Effects Of Simulation Training On Clinical Skills And Critical Thinking In Nursing Students

Author: Blessy Bibbin, PhD Scholar, Malwanchal University, Indore

Dr. Anu V Kumar, Research Supervisor, Malwanchal University, Indore

Abstract:

Simulation-based education has gained recognition as a critical tool in nursing education to enhance clinical skills and critical thinking. This study aims to explore the effects of simulation training on the clinical skills and critical thinking abilities of nursing students in Indore. A sample of **100 nursing students** from multiple nursing schools in Indore will participate in the study. The intervention will consist of simulation training sessions focusing on patient care scenarios and decision-making skills. Pre- and post-assessments will be conducted to evaluate changes in clinical skills and critical thinking abilities. The results are expected to demonstrate that simulation-based training significantly enhances both clinical proficiency and critical thinking in nursing students, preparing them for real-life healthcare challenges.

Keywords:

Simulation training, clinical skills, critical thinking, nursing students, nursing education, decision-making, Indore, healthcare simulation, skills enhancement.

Introduction:

Nursing education involves not only theoretical knowledge but also practical skills, particularly in clinical settings where students learn to interact with patients and make decisions that impact their care. Traditional clinical practice can be limited by time constraints, patient safety concerns, and limited availability of clinical placements. To address these challenges, simulation-based training has emerged as a promising solution, allowing students to practice and enhance their skills in a controlled environment without compromising patient safety.

Simulation training includes various techniques such as high-fidelity mannequins, standardized patients, and virtual simulations that replicate real-life clinical scenarios. These training methods provide students with the opportunity to experience complex and rare situations, develop critical thinking, and improve decision-making skills. Simulation training offers a safe space for trial and error, which enhances student confidence and competence.

However, while simulation is widely adopted in Western countries, its integration into nursing programs in India, particularly in cities like Indore, is still in its early stages. Understanding the effectiveness of simulation in improving clinical skills and critical thinking in nursing students within the Indian context is crucial for advancing nursing education in the country.

Need of the Study:

With an increasing demand for highly competent and critical-thinking nurses, the need for effective nursing education methods is more pressing than ever. Traditional methods of clinical teaching, such as bedside teaching, do not always provide the required exposure to a variety of clinical scenarios or the opportunity to practice complex skills.

Simulation-based education can bridge this gap by providing nursing students with exposure to a wide range of clinical scenarios that they might not otherwise encounter. In the context of Indore, there is a growing need to explore how simulation training can impact nursing students' clinical skills and critical thinking, preparing them for the challenges they will face in real-world healthcare settings. This study is necessary to understand how well simulation can be integrated into the nursing curriculum and its effectiveness in enhancing nursing students' preparedness for clinical practice.

Objective of the Study:

1. **Primary Objective**: To evaluate the impact of simulation training on the clinical skills of nursing students in Indore.
2. **Secondary Objective**: To assess the effect of simulation-based training on the critical thinking abilities of nursing students in Indore.
3. **Tertiary Objective**: To explore students' perceptions of simulation training and its role in enhancing their clinical education.

Hypothesis:

- **H1**: Simulation-based training significantly improves the clinical skills of nursing students in Indore.
- **H2**: Simulation-based training significantly enhances critical thinking skills among nursing students in Indore.
- **H3**: Nursing students perceive simulation training as a valuable tool for their clinical education.

Research Methodology:

Study Design:

This study will adopt a **pre-test and post-test experimental design** with an intervention group of nursing students undergoing simulation training. The study will be conducted in nursing schools in Indore.

Sample Size:

The study will involve **100 nursing students** from multiple nursing institutions in Indore. Participants will be selected using a **convenience sampling** technique.

Inclusion Criteria:

- Nursing students in their 2nd or 3rd year of undergraduate nursing programs.
- Willing to participate in simulation training.
- Have completed basic nursing skills courses.

Exclusion Criteria:

- Students who have prior extensive experience with simulation training.
- Students not willing to attend the simulation sessions.

Intervention:

The simulation training will consist of **4 weekly sessions** focusing on different clinical scenarios, including:

- **Patient assessment** (e.g., vital signs monitoring).
- **Basic life support (BLS)** and **advanced cardiac life support (ACLS)**.
- **Nursing interventions** (e.g., wound care, medication administration).
- **Clinical decision-making scenarios** (e.g., handling medical emergencies, prioritizing care).

Each session will involve hands-on practice with **high-fidelity mannequins** and **role-play exercises** with standardized patients. Students will participate in debriefing sessions after each simulation to reflect on their actions, critical thinking process, and decision-making.

Data Collection Tools:

1. **Clinical Skills Assessment Checklist**: A comprehensive checklist will be used to evaluate students' clinical skills before and after the simulation intervention.

2. **Critical Thinking Skills Assessment**: The **California Critical Thinking Skills Test (CCTST)** will be administered to assess students' critical thinking abilities.

3. **Questionnaire on Perceived Value of Simulation Training**: A survey will be conducted to gather students' perceptions of the usefulness of simulation training in their learning process.

Data Analysis:

- **Descriptive statistics** (mean, median, standard deviation) will summarize demographic information and baseline data.
- **Paired t-tests** will be used to compare pre- and post-intervention scores for clinical skills and critical thinking assessments.
- **Thematic analysis** will be employed to analyze qualitative data from students' perceptions.

Results:

Based on the 100 nursing students who participated in the simulation training, the following results are expected:

1. **Clinical Skills Improvement**:
   - Pre-intervention clinical skills assessment scores will show that students have a basic understanding of clinical skills but may lack proficiency in advanced procedures.
   - Post-intervention results will show significant improvement in clinical skills, including patient assessment, basic life support, and clinical decision-making.

2. **Critical Thinking Enhancement**:
   - Pre-intervention critical thinking scores will show a moderate level of ability to think critically under pressure, but with room for improvement.
   - After the simulation training, critical thinking scores are expected to increase, indicating that students are better able to assess situations, make decisions, and act confidently in clinical settings.

3. **Perceived Value**:

   o The majority of students will express a positive perception of simulation training. They will report that the hands-on practice improved their clinical skills and critical thinking, providing a safe environment to make mistakes and learn from them.

Conclusion:

The results of this study will suggest that simulation-based training significantly enhances the clinical skills and critical thinking abilities of nursing students in Indore. By providing a safe, controlled environment for students to practice various clinical scenarios, simulation training helps bridge the gap between theoretical knowledge and real-life clinical practice. The study will highlight the value of simulation as an educational tool in nursing programs and encourage its integration into the nursing curriculum in India.

Furthermore, the positive feedback from nursing students will support the notion that simulation training is not only beneficial in improving clinical proficiency but also in boosting student confidence and decision-making skills. This study will serve as a stepping stone for further research into optimizing simulation-based education in nursing.

References:

1. Cook, D. A., & Garside, S. (2015). "The relationship between simulated learning and clinical performance." *Medical Education, 49*(3), 245-257.

2. Foronda, C., et al. (2013). "The effectiveness of simulation in teaching nursing students in clinical settings." *Journal of Nursing Education, 52*(5), 282-289.

3. Khamis, M. A., & Zainal, N. (2018). "Simulation training in nursing education: An overview of the benefits and challenges." *Nurse Education Today, 64*, 40-45.

4. Luctkar-Flude, M., et al. (2012). "Simulation-based education in nursing: A systematic review." *Journal of Clinical Nursing, 21*(9-10), 1312-1324.

5. Ziv, A., Ben-David, S., & Ziv, M. (2005). "Simulation-based medical education: An opportunity to learn from errors." *Medical Teacher, 27*(3), 315-320.