

A study to assess the effectiveness of planned teaching programme on knowledge regarding thermoregulation in neonate among the general nursing students in selected schools of nursing in selected city

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Abstract

Statement: “A study to assess the effectiveness of planned teaching programme on knowledge regarding thermoregulation in neonate among the general nursing students in selected schools of nursing in selected city.”

Objectives: 1) To assess the existing knowledge regarding thermoregulation in neonates among the general nursing students. 2) To evaluate the effectiveness of planned teaching program on knowledge regarding thermoregulation in neonate among general nursing students. 3) To find out the association between the pre-test knowledge score regarding thermoregulation in neonates with selected demographic variable.

Methodology: Quantitative evaluative research Approach was used with one group pre experimental one group pretest post - test design, population was 50 General Nursing Students and simple random sampling technique was used for data collection. Result: In the present study majority of 48 (96%) General Nursing Students had adequate knowledge and no one general nursing student had inadequate knowledge and remaining 2(4%) of general nursing student had moderately adequate knowledge regarding thermoregulation in neonate.

Keywords: Assess knowledge, prevention, thermoregulation, neonate, general nursing students

1. Introduction

“To bring up a child in the way he should go, travel that way yourself once in a while. ~Josh Billings.

A neonate is a god’s divine precious gift given to a mother. Hence the birth of a neonate is one of the most awe inspiring and marvelous joyful events that occur in every woman’s life time. The cry of neonate is the only means of communication and brings a message that “I need care”. This also aims at keeping the newborn safe from the environmental and practical harm such as maintaining the normal body temperature ^[1].

The goal of newborn care is not only to reduce neonatal mortality but also more importantly to ensure their intact survival. Due to integration of science and art of newborn care, the practice of neonatology has now reached the “years of wisdom” that is (middle path concept) and the focus has shifted from mere survival to ‘intact’ survival of the newborn ^[2].

The period from birth to 28 days of life is called neonatal period and the infants in this period termed as neonate or newborn baby. The first week of the life is known as early neonatal period and the late neonatal period extends from 7th to 28th days of life ^[3].

As the term and preterm neonates may be incapable of thermoregulation, this presents a challenge to the career who is charged with the responsibility of ensuring the neonates temperature is maintained within a range conducive with life ^[4].

One of the main problem facing sick term and preterm infants is thermoregulation or the need to keep the body warm, as they are very sensitive and usually suffer with hypothermia and hyperthermia. In adults, the immediate

responses to cold body temperature are peripheral vasoconstriction to diminish heat loss, inhibition of sweating and initiation of shivering, with a resultant increase in heat production. The effector mechanisms of skeletal muscle stimulation are minimal in infants, so infants do not shiver in response to cold environment. Therefore, vasoconstriction is the main result of activation of peripheral skin receptors. Non-shivering thermogenesis is the main mechanism in neonates to produce heat through metabolic activity. It is the production of heat by metabolism of brown fat (deposited after 28 weeks gestation principally around the scapulae, kidneys, adrenals, neck and axilla) is a thermo genic organ unique in the neonate. Brown fat metabolism is inefficient in ELBW infants due to extreme immaturity and may not produce heat; oxygenation of the ELBW infants during cold stress may be decreased. Decreased oxygenation, increased acidosis and increased heart rate due to cold stress can lead to increase morbidity and mortality rate. Thus thermoregulation contributes to be one of the primary priorities of nursing care for ELBW infants ^[5].

If hypothermia is suspected –Immediate care is needed

Hypothermia is an important determinant of the survival of newborns, especially among low birth weight (LBW) babies. If hypothermia persists, there is a risk of neonatal cold injury in which case the infant usually becomes lethargic, with slow shallow and irregular respiration (breathing) and a slow heart rate corresponding to decreased body temperature. Prolonged cold injury leads to edema, scleroderma, general hemorrhage (especially pulmonary hemorrhage), jaundice and death ^[6].

Hypothermic newborn baby must be kept under the warm

place at the time of birth at home or hospital and during transportation for special care either from home to hospital or within the hospital. Satisfactory control demands both prevention of heat loss and promotion of heat gain. The ‘warm chain’ is a set of ten interlinked procedures carried out at birth and later, which will minimize the likelihood of hypothermia in all newborns [7]. Understanding the ways in which these infants lose heat from their bodies is important in order to develop nursing interventions to prevent cold stress and to maintain thermoregulation in neonates [5].

Problem Statement

“A study to assess the effectiveness of planned teaching programme on knowledge regarding thermoregulation in neonate among the general nursing students in selected schools of nursing in selected city.”

Objectives

1. To assess the existing knowledge regarding thermoregulation in neonates among the general nursing students.
2. To evaluate the effectiveness of planned teaching program on knowledge regarding thermoregulation in neonate among general nursing students.
3. To find out the association between the pre-test knowledge score regarding thermoregulation in neonates with selected demographic variable.

Hypotheses

H₀₁: There will be no significant difference between the pretest and posttest knowledge score among general nursing

students regarding thermoregulation in neonate.

H₀₂: There will be no significant association between knowledge score regarding thermoregulation in neonate and selected demographic variables among General Nursing students.

H₁: There will be a significant difference between pretest and post-test knowledge score among General Nursing students regarding thermoregulation in neonate.

H₂: There will be a significant association between knowledge score regarding thermoregulation in neonate and selected demographic variables among General Nursing Students.

Criteria for the selection of the sample

Inclusion criteria

- General Nursing students who are,
- Studying in the II nd year including both male and female.
 - Available at the time of data collection.

Exclusion criteria

- General Nursing students who are,
- Absent at the time of data collection.

Description of the tool

Section I: Demographic Data of general nursing students.

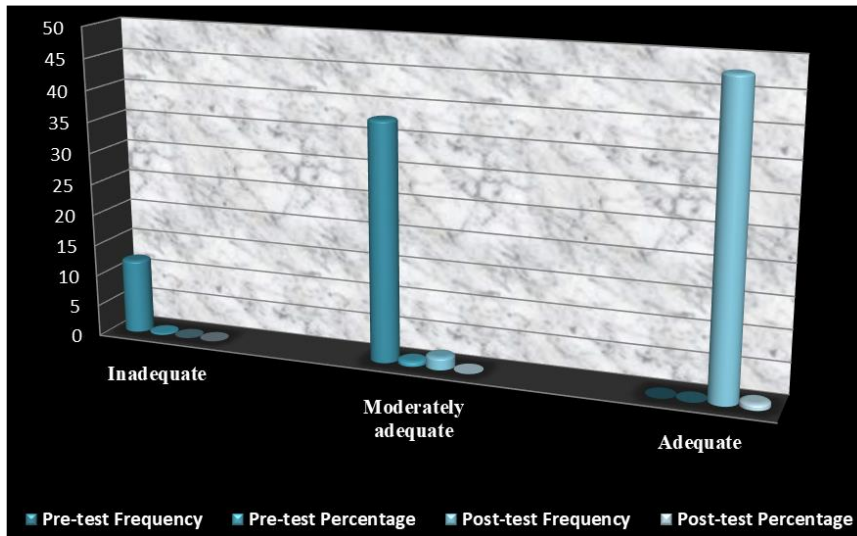
Section II: Semi-Structured questionnaire To Assess Knowledge of General Nursing Students Regarding Thermoregulation in Neonate.

Result

Section 1: Frequency and percentage of selected demographic variables.

Characteristics	Frequency	Percentage
Age		
20 to 23years	41	82
24 to 27years	07	14
28 to 31 years	02	04
Gender		
Male	8	16
Female	42	84
Education of Mother		
Illiterate	10	20
Primary	9	18
S.S.C.	10	20
H.S.C	14	28
UG and above	7	14
Education of Father		
Illiterate	2	4
Primary	4	8
S.S.C.	9	18
H.S.C	25	50
UG and above	10	20
Place of Residence		
Rural	9	18
Urban	41	82
Occupation of Mother		
Housewife	22	44
Nursing profession	5	10
Government job	10	20
Private	13	26
Source of Knowledge		
Knowledge from subject teacher	33	66
News paper	02	04
Demonstration	05	10

Self-experience	10	20
Previous Knowledge		
Yes	32	64%
No	18	36%



Section 2: Frequency and percentage distribution of knowledge level of general nursing students regarding thermoregulation in neonate.

Section 3: Comparison of mean score and standard deviation in pre-test and post-test

	Mean	SD	t-test	Table value	p-value
Pre-test	9.08	2.42	34.48	2.02	P<0.00001 (S)*
Post-test	19.24	1.77			

Section 4: Association of pretest knowledge score with the selected demographic variables, N=50

Sr. No	Demographic variables	Calculated X ² values	Level of significance
1	Age	1.010	P=0.7754 NS
2	Gender	0.654	P=0.4184 NS
3	Education of mother	9.533	P=0.0490 S*
4	Education of father	4.837	P=0.3043 NS
5	Place of residence	10.10	P=0.0177 S*
6	Occupation of Mother	0.246	P=0.6194 NS
7	Source of knowledge	1.949	P=0.5829 NS
8	Previous knowledge regarding thermoregulation	0.829	P=0.3625 NS

The above table shows that there is no association between knowledge score with selected socio-demographic variables such as age, gender, place of residence, education of father, source of knowledge, previous knowledge which was not significant only education of mother and place of residence are found as significant at 0.05 level.

The obtained chi square value:

1.106(P<0.05)0.775457, 0.654(p<0.05)0.418473, 9.533(p<0.05)0.049057, 4.837(p<0.05)0.304349, 10.100(p<0.05)0.017729, 0.2467(p<0.05)0.619408, 1.9495(p<0.05)0.582954, 0.8292(p<0.05)0.362504

Implications

The findings of the study have implication in the field of nursing education, nursing practice, nursing research and nursing administration.

Nursing education

Nursing education is developing rapidly in India and nurses are providing care through base of scientific nursing education. So knowledge and clinical demonstration of its care is part of academic syllabus. It must be included in syllabus and knowledge and practice can be reemphasized

for student by making them to attend, Seminar, Conference, Workshop. During clinical students get opportunity to care for neonate during the management of thermoregulatory problems of neonate so this knowledge will make them confident to provide care for neonate and their family to educate them and their family. The research study, methodology, analysis will be a guideline for students nurses for their future.

Nursing administration

- Nurse administrator can develop their own hospital policy of thermoregulation management in neonate.
- The administrator can guide the students about thermoregulation in neonate and how to prevent complications.
- Nurse administrator would help the staff nurse to update their knowledge about thermoregulation in neonate.
- Can arrange in-service education, conference, workshop and seminar on thermoregulation in neonate.

Nursing practice

- The finding of the study will help investigator to know

the level of knowledge related to thermoregulation in neonate.

- The General Nursing Students will apply this knowledge effectively during the management of thermoregulatory problems in neonate.
- This study helps to increase the knowledge of General Nursing Students regarding thermoregulation in neonate.

Nursing research

- This research study covered knowledge aspects of thermoregulation in neonate. This study finding can be used as review of literature for future research study and also used as source of information of nursing research.
- The same study can be performed on a large number of samples.

Conclusion

- Results of this current study suggest that we should need to have continuing education and clinical experience that will help students to gain knowledge and prevent complications. Thus there is the need for continued research in this area to identify the most effective way to care for neonates with thermoregulatory problems.
- The findings of the present study showed that pretest mean score 9.08 (SD=2.42) and observed posttest 19.24 (SD=1.77) of General Nursing Students about thermoregulation in neonate.

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