



KNOWLEDGE AND PRACTICE ON PREVENTION OF NEONATAL HYPOTHERMIA AMONG THE NURSES IN SELECTED HOSPITALS, KAMRUP METRO ASSAM WITH A VIEW TO DEVELOP AN INFORMATION BOOKLET: A DESCRIPTIVE STUDY

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ABSTRACT Hypothermia is one of the main risk factor of neonatal morbidity and mortality in developing countries like India. Most of the studies found that newborn babies of developing countries have a highest risk of LBW and preterm due to low socio economic condition so the neonates have a highest chance to get hypothermia. Neonatal hypothermia is caused more due to lack of knowledge among the nurses than lack of the equipment like radiant warmer, blower, and incubator. The newborn baby has immature thermoregulatory controls during the early neonatal period. So, nursing personnel need to focus here. **Aim:** The aim of the study was to assess the Knowledge and practice on prevention of neonatal hypothermia among the nurses. **Methods and Materials:** A descriptive research design used to accomplish the objectives. Study was undertaken on 60 nurses working in NICU and postnatal ward in selected hospitals, Kamrup (M) Assam by using convenience sampling technique. Participants were selected on the basis of inclusion and exclusion criteria. Structure knowledge questionnaires, observation checklist were used to assess knowledge and practice. **Conceptual framework:** A descriptive research design was used in this study and convenience sampling technique for obtaining adequate sample technique for obtaining adequate sampling technique for obtaining adequate sample for the study. Study was undertaken on 60 nurses in selected hospitals of Kamrup (M), Assam with the inclusive criteria. Knowledge questionnaire and observation checklist was used to assess knowledge and practice on prevention of neonatal hypothermia among the nurses. In this study, modified Nola J Pender's health promotion model was used for conceptual framework. **Results:** In knowledge, majority 57% of respondents had moderate knowledge, 38% of the respondents had inadequate knowledge and 5% of the respondent had adequate knowledge on prevention of neonatal hypothermia. In practice, majority 62% of respondents had fair practice, 38% had good practice and 0% had poor practice on prevention of neonatal hypothermia. The mean score of knowledge was 15.20±3.74 and the mean score of practice was 9.20±1.31. The calculated Karl Pearson's Correlation Value of $r = 0.259$ shows a positive correlation between knowledge and practice scores which clearly infers that when the knowledge on prevention of neonatal hypothermia among the Nurses increases their practice level also increases. There was significant association of knowledge and practice with demographic variable like educational qualification and working area. However there was no significant association the knowledge score and practice score with their selected demographic like age in year, gender, work experience and training attended. **Conclusion:** Thus the study concluded that majority of the nurses had moderate knowledge and practice on prevention of neonatal hypothermia. The nurses need continuous in-service and training education with continuous observation of practice on prevention of neonatal hypothermia which will help to increase their knowledge as well as their practices

KEYWORDS : Knowledge, Practice, prevention, neonatal hypothermia and nurses

INTRODUCTION:

A newborn baby is God's divine precious gift given to the mother. The birth of newborn is one of the most inspiring and marvelous joyful event occur in every women's life time. Neonatal mortality rate of developing countries are still high as compared to the developed countries. Hypothermia is the one of the reason of neonatal death.[1]

Hypothermia is defined as a core body temperature less than (36.5°C) 95 ° F. Newborns are more prone to develop hypothermia because they have large surface area compared to the body weight so they can lose body heat faster than older children and adults.[2]

The important cause of neonatal hypothermia is due to ignorance related to the newborn care, separation of baby from mother, cold environment, and change of temperature, inadequate warming and excessive loss of heat. The various consequence of neonatal hypothermia is hypoxia, hypoglycemia, respiratory distress, neonatal jaundice, sudden infant death syndrome and impairs cardiac function. This situation results from health personnel and mothers are not aware of the importance of keeping newborn babies warm by simple method such as drying and covering them immediately after birth, early breast feeding and keeping newborn in close contact with mothers.[3]

OBJECTIVES:

- To assess the knowledge on prevention of neonatal hypothermia among the nurses in selected hospitals Kamrup (M) Assam.
- To assess the practice on prevention of neonatal hypothermia among the nurses in selected hospitals (M), Assam.
- To find out the association between the knowledge and practice with demographic variables.
- To find out the correlation between the knowledge and practice on prevention of neonatal hypothermia.

REVIEW OF LITERATURE:

SECTION I: Literature related to Prevalence of neonatal hypothermia Pradeep J, Kumar S, Suganthy K (2019) conducted a cross-sectional study on prevalence of hypothermia among the term neonate on admission to secondary care hospital in Erode city, south India. A total of 204 mothers and babies participated in the study and sample was collected by using consecutive sampling technique. The study revealed that the prevalence of neonatal hypothermia was found to be 24.03% mother were in the age group between 18-30 years, 81.4% mothers were educated up to high school, 49% of the babies were male and 58.8% were primi mothers. The study concluded that knowledge on neonatal thermoregulation among the mother was poor so regular health education should be given to the mother[4]

SECTION II: Literature related to knowledge on prevention of neonatal hypothermia.

Maniraju, Shekar C, William S (2018) conducted a descriptive survey to assess the knowledge and practice regarding thermoregulation of neonate among the nurses in Mysore hospital. 60 staff nurses were selected by using convenience sampling technique. Results shows that majority of the staff nurses i.e. 40 (66.6%) had moderate knowledge and remaining 10 (16.7%) had both adequate and inadequate knowledge. The total mean value of the study is 19.9 and S.D is 0.860. The study concluded that nurses need to improve knowledge and practice regarding thermoregulation of neonate by conducting in-service education.[5]

SECTION III: Literature related to practice on prevention of neonatal hypothermia

Mari P P, Nandini M (2019) conducted a pre experimental one group pre test –post test design on Effect of standardized WHO clinical Guidelines on knowledge and practice regarding prevention of neonatal hypothermia among the staff nurse in selected hospital,

Thrissure. 3 point Likert scale was used to assess the practice in 30 staff nurses. The study result revealed that majority i.e., 24(80%) of the staff nurses showed satisfactory level of practice regarding prevention of neonatal hypothermia whereas remaining 6(20%) showed good level of practice and none had poor practice. The study concluded that awareness of this guidelines of thermal control and the basic knowledge on thermal regulation and thermal protection is essential, to fill the gap in the understanding of concept of neonatal hypothermia.[6]

RESEARCH METHODOLOGY:

Research Approach: Quantitative research

Research Design: Descriptive research Design

Research Variables: Knowledge and practice

Demographic Variable: In this study demographic variables are age in year, educational qualification, gender, working experience, working area, training attended on prevention of neonatal hypothermia.

Setting of the study: Satribary Christian Hospital, Akansha Hospital, KGMT Hospital and Ayursundra super speciality Hospital.

Population: Nurses

Target Population: Nurses working in postnatal ward and NICU

Accessible population: Nurses who are working in NICU and Postnatal ward in selected hospital of Kamrup Metro Assam.

Sample: Nurses who are working in NICU and postnatal ward of selected hospitals of Kamrup Metro Assam who fulfilled the criteria.

Sample Size: 60

TOOL:

SECTION A: Demographic data

SECTION B: Structured knowledge questionnaire for knowledge

SECTION B: Demographic data

SECTION C: Observation checklist for practice

TECHNIQUE:

- The technique used in the study is self report and observation

CONTENT VALIDITY OF THE TOOL:

The validity of the tool was done by :

- 5 Nursing expert in the field of pediatric Nursing.
- 2 Medical expert in the field of pediatric medicine.

RELIABILITY OF THE TOOL:

- The reliability of the tool was done by split half method for knowledge questionnaire and the reliability was 0.95
- The reliability of the tool was done by inter rater method for practice level and the reliability was found 0.76.

PILOT STUDY:

- Time period :** 30/11/20 to 6/12/20.
- Setting:** conducted at Marwari Hospital, Guwahati, Assam
- Sample :** The nurses working in N.I.C.U and postnatal ward in selected hospital of Kamrup (M) Assam, who fulfilled the inclusion criteria.
- Sample size:** 10
- The study was found to be feasible.

DATA COLLECTION PROCESS:

The data collection procedure refers to identification of subjects and the precise, systematic gathering of information/ data relevant to the research purpose or the specific objectives, questions or hypothesis of study.

The following steps were followed for data collection:

1. Period of data collection: The data collection period was scheduled from 14th December 2020 to 11 January 2021.

2. Permission from the concerned authority: After getting Ethical clearance from the INS trust ethical committee (GNRC Complex), Dispur, Guwahati, Assam. The investigator approach the Medical Superintendent, Nursing superintendent, Director and Human resource Department of Satribari Christian hospital, Akanksha

hospital, KGMT Hospital, Ayursundra super specialty hospital Kamrup (M) Assam respectively for conducting the research study by the investigator before collection of data.

3. Data collection procedure: The investigator visited the hospital where she firstly met nursing incharge of the postnatal ward and NICU and the investigator checked the duty roster and select those nurses who have continues morning and evening duty for 3 days. Later the investigator was introduced to the nurses who fulfilled the inclusion criteria. The investigator explained the purpose of her study and she assured them of the confidentiality and anonymity to get co-operation. A written informed consent was also taken from the postnatal and NICU nurses. The participant were select by using convenience sampling technique.

i) Data was collected by using Demographic variables and structured knowledge questionnaire for assessing knowledge and do self-report technique was used. The participants took 25-30 minutes to complete the questionnaire. was done for continuous three days for each staff.

ii) Practice was assessed by using observation checklist and observed for each participant without them knowing during each shift (6 hours) for their scheduled duty and observation was done for continuous three days for each staff.

iii) Nurses co-operated well.

RESULTS:

Table: Frequency and percentage distribution of demographic variables of nurses:

n=60

Demographic Variables	Frequency (f)	Percentage (%)
Age in years		
21 – 25	26	43%
26 – 30	23	39%
31 – 35	8	13%
36 – 40	0	0%
Above 40	3	5%
Gender		
Male	4	7%
Female	56	93%
Transgender	0	0%
Educational qualification		
A.N.M	29	48%
G.N.M	20	33%
B.Sc. Nursing	10	17%
Post Basic Nursing	1	2%
M.Sc. Nursing	0	0%
Total years of working experience		
<1 year	11	18
1 – 5 years	34	57
6 – 10 years	10	17
>10 years	5	8
Working area		
Pediatric ward	-	-
Postnatal ward	29	48%
NICU	31	52%
Any trained attended on prevention of neonatal hypothermia?		
Yes	1	2%
No	59	98%

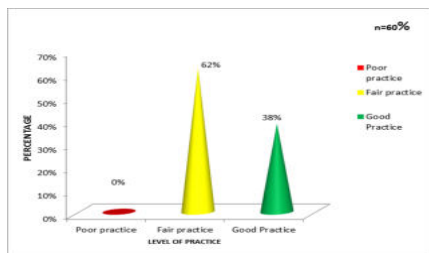
The present study was supported by Maniraju, Shekar C, William S (2018) conducted a descriptive survey to assess Knowledge and practice of staff nurses regarding thermoregulation of neonate among the nurses in Mysore hospital. 60 staff nurses were selected by using convenience sampling technique. Results shows that majority of the staff nurses i.e. 40 (66.6%) had moderate knowledge and remaining 10(16.7%) had both adequate and inadequate knowledge. The total

mean value of the study is 19.9 and S.D is 0.860. The study concluded that nurses need to improve knowledge regarding thermoregulation of neonate by conducting in-service education. [5]

FIGURE 1: PERCENTAGE DISTRIBUTION OF LEVEL OF KNOWLEDGE ON PREVENTION OF NEONATAL HYPOTHERMIA AMONG THE NURSES.



FIGURE 2: PERCENTAGE DISTRIBUTION OF LEVEL OF PRACTICE ON PREVENTION OF NEONATAL HYPOTHERMIA AMONG THE NURSES.



The present study was supported by Mari P P, Nandini M (2019) conducted a pre experimental one group pre test post test design on Effect of standardized WHO clinical Guidelines on knowledge and practice regarding prevention of neonatal hypothermia among the staff nurse in selected hospital Thrissure. The study was conducted by using 3 point Likert scale for assessing the practice, among the 30 staff nurses. Results shows that out of the 30 nurses, 'majority 24(80%)' of the nurses had fair practice and remaining 6(20%) respondents had good practice and none of them are poor practice. Out of the 60 participant, the mean score is 11.05 .The co-relation coefficient is 0.273 is less than calculated value. Hence the result doesn't support the null hypothesis. The results indicate that needs to improve practice regarding thermoregulation of neonates.[6]

TABLE-2: CORRELATION BETWEEN KNOWLEDGE AND PRACTICE SCORES ON PREVENTION OF NEONATAL HYPOTHERMIA AMONG THE NURSES.

Variables	Mean	S.D.	Karl Pearson's Correlation Value
Knowledge	15.20	3.74	r = 0.259 p = 0.045, S*
Practice	9.20	1.31	

*p<0.05, S – Significant

The table VIII shows the relationship between knowledge and practice scores on prevention of neonatal hypothermia among the Nurses. The table depicts that the mean score of knowledge was 15.20±3.74 and the mean score of practice was 9.20±1.31. The calculated Karl Pearson's Correlation Value of r = 0.259 shows a positive correlation between knowledge and practice scores which clearly infers that when the knowledge on prevention of neonatal hypothermia among the Nurses increases their practice level also increases.

The present study was supported by Shekar C.M (2018) conducted a descriptive study to assess the knowledge and practice of staff nurses regarding thermoregulation of neonates selected hospital at Mysore. The total number of samples were 60 staff nurses and selected by using convenience sampling technique .Data was collected by using questionnaire method and observational checklist. The finding revealed that that is significance correlation between knowledge and practice of staff nurses regarding thermoregulation of neonates. Knowledge questionnaire scores of mean value is 19.9 and observation

checklist mean score of mean value is 11.5. The co efficient correlation is less than calculated value r=3.86. Hence the result does not support the null hypothesis. The conclusion of the study showed that majority of the staff nurses is good knowledge and good practice,[7]

TABLE 3:ASSOCIATION OF LEVEL OF KNOWLEDGE ON PREVENTION OF NEONATAL HYPOTHERMIA AMONG THE NURSES WITH THEIR SELECTED DEMOGRAPHIC VARIABLES.

SL.NO.	Demographic variable	Chi square	df	p-value	Remark
1.	Age in year	9.409	6	0.098	N.S at >0.05
2.	Gender	0.681	2	1.000	N.S at >0.05
3.	Educational qualification	11.371	6	0.044	S at < 0.05
4.	Total year of work experience	4.941	6	0.526	N.S at >0.05
5.	Working area	9.805	2	0.004	S at < 0.05
6.	Training attended	2.016	2	1.000	N.S at >0.05

**p<0.01, *p<0.05, S – Significant, N.S – Not Significant

The table 3 depicts the association of level of knowledge on prevention of neonatal hypothermia among the Nurses with their selected demographic variables.

The table shows that the demographic variable working area had shown statistically significant association with level of knowledge at p<0.01 with chi-square value of (x²=9.805, p=0.004). The table shows that the

Demographic variable educational qualification had shown statistically significant association with level of knowledge at p<0.05 with chi-square value of (x²=11.371, p=0.044). The other demographic variables had not shown statistically significant association with level of knowledge on prevention of neonatal hypothermia among the Nurses with their selected demographic variables.

TABLE-4 ASSOCIATION OF LEVEL OF PRACTICE ON PREVENTION OF NEONATAL HYPOTHERMIA AMONG THE NURSES WITH THEIR SELECTED DEMOGRAPHIC VARIABLES.

SL.NO.	Demographic Variable	Chi square	DF	P-Value	Remark
1.	Age in year	3.530	3	0.293	N.S at > 0.05
2.	Gender	0.247	1	0.634	N.S at > 0.05
3.	Educational qualification	7.464	3	0.038	S at < 0.05
4.	Total year of work experience	1.757	3	0.656	N.S at 0.05
5.	Working area	10.563	1	0.001	S at < 0.05
6.	Training attended	1.636	1	0.383	N.S at > 0.05

The table 4 depicts the association of level of practice on prevention of neonatal hypothermia among the Nurses with their selected demographic variables.

The table shows that the demographic variable working area had shown statistically significant association with level of practice at p≤0.001 with chi-square value of (x²=10.563, p=0.001). The table shows that the demographic variable educational qualification had shown statistically significant association with level of practice at p<0.05 with chi-square value of (x²=7.464, p=0.038). The other demographic variables had not shown statistically significant association with level of practice on prevention of neonatal hypothermia among the Nurses with their selected demographic variables.

This study was contrast with Mohammed K, Elteggany S S, (2017) conducted a descriptive study on Nurses knowledge and practice regarding neonatal hypothermia. The total sample was 100. The data was collected by using check list method and self-administered questionnaire which included two parts of demographic characteristic and nurse's knowledge regarding neonatal hypothermia. The result showed that the mean score of knowledge is (160, p=116) and practice regarding neonatal hypothermia (mean=98, p=0.001) except for continuous and reassessing of thermal state and other vital sign (mean37). There were significance difference in nurse's knowledge and practice regarding neonatal hypothermia according to their educational level and according to their experience. The study concluded that nurses are knowledgeable regarding neonatal hypothermia was high but their practice needs to be improving. Possible intervention includes skin to skin care, keep newborn in the warmer to prevent hypothermia and improving their practice and services [8]

RECOMMENDATION:

The present study recommends the following:

- a) A comparative study can be done to evaluate the effectiveness of teaching through structured teaching programme with other methods such as information booklet, SIM, computer assisted instructions.
- b) A similar study can be conducted among the student nurses.
- c) The study could have been conducted on large sample for better generalization of the finding.

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