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EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING PREVENTION OF SELECTED NEONATAL INFECTIONS AMONG STAFF NURSES

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ABSTRACT

Introduction: Most newborns enter the world healthy. But sometimes infants develop conditions that require medical tests and treatment. Newborns are particularly at risk for some diseases because their immune system are not developed enough to fight the bacteria, viruses and parasites that causes these infections. When newborns get sick, they may need to spend time in hospital (NICU) to recover. Although it's frightening to see hospitalized, but it's the best way for bringing back to good health of a sick newborn.

Objectives of the study

1. Assess the knowledge of staff nurses regarding prevention of selected neonatal infections by using a structured knowledge questionnaire.
2. Determine the effectiveness of structured teaching programme by comparing pretest and post test knowledge scores of staff nurses.
3. Find out the association between knowledge scores of staff nurses regarding prevention of selected neonatal infections with selected socio-demographic variables.

Materials and Methodology

Pre experimental, one group pre-test post-test design was used to conduct the study. 30 staff nurses were selected by Non probability purposive sampling techniques who were working in maternity and pediatric wards. Structured knowledge questionnaire was used to assess the knowledge level among staff nurses. After pre-test, same day structured teaching programme on prevention of selected neonatal infections was given to samples. Post test was administered after 15 days of teaching programme using same structured knowledge questionnaire. Data was analyzed by descriptive and inferential statistics.

Findings

a. The findings of the study showed that the overall mean post-test score is 72.07% which is significantly higher than the pre-test score of 45%. The‘t’ value obtained from paired‘t’ test was -10.46($p<0.05$). This showed that there was a significant change in the knowledge level after administering structured teaching programme.
b. The finding related to association between age and pre-test score revealed that the obtained chi-square value (0.017) is lesser than the table value (3.84) at 0.05 level of significance. Hence there was no significant association between age and pre-test knowledge score.
c. The findings related to association between qualification and pre-test score revealed that the obtained chi-square value (1.212) is lesser than the table value (3.84) at 0.05 level of significance. Hence there was no significant association between qualification and pre-test knowledge score.
d. The findings related to association between area of working and pre-test score revealed that the obtained chi-square value (2.301) is lesser than the table value (5.99) at 0.05 level of significance. Hence there was no significant association between the area of working and pre-test knowledge score.
e. The findings related to association between years of experience and pre test score revealed that the obtained chi-square value (3.409) is lesser than the table value (7.82) at 0.05 level of significance. Hence there was no significant association between the years of experience and pre-test knowledge score.

Conclusion: The study emphasizes that structured teaching programme was very effective among staff nurses in improving knowledge on prevention of neonatal infections, treatment, promotion and early recovery of the sick newborn.

KEYWORDS: prevention, neonatal infections, structured teaching programme, staff nurses. NICU.

INTRODUCTION

The child is the most precious possession of mankind, most loved and perfect in its innocent. Neonatal period refers to the period from birth to first 28 days of life.[1] Early neonatal period refers to first 7 days of life. While late neonatal period signifies the period from more than 7 days to 28 days of life.[2]

Neonatal sepsis may be categorized as early-onset or late-onset. Onset is most rapid in premature neonates. Early-onset sepsis is associated with acquisition of microorganisms from the mother of newborns with early-onset sepsis. 85% present within 24 hours, 5% present at 24-48 hours, and a smaller percentage present within 48-72 hours. Late-onset sepsis occurs at 4-90 days of life and is acquired from the care giving environment.[3]

Transplacental infection or an ascending infection from the cervix may be caused by organisms that colonize the mother's genitourinary tract. The neonate acquires the microorganisms as it passes through the colonized birth canal at delivery. The infant's skin, respiratory tract, conjunctiva, gastrointestinal tract, and umbilicus may become colonized from the environment and such colonization to the possibility of late-onset sepsis from invasive microorganisms. Vectors for such colonization may include vascular or urinary catheters, other indwelling lines or contact with caregivers who have bacterial colonization.[4]

The vast majority of newborns enter the world healthy. But sometimes, infants develop conditions that require medical tests and treatment. Newborns are particularly susceptible to certain diseases, much more so than older children and adults. Their new immune systems aren't adequately developed to fight the bacteria, viruses, and parasites that cause these infections. As a result, when newborns get sick, they may need to spend time in the hospital or even the NICU to recover. Although it can be frightening to see the baby hospitalized. A hospital stay is often the best way back to good health for a sick newborn.[5]

NEED FOR THE STUDY

The new born baby is very vulnerable to infection, because they lack in natural immunity and take some time for the acquired immunity to develop. Their defense mechanisms are immature and the skin is thin and easily damaged. Infection is one of the leading causes of neonatal death in the developing countries. The infections may be acquired before, during or soon after birth and some may be minor, while others are potentially damaging or life threatening.[6]

Babies may acquire infections through the placenta from amniotic fluid as they transverse the birth canal or after birth from sources such as careers hands, contaminated objects or droplet infection. Preterm babies are more vulnerable as they have less well developed defense mechanisms at birth. Full immune competence requires both innate and acquired immune

responses. The reported incidence of neonatal sepsis varies from 7.1 to 38 per 1000 live births in Asia and 30 per 1000 live births in India.[7]

As per UNICEF reports, more than one in five children who die within four weeks of birth is an Indian, despite improvements in child mortality rates worldwide. Globally, the number of children who die before their fifth birthday has dropped to a historic low of 9.7 million annually, UNICEF said. South Asia accounts for 3.1 million and India for 2.1 million of these deaths. UNICEF said in its annual State of the World's Children report, nearly fifty percent of Indian children who die before the age of five do not survive beyond the first 28 days, the agency said. 'India has the single highest share of neonatal deaths in the world,' UNICEF India representative, Gianni Murzi reported.[8]

Nursing personnel working in the neonatal unit should be knowledgeable and skillful in prevention of neonatal infections. Nursing personnel are by group and constantly working with the newborns in neonatal units. If nursing personnel fails to adopt the infection control techniques, it will lead to septicemia and neonatal death. In order to reduce infant mortality rate, the nursing personnel should be knowledgeable and skillful in providing infection free nursing care.[9]

The researcher during her clinical experience found some nurses practicing aseptic techniques in the neonatal unit which may lead to neonatal infection and depicted that nurses had inadequate knowledge on the prevention of neonatal infections. Hence the investigator found that there is a need for conducting this study.

METHODOLOGY

One group pre-test and post-test design was used to conduct the study. Based on the objectives of the study 30 staff nurses who were working in maternity and paediatric wards was selected by using purposive sampling technique.

INCLUSION CRITERIA

Staff nurses who have completed GNM or B.Sc Nursing and

1. Working in maternity and pediatric wards.
2. Willing to participate in the study.

EXCLUSIVE CRITERIA

Staff nurses who

1. Have received any kind of related in-service education within 6 months duration.
2. Are not available at the time of data collection.

DATA COLLECTION METHOD

Data was collected using structured knowledge questionnaire, which consists of two sections.

Section A: consists of socio demographic variables and

Section B: consists of structured knowledge questionnaire on prevention of selected neonatal infections.

DATA COLLECTION PROCEDURE

1. Written permission was obtained from Institution, Hospital Medical Superintendent.
2. Written consent was taken from the study participants.
3. Data was collected using structured knowledge questionnaire which was developed by the investigator.
4. The data was collected for approximately one hour, and on the same day structured teaching programme was administered for the duration of one hour.
5. After the interval of 15 days post test was conducted for the same sample using same structured knowledge questionnaire for evaluating the effectiveness of structured teaching programme.
6. Data was analyzed using descriptive and inferential statistics.

RESULTS

The findings of the study were mentioned under below categories

1. Findings related to socio-demographic variables of staff nurses

Table 1: showing the information of staff nurses who participated in the study. N=30

Sl. No.	variables	frequency	percentage
1.	**Age in years**		
	21-30yrs	23	77%
	31-40yrs	07	23%
	41-50yrs	0	0
	Above 50yrs	0	0
2.	**Qualification**		
	GNM	27	90%
	B.Sc Nursing	03	10%
3.	**Area of working**		
	Labor ward	06	20%

	Antenatal ward Postnatal ward Pediatric ward	00 13 11	00 44% 36%
4.	**Years of experience** 1-3yrs 4-6yrs 7-9yrs Above 9yrs	 20 06 01 03	 67% 20% 3% 10%

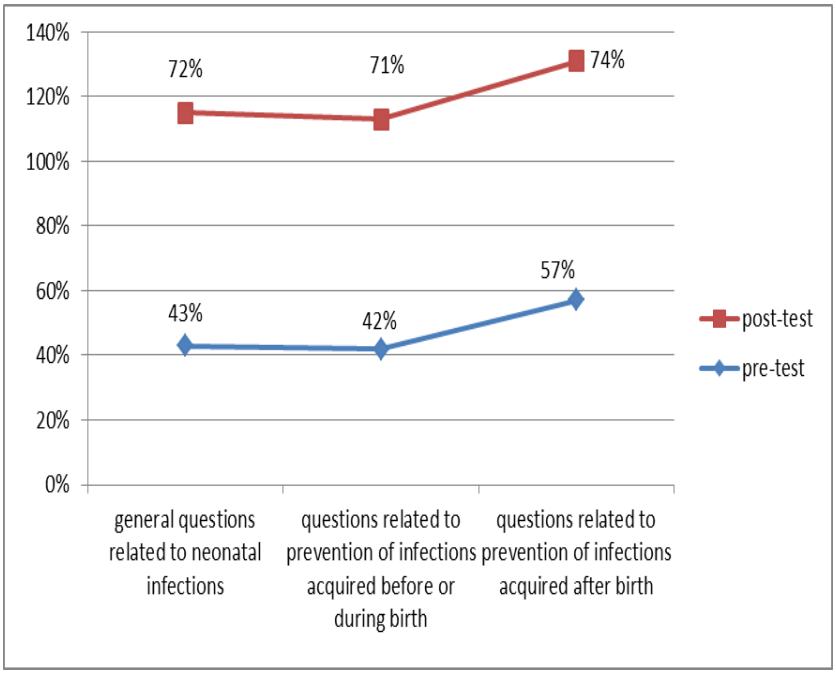
Table 2: Findings related to distribution of study participants according to level of knowledge. N=30.

Aspect	GRADE	RESPONDENTS			
		PRE-TEST		POST-TEST	
		frequency	percentage	frequency	percentage
Knowledge score	Inadequate (<49%)	22	73%	02	7%
	Moderate (50-69%)	08	27%	08	26%
	Adequate (>70%)	00	00	20	67%

Table 2: findings related to level of knowledge in pre-test showed that majority 22(73%) of study participants were having inadequate knowledge related to prevention of selected neonatal infections. In post-test the findings showed that 20(67%) had adequate knowledge, 08(26%) had moderate knowledge and 2(7%) had inadequate knowledge.

Findings related to distribution of mean knowledge score of study participants.

N=30



Graph 1: findings related to mean knowledge score of study participants showed that.

In pre-test (57%) of study participants had knowledge regarding questions related to prevention of infections acquired after birth, (42%) had knowledge regarding prevention of infections acquired before or during birth, (43%) had knowledge regarding general questions related to neonatal infections.

In post-test, (74%) of study participants had knowledge regarding questions related to prevention of infections acquired after birth, (71%) had knowledge regarding prevention of infections acquired before or during birth and (72%) had knowledge regarding general questions related to neonatal infections.

These findings showed that structured teaching programme was effective in increasing the knowledge of study participants regarding prevention of neonatal infections.

Table 3: Findings related to overall pre-test and post-test mean percentage knowledge scores.

N=30

Sl.No	Knowledge Assessment	Max Score	Range Score	Knowledge Scores			't' value	df	Inference
				Mean	Mean%	SD%			
1	PRE-TEST	40	11-23	18	45	2.612	-10.46	29	P<0.05 ***SS**
2	POST-TEST	40	18-35	28.83	72.07	4.479			

***SS=statistically significant**

Table 3: the study findings revealed that the mean post-test score was 72.07**%** which was significantly higher than the pre-test score 45%. Paired't' value of pre-test and post-test of the study samples was found to be significant at 0.05 level(t=-10.466). Thus, the findings revealed that the structured teaching programme on prevention of neonatal infections was an effective teaching method.

Findings related to association between socio-demographic variables and pre-test scores

The findings related to association between qualification and pre-test score revealed that the obtained chi-square value (1.212) is lesser than the table value (3.84) at 0.05 level of significance. Hence there was no significant association between qualification and pre-test knowledge score. The findings related to association between area of working and pre-test score revealed that the obtained chi-square value (2.301) is lesser than the table value (5.99) at 0.05 level of significance. Hence there was no significant association between the area of working and pre-test knowledge score. The findings related to association between years of

experience and pre test score revealed that the obtained chi-square value (3.409) is lesser than the table value (7.82) at 0.05 level of significance. Hence there was no significant association between the years of experience and pre-test knowledge score.

DISCUSSION

1. Findings related to demographic variables

The findings revealed that majority, 23(77%) of the study participants were under the age group of 21-30years. Only 7(23%) were under the age group of 31-40 years. similar findings were seen in the study done by Noronha(2004) which showed that majority of study participants were under the age group of 21-30 years.

The study findings revealed that majority, 27(90%) of the study participants were qualified with GNM and only 03(10%) were qualified with B.Sc nursing. Similar findings were seen in the study done by Noronha(2004)[10] which showed that majority of study participants were qualified with GNM.

The study findings revealed that majority, 13(44%) of study participants were wording in postnatal ward, 11(36%) of study participants were working in pediatric ward and only 6(20%) were working in labor ward. Similar findings were seen in the study done by Glory Prasad(2008)[11], which showed that majority of study participants were working in postnatal ward.

The findings revealed that majority, 20(67%) of study participants were having 1-3 years of experience, 6(20%) were having 4-6 years of experience, 3(10%) were having experience above 9 years and only 1(3%) were having 7-9 years of experience. Similar findings were seen in the study done by Noronha(2004)[10] which showed that majority of study participants were having 1-3 years of experience.

II. Knowledge of study participants regarding prevention of neonatal infections

The study findings revealed that majority, 22(73%) of study participants had inadequate knowledge, 8(27%) had moderate knowledge in pre-test. Whereas after implementing structured teaching programme, in post-test 20(67%) of study participants had adequate knowledge, 8(26%) had moderate knowledge and only 2(7%) had inadequate knowledge. Therefore findings showed that most of the study participants had adequate knowledge after structured teaching programme. Similar findings were seen in the study done by Nissi

Elizabeth(2009)[12] which showed that majority of the study participants had adequate knowledge after administering structured teaching programme.

III. Effectiveness of structured teaching programme on prevention of neonatal infections

The study findings revealed that the overall mean post-test score is 72.07% which is significantly higher than the pre-test score 45%. Paired't' test of the study sample was found to be significant at 0.05 level(t=-10.466). therefore the findings revealed that the structured teaching programme on prevention of neonatal infections was an effective teaching strategy to improve the knowledge of staff nurses. Similar findings was seen in the study done by Nissi Elizabeth(2009)[12] which showed that the structured teaching programme was the best teaching method as it enhances the knowledge of staff nurses on prevention of neonatal infections.

IV. Association between pre-test knowledge scores and selected socio-demographic variables

The study findings related to age revealed that the obtained chi-square value(0.017) is lesser than the table value(3.84) at 0.05 level of significance. Hence there is no significant association between the age and pre-test knowledge score. Similar findings was seen in the study done by Nissi Elizabeth(2009)[12] which showed that there is no statistically significant association between knowledge scores and age.

The study findings related to qualification revealed that the obtained chi-square (1.212) is lesser than the table value (3.84) at 0.05 level of significance. Hence there is no significant association between the qualification and pre-test knowledge score. Contradictory findings were found in the study done by Nissi Elizabeth(2009)[12] which showed that there was statistically significant association between knowledge scores and qualification.

The study findings related to area of working revealed that the obtained chi-square value(2.301) is lesser than the table value(5.99) at 0.05 level of significance. Hence there is no significant association between the area of working and pre-test knowledge score. Similar findings was seen in the study done by Nissi Elizabeth(2009)[12] which showed that there is no statistically significant association between knowledge scores and area of work.

The findings related year of experience revealed that the obtained chi-square value (3.409) is lesser than the table value (7.82) at 0.05 level of significance. Hence there was no significant association between the years of experience and pre-test knowledge score. Contradictory findings were found in the study done by Nissi Elizabeth(2009)[12] which showed that there was statistically significant association between knowledge scores and years of experience.

BIBILOGRAPHY

1. Singh M. Care of the Newborn. 6th edition. Newdelhi: Sagar Publication, 2004; 56-7: 225.
2. Marlow DR. Text book of pediatric Nursing. 6th edition. USA: W.B Saunders company, 1997; 371,422.
3. Ann L. Neonatal sepsis.[updated 15 Dec 2015]. Available from: http://emedicine.medscape.com/atricle/978352-overview
4. 100 baby tips. Available from: http://website.informer.com/visit?domain=100babytips.com
5. Liora C. Pediatric Emergency Medicine, Joe DiMaggio Children's Hospital, Hollywood, FL. Available from: https://medlineplus.gov/ency/article/007303.htm
6. Jacob A. A comprehensive textbook of Midwifery and Gynecological nursing. 2nd edition. Newdelhi: Jaypee, 2008; 595-603.
7. Vishnu B. Hand washing practices in NICU. Indian Pediatrics, 52. [updated 15 may 2015]
   Available from: http://medind.nic.in/ibv/t15/i5/ibvt15i5p382.pdf.
8. UNICEF. What works for children in south Asia. A newborn care: an overview. Available from: https://www.unicef.org/rosa/Newborn.pdf.
9. Brady MT. Health care associated infections in the neonatal intensive care unit. American academy of pediatrics, Nov, 2001; 5(3): 55-57.
10. Noronha JA. Effectiveness of teaching on episiotomy and perineal care among primipara women of selected hospitals of Karnataka. The nursing journal of India, May, 2004; 16(5): 105-6.
11. Prasad G. Effectiveness of planned teaching programme on nursing management of first stage of labor among staff nurses of a selected hospital in belgaum. Karnataka. Journal of obstetrics and gynecology nursing, may, 2006; 12(2): 82-6.
12. Varghese NE. Effectiveness of structured teaching programme on knowledge and practive regarding infection control measures in neonatal intensive care unit among nursing personnels. Jaypee journal, April, 2010; 20(3): 23-5.