



## A Study to Assess The Effect of Neonatal Care Standard on Nurses' Performance in Terms of Knowledge and Practice Regarding Prevention of Hypothermia in Newborn Care Area of Selected Teaching and Non-Teaching Hospitals of West Bengal

### KEYWORDS

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**BACKGROUND OF THE STUDY:** Hypothermia in newborn baby is defined as a skin temperature of less than 35.5deg. C or core temperature of less than 35deg. C. The common causes of hypothermia are situations contributing to excessive heat loss, poor ability to conserve heat & poor metabolic heat production.

UNICEF reported that neonatal death rate in India is alarmingly high. Pointing out that one third of all neonatal deaths occur on the first day of life( almost half within 3 days and nearly 3-4ths within the first weeks), the report underlines the need for early and immediately care during and after child birth.

Neonatal mortality rate in India and West Bengal is still high as compared to developed countries. Various researches suggest a child's risk of dying on the first day of life is about 500 times greater than his risk of dying when he is one month old. The first hour & day of a baby life are critical. Hypothermia is one of the reasons of death of newborns.

Nursing personnel working in newborn care areas should be knowledgeable & skilled in prevention of neonatal hypothermia. Nursing personnel are by group constantly working with the newborn in different new born care area. If nursing personnel fails to adopt proper steps, after delivery it will lead to hypothermia and neonatal death. In order to reduce NMR (neonatal mortality rate) the nursing personnel should be knowledgeable and skilful in providing quality nursing care to neonate. So the study was undertaken.

#### Problem statement:-

"A study to assess the effect of neonatal care standard on nurses' performance in terms of knowledge and practice regarding prevention of hypothermia in newborn care area of selected teaching and non-teaching hospitals of West Bengal".

#### OBJECTIVES:

- To assess the knowledge level of staff nurses about the prevention of hypothermia before and after implementation of neonatal care standard in selected and non-teaching hospitals of West Bengal.
- To assess the practice of staff nurses in newborn care area regarding prevention of hypothermia before and after implementation of neonatal care standard in selected teaching and non-teaching hospitals of West Bengal.
- To compare the knowledge and practice level of staff nurses between teaching and non-teaching hospitals of West Bengal.
- To find out the relationship between knowledge and practice of staff nurses regarding the prevention of hypothermia at the selected teaching and non-teaching hospitals of West Bengal.

#### RESEARCH DESIGN:

Keeping in view the objectives of the study research design selected for the present study is pretest posttest research design.

The research design used for this research is shown below:-

$K_1, P_1$  X  $K_2, P_2$

$K_1$ : Pretest of knowledge level of staff nurses regarding prevention of neonatal hypothermia.

$P_1$ : Pretest of practice score of staff nurses regarding prevention of neonatal hypothermia.

X: Implementation of neonatal standard on prevention of hypothermia by demonstration and return demonstration.

$K_2$ : Posttest knowledge level of staff nurses regarding prevention of neonatal hypothermia.

$P_2$ : Posttest practice score of staff nurses regarding prevention of hypothermia.

#### VARIABLES:

- INDEPENDENT VARIABLE: Neonatal care standard on prevention of hypothermia.
- DEPENDENT VARIABLES: Knowledge and practice of staff nurses.
- DEMOGRAPHIC VARIABLES : Age, educational qualification, total year of service, marital status, year of service in newborn care area, any special training.

#### POPULATION:

- Staff nurses working in different newborn care area

#### SAMPLE :

- In present study sample selected for the study were staff nurses working in new born care area in selected teaching and non-teaching hospitals of West Bengal.

#### SAMPLING TECHNIQUE:

- In present study non probability purposive sampling technique was used to select staff nurses in selected teaching and non-teaching hospitals of West Bengal.

SIZE OF SAMPLE: 222 staff nurses

#### SAMPLE INCLUSION CRITERIA:

- Staff nurses working in the labour room, SNCU, post natal ward
- Staff nurses who are available during the data collection period.

#### SAMPLE EXCLUSION CRITERIA:

Staff nurses who are not willing to participate in the study.

**Table1. SCHEMATIC REPRESENTATION OF DATA COLLECTION TOOLS & TECHNIQUES:**

SERIAL NO.	VARIABLES	TOOL	TECHNIQUE
1.	Demographic variables	Structured knowledge questionnaire, SEC-A	Self-reporting
2.	Knowledge level of staff nurses regarding prevention of hypothermia	Structured Knowledge questionnaire, SEC-B	Self-reporting
3.	Practice standard of staff nurses regarding prevention of hypothermia	Observation checklist	Observation

**ETHICAL CLEARANCE:**

Formal administrative permission was sought from the institutional ethical committee and all concerned.

**FINAL DATA COLLECTION:**

Pre-test was conducted by using structured knowledge questionnaire and observation check-list.

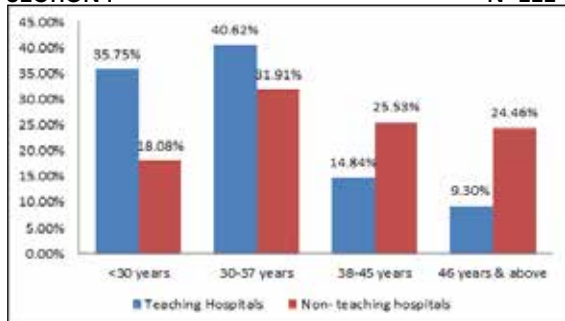
Practice was observed using observation checklist.

Demonstration of neonatal care for prevention of neonatal hypothermia was given to the staff nurses .Post-test was conducted on the eighth day by using same questionnaire and observation check-list.

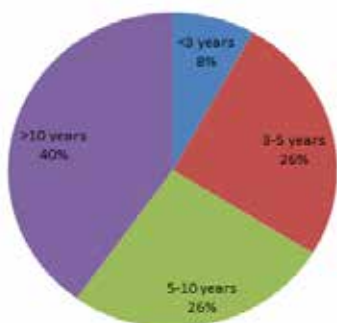
**FINDINGS:**

**SECTION-I**

**N=222**

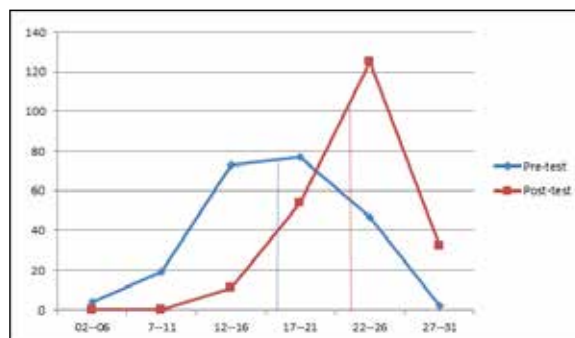


**Figure 2 : Bar diagram showing percentage distribution of staff nurses according to their age**



**Figure3 : Pie diagram showing percentage distribution of staff nurses according to years of experience in nursing service**

**N=222**



**Knowledge scores**

**Figure 1 : Frequency polygon showing distribution of pre-test & post-test knowledge scores of staff nurses.**

The figure 1 depicts that the pre-test knowledge score of staff nurses lies to the left of the post-test knowledge score indicating that the post-test knowledge scores is higher than the pre-test knowledge scores.Effectiveness of neonatal care standard in terms of knowledge regarding neonatal hypothermia among staff nurses.

**Table no1: "t" value of pre-test and post-test knowledge scores of staff nurses n=222**

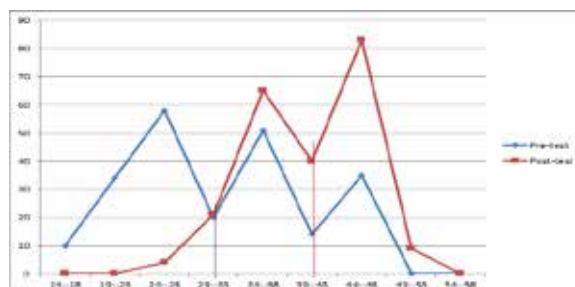
	Mean	Mean difference	Standard deviation	Standard error	"t" Value
Pre-test	17.378				
Post-test	23.009	5.631	1.245	0.414	13.6*

"t" (df 221)= 1.96 ,P<0.05. \*significant

Data given in the table show that the mean post test knowledge score was apparently higher (23.009) than the mean pre-test knowledge score(17.378) with a mean difference of 5.631.The obtained mean difference is statistically significant as evident from " t " value( 13.6) for df(221) at 0.05 level. Therefore,the obtained mean difference between post –test and pre-test knowledge score was a true difference and not by chance.Hence,the null hypothesis was rejected and research hypothesis was accepted.So,it can be said that the neonatal care standard regarding neonatal hypothermia was effective in enhancing the knowledge among staff nurses.

**SECTION II:**

Effectiveness of neonatal care standard on practice regarding prevention of hypothermia among staff nurses.



**N=222**

**Figure2 :Frequency polygon showing distribution of pre-test & post-test practice score.**

The figure 2 depicts that the pre-test knowledge score of staff nurses lies to the left of the post-test practice score indicating the score of post-test practice is higher than the pre-test practice. Frequency polygon in the above figure depict that the pre-test mean is 31.63 ranges from 14-50 where as the post-test score ranges from 19-58 with the mean 40.5

**Table 2: t" value of pre test and post test practice score of staff nurse after orientation to neonatal care standard.**

Practice score	Mean	Mean difference	SD	SE	"t" value
Pretest	31.63				
Post test	40.59	8.96	4.06	0.595	15.05**

"t" (df 221)=1.96,P <0.05.\*\*Significant

Data given in the above table no 6 show that mean post test practice score was apparently higher(40.59) than the mean pre test practice score(31.63) with a mean difference of 8.96.The obtained mean difference is statistically significant as evident from "t" value (15.05) for df(221) at 0.05 level.

Therefore,the obtained mean difference between post test and pretest practice score was a true difference and not by chance.Hence,the null hypothesis(H<sub>02</sub>) is rejected and research hypothesis(H<sub>2</sub>) is accepted.So it can be said that the neonatal care standard on prevention of hypothermia was effective in improving the practice among the staff nurses.

**Table 3 :Correlation Co-efficient between pre test knowledge and practice of staff nurses**

Variable	Mean	"r"
Knowledge	17.378	0.22
Practice	31.63	

Data presented in table 3 depicts that there is a significant positive moderate correlation between post-test knowledge and practice of staff nurses after orientation to neonatal care standard as evident from "r" value of 0.22 of df(221) at 0.05 level. Therefore, null hypothesis (H<sub>03</sub>) is rejected and research hypothesis (H<sub>3</sub>)is accepted. Thus it can be said that practice is dependent on knowledge of neonatal hypothermia among staff nurses.

**Table 4 :Correlation co-efficient between post test knowledge & practice of staff nurses**

Variable	Mean	"r"
Knowledge	23.009	0.20
Practice	40.59	

Data presented in the above table 4 depicts that there is significant positive and moderate co-relationship between post test knowledge and practice of staff nurses after exposure to the neonatal care standard as evident from "r

" value of 0.20 for df(221) at 0.05 level.Therefore null hypothesis (H<sub>04</sub>) is rejected & research hypothesis(H<sub>4</sub>) is accepted.Thus it can be said that practice is depended on knowledge of neonatal hypothermia among staff nurses.

**Table no.5 Chi-square value of post -test knowledge score of staff nurses on prevention of hypothermia among teaching and non-teaching hospitals. N=222**

Status of the Hospital	Knowledge score		
	Below median	At and above median	Total
Teaching Hospital	70	58	128
Non-teaching Hospital	42	52	94
Total	112	110	222

X<sup>2</sup>=3.84, p<0.05 significant

The findings presented in table 5 ,show that there is no significant association between the post test knowledge score of staff nurses among teaching and non-teaching hospital.The chi-square value ,that is X<sup>2</sup> (2.17) is not statistically significant with df(1) at 0.05 level of significance. Thus the research hypothesis(H<sub>5</sub>) is rejected and the null hypothesis (H<sub>05</sub>) is accepted.

**Discussion in relation to the other study**

The result of the present study is supported by the study of Sarin J. Who used simulated situations to stimulate critical thinking & decision making ability of nursing personnel regarding management of hypothermia. After giving intervention post test mean knowledge (36.66) was higher than the pre test knowledge (24.68) with significant 't' value 7.22, when 't' (49)=1.671,\*at the level of p 0.05 and post test mean practice score in each area was higher than the pre test mean practice score. The investigator concluded that knowledge and practice regarding neonatal hypothermia of nursing personnel is increased after administration of an educational intervention on management of hypothermia.

The result of the present study also resembles with the study of Thresia .CM. who conducted a study in Udupi district to determine the effectiveness of Planned Teaching Programme on prevention of neonatal hypothermia among staff nurses. The result indicated that the post test knowledge score was higher (M=33) than the mean pre test knowledge score (m=16.83)<sup>[50]</sup>.

It is also consistent with study of Begum M. and study of Upuls ,Dulitha N. Fernando & Ishani R who conducted a 4 days competency based training programme for 27 midwives, 19nurses, & 13 doctors in the obstetric unit .

**CONCLUSION:**

On the basis of findings, it can be said that, implementation of neonatal care standard is essential to acquire necessary knowledge and practice to keep update with latest trends and developments in the field of neonatal hypothermia.

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