International Journal of Science and Research Archive
eISSN: 2582-8185
Cross Ref DOI: 10.30574/ijsra
Journal homepage: https://ijsra.net/

(RESEARCH ARTICLE)

Check for updates

Effectiveness of a video- assisted training on Knowledge of Mothers' Regarding Prevention of Hypothermia in Newborns

Neha Vishwakarma [1,*], Swati Daniel [2] and Mangala Chatterjee [3]

[1] *Department of Nursing, Apollo Hospitals Bilaspur Chhattisgarh, India.*
[2] *Department of Nursing Apollo Hospitals Bilaspur Chhattisgarh, India.*
[3] *Department of Nursing Apollo Multi speciality Hospitals, Kolkata West Bengal India.*

International Journal of Science and Research Archive, 2026, 19(03), 832-837

Publication history: Received on 04 May 2026; revised on 18 June 2026; accepted on 20 June 2026

Article DOI: https://doi.org/10.30574/ijsra.2026.19.3.1320

Abstract

Background: Neonatal hypothermia is a major contributor to neonatal morbidity and mortality worldwide. Maintaining an optimal body temperature is essential for newborn survival. Mothers are the primary caregivers, and improving their knowledge regarding prevention of hypothermia can significantly reduce neonatal complications. Video-assisted teaching is an effective method to enhance learning and retention. This study aimed to evaluate the effectiveness of video-assisted training on mothers' knowledge regarding the prevention of hypothermia in newborns.

Materials and Methods: A quantitative research approach with a quasi-experimental one-group pretest-post-test design was adopted. The study was conducted at Apollo Hospitals Bilaspur, Chhattisgarh. Eighty postnatal mothers were selected using purposive sampling. A self-structured knowledge questionnaire was used to assess maternal knowledge before and after video-assisted training. Descriptive and inferential statistics, including a paired t-test, were used for data analysis.

Result: The findings showed significant improvement in the knowledge score of mothers after video-assisted training. The mean pretest knowledge score was 6.8 (34%), indicating poor knowledge among mothers. After video-assisted training, the mean posttest score increased to 18.22 (91.1%), indicating good knowledge. The calculated t-value (42.18) was statistically highly significant at the $p < 0.05$ level, demonstrating that video-assisted training was effective in improving knowledge regarding the prevention of hypothermia in newborns.

Conclusion: The study concluded that video assisted teaching significantly improved the knowledge of postnatal mothers regarding prevention of neonatal hypothermia. The mean post test score was significantly higher than the pre-test score and the calculated t-value (42.18) was greater than, the table value (2.81) at $p<0.05$ level of significance. Therefore, video-assisted teaching was found to be effective in improving mothers' knowledge.

Keyword: Neonatal Hypothermia; Video-Assisted Training; Postnatal Mothers; Knowledge; Newborn Care

1. Introduction

Neonatal hypothermia is one of the major causes of neonatal morbidity and mortality worldwide. Maintenance of normal body temperature is crucial for the survival and well-being of newborns. WHO defines hypothermia as a core body temperature below 36.50°C (97.70°F) in a newborn infant (under 28 days of age). It is a global problem in neonates, born both at hospitals and homes, but it showed a higher prevalence in developing countries (more than 90%) due to their large surface area, thin skin, and immature thermoregulatory mechanisms; newborns are highly susceptible

*Corresponding author: Neha Vishwakarma

to hypothermia. Although hypothermia is preventable through simple practices, lack of knowledge among mothers remains a major barrier. Mothers are the primary caregivers of newborns; therefore, improving their knowledge through structured educational interventions is crucial. Video-assisted teaching is an effective, engaging method for health education, as it enhances understanding and retention. While simple practices can prevent it, lack of knowledge among mothers remains a barrier. This study aimed to assess the impact of video-assisted training on improving maternal knowledge regarding the prevention of hypothermia in newborns.

2. Review of literature

- **Shah et al. (2022):-**Conducted a descriptive cross-sectional study among 70 postnatal mothers in Nepal to assess knowledge regarding the prevention of neonatal hypothermia. The study revealed that most mothers had inadequate knowledge regarding kangaroo mother care, delayed bathing, & thermal protection practices. The researchers concluded that maternal education during antenatal & postnatal periods is essential to improve newborn thermal care.

- **Vandana Kushwaha and Ratna Chhaya Singh (2023)**: -This is a study conducted to evaluate mothers' knowledge regarding the prevention of hypothermia. The findings revealed poor pre-test knowledge scores among mothers. After educational intervention, mothers demonstrated significant improvement in knowledge. The researchers concluded that structured teaching programs are effective in improving awareness regarding neonatal hypothermia prevention.

Objectives

- To assess the pre-test & post-test knowledge of mothers regarding prevention of hypothermia in newborn.
- To assess the effectiveness of video assisted training on prevention of neonatal hypothermia.

2.1. Variables

- **Dependent Variable:** Knowledge of mothers regarding prevention of hypothermia in newborn.
- **Independent Variable:** video- assisted training**.**

2.2. Hypotheses

- **H1:** There is a significant difference between pre-test and post-test knowledge scores of mothers following video-assisted training at $p< 0.05$ level of significance.
- **H_{01}:** There is no significant difference between pre-test and post-test knowledge scores of mothers following video-assisted training.
- **H2:** There is a significant association between pre-test knowledge scores and selected socio-demographic variables.
- **H_{02}:** There is no significant association between pre-test knowledge scores and selected socio-demographic variables.

3. Methodology

3.1. Research Design and Setting

A quasi-experimental one-group pre-test and post-test design was used. The study was conducted at Apollo Hospitals, Bilaspur, Chhattisgarh, over a period of three months.

3.2. Population and Sample

The target population comprised postnatal mothers. A sample of 80 postnatal mothers (normal delivery and LSCS) was selected using purposive sampling.

3.3. Inclusion Criteria

- Mothers who delivered full-term newborn within the last 48 hours
- Mothers willing to participate and provide informed consent
- Mothers able to understand Hindi or English
- Mothers available during the data collection period

3.4. Exclusion Criteria

- Mothers of preterm babies (<37 weeks) or newborn admitted to the NICU
- Mothers who were critically ill or unable to participate
- Mothers who had previously received formal training on hypothermia prevention

3.5. Data Collection Tool:

Tool 1: The study used a self-designed structured questionnaire consisting of two sections.

Section A: Socio-demographic variables such as age, education, family type, occupation, area of residence, gravida, and type of delivery.

Section B: A self-designed structured knowledge questionnaire comprising 20 multiple-choice questions related to prevention of hypothermia in newborn.

Each correct response was awarded one mark, with total scores ranging from 0 to 20. Knowledge levels were categorized as poor (1–7), average (8–14), and good (15–20).

3.6. Data Collection procedure:

Prior to data collection, ethical approval was obtained from the Institutional Ethical Committee of Apollo Hospitals, Bilaspur (Ethical Committee No.: EC/NEW/INST/2019/424). Verbal informed consent was obtained from all participants after explaining the purpose, procedure, and confidentiality of the study.

A pre-test assessment was conducted prior to the intervention. The pre-test was administered on Day 2 for LSCS mothers and on Day 1 for mothers with normal delivery. This was followed immediately by a 30-minute video-assisted training session on prevention of neonatal hypothermia, incorporating video, posters, and demonstration.

A post-test was conducted using the same questionnaire to evaluate the effectiveness of the intervention. It was administered on Day 4 for LSCS mothers and on Day 2 for mothers with normal delivery.

3.7. Plan for Data Analysis

Data were analyzed in accordance with the objectives of the study and the formulated hypotheses. Both descriptive and inferential statistics were used for data analysis.

Table 1 Demographic Data

S.no	Demographic data	No. of participants	Percentage
1	Age		
	18-25	8	10%
	26-33	50	62.50%
	34-41	22	27.50%
2	Education		
	Illiteracy	0	0%
	Higher secondary	12	15%
	Graduate	48	60%
	Post graduate	20	25%
3	Occupation		
	House wife	53	66.25%
	Private job	24	30%
	(c) Government job	3	3.75%
4	Family Type		
	Nuclear	20	25%

	Joint	60	75%
5	Area of Residence Rural Urban	 16 64	 20% 80%
6	Gravida Primi gravida Multi gravida	 44 36	 55% 45%
7	Type of Delivery Normal delivery LSCS	 22 58	 27.50% 72.50%

Table – 1: - shows the demographic information and distribution of study according to socio demographic variable with frequency and percentage.

Table 2 According to criteria Analysis of pre-test and post-test knowledge score of videos assisted teaching programmed

Knowledge	**Pre-Test**		**Post –Test**	
	Frequency	Percentage	Frequency	Percentage
Poor	52	65%	0	0%
Average	28	35%	2	2.5%
Good	0	0%	78	97.5%
Total	80	100%	80	100%

Table-2: - Table 2 represents that 52 (65%) were poor, 28 (35%) were average in pretest and post-test majority 0 (0%) were poor, 2 (2.5%) were average & 78 (97.5%) were good.

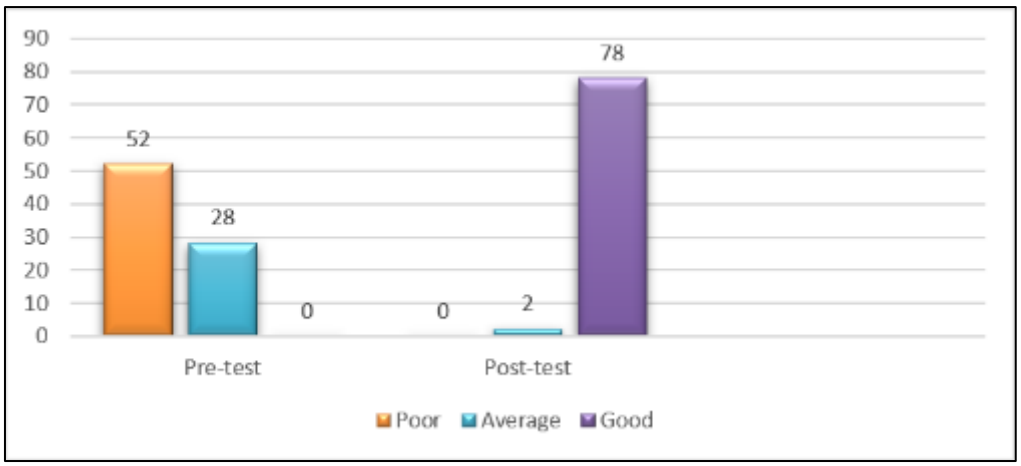

Figure 1 Bar diagram showing analysis of pre-test and post-test knowledge score of structured teaching and video assisted programme according to criteria

Table 3 Effectiveness of video assisted teaching programme by total knowledge score, mean, mean%, SD.

Video assisted programme	Total knowledge score	Mean	Mean %	SD
Pre test	544	6.8	34%	±2.44
Post test	1464	18.22	91.1%	±1.57

Table-3: - Table 3 shows that the pretest knowledge score was 544, mean was 6.8, mean percentage was 34% and SD was ±2.44 where as in post-test knowledge score 1464, mean was 18.22, mean percentage was 91.1% and SD was ±1.57.

Table 4 Effectiveness of video assisted programme by using "t" test level of significance

Types of tests	Mean ±SD	df	Paired 't' value	Table value
Pre test	6.8±2.44	79	42.18	2.81
Post-test	18.22±1.57			

Table-4: -Table 4 represents that there were highly significant differences between the pre-test and post-test knowledge score of structured teaching programme as calculated value 42.18 (df.79) was greater than table value 2.81 at 0.005 level of significance. This data significant that the structured teaching and video assisted programme was very effective.

4. Discussion

The mean pretest knowledge score was 6.8 (34%) indicating poor knowledge among mothers. After video-assisted training, the mean post- test score increased to 18.22 (91.1%), indicating good knowledge. The calculated t-value (42.18) was statistically highly significant at $p<0.05$ level, demonstrating that video- assisted training was effective in improving knowledge regarding prevention of hypothermia in newborn.

5. Conclusion

The study concluded that video-assisted teaching was found to be an effective educational strategy in improving postnatal mothers' knowledge regarding the prevention of neonatal hypothermia. Incorporating such educational interventions into routine postnatal care may contribute to improved neonatal outcomes.

Compliance with ethical standards

Acknowledgements

The authors express their sincere gratitude to Apollo Hospital, Bilaspur and all participating mothers for their cooperation and support during the study.

Disclosure of conflict of interest

The authors declare that there is no conflict of interest.

Statement of informed consent

Ethical approval for this study was obtained from the Institutional Ethics Committee of Apollo Hospitals, Bilaspur (Ethical Committee No.: EC/NEW/INST/2019/424).

References

[1] World Health Organization Thermal protection of the newborn: a practical guide. In: Maternal and Newborn Health/Safe Motherhood Unit. World Health Organization; 1997.

[2] Advances in the Prevention and Treatment of Neonatal Hypothermia in Early Birth. Liu J, Wu S, Zhu X. Ther HypothermiaTempManag.2022Jun;12(2):51-56.doi:10.1089/ther.2021.0036.Epub2022Apr5. PMID: 35384724.

[3] Suman RP, Udani R, Nanavati R: Kangaroo mother care for low-birth-weight infants: a randomized controlled trial. Indian Pediatr 2008, 45:17-23.

[4] Takayama JI, Teng W, Uyemoto J, Newman TB, Pantell RH: Body temperature of newborns: what is normal ? Clin Pediatr (Phila) 2000, 39:503-510.

[5] Shah I ,Paudyal L Soti H, Gautam NS. Descriptive cross- sectional study on mother's knowledge regarding prevention of neonatal hypothermia. Journal of Universal College of Medical Sciences. 2022;10(01).doi:10.3126/jucms.v10i01.47244.