

# A Pre-Experimental Study to Assess the Knowledge of Staff Nurses regarding use of Vinyl Bags in Prevention of Hypothermia for Preterm Babies in Neonatal Intensive Care Unit of Niko Children's Hospital (P.) Ltd Bharatpur10, Chitwan in a View to Prepare an Information Booklet

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**Abstract:** ***Background:** Vinyl bags are type of plastic bags which are used to prevent heat loss and are a simple and effective intervention in preventing hypothermia in premature infants. Use of vinyl bags in preterm baby to prevent hypothermia was considered being successful if the staff nurse working in neonatal intensive care unit have accurate knowledge on its use. **Methodology:** The research design used for this study was one group pre- test post- test design. Data collection using non probability convenient sampling. The data collection was analyzed and interpreted by using descriptive and inferential statistics. **Conclusion:** Study revealed that in response to knowledge questionnaires in Pre-test of subject's 0% have adequate knowledge and that was increased to 60%. Moderate knowledge score in pre test was 35% that was reduced to 40%. Inadequate knowledge score in pre test was 60% that was reduced to 0% in post test. There is significant difference between the pre and post test scores of knowledge questionnaires was demonstrated by using paired 't' test and computed between pre-test and post- test knowledge score. This indicate that booklet information are effective in improving knowledge of staff nurse.*

**Keywords:** Vinyl bags, Knowledge, Booklet, Hypothermia, Assess, Preterm baby

## 1. Introduction

Vinyl bag is a type of plastic made from ethylene, which is found in crude oil, and chlorine, which can be found in salt. Vinyl is not a natural substance, but a synthetic man-made material. It is a plastic made from ethylene (found in crude oil) and chlorine (found in ordinary salt). Vinyl bags are type of plastic bags which are used to prevent heat loss and are a simple and effective intervention in preventing hypothermia in premature infants. Use of vinyl bags in preterm baby to prevent hypothermia was considered being successful if the staff nurse working in neonatal intensive care unit have accurate knowledge on its use.

### Objective

- To find out the knowledge of staff nurse regarding use of vinyl bags for prevention of hypothermia in preterm babies.
- To assess the effectiveness of information booklet on use of vinyl bags for prevention of hypothermia.
- To find out the association between the knowledge of staff nurse regarding use of vinyl bags with the selected demographic variable.

### Hypothesis

- **H1:** The post test level of knowledge of staff nurses regarding use of vinyl bags will be higher than pre test level of knowledge.

- **H2:** There will be a significant association between knowledge of staff nurses regarding demographic variable.

## 2. Literature Survey

### NIRANJAN THOMAS (July 2018)

Reported in his study that infants were randomized into standard thermal care alone, vinyl bag with standard care or pediatric therapy network with standard care. Axillary temperature was measured at admission and every 30 min till euthermia. All babies were followed-up till day 7 thus concluded that addition of vinyl bag or pediatric therapy network to standard care significantly reduces incidence and duration of hypothermia soon after birth. vinyl bag is more effective than pediatric therapy network.

### TALAKOUB S, Et al, (May 1st 2015)

This study was conducted on 96 neonates aged 28–32 weeks that randomly allocated, by drawing of lots, to three 32-subject groups as follows: Intervention group 1 (a vinyl bag cover and a cotton shat), intervention group 2 (a vinyl bag cover and a vinyl hat), and a control group receiving routine care.

Mean axillary temperatures in intervention groups 1 and 2 were different after admission and 1 and 2 h later, but this difference was not significant and the mean axillary temperature increased with time. Mean axillary temperature in the control group showed no significant difference at

these time points and it did not increase with time. The mean temperatures in preterm infants were significantly higher in the intervention groups after admission and 1 and 2 h after birth, compared to the control group. Mean axillary temperature in intervention group 2 was significantly higher than in intervention group 1. Usage of a vinyl bag cover and a vinyl hat (with no risk of hyperthermia) is more effective in preventing hypothermia among neonates aged 28–32 weeks, compared to usage of a vinyl bag cover and a cotton hat.

### Norma Amado, Et al, (August 2011)

This study compared the response of temperature adaptation in preterm infants using the vinyl bags wrap with and without previous drying versus the sterile preheated field. Both groups of vinyl bags use achieved a mean axillary temperature of 36.5C at 30 minutes compared with 75 minutes for the group of traditional care. At 120 minutes, the incubator temperature was higher in those using preheated field, compared with infants in the polyethylene wrap with or without previous drying, (35.15C, 34.20C and 34.20C respectively;  $P = 0.0001$ ). No difference in axillary or incubator temperature was found between the groups using the vinyl bags wrap.

### 3. Methods/Approach

- **Research Approach:** A quantitative research approach was used for this study.
- **Research design:** Pre – experimental (one group pretest post- test design) was used in this study.
- **Research setting:** The study was conducted in "Neonatal Intensive Care Unit of Niko Children's Hospital Hospital (P) Ltd. Bharatpur10, Chitwan.
- **Population:** The target population in this study is staff nurse working in "Neonatal Intensive Care Unit of Niko Children's Hospital Hospital (P) Ltd. Bharatpur10, Chitwan.
- **Sample size:** In this study, sample comprises of 40 staff nurses in "Neonatal Intensive Care Unit of Niko Children's Hospital Hospital (P) Ltd. Bharatpur10, Chitwan.
- **Sampling technique:** In this study, a **non-probability convenient sampling technique** was used.
- **Description of the tool:** The tool used in the present study consists of following:

#### Section A: Demographic Data

This section of tool consists of 06 items for obtaining information about age of staff nurse, gender, marital status, educational status of staff nurse, work experience of staff nurse, source of information and previous training on vinyl bag.

#### Section B: Structured Questionnaires

Structures questionnaire on use of Vinyl Bag among the staff nurses working in "Neonatal Intensive Care Unit of Niko Children's Hospital Hospital (P) Ltd. Bharatpur10, Chitwan. It consists of 25 multiple choice questions. Each correct answer was given a score of 1 and wrong answer, a score of 0.

**Plan for Data Analysis:** The collected data was analyzed by using both descriptive and inferential statistics on the basis of objectives and hypothesis of the study.

#### 1) Descriptive statistics

Frequency, percentage and mean were used for the analysis of pre- test and post- test assessment.

#### 2) Inferential Statistics

- Paired t- test was used to determine the differences between pre-test and post-test in term of increasing knowledge level.
- Chi square test was used to determine association between knowledge score with their selected extraneous variables.

### 4. Results/Discussion

The major findings of the study were as follows:

**SECTION A: Frequency and percentagewise distribution of demographic variable.** Major findings of the study revealed that, majority of the Staff nurse were age group 20-25 years 50% (20). Majority of the respondent 75% (30) were Female. Majority of respondents 50% (20) has GNM Education. Majority of the respondents 65% (26) are 1-5years work experience. Majority of respondents 47.5% (19) got information from mobile. Majority of Percentage wise distribution of staff nurses according to training received regarding use of vinyl bags for preterm babies data reveal that 100% staff nurses had no training received regarding use of vinyl bags for preterm babies.

#### Section B: Frequency and percentage distribution of pre-test and post -test score

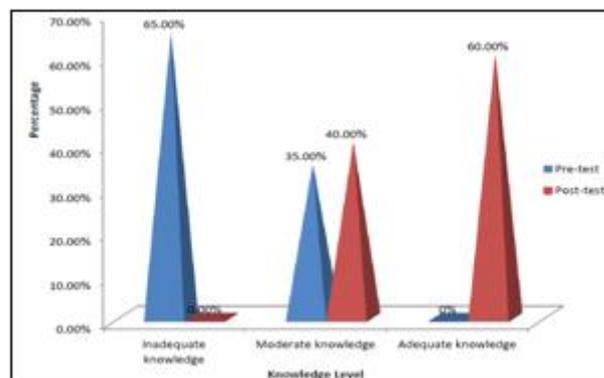


Figure 1: Pre Test and Post Test Level of Knowledge  
N=40

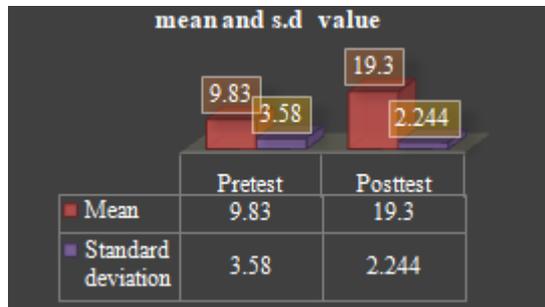
**Figure 1: Conical Bar diagram showing comparison between the pre test and post test level of knowledge among staff nurses and significance of information booklet in increasing level of knowledge.**

Diagram shows that 65% sample score ranging <50% (inadequate knowledge) and 35% had score between 51-75% (Moderate knowledge) which shows majority of sample are having inadequate level of knowledge in the pre test, and 60% sample score ranging between 76-100% (Adequate knowledge) and 40% had score between 51-75% (Moderate knowledge) and 0% of sample score <50% (Inadequate

knowledge) in post test. It clearly indicates that there was increase the level of knowledge after information booklet.

### Section C: Comparison of Pre Test and Post Test Knowledge Score along with Findings of Effectiveness of Information Booklet on Knowledge of Staff Nurses.

#### Pre-Test, Post-Test Mean and SD Value



**Figure 2:** The diagram shows the pre-test, mean and SD value and post-test, mean and SD value

Data shown revealed that the mean post-test knowledge score value among staff nurses were significantly higher than the mean pre-test value. The calculated "t" value (13.870) is more than the table value (2.02) at  $P < 0.05$  level of significance. Therefore, it can be said that the information booklet was effective in increasing knowledge level among staff nurses. There is significant difference between the level of knowledge among staff nurses before and after administration of information booklet. Hence the hypothesis (H1) is accepted.

### Section D: Association of demographic variables of students with pre-test knowledge score.

The study proved that there was no association found between knowledge score and selected demographic variables of age of staff nurse, gender, educational status, working experience, source of information and any training on use of vinyl bag on staff nurse at 0.05 level of significance.

Hence the research hypothesis H2 is not accepted. This study proved that there is no significant association between knowledge scores with their selected demographic variables.

## 5. Conclusion

On the basis of findings the study below said conclusion was drawn. It also brings out the limitation of the study in picture.

The pre test knowledge score was less among staff nurses. after information booklet the knowledge score was increased. So it is effective.

During the post test analysis reveals that most of the staff nurses were having adequate knowledge and some are having moderate knowledge. Based on pre test and post test assessment significant difference ( $p < 0.05$ ) is found between pre test and post test knowledge score, by using paired 't' test, it was found that information booklet was effective.

The association between the pre test and demographic variables of staff nurses was found by using chi square test which shows there was no significant association with any of the demographic variables of staff nurses with their level of knowledge regarding use of vinyl bags in prevention of hypothermia for preterm babies.

## 6. Nursing Implications

The finding of this study have implication for nursing education, nursing practice, nursing administration, nursing research and it also insight in the future studies.

### Nursing Education

The study reveal that there is lack of knowledge regarding use of vinyl bags in prevention of hypothermia for preterm babies among staff nurses. The major implication of this study in general and nursing education enhance the knowledge on use of vinyl bags in prevention of hypothermia for preterm babies as an important aspect of basic education programme. The primary task of education would be to implement education through the special training should be given to staff nurses and should conduct awareness programme in hospitals and also community centres regarding prevention of use of vinyl bags in prevention of hypothermia for preterm babies.

### Nursing Practice

The study reveals that there is need for motivation and education programme on use of vinyl bags in prevention of hypothermia for preterm babies. It stresses on the need to involve parents, community health workers and health care professionals in planning and conducting various awareness and education programs. Nursing professionals should have adequate knowledge regarding use of vinyl bags in prevention of hypothermia for preterm babies in order to educate the mother and family regarding the cause, signs/symptoms, and management of hypothermia by using vinyl bags in paediatric wards and community settings.

### Nursing Administration

The nursing administration should plan and organize the in-service education and continuing nursing education regarding awareness of use of vinyl bags in prevention of hypothermia for preterm babies to the nursing staff so they can organize different programme regarding use of vinyl bags in prevention of hypothermia for preterm babies in hospital and community setting to educate parents that can reduce the incidence of mortality and morbidity related to hypothermia among preterm babies in society.

### Nursing Research

The study reveals the lack of knowledge regarding Use of vinyl bags can lead to increased mortality rate among preterm neonates so there is a need for continuous and effective health education programme for parents and family regarding management of preterm neonates. Currently nursing practices is based on evidenced based practice. It is important to do research to equip and expect the nurses to be independent nurse midwifery. The study will motivate the new researchers too conduct the same study with different variables and on large scale. The finding needs to be disseminated through conference, seminars, and published to journals. The findings of the research study will help in

building and strengthening body of knowledge in the discipline of nursing.

## 6. Recommendation

- 1) A future study can be conducted in community setting.
- 2) A future study can be conducted in staff nurses using control and experimental group.
- 3) Use of vinyl bags in prevention of hypothermia for preterm babies should be implemented in the curriculum of school and college.
- 4) Special knowledge should be given to the community people to involve, plan, organize and motivation regarding Use of vinyl bags in prevention of hypothermia for preterm babies .
- 5) The similar study can carry out to assess the knowledge and practices among the staff nurses working in paediatric department.

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