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RESEARCH ARTICLE

EFFECT OF VIDEO ASSISTED STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING PREVENTION OF HYPOTHERMIA AMONG MOTHERS OF PRETERM BABIES

[1]Ms. Dhivya, M.,*[2]Dr. Vetriselvi, P. and [3]Dr. Adhisivam

[1]M.Sc Nursing, College of Nursing, JIPMER, Puducherry, India
[2]Assistant Professor, College of Nursing, JIPMER, Puducherry, India
[3]Additional Professor, Department of Neonatology, JIPMER, Puducherry, India

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ABSTRACT

Background and purpose: Maintaining a normothermic state is an essential newborn care during the first few weeks of life. The most cost effective management strategy for hypothermia is its prevention and it can be done by the mothers of a neonate. So, the mother has to be educated regarding the various measures of thermoregulation .The purpose of the present study is to assess the effect of video assisted structured teaching programme on knowledge regarding prevention of hypothermia among mothers of preterm babies. **Materials and methods:** A pre-experimental study with simple random sampling (lottery) technique was used to select the 55 postnatal mothers who fulfilled the inclusion criteria. After obtaining formal permission from the institution and written informed consent from the mother of preterm babies, pre-test was conducted by interview method using the structured questionnaire. On the same day 20 minutes video assisted structured teaching programme was given through lecture-cum-discussion to the mother. The video had information regarding importance of temperature control in preterm neonates, management of hypothermia, importance of breastfeeding, kangaroo mother care in prevention of hypothermia and complication of hypothermia. On third day post-test was conducted using the same questionnaire. For analyzing the data, descriptive statistics (frequency, percentage, mean and standard deviation) and inferential statistics (paired t-test, chi-square) were used. All the statistical analysis had done with 5% level of significance. **Results:** The results showed that the mean score was increased from the pre-test score of 10.91± 3.576 to post-test score of 20.36 ± 2.908 and it was found to be statistically significant at 0.001 level. There is also significant association of pretest knowledge categories with some of the socio-demographic variables of the mother like education, place of residence, previous knowledge and sources of information regarding prevention of hypothermia among mothers of preterm babies. **Conclusions:** The present study revealed that video assisted structured teaching programme on knowledge regarding prevention of hypothermia improved the knowledge of mothers of preterm babies.

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INTRODUCTION

The normal newborn continues to adapt to the extra uterine life within the first week after the child birth remaining vulnerable to hypothermia. Therefore, maintaining the average temperature is a demanding one among the preterm population. Reduced body temperature during the first week of life is one of the major cause of the morbidity and the mortality in the neonatal period. So preventing hypothermia and maintaining a normal temperature in newborn is important to prevent the other complications.

Corresponding author: **Dr.Vetriselvi, P.,**
Assistant Professor, College of Nursing, JIPMER, Puducherry, India.
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It can be done by mothers of the neonate and educating mother regarding the measures of thermoregulation like kangaroo mother care, rooming in, mummifying the baby and promoting breast feeding is essential.

MATERIALS AND METHODS

A pre-experimental study was undertaken to assess the effect of video assisted structured teaching programme on knowledge regarding prevention of hypothermia among mothers of preterm babies in NICU of a tertiary care centre.

Inclusion criteria

- Mothers of preterm babies in NICU

- Mothers who know English/Tamil

Exclusion criteria

•Either mother or the preterm baby is sick.

Sample size

n = 55

The sample size is estimated with a minimum expected difference in the mean score of the level of knowledge as 5 with a standard deviation of 10 and the sample size is estimated at 5% level of significance and 90% power. The estimated sample size is 45. The sample size is further adjusted with an expected drop outs of 20% and the sample size considered for the study is 55 mothers of preterm babies.

Sampling: Simple random sampling technique (lottery method) was used.

Instruments: The data collection proforma includes socio-demographic data, maternal variables and 30 structured questionnaire on knowledge regarding prevention of hypothermia.

Intervention: Video assisted structured teaching programme was given through lecture cum discussion method. The video had information regarding importance of temperature control in preterm neonates, management of hypothermia, importance of breast feeding and kangaroo mother care in prevention of hypothermia and complications of hypothermia.

Data collection procedure: Permission was obtained from Nursing Research Monitoring Committee and ethical committee. Informed written consent was obtained from study participants. Every day, mothers with preterm babies who fulfilled the inclusion criteria were selected through simple random sampling (lottery) method. After selecting the participants, the structured questionnaire was administered by interview method. For each mother 20-30 minutes was spent. Then video assisted structured teaching program was conducted for a period of 20 minutes. After 3 days, post-test was conducted.

Ethical considerations: The study was conducted with the Institute ethics committee (Human studies) approval. Permission was obtained from the Nursing incharge, NICU. Investigator first introduced herself to the participants and developed a good rapport with them. Written informed consent was obtained from all the participants. Study subjects had given the freedom to withdraw from the study at any time. Confidentiality and anonymity of the subjects were maintained.

Plan for data analysis: The distribution of data on categorical variables such as education status and the family income were expressed as frequency and percentage. The level of knowledge on prevention of hypothermia was expressed in mean with standard deviation. The comparison of change in the knowledge score over time in the same group was done by using paired t test. The comparison of pretest knowledge level in relation to the socio-demographic variables was carried out using independent t-test. The association of pre-test knowledge with socio-demographic variables was carried out by using Chi-square test. All statistical analysis has done with 5% level of significance.

RESULTS

The results showed that 14.5% of mothers were in the age group of 20 years or less, 76.4% of mothers were between 21 to 30 years and 9.1% of mothers were above 30 years. 18.2% of mothers were illiterate, 40% of mothers had primary education, 21.8% of mothers had secondary education and 20 of mothers had graduation and above. Regarding occupation 5.5% of mothers were employed and 94.5% were unemployed. The distribution of religion showed that 85.5% of mothers were Hindus, 7.3% were Christians and 7.3% were Muslims.

With regard to family income 16.4% of mothers had family income of Rs.1000-2000, 30.9% had Rs.2001-3000, 29.1% had Rs.3001-4000 and 23.6% of mothers had the family income above Rs 4000. 41.8% of mothers belonged to urban community and 58.2% belonged to rural community. 43.6% of mothers had normal delivery, 10.9% had instrumental delivery and 45.5% of them had caesarean section. Regarding the previous knowledge about prevention of hypothermia only 18.2% of mothers had previous knowledge. Regarding source of information on prevention of hypothermia 3.6% and 14.5% gained knowledge from sources like family members/relatives and health personnel respectively. In regard to parity, it revealed that 67.3% of mothers were primi-para. The distribution of sex of the baby showed that 54.5% were male and 45.5% were female. The distribution of birth weight of the baby showed 1.8% were below 1.5 Kg, 50.9% were between 1.5-2 Kg , 41.8% were between 2-2.5 Kg and 5.5% were more than 2.5 Kg. In regard to gestational age 36% were below 28 weeks, 23.6% were between 29-31 weeks, 56.4% were between 32-34 week and 16.4% were between 35-36 weeks of gestation.

The level of knowledge regarding prevention of hypothermia among mothers of preterm babies was assessed before and after giving video assisted structured teaching programme. In the pre-test among 55 mothers 58.2% had inadequate knowledge, 41.8% had moderately adequate knowledge and none of the mothers had adequate knowledge regarding prevention of hypothermia. In the post-test among 55 mothers, 38.2% of mothers had moderately adequate knowledge, 61.8% had adequate knowledge and none of the mothers had inadequate knowledge. While comparing the pre-test and post-test knowledge of the mother the pretest mean and standard deviation was 10.91 and 3.576 and the post-test mean and standard deviation was 20.36 and 2.908. The obtained p value was p=0.000*** and it showed that it was statistically significant at 0.001 level. The results showed that the demographic variables like education, place of residence, previous knowledge of the mother and sources of information were associated with the mothers pre-test level of knowledge at 0.01 level.

ANALYSIS AND INTERPRETATION

DISCUSSION

The study results showed that there was a significant increase in the mean knowledge score of the mother who attended the video assisted structured teaching programme and there is also

Table 1:Frequency distribution of study subjects in relation to socio-demographic variables

N=55

Demographic data	Categories	Frequency (No)	Percentage (%)
Age	i) ≤20 yrs	8	14.5
	ii) 21-30 yrs	42	76.4
	iii) > 30 yrs	5	9.1
Education	i) No formal education	10	18.2
	ii) Primary education	22	40
	iii)Secondary education	12	21.8
	iv)Graduation & above	11	20
Occupation	i) Employed	3	5.5
	ii) Unemployed	52	94.5
Religion	i)Hindu	47	85.5
	ii) Christian	4	7.3
	iii) Muslim	4	7.3
	iv) Others	-	-
Family income per month(in Rupees)	i)1000-2000	9	16.4
	ii)2001-3000	7	30.9
	iii)3001-4000	16	29.1
	iv)>4000	13	23.6
Type of family	i)Nuclear family	28	50.9
	ii)Joint family	27	49.1
	iii)Extended family	-	-
Place of residence	i) Urban	23	41.8
	ii)Rural	32	58.2
Type of present delivery	i)Normal delivery	24	43.6
	ii)Instrumental delivery	6	10.9
	iii)Caesarean delivery	25	45.5
Previous knowledge regarding prevention of hypothermia	i)Yes	10	18.2
	ii)No	45	81.8
Sources of information regarding prevention of hypothermia	i)Radio/television	-	-
	ii)Family members/relatives	2	3.6
	iii)Newspaper/books	-	-
	iv)Health personnel/ health magazines	8	14.6
	v)Nil	45	81.8
Parity	i) Primipara	37	67.3
	ii)Multipara	18	32.7
Sex of the baby	i)Male	30	54.5
	ii)Female	25	45.5
Weight of the baby	i)>2.5Kg	1	1.8
	ii) 2.1-2.5Kg	28	50.9
	iii)1.5-2.0Kg	23	41.8
	iv)<1.5Kg	3	5.5
Gestational age of the child	i) <28 weeks	2	3.6
	ii)29-31 weeks	13	23.6
	iii)32-34 weeks	31	56.4
	iv) 35-36 weeks	9	16.4

Table 2. Pre-test level of knowledge regarding prevention of hypothermia among mothers of preterm babies

N= 55

Level of knowledge	Pre-test		Mean	Standard Deviation
	Frequency (No)	Percentage (%)		
Inadequate knowledge (1-10)	32	58.2	10.91	3.576
Moderately adequate knowledge (11-20)	23	41.8		
Adequate knowledge (21-30)	-	-		

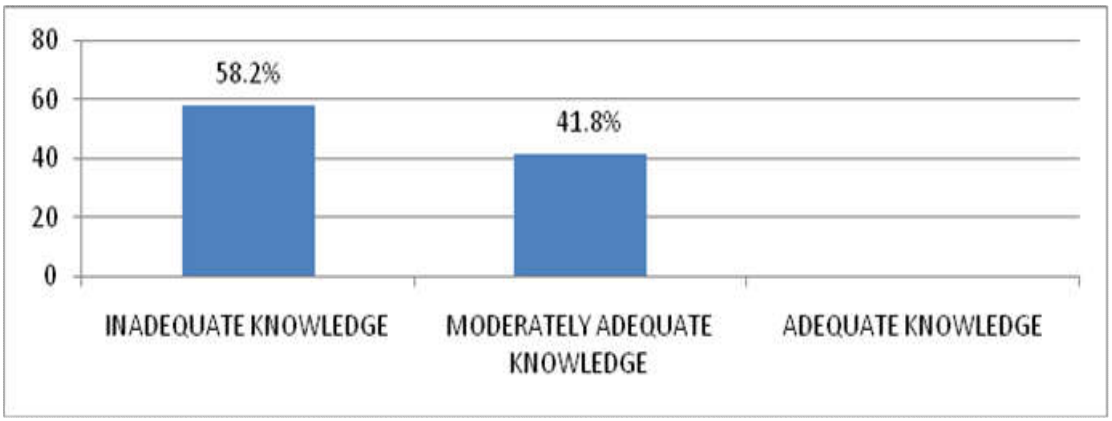

Figure 1: Pre-test level of knowledge regarding prevention of hypothermia among mothers of preterm babies

Table 3. Post-test level of knowledge regarding prevention of hypothermia among mothers of preterm babies

Level of knowledge	Post-test		Mean	Standard Deviation
	Frequency (No)	Percentage (%)		
Inadequate knowledge (1-10)	-	-	20.36	2.908
Moderately adequate knowledge (11-20)	21	38.2		
Adequate knowledge (21-30)	34	61.8		

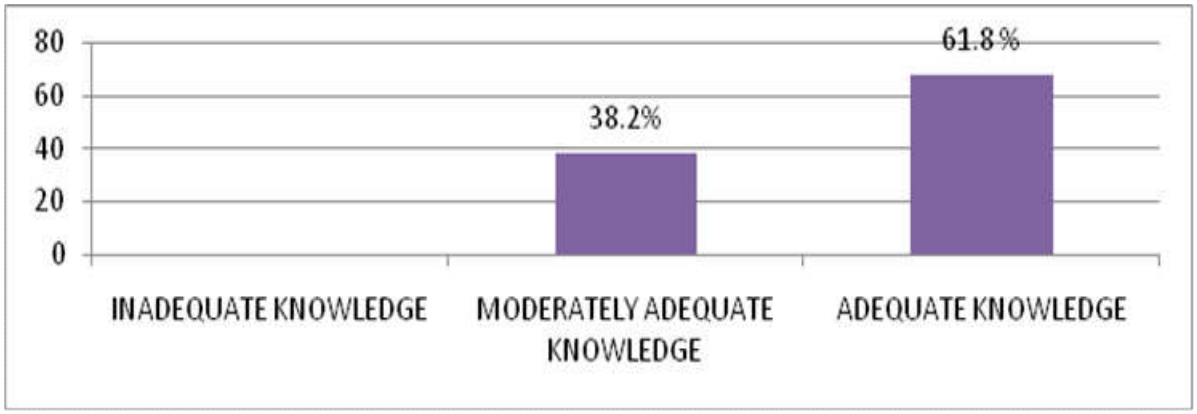

Figure 2. Post-test level of knowledge regarding prevention of hypothermia among mothers of preterm babies

Table 4. Comparison of pre-test and post-test level of knowledge regarding prevention of hypothermia among mothers of preterm babies

N=55

Knowledge	Mean	Standard deviation	Paired 't' value	Statistical significance
Pre-test	10.91	3.576	t= -27.876	p=0.000***
Post-test	20.36	2.908		

*** $p < 0.001$

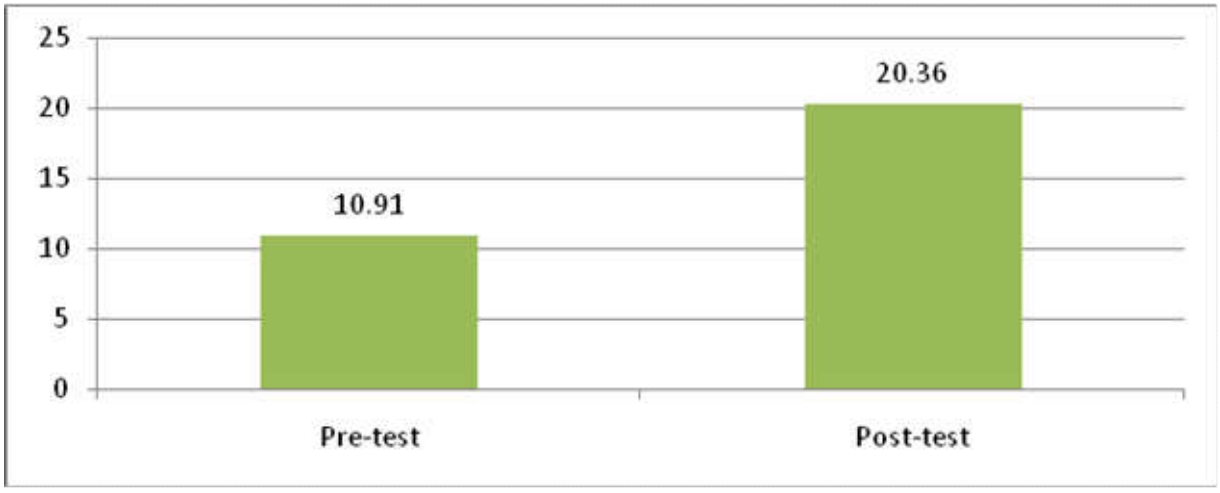

Figure 3. Comparison of pre-test and post-test level of knowledge regarding prevention of hypothermia among mothers of preterm babies

association of demographic variables like education, place of residence, previous knowledge of the mother and sources of information with mothers pre-test level of knowledge regarding prevention of hypothermia.

The above findings were supported by the following studies

- Begum (2009) conducted a study on the effectiveness of competency based teaching programme on the prevention of neonatal hypothermia in Karnataka. A sample of forty staff nurses were included in the study. The result showed that there was a significant increase in the mean attitude score, practice score and knowledge score of nurses who attended the competency based teaching programme. The post test knowledge mean score (39.95%) and the pre-test knowledge mean score (25.4%) and it was significant at 0.05 level.
- Devi et al. (2015) conducted a study on impact of structured teaching programme on knowledge among mothers of newborn regarding prevention of neonatal hypothermia in a selected hospital, Bhuvaneshwar, Odisha, India. Quasi experimental study was used in this study. 50 mothers were selected by purposive sampling. The results showed that the overall mean score percentage in the pretest was 19.55% whereas in

the posttest was 87.8%. The study results revealed that STP was effective in providing the knowledge regarding the prevention of hypothermia among mothers of newborn babies

- Bhandari et al. (2012) conducted a study to evaluate the effectiveness of planned teaching program on prevention of hypothermia among postnatal mothers in selected hospitals of Belgaum, Karnataka. Study design was one group pre-test, post-test design. Thirty postnatal mothers were selected by non-probability sampling and pretest questionnaire was administered through structured interview schedule. After 7 days of planned teaching program, post test was conducted on same group. The results showed that the planned teaching program enhances the knowledge on prevention of hypothermia and also proved that there was significant association between the knowledge of the mother with the mother's age and religion

Conclusion

The present study concludes that video assisted structured teaching programme regarding prevention of hypothermia among mothers of preterm babies was effective. Providing education helps to prevent the complications of hypothermia in preterm babies. Hence it could be implemented into practice to promote the health and to reduce the mortality and morbidity among the preterm babies.

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