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A True Experimental Study to Assess the Effectiveness of a Structured Teaching Program and Simulation on Knowledge and Skill Regarding Facility-Based Newborn Care (FBNC) among B.Sc. (N) 3rd Year Students at Selected Colleges of Punjab

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Abstract: ***The study aimed to evaluate the effectiveness of a structured teaching program and simulation on knowledge and skills regarding facility-based newborn care (FBNC) among B.Sc. (N) 3rd-year students at selected colleges of Punjab. A true experimental pre-test and post-test control group design was used. A total of 176 nursing students were selected using a two-stage sampling technique. Data were collected using a self-structured questionnaire and observational checklist. The intervention included a structured teaching program and simulation on care of newborns at birth, thermoregulation, and feeding practices. Results showed a significant increase in mean post-test knowledge and skill scores among students in the experimental group compared to the control group ($p<0.05$). The findings indicate that structured teaching combined with simulation enhances students' clinical competence and preparedness for facility-based newborn care.***

Keywords: Facility-Based Newborn Care (FBNC), Structured Teaching Program, Simulation, Nursing Education, Neonatal Care

1. Introduction

Newborn care is a critical component of maternal and child health services. Despite advancements, neonatal mortality remains high in India, with many deaths occurring within the first 28 days of life. Nurses play a vital role in reducing neonatal morbidity and mortality through evidence-based newborn care practices. Facility-Based Newborn Care (FBNC) emphasizes trained healthcare personnel, appropriate infrastructure, and standardized interventions to ensure neonatal survival. However, gaps in training and implementation persist, highlighting the need for educational interventions and practical simulations for nursing students.

2. Literature Survey

Several studies have demonstrated that structured teaching and simulation-based education improve students' knowledge and confidence in neonatal care. Bhakare et al. (2015) found that planned teaching programs significantly enhanced knowledge among skilled birth attendants. Kumari et al. (2019) and Thukral et al. (2012) also reported improved learning outcomes following simulation-based modules. These findings emphasize the importance of integrating FBNC training into nursing curricula to prepare students for real-world clinical challenges.

3. Problem Definition

Despite various government programs promoting newborn health, gaps persist in nursing students' practical skills and theoretical understanding of FBNC. This study was undertaken to assess the effectiveness of a structured teaching program and simulation on knowledge and skills related to FBNC among B.Sc. (N) 3rd-year students in Punjab.

4. Methodology / Approach

A true experimental pre-test and post-test control group design was adopted. The sample consisted of 176 B.Sc. (N) 3rd-year students selected from four nursing colleges in Punjab using two-stage sampling. Data collection tools included a self-administered questionnaire for knowledge and an observational checklist for skills. The experimental group received a structured teaching program and simulation, while the control group did not. Data were analyzed using descriptive and inferential statistics, including the Wilcoxon and Mann-Whitney U tests.

5. Results and Discussion

The study revealed a significant improvement in post-test knowledge and skill scores among students in the experimental group compared to the control group. The majority of experimental group students achieved adequate knowledge levels post-intervention (97.7%), while only 64.8% of control group students demonstrated moderate knowledge. Similarly, skill scores improved markedly after simulation-based training. The findings affirm that simulation enhances comprehension, retention, and confidence, bridging the gap between theory and practice.

Variable	Experimental Group (Mean±SD)	Control Group (Mean±SD)
Knowledge Score (Post-test)	32.5 ± 2.4	23.7 ± 3.1
Skill Score (Post-test)	39.2 ± 1.8	27.4 ± 2.6

6. Conclusion

The structured teaching program combined with simulation significantly improved the knowledge and skills of nursing students regarding facility-based newborn care. Integrating such training in nursing curricula can enhance clinical competence and contribute to improved neonatal outcomes.

7. Future Scope

Future studies can explore the long-term retention of knowledge and skills gained through simulation. Expanding FBNC modules to other healthcare programs and conducting interventional research across different regions may further strengthen neonatal care practices.

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Author Profile

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