IOSR Journal of Nursing and Health Science (IOSR-JNHS)
e-ISSN: 2320–1959.p- ISSN: 2320–1940 Volume 7, Issue 5 Ver. III. (Sep.-Oct .2018), PP 58-61
www.iosrjournals.org

A study to assess the effectiveness of structured teaching programme on prevention of neonatal hypothermia among primi antenatal mothers at SVIMS, SPMC(W) Hospital, Tirupati.

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Abstract
Background: *Neonate is a child under 28 days of age. Maintenance of normal body temperature is an essential factor in every individuals life. Low body temperature(hypothermia) is a major factor in neonatal morbidity and mortality.*
Aim: *To assess the effectiveness of structured teaching programme on prevention of neonatal hypothermia among primi antenatal mothers.*
Method: *A Descriptive design was selected for the study on a total sample of 50 primi antenatal mothers, selected by convenient sampling technique. Study was conducted at SVIMS, SPMC(W) Hospital antenatal OPD for a period of 4 weeks. Data were collected by using structured questionnaire on prevention of neonatal hypothermia through one group pre-test, post-test method.*
Results: *The results revealed that, Out of 50 primi antenatal mothers pre-test scores majority 21(42%) had moderate knowledge, 19(38%) had adequate knowledge and 10(20%) had inadequate knowledge on prevention of neonatal hypothermia with a mean score 2.18, standard deviation 0.748 and t-value 14.747, hence it indicates the results were significant at p<0.01 level. Among post-test scores majority 23(46%) had Adequate knowledge, 20(40%) had Moderate knowledge and 7(14%) had inadequate knowledge on prevention of neonatal hypothermia with a mean score 2.32, standard deviation 0.713 and t-value 14.747 hence it indicates the results were significant at p<0.05 level.*
Conclusion and recommendations: *It was concluded that knowledge on prevention of neonatal hypothermia, factors, stages, pathophysiology and its management was moderate. So, there is a need to educate the primi antenatal mothers to increase awareness about prevention of neonatal hypothermia.*
Key words: *Neonatal hypothermia, Knowledge, prevention, Primi antenatal mothers.*

Date of Submission: 18-09-2018 Date of acceptance: 03-10-2018

I. Introduction

Neonate is a child under 28 days of age. Maintenance of normal body temperature is an essential factor in every individual life. Low body temperature(hypothermia) is a major factor in neonatal morbidity and mortality.Hypothermia has been defined by WHO as body temperature below the normal range (36.5℃ - 37.5℃) and has been sub-classified in to three grades: mild(36.0 ℃ - 36.5 ℃), moderate(32.0℃ - 35.9℃), and severe (<32.0℃) hypothermia.

Neonatal hypothermia, defined as an abnormally low body temperature of under 36.5℃ , is a risk factor for newborn survival in low and middle income countries, particularly when associated with preterm birth and severe infections.

Thermoregulation is the process that allows the human body to maintain its core internal temperature. Humans are capable of maintaining body temperature at a relatively constant level despite the changes in external environment. In human the period from birth to 28 days of age is known as neonatal period. (World Health Organization, (WHO), 2014). Thermoregulation in neonates is one of the biological adjustments taken place at birth which is a transitional period of neonate where they need external support to regulate their body temperature as they have poor heat regulating mechanisms at birth.

Globally the neonatal deaths account for 41% of mortality in children under 5, nearly 3 million newborns are estimated to die every year. Immediately after birth, an infant is at highest risk of dying. About 25–45% of deaths occur during the first 24 hours and 75% during the first week.

The number of neonatal deaths decreased from 4.6 million in 1990 to approximately 3.1 to 3.6 million in 2009. Neonatal deaths are unequally distributed around the globe. Half of the world's newborns die at home, and more than 99% of all deaths occur in developing counties, where the average neonatal mortality rate is 33 per 1,000 compared with 4 per 1,000 in high income countries. India contributes to one-fifth of global live birth

and more than a quarter of neonatal deaths. Nearly, 0.75 million neonates died in India in 2013, the highest among other countries in the world. The current NMR is 28 per 1000 live births. Since neonatal deaths account for more than 40% of under-5 mortalities, reaching Millennium development Goal 4 will require a substantial reduction in newborn mortality. Only 2.5% of global neonatal deaths data were based on reliable vital registration systems. While 97% deriving from systematic estimations or household surveys.

While only half of the babies born are weighed at birth, it is estimated that annually 18 million, or 14% of all babies, are born with low birth weight, half of them in South Asia. Low birth weight infants account for 60% to 80% neonatal deaths with hypothermia.

The WHO stated that approximately 125 million infants born every year, 8 million die before reaching one year of life due to various complications among them about 2.5% newborns die due to hypothermia.

In 2003-2004, an estimated 3.9 million(36%) died globally due to various resons of neonates. South Asia essentially had a major contributing role in the over all number of neonatal deaths worldwide due to multiple factors, with Pakistan standing third after India and China.

Globally, one of the major challenges in health sector has been an unacceptably high neonatal mortality. Only five countries account for more than half of the world's 3.3 million newborn deaths – India, Nigeria, Pakistan, China and Democratic Republic of Congo. India carries the highest single share of neonatal deaths in the world and contributes around a quarter of global neonatal deaths of the 26 million babies born in India every year nearly one million babies die before the age of one month. According to SRS 2009 report, neonatal mortality (Neonatal Mortality Rate – 34/1000 live births) contributes to about two thirds of all infant deaths (Infant Mortality Rate - 50/1000 live births) and about half of all under five deaths in the country (Under Five Mortality Rate- 64/1000). In India 56 per cent of all newborn deaths occur in five states: Uttar Pradesh, Madhya Pradesh, Bihar, Rajasthan and Andhra Pradesh.

Neonatal hypothermia is a major contributor to neonatal illness and deaths both in the developed and developing parts of the world among 150 babies aged 0-27 days, 93 had hypothermia with an incidence of 62%. Mild and moderate hypothermia accounted for 47.3% and 52.7% respectively.

The incidence of hypothermia was highest(72.4%) among babies aged less than 24 hours. It was also higher among out-born babies compared to in-born babies and 64.4% preterm babies had significantly higher incidence of hypothermia(82.5%) compared with 54.5% of term babies.

In Africa neonatal hypothermia is very common even in warm climates, with incidence rates at hospitals in Zambia ranging from 44 to 69% and high fatality rates. In Zambia a majority of the estimated 18,000 newborn deaths yearly are attributed to conditions associated with neonatal hypothermia. Globally, one of the major challenges in health sector has been an unacceptably high neonatal mortality.Only five countries account for more than half of the world's 3.3 million newborn deaths-India, Nigeria, Pakistan, China and Democratic Republic of Congo. According to SRS(sample registration system) report, neonatal mortality Rate 34/1000 live births. The state of Andhra Pradesh has Neonatal mortality rate of 33/1000 live births. Around 50,000 babies die in this state every year.

II. Objectives

1. To assess the pretest knowledge of primi antenatal mothers regarding prevention the neonatal hypothermia.
2. To assess the effectiveness of structured teaching programme on knowledge of primi antenatal mothers regarding prevention of neonatal hypothermia,
3. To assess the significant relationship between pre and post test knowledge and demographic variables of primi antenatal mothers regarding prevention of neonatal hypothermia.

HYPOTHESIS

H1: There will be effect of structured teaching programme on knowledge of primi anternatal mothers regarding prevention of neonatal hypothermia.

H2: There will be significant association between the pre and post test knowledge scores of primi antenatal mothers on prevetion of neonatal hypothermia and their selected demographic variables.

III. Material and methods

A Descriptive design was selected for the study on a total sample of 50 primi antenatal mothers, selected by convenient sampling technique. Study was conducted at SVIMS, SPMC(W) Hospital antenatal OPD for a period of 4 weeks. Data were collected by using structured questionnaire on prevention of neonatal hypothermia through one group pre-test, post-test method.

Pre-test Knowledge scores on prevention of hypothermia	Frequency	Percentage	Mean	Standard deviation
Inadequate	10	20.0		
Moderate	21	42.0		
Adequate	19	38.0	2.18	0.748
Total	50	100.0		

Post-test knowledge on prevention of neonatal hypothermia.	Frequency	Percentage	Mean	Standard deviation
Inadequate	7	14.0		
Adequate	23	46.0		
Moderate	20	40.0	2.32	0.713
Total	50	100.0		

Pre-test knowledge on factors responsible	Frequency	Percentage	Mean	Standard deviation
Inadequate	11	22.0		
Moderate	24	48.0		
Adequate	15	30.0	2.08	0.724
Total	50	100.0		

Post-test knowledge on factor responsible	Frequency	Percentage	Mean	Standard deviation
Inadequate	11	22.0		
Adequate	24	48.0		
Moderate	15	30.0	2.32	0.819
Total	50	100.0		

IV. Results

Reveals that majority 21(42.0%) had moderate, 10(20%) had inadequate and 19 (38%) had adequate knowledge regarding prevention of neonatal hypothermia, with mean score 2.18 and standard deviation 0.748. This indicates that majority of primi antenatal mothers had moderate knowledge. Distribution of post test knowledge reveals that majority 23(46.0%) had adequate knowledge, 20(40%) had moderate and only 7(14%) had inadequate knowledge on prevention of neonatal hypothermia among primi antenatal mothers with mean score 2.32 and standard deviation of 0.713. Distribution of pre test knowledge on factors responsible for neonatal hypothermia among primi antenatal mothers reveals that majority 24(48.0%) had inadequate 15(30.0%), had adequate and 11(22%) had inadequate knowledge on factors responsible for neonatal hypothermia with a mean score of 2.08 and standard deviation 0.72%. This indicates that majority of primi antenatal mothers had moderate knowledge. distribution of post-test knowledge scores on factors responsible for neonatal hypothermia among primi antenatal mothers reveals that majority 24(48.0%) had adequate knowledge, 15(30.0%) had moderate and 11(22.0%) had inadequate knowledge on prevention of neonatal hypothermia with a mean score 2.32 and standard deviation of 0.819.

V. Conclusion

The findings of the study imply that teaching programme would contribute to increase the knowledge on prevention of neonatal hypothermia, which would provide adequate knowledge on neonatal hypothermia among primi antenatal mothers.

Nursing Implications:

In order to improve knowledge on prevention of neonatal hypothermia among primi antenatal mothers, Health education is a strong weapon in developing the knowledge on prevention of neonatal hypothermia among primi antenatal mothers. The findings of the study have implications in various areas of nursing profession i.e nursing services, nursing education, nursing administration and nursing research.

The results of the study would help to enlighten their knowledge and care on prevention of neonatal hypothermia among primi antenatal mothers. The expanded role of professional nurse emphasizes the activities which promote health on prevention of neonatal hypothermia.

Health education is essential part of nursing service. Nurses can be instrumental in improving knowledge on prevention of neonatal hypothermia among primi antenatal mothers. Nurses can take active part in conducting mass media awareness programmes on prevention of neonatal hypothermia among primi antenatal mothers.

In nursing education curriculum nurses are concerned with the prevention and promotion aspects.

- The nursing students should emphasize on health information by using different teaching methods.

Nursing Administration should take an initiative to formulate policies that would include all Nursing staff to be actively involved in health education programme in maternity hospitals, outpatient departments, MCH center, RCH center, PHC, subcenter and Anganwadi center. The administrator can plan to conduct awerness programmes and publish which should be available to public.

- The study reveals that there was a need for extensive research to find out modification after teaching programme.
- Various methods may be used to strengthen the knowledge of primi antenatal mothers on prevention of neonatal hypothermia.
- There was great need for nursing research in the knowledge area of primi antenatal mothers on prevention of neonatal hypothermia.

Recommendations

On the basis of findings, the following recommendations have been made for further study.

The study could be replicated on larger samples; thereby findings can be generalized for a large group.

- Similar study could be conducted to develop health education pamphlets on complications of neonatal hypothermia.
- A comparative study could be conducted between rural and urban population demographic variables and knowledge regarding neonatal hypothermia among antenatal mothers.
- Health education programme can be conducted to improve the knowledge and care on prevention of neonatal hypothermia among primi antenatal mothers.

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N. Manjula. "A study to assess the effectiveness of structured teaching programme on prevention of neonatal hypothermia among primi antenatal mothers at SVIMS, SPMC(W) Hospital, Tirupati" .IOSR Journal of Nursing and Health Science (IOSR-JNHS) , vol. 7, no.5 , 2018, pp. 58-61.