



# INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

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## “A STUDY TO EVALUATE THE EFFECTIVENESS OF SKILL COMPETENCY PROGRAMME ON LEVELS OF NEONATAL INTENSIVE CARE UNIT (NICU) IN TERMS OF KNOWLEDGE AND PRACTICE AMONG FINAL YEAR NURSING STUDENTS AT THE SELECTED COLLEGES OF MEERUT.”

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**ABSTRACT:** Research abstract statement of the problem: “A study to evaluate the effectiveness of skill competency programme on levels of neonatal intensive care unit (NICU) in terms of knowledge and practice among final year nursing students at the selected colleges of Meerut.”

**INTRODUCTION:** A neonatal intensive care unit is an intensive unit to provide specialized type of care to the sick and premature new borns. The problem of premature and congenitally ill infants is not a new one. Since, 17th and 18th centuries, there were scholarly papers published that attempted a share of opinion of some interventions. It was not until 1922, later however, that hospitals started separating and grouping the new borns into one secured separate area, now known as the neonatal intensive care unit. Upcoming NICU nurses (final year nursing students) basically provides essential care to the new borns in neonatal intensive care unit or

nurseries, but according to situation or depending upon the condition of new born, NICU nurse can also be present in delivery room or at mother's bedside for providing, efficient, effective, and immediate care to the newborns. The Nurses working in neonatal intensive care unit together with knowledge and advancements in medical science and technology improved the aspects of specialized care practices. Neonatology and NICUs have now increased the survival rate and decreased the mortality rate of low-birth-weight baby and extreme premature infants. Today, infants of 500 gm at 26 weeks have a chance of survival. Besides, prematurity and extreme low birth weight, care in NICU also comprises of perinatal asphyxia, birth defects, sepsis, neonatal jaundice, infant respiratory distress syndrome due to immature lungs etc.

### **OBJECTIVES OF THE STUDY:**

- 1) To develop and validate the skill competency programme regarding levels of NICU among final year nursing students.
- 2) To evaluate the effectiveness of skill competency programme in terms of knowledge and practice on levels of NICU in experimental group as compared to control group.
- 3) To find the correlation between knowledge and practice score regarding levels of NICU in experimental and control group.
- 4) To find out the association between post-test knowledge and post-test practice score of skill competency programme regarding levels of NICU with their selected demographic variables.

**NEED FOR THE STUDY:** The Baylor College of Medicine Section of Neonatology was established in 1957 by Dr. Murdina Desmond. As first head of the new born section, Dr. Desmond initiated the groundwork and upgraded its growth to the world-class neonatal care program as it is today. Neonatology is a subspecialty of pediatrics that consists of the medical care of new born infants, especially the ill or premature new born. It is a hospital-based specialty and usually practiced in neonatal intensive care units. The focused patients of neonatologists are new born infants who are sick or need special medical care due to prematurity, low birth weight, intrauterine growth restriction, congenital malformations, sepsis, pulmonary hypoplasia or birth asphyxia. Instead of focusing on a particular organ system, neonatologists focus on the care of new borns who

require Intensive Care Unit hospitalization. Some neonatologists, may follow infants for months or even years after hospital discharge to better assess the long-term effects of health problems early in life.

### **OPERATIONAL DEFINITIONS:**

**Evaluate According to Oxford dictionary:** - To judge or calculate the quality, importance, amount, or value of something. In the study it refers to the assessment of differences in knowledge and practice of final year students of GNM and BSc nursing regarding level III of NICU

**Effectiveness According to Oxford dictionary:** - The degree to which something is successful in producing a desired result. In the study it refers to gain in knowledge and practice skills as determined by significant difference in pre-test and post-test knowledge and practice scores.

**Skill competency programme According to Oxford dictionary:** - Competencies refer to skills or knowledge that led to superior performance it is more than just knowledge and skills. In the study it refers to the organized way of teaching to the students in order to assess their knowledge through structured knowledge questionnaire and practice through selected procedures (OSPE) carried out in level III of NICU assessed by the checklist.

**Levels of NICU According to Oxford dictionary:** - A position on a scale of amount, quantity, extent, or quality a department equipped and staffed to provide intensive care to dangerously ill or premature new borns. In the study, the researcher is intense to do the research on level III of NICU where distribution is done according to the weight and gestational age of the baby. Third level of Neonatal Intensive Care unit is to provide effective and essential care to the extreme low birth weight new-borns.

**Knowledge According to Oxford dictionary:** - Knowledge refers to facts, information, and skills acquired through experience or education; the theoretical or practical understanding of a subject. In the study, the knowledge refers to correct response of a structured knowledge questionnaire obtained from final year nursing students.

**Practice According to Oxford dictionary:** - Practice refers to the actual application or use of Idea, belief, method, as opposed to theory relating to it. In the study, the practice refers to improving skills of the final year nursing students based on observational checklist

**Final year nursing students According to Oxford dictionary:** - Final year nursing students refers to the students pursuing in final year of nursing programme. In the study, the Final year nursing students refers to the students who are only pursuing in GNM and BSc nursing final year programme.

### **RESEARCH HYPOTHESIS (at 0.05 level of significance):**

**H1-** The mean post-test knowledge and practice score is significantly higher than the mean pre-test score after administration of skill competency programme regarding levels of NICU among students in experimental group as compared to control group.

**H2-** There is a significant correlation between knowledge and practice scores regarding levels of NICU among final year nursing students.

**H3-** There will be significant association between post-test level of knowledge and practice score with selected demographic variables in both the groups.

### **ASSUMPTIONS:**

- Students may show interest and willingness to participate in the study.
- Students may have some knowledge regarding levels of NICU.
- After providing skill competency program students may be able to gain sufficient knowledge and skills related to care of new born and various procedures carried out in different levels of NICU.

### **DELIMITATION:**

- Only final year students of nursing can participate in the study.
- Students who are not available during the data collection period

## REVIEW OF LITERATURE:

Review of Literature Is Organized as Follows:

**Section A: Review related to NICU set up**

**Section B: Review related to NICU procedures**

**Section C: Review related to infection control in NICU**

## SETTING OF THE STUDY:

- Setting is the physical location and condition where the data is collected. The selection of appropriate set up is important because the set up can influence the way people behave, cooperate, and feel and most importantly how they respond.
- The study was conducted in Panna Dhai Maa Subharti Nursing College in Meerut in the Delhi-Haridwar bypass road (NH-58). This study was conducted among the final year students of G.N.M and B.Sc. nursing.

## CONCEPTUAL FRAMEWORK

**The Roy's Adaptation model has two subsystems:**

**The Cognator subsystem-** Is a major coping process involving four cognitive-emotive channels: perceptual and information processing, learning, judgment, and emotion.

**The Regulator subsystem-** Is a basic type of adaptive process that responds automatically through neural, chemical, and endocrine coping channels.

**The Adaptation Model includes a six-step nursing process.**

1. The first level of assessment, which addresses the Baby's behavior
2. The second level of assessment, which addresses the Baby's stimuli
3. Diagnosis of the Baby.
4. Setting goals for the Baby's health
5. Intervention to take actions in order to meet those goals
6. Evaluation of the result to determine if goals were met throughout the nursing process, the nurse and other health care professionals should make adaptations to the nursing care plan based on the patient's progress toward health.

**IDENTIFICATION**

It includes demographic profile of final year nursing students including age, gender, professional course pursuing, any seminar/conference/workshop attended related to NICU and exposure to NICU, during the data collection.

Pre-test assessment of knowledge questionnaire and practice checklist before administration of skill competency programme in both experimental and control group was done.

**ADMINISTRATION**

- Intervention carried out by the researcher is skill competency programme among experimental group.
- Post-test of knowledge questionnaire and practice checklist was done among control group and after giving intervention in the experimental group.

## VALIDATION

The outcome was significant improvement in the knowledge and practice score of experimental groups among final year nursing students regarding level III of NICU.

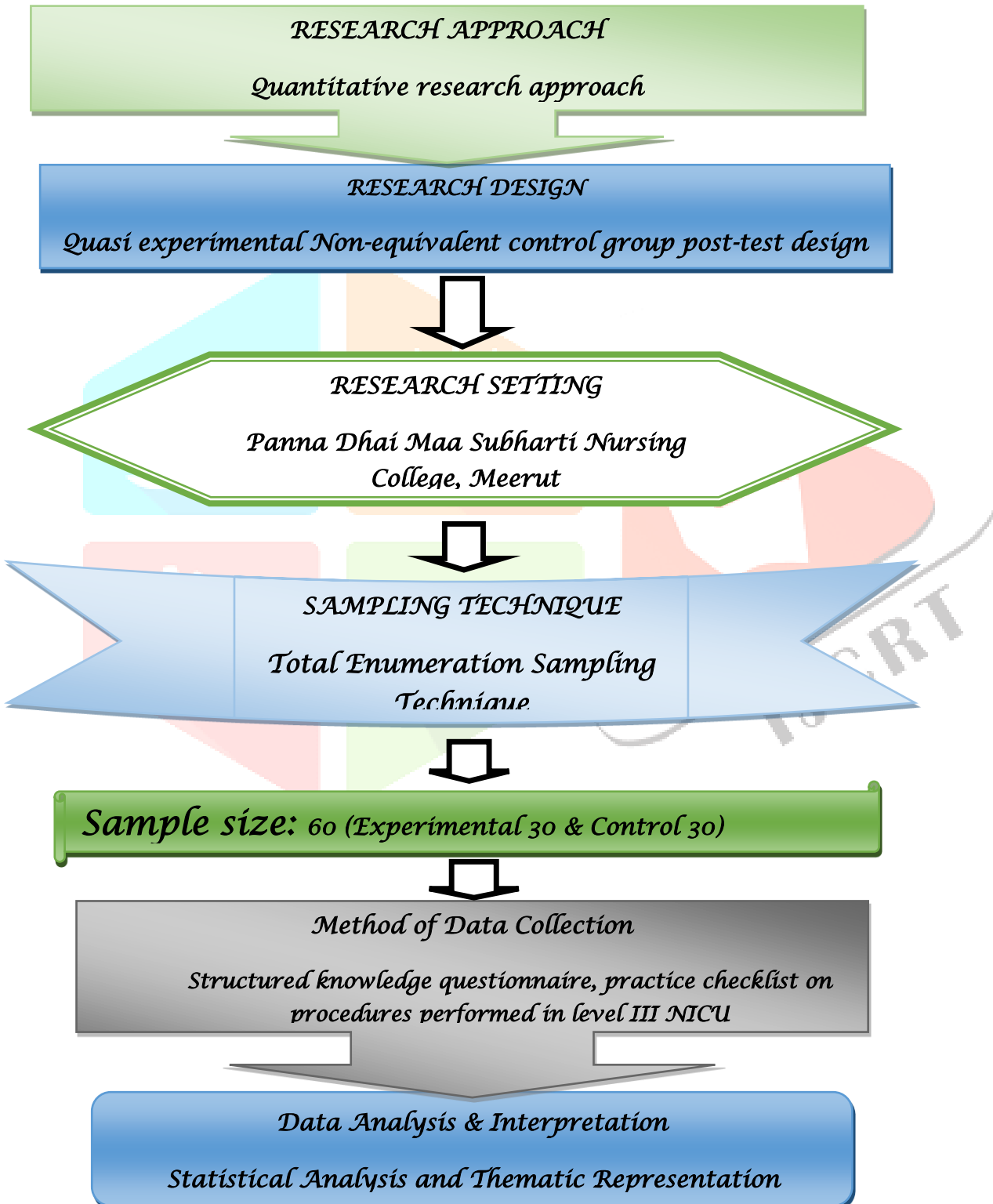


Figure 2. Schematic Representation of Research Methodology

## CRITERIA FOR SAMPLE SELECTION:

### INCLUSION CRITERIA

- Willing to participate in the study.
- Only final year students of G.N.M and B.Sc. nursing.
- Students who have >80% in daily class attendance.

### EXCLUSION CRITERIA

- Back students cannot participate in the study.
- Students do not have interest in Pediatric department.
- Student not present at the time of data collection.

### DEVELOPMENT OF THE TOOLS:

The following steps were involved in the development of tools-

1. Review of research and non-research literature and opinions of experts.
2. Preparing blue print for structured knowledge questionnaire.
3. Development of Structured knowledge questionnaire, Self-structured practice checklist.
4. Establishing scoring of tools.
5. Assessing items for content validity.
6. Tryout of tools.
7. Estimation of reliability, item analysis and discrimination value.



**The tool consists of:**

**Section A:** Demographic variables

**Section B:** Structured knowledge Questionnaire to evaluate the knowledge on Level III of Neonatal Intensive Care Unit (NICU) among GNM and B.Sc. nursing final year students at the Selected Colleges.

**Section C:** Self-structured practice checklist to assess the practice on Level III of Neonatal Intensive Care Unit (NICU) among GNM and BSc nursing final year students at the Selected Colleges.

**METHODOLOGY:**

A quantitative research approach was used in the study to determine the effectiveness of competency skill competency programme in terms of knowledge and practice regarding level III of NICU among final year students of GNM and BSc nursing at selected colleges in Meerut. The research design selected for the study was Quasi-experimental nonequivalent control group post-test design. 60 students (30 in experimental and 30 in control group) were selected in college setting by total enumeration sampling technique. Structured knowledge questionnaire and Practice checklist were used to assess the knowledge regarding level III of NICU among final year students of GNM and BSc nursing. Skill competency programme was given regarding level III of NICU among final year students of GNM and BSc nursing. Data was collected and analyzed using descriptive and inferential statistics.

**METHOD OF DATA ANALYSIS****Descriptive statistics**

- Frequency and percentage distribution will be used to analyze the demographic data of student.
- Mean percentage and standard deviation will be used to assess the level of knowledge and practice of student.

**Inferential statistics**

- Paired 't' test will be used to assess the effectiveness of skill competency programme.
- Chi square test will be used to find the association between post-test knowledge and practice with demographic variables.

Analyzed data will be presented in the form of tables, graphs and diagrams based on the findings.

**MAJOR FINDINGS OF THE STUDY:** This study revealed that maximum of the sample in experimental group females 17 (56.6%) and males were least 13 (43.3%). And in control group sample were male and females were equal 15(50%). – Findings of the study shows that in experimental group as per age, majority of the samples belongs to 24years 9 (30%), some of them were 8(27%) belongs to 23 years, some of them were 7(23%) belongs to 21years and least of them were 6 (20%) belongs to 22 years. and in control group majority of the samples belongs to 23years 12 (40%), some of them were 7(23%) belongs to 24year, some of them were 6(20%) belongs to 22years and least of them were 5 (17%) belongs to 21 years. – As per professional course pursuing, maximum samples belong to GNM 18 (60%), and minimum were B.Sc. Nursing 12 (40%).and in control group maximum students belong to BSC 17 (56.6%), and minimum were GNM 13 (43.3%). – As per any conference/seminar/workshop attended related to NICU, majority of the samples answered yes 16 (53.3%) and minority answered no 14 (46.6%). And in control group majority of the samples answered No i.e. 19 (63.3%) and minority answered Yes,11 i.e. (37.0%). – As per the exposure to NICU, half of the students i.e. 15 (50%) have exposure of >2 weeks, some of the students i.e. 13(43.0%) have exposure of 2 weeks and very less students i.e. 4(13%) have no exposure to NICU. – The study revealed that the mean post-test knowledge score of students in experimental group (24.42) is significantly higher than then mean post test knowledge score of control group (20.70). The mean difference between the post test knowledge score of both the group was found to be (3.72). Then unpaired t' value (4.956) and the df (58) was found to be statically significant at 0.05 level of significance. The study revealed that the mean post-test Practice score regarding maintaining temperature under radiant warmer in experimental group (37.77) is significantly higher than then mean post test Practice score of control group (30.80). The mean difference between the post test knowledge score of both the group was found to be (6.97). Then unpaired t' value (8.346) and the df (58) was found to be statically significant at 0.05 level of significance. – The study revealed that the mean post-test Practice score regarding care of newborn on incubator in experimental group (42.07) is significantly higher than then mean post test Practice score of control group (32.17). The mean difference between the post test knowledge score of both the group was found to be (9.9). Then unpaired t' value (8.869) and the df (58) was found to be statically significant at 0.05 level of significance.

→ The study revealed that the mean post-test Practice score regarding care of baby receiving phototherapy in experimental group (51.37) is significantly higher than then mean post test Practice score of control group (38.23). The mean difference between the post test knowledge score of both the group was found to be (13.14). Then unpaired' value (10.008) and the df (58) was found to be statically significant at 0.05 level of significance.

### **IMPLICATIONS OF THE STUDY:**

- The findings of the present study have certain implications for nursing practice, nursing service, nursing education, nursing administration and nursing research.

### **NURSING PRACTICE**

The findings of the study reveal that there is a need to understand that final year nursing students require continuous programme on level III of NICU as it helps final year nursing students to learn about level III of NICU and it also helps to improve their skills to treat babies and give them the needed care and treatment immediately. The findings of the study clearly reveal that the skill competency programme regarding level III of NICU among final year nursing student can improve their knowledge and practice level which will help them a lot in improving the patient care as those first few minutes are vital in some cases as they will be the difference between life and death.

### **NURSING EDUCATION**

Findings of the study revealed that there is a need to understand that the faculty of child health nursing department in nursing college should be provided with an opportunity to plan education sessions regarding level III of NICU among final year students of GNM and B.Sc. nursing so as to improve their skill in practical field and it is far important to acquire knowledge in theoretical aspect. The final year students should be trained to use or implement the recent updates in their knowledge and practice while providing care to babies and especially premature babies in level III of NICU.

## NURSING RESEARCH

Nursing research is an essential aspect of nursing norms and a body of knowledge. This study revealed that there is need to conduct further research regarding level III of NICU among final year students of GNM and B.Sc. nursing. Nursing research should be directed towards further exploration and update knowledge of final year nursing students about various procedures, care of premature babies and infection control in level III of NICU. The finding of the study can be used to further justify the need for education for final year nursing students to improve their knowledge and practice regarding level III of NICU. As, final year nursing students are the only future nurses and nursing faculty, so, it is important to enhance and improve their knowledge and practice skills regarding level III of NICU.

## NURSING ADMINISTRATION

Nursing administration can plan and arrange for the special education and special training programmes regarding level III of NICU. Thus, by direct or indirect services the professional trained final year students could be active agents to help, support and guidance to other professional nurses, so as to increase the outcome in a positive way. The nursing administrator at institutional, local, state and national level should focus their attention to make the final year nursing students more conscious about the importance of care provided in level III of NICU.

## LIMITATIONS

- This study was confined to a small number of final year students of GNM and B.Sc. nursing i.e. 60 students (30 each in experimental and control group) this limits generalization of the findings.
- The study sample was selected by using non-randomized purposive sampling technique which limits the generalization of the findings.

**CONCLUSION:** The study concluded that final year students of GNM and BSc nursing regarding level III of NICU provided with skill competency programme was found to be an effective method to improve the knowledge and practice of students.

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