatal hypothermia among primi para mother in the pre-test was 11.50± 2.52 and the mean score in the post- test was 16.27 ± 2.27. The calculated *paired't' test* value of t = -8.18 shows *statistically highly significant* difference of effectiveness of demonstration knowledge regarding prevention of neonatal hypothermia among primi para mother. **(Table 1)**

Table – 1 Effectiveness of demonstration knowledge regarding prevention of neonatal hypothermia among primi para mother.

(N=30)

	TEST	MEAN	STANDARD DEVIATON	MEAN DIFFERENCE	't' VALUE Paired -t test	df	'p' VALUE
LEVEL OF KNOWLEDGE	**Pretest**	**11.50**	**2.52**				**0.000** HS**
	Posttest	**16.27**	**2.27**	**-4.76**	**-8.18**	**29**	

-p < 0.001 highly significant , NS-Non Significant.

The demographic and clinical variables, *Occupation level* had shown statistically significant association between the pre-test level of knowledge regarding prevention of neonatal with demographic and clinical variables. The other demographic and clinical variables had not shown statistically significant association between the pre-test level of knowledge regarding prevention of neonatal with demographic and clinical variables respectively.

4. DISCUSSION:

A Pre-experimental research design (one group pre-test and post-test design) was used to this study. Total of 30 primi para mother were selected by Probability simple random sampling technique. The first objective was to study was to assess pre-test and post-test level of knowledge regarding prevention of neonatal hypothermia among primi para mother . The result exhibited that, regardingPercentage wise distribution of pre-test and post-test level of knowledge regarding prevention of neonatal hypothermia among primi para mother. In pretest, Majority of primi para mother 25(83.3%) had Moderately knowledge and 5(16.7%) had Inadequate knowledge. In post- test, Majority of primi para mother 16(53.3%) had Moderately knowledge and 14(46.7%) had Adequate knowledge. The present study was

supported by the previous study of Dulitha N. Fernado (2020) conducted a cross sectional study to assess knowledge of mothers on newborn care as well as factors associated with poor knowledge among 446 mother-newborn pairs (95%), were more likely to have poor knowledge. Mothers had a satisfactory level of knowledge about breastfeeding and recognition of danger signs, but knowledge about care of the umbilical cord was poor. Maternal education programmes should place more emphasis on prime mothers, unemployed women and those with delayed booking Visits. [(9)]

The second objective was to evaluate the effectiveness of demonstration knowledge regarding prevention of neonatal hypothermia among primi para mother. The result depicts that, the mean score of effectiveness of demonstration knowledge regarding prevention of neonatal hypothermia among primi para mother in the pre-test was 11.50± 2.52 and the mean score in the post- test was 16.27 ± 2.27. The calculated paired't' test value of t = -8.18 shows statistically highly significant difference of effectiveness of demonstration knowledge regarding prevention of neonatal hypothermia among primi para mother. The present study was supported by the previous study of Kujur Minakhi(2022) A pre-experimental design was conducted. A non-probability purposive sampling technique was used to select 41 Primi postnatal mothers who fulfilled the inclusion criteria. Self structured questionnaires were used to assess the knowledge regarding newborn care and an observation checklist was used to assess the practice regarding newborn care and the paired t-test showed a statistically significant difference ($P < 0.001$). [(10)]

5. CONCLUSION:

The study concluded that the demonstration used by investigators to improve the knowledge regarding prevention of neonatal hypothermia among primi para mother. This is a grand way to increase the primi para mother knowledge regarding prevention of neonatal hypothermia among primi para mother maximize the knowledge in the post-test than in the pre-test when their knowledge were evaluated using the Self – structured questionnaire before and after the demonstration. It stimulates the prime para mother to know about the prevention of neonatal hypothermia.

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