

# Study to assess the effectiveness of Structured Teaching Programme on Knowledge Regarding Infection Control Measures in Neonatal Intensive Care Unit Among Nursing Personnel in Selected Hospitals of Distt. Shimla, Himachal Pradesh

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**Abstract:** Introduction: Newborn care is one of the vital sectors to be looked into in order to reduce neonatal mortality and morbidity. Neonatal infection is a great area of concern, especially for preterm babies. Infection control prevents or stops the spread of infections in health care settings. The approach towards the prevention of neonatal sepsis is multi - disciplinary, comprising of neonatologists, hospital administrators, nursing staff and housekeeping department. While it is difficult to treat neonatal infection it is rather easier to prevent infections. So nurses play a key role in infection control. So structured teaching programme was developed and administered to improve the knowledge of nurses regarding role of nurses in infection control in Neonatal Intensive Care Unit (NICU). Objectives: The study was conducted with an objective to assess the effectiveness of structured teaching programme on knowledge regarding infection control measures in Neonatal Intensive Care Unit (NICU) among nursing personnel. Methodology: A pre - experimental study was conducted in Jan.2021 in I. G. M. C. and Hospital, Shimla and KAMLA NEHRU STATE Hospital, Shimla.40 registered nurses were selected on the basis of convenience sampling technique. Structured teaching programme regarding infection control measures in NICU was provided to nursing personnel. The pre - test (after 5 days) and post - test (after 7 day) was assessed by nursing personnel. Data was collected by self designed questionnaire related to infection control measures in Neonatal Intensive Care Unit (NICU). The gathered data was analyzed by calculating mean, median, mean percentage, mean difference, standard deviation, paired t - test to evaluate the knowledge score and chi square test to find association of knowledge with selected demographic variables. Results: The study findings showed that post - test mean score of knowledge regarding infection control measures in Neonatal Intensive Care Unit (NICU) has statistically improved in nursing personnel which was statistically significant. Conclusion: The Structured Teaching Programme (STP) has improved post test knowledge score of registered nursing personnel regarding infection control measures in Neonatal Intensive Care Unit NICU.

**Keywords:** STP, NICU, Infection Control Measures.

## 1. Introduction

Health can neither be demanded nor given, it can neither be brought, nor sold but the circumstances and services that are pre - requisite to health can certainly be demanded and received as a right. <sup>(1)</sup>

Advances in neonatal care have lead to the increasing survival of smaller and sicker infants, but Nosocomial Infections (NI), also known as health care associated or hospital acquired infections continue to be a serious problem. <sup>(2)</sup>

Since 2005 WHO started the “Clean Care is Safer Care” program to promote hand hygiene in order to improve infections control and direct monitoring was considered probably the best tool to evaluate adherence to hand hygiene recommendations. <sup>(3)</sup>

In 2016, mortality rate was 2.6 million newborn in which 1 million infants died on birth time/day & 2 million neonates at the 1st week of life. But reduction in mortality rate was much slower in neonatal period than the post neonatal period

children. So according to WHO, neonatal mortality rate was increased from last 25 years, i. e.40% to 46% from 1990 to 2016, and it will increased 52% in 2030, if same rate is continue. <sup>(4)</sup>

The National Infection Surveillance System (NNIS) reports a rate of 14.1% nosocomial infection per 1000 patient days. Recent data from the National Institute of Child Health and Human Development sponsored - Neonatal Network indicated that 3 29% of infants born at 25 to 28 weeks' gestation and 46% of infants born at less than 25 weeks' gestation experience a serious nosocomial infection during hospitalization in the NICU. <sup>(5)</sup>

Adequate and well - trained nursing staff are essential for infection control. Education of the staff nurse about various infection control practices and procedure specific guidelines has an important role in reduction of nosocomial infections. So, current study was undertaken to assess the knowledge regarding infection control measures in NICU among nursing personnel in selected hospitals of Distt. Shimla, (HP)”

## 2. Objectives

- 1) To assess the pre - test knowledge regarding infection control measures in Neonatal Intensive Care Unit among nursing personnel in selected hospitals of Distt. Shimla, (HP).
- 2) To develop and administer structured teaching programme regarding infection control measures in Neonatal Intensive Care Unit among nursing personnel in selected hospitals of Distt. Shimla, (HP).
- 3) To assess the effectiveness of structured teaching programme on knowledge regarding infection control measures in Neonatal Intensive Care Unit among nursing personnel in selected hospitals of Distt. Shimla, (HP).

## 3. Research Methodology

In this study quantitative research approach and pre-experimental research design were used to collect data from sample size 40 nursing personnel working in Neonatal Intensive Care Unit at selected hospitals of Distt. Shimla, (HP).

40 nursing personnel were selected by convenient sampling technique and self-structured questionnaire was used to collect data. Tool consists of the following sections:

**Section A:** It comprises of demographic variables including age, professional qualification, clinical work experience, area of experience, previous knowledge and source of knowledge regarding infection control measures. **Section B:** Self structured questionnaire to assess the knowledge regarding infection control measures in Neonatal Intensive Care Unit among nursing personnel. The tool consists of multiple choice questions regarding infection control measures. The content validity of the tool was determined by various experts in the field of Obstetrics & Gynaecology and also Paediatric nursing. Necessary modification was made according to expert's opinion.

Formal approval was taken from concerned authority prior to the study. Permission was taken from college authority that was research committee of SNGNC, I. G. M. C., Shimla for research study. Permission was taken from the MS/NS of selected hospitals of Distt. Shimla (HP). Written consent was taken from study participants. Confidentiality of the

information was maintained. Pre - test was considered and thereafter structured teaching programme will be administered. Post - test was conducted after 7 days. The data was analysed by using both descriptive and inferential statistics.

## 4. Result

The study findings showed that, 5.0% subjects were between the age group of 20 - 25 years, 62.5% were in the age group of 26 - 30 years, 27.5% were in the age group 31 - 35 years and 5.0% were in the age group > 35 years. With respect to professional qualification 62.5% were G. N. M, 35.0% were B. Sc. Nursing, 2.5% were M. Sc. Nursing and 0.0% were PhD Nursing. With respect to clinical experience, 0.0% subjects had 10 years experience. For area of experience, 22.5% subjects had neonatal unit experience, 12.5% subjects had NICU experience, 52.5% subjects had other ICU/ward experience, 12.5% subjects had SNCU experience and 0.0% had no experience. With regard to previous knowledge, 100% subjects had previous knowledge and 0.0% subjects had no previous experience. In relation to previous source of knowledge, 5.0% subjects had prior information through seminar, 37.5% subjects had prior source of information was workshops/conferences, 5.0% subjects had prior information through mass media and 52.5% subjects had prior information through book/journal. In relation to number of workshops/conferences, 25.0% subjects had not attended workshops/seminars, 35.0% subjects had attended one workshop/seminar, 17.5% subjects had attended two workshops/seminars and 12.5% subjects had attended three workshops/seminars.

In this study, pre - test mean knowledge score of subjects was 12.23+1.577. Maximum score obtained by subjects was 15. Minimum score was 7. Median score of subjects was found to be 12.5, range was 8 and mean percentage was 40.80, the post - test mean knowledge score of subjects was 19.15+2.032. Maximum score obtained by subjects was 24. Minimum score was 13. Median score of subjects was 19.5, range was 11 and mean percentage was 63.80. Hence, the study findings showed that in post - test knowledge score, 9 (22.5%) had average knowledge, 31 (77.5%) had good knowledge, 0.0% had also very good knowledge. This result revealed that subjects had good knowledge regarding Infection Control Measures after implementation of Structured Teaching Programme.

**Table 1:** Comparison within pre - test and post - test with "paired t - test" N=40

Paired t-test	Mean±S. D.	Mean%	Range	Mean diff.	Paired t - test	P value	Table value at 0.05
Pre - test knowledge	12.23±1.577	40.80	7 - 15	6.920	31.63	<0.001	2.02
Post - test knowledge	19.15±2.032	63.80	13 - 24				

\*\*t value 31.63, p < 0.05 significant

Table 1 revealed that by using paired t - test, it was found that there is significant change in post knowledge score with t value 31.63 at degree of freedom at 39 where table value at 0.05 is 2.02, hence it is significant at the level of 0.05 level of significance.

## 5. Conclusion

The study was conducted to assess the effectiveness of structured teaching programme on knowledge regarding infection control measures in NICU among nursing personnel. There was a significant difference in the level of knowledge score between pretest and post - test score after administer of structured teaching programme. Hence, the study findings conclude that the administration of structured

teaching programme had significantly improved the knowledge of nursing personnel in neonatal intensive care unit.

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