



International Journal of Advance Research in Nursing

Volume 6; Issue 2; Jul-Dec 2023; Page No. 46-48

Received: 07-06-2023
Accepted: 03-08-2023

Indexed Journal
Peer Reviewed Journal

A literature review of simulation-based training for nurses in India

¹ Nuzhath Alam Piyare Jan

¹ Vice Principal and Professor, Kingston Imperial Institute of Medical Sciences, Dehradun, Uttarakhand, India

DOI: <https://doi.org/10.33545/nursing.2023.v6.i2.A.340>

Abstract

Abstract: An increasingly common educational strategy is simulation-based nursing education. Through a variety of real-life situations encounters, it offers students the chance to hone their clinical and decision-making abilities. However, there is a continuum of simulation methodologies, from low fidelity simulation to high fidelity simulation. A popular method of raising the standard of healthcare is simulation-based training. Systematic reviews haven't yet been able to confirm its impact on registered nurses, nevertheless. This systematic review's objective is to assess the impacts of simulation based nursing education on the skills & knowledge of nurses. Nursing candidates learn the foundations of treating individuals who are ill or disabled through simulation. The skills necessary to succeed in the field can be practiced by students without ever putting a real patient in danger by simulating real-world nursing situations and experiences. Trainees can receive constructive criticism in settings that are strictly regulated and supervised, which helps them learn about clinical practises in general.

Keywords: Simulation, nurses, nursing training, simulation based training

Introduction

Simulation is a strategy for augmenting or replacing real-life experiences with guided experiences that are an exact replica of the real world in a completely interactive manner. Simulation is the process by which we try to achieve results that are as close to clinical practise as possible [1]. A patient care scenario that would probably recur in clinical settings is applied in a safe educational setting through simulation based education to provide opportunity for nurses to practise managing the problem and develop their abilities, hence lowering the likelihood of error in actual clinical settings [2]. Many institutions have incorporated SBL into the nursing curriculum to foster the development of these abilities, including the capacity for teamwork, self-evaluation, and the application of nursing students practise critical thinking while engaging with real patients [3]. The utilization of simulation has increased significantly as a result of evolving patient safety trends, student placement in clinical practice, and ethical considerations. SBL may play a significant role in ensuring that student nurses are properly prepared for the transition into a changing healthcare environment [4]. Students can utilize simulation to work in a setting that closely resembles a hospital in order to obtain experience in nursing and healthcare before they begin working as professionals. The pupils are able to put what they have learned to work, deal with problems and barriers, and even make mistakes without harming themselves. There is no risk to the patients and everything is done in a secure setting [5, 6]. Clinical experience is incorporated into the nursing curriculum to prepare students for the transition to the

position of professional nurse [7].

Mamtha IV, *et al.* (2020) [19]. A comfort test of 50 nursing students from B.Sc. programmes was used to conduct this randomised controlled study. 2019-2020 is the chosen year for the nursing course understudies. To the experimental & control groups respectively, were allocated students. Students in the experimental group received simulation training in child assessment and care, while students in the benchmark group received traditional training methods as preparation. Understudies in the clinical competence and knowledge scores were higher in the experimental group than in the control group. The development of their fearlessness was significantly aided by simulation training. Nursing simulation is a technique, not a technology. Many people are unfamiliar with simulators because they believe they are complicated and include sophisticated equipment, but in reality, they are merely teaching tools that enable nurses to think on their feet rather than from their seats. These kinds of simulators give beginning nurses and staff nurses the chance to hone their abilities and practice responding to a variety of clinical scenarios. They also allow them to consider on how the simulators behave, what was successful and what needed improvement. This will help nurses hone their clinical decision-making and judgments skills [9].

Types of Simulators

Different types of simulators are there for many different educational purposes. Kinds of simulators are as follows.

S. No	Types of Simulators
1.	Low fidelity simulators
2.	High fidelity simulators
3.	Screen based simulators
4.	Standardized patient educators
5.	Integrated simulators
6.	Human patient simulators

Low fidelity simulators

Low fidelity simulators provide learners with the least amount of reality. In this situation, the students interact with simulators hardly at all. They lack the capability to provide feedback [9].

High fidelity simulators

High fidelity simulators are another term for human patient simulators. We can offer a variety of real patient scenarios using these simulators, which may be recorded and viewed again at a later time. These simulators allow for the reconstruction of patients in true physical surroundings by connecting via connections to the computer [10].

Screen based computer simulators

Computers and internet applications are used in these screen-based computer simulators. They are designed to compute different kinds of anatomy and physiology or a specific condition. The students get the ability to make wise clinical judgments. There will be feedback or interaction both during and after the process. These simulators are affordable in comparison and can be used by individuals or groups of students [11].

Standardized patient educators

The greatest way to give student nurses the chance to practise their physical examination, history-taking, and other helpful procedures skills is to give them access to patients or other people who are willing to serve as patient educators. "Standard patient educators" are people who have undergone extensive training to simulate the traits of genuine patients so that trainees can obtain the necessary abilities [12].

Integrated simulators

These simulators connect a full-body or individual body mannequin to computer technology. The highly realistic teaching and learning experiences of the teacher and the students are aided by this simulator [13].

Human patient simulators

In nursing and other health care education systems, this kind of simulators incorporates cutting-edge technology. Realistic physiological functions, such as heartbeat, respiration noises that are normal and pathological, and pulse, can interact with students through these simulators [14].

Importance of simulation in Nursing

Healthcare professionals can practice procedures on patients using a simulator, which also allows for a limited number of blunders. The nurses or nursing students discover the process through their own errors. The chance to learn, practice, and improve one's abilities and capacity for decision-making is greatly increased via simulation. Adopting simulation into nursing curriculum is essential for

improving nurses' performance and the efficiency of the healthcare industry. We discovered many benefits to using simulators in nursing practise, thus we must be aware of their importance. All health care professionals now use simulation in their daily work for a variety of reasons, such as patient safety, improved nurse preparation, faculty shortages, limited access to clinical settings, the chance to practise on vulnerable patients, the fact that simulators provide a safe environment for failure, the opportunity to practise important but uncommon events, and the fact that simulation learning provides objective reflection [15].

**Future Simulation Application for Nursing Education
Nurses can gain from simulation-based learning in several academic contexts**

- Training for intubation, placing a central line, and inserting a chest tube can be facilitated by simulation-based learning. These procedures can be carried out in a virtual environment to help students refine their abilities prior to working with real patients.
- Simulator-based learning can aid in the development of medical professionals' communication skills, which are crucial for providing high-quality patient care.
- Through simulation-based learning, nursing professionals can master the skill of effectively working together to deliver first-rate patient care.

Discussion

Manashi Senugupta, Lireni C. Tungoe (2021) [18]. A two-day virtual training session will be used as part of a quantitative study design to provide a deep and comprehensive understanding of simulation based nursing education. A practical sampling strategy was used to choose 203 nurses in total. This study's objective was to assess nurses' understanding of simulation based training for nursing professionals. The participants gave excellent feedback on the training, and the majority of the sample scored highly on knowledge of simulation in nursing education.

The most significant problems with nursing education in India include a lack of clinical skill competences among trainee nurses, inadequate educational supervision, and poor physical & educational infrastructure for skill development. These issues are caused by a geographical imbalance in the field of nursing education [16, 17].

One of the methodological strategies employed in the health care situation is simulation. Since they deal with people constantly, nurses are the ones that need highly skilled labour. While caring for patients and their families, nurses have an ethical and legal obligation to protect them from dangerous operations. A nurse's ability to improve skills and make an informed judgments in a clinical context is assisted by simulation.

Conclusion

- Simulation-based teaching has been shown to improve nursing students' clinical knowledge and abilities as well as their sense of self-worth. Results from this review's analysis looked at how well simulation-based instruction helped students learn.
- According to the combined findings of the studies, nursing students who engaged in simulation-based learning performed better academically than those who

used conventional teaching techniques.

- The goal of nursing education is acquisition of practical skills, which are essential for graduates to quickly integrate into the manpower in addition to the acquisition of sound theoretical knowledge.
- Simulation's continued advancement, along with other instructional strategies, may be very helpful to students as they work to become well-rounded healthcare professionals.

Objective: To review the most recent literature on simulation-based training for nurses in India

Data Source: In PubMed/Medline and Google Scholar, a search was conducted. Simulation, Nursing Students, Nurses, Nursing Education, Nursing Curriculum, and Simulation based training were the keywords employed. Studies published in English between April 2010 and July 2023 were the basis for the online search

Conflict of Interest

Not available

Financial Support

Not available

References

1. Gaba DM. The future vision of simulation in health care. *Quality & Safety in Health Care*. 2004 Oct;13(Suppl 1):i2–10. [PMC Free Article], [PubMed] [CrossRef], [Google Scholar]. DOI: 10.1136/qhc.13.suppl_1.i2.
2. Bond WF, Spillane L. CORE Core Competencies Simulation Group. The use of simulation for emergency medicine resident assessment. *Acad. Emerg. Med*. 2002;9:1295-1299. [Google Scholar], [CrossRef], [Green Version].
3. Oh PJ, Jeon KD, Koh MS. The effects of simulation-based learning using standardized patients in nursing students: A meta-analysis. *Nurse Educ. Today*. 2015;35(5):e6–e15. [PubMed], [Google Scholar]
4. Norman J. A systematic review of the literature on simulation in nursing education. *ABNF J. (Assoc. Black Nurs. Fac.)*. 2012;23(2):24-28. [PubMed], [Google Scholar]
5. Gore T, Hunt CW, Parker F, Raines KH. The effects of simulated clinical experiences on anxiety: Nursing students' perspectives. *Clinical Simulation in Nursing*. 2011 Sep;7(5):e175-e180. [CrossRef], [Google Scholar]. DOI: 10.1016/j.ecns.2010.02.001.
6. Kapucu S. The Effects of Using Simulation in Nursing Education: A Thorax Trauma Case Scenario. *International Journal of Caring Sciences*. 2017 May-Aug;10(2):1069-1074. [Google Scholar]
7. Wang AH, Lee CT, Espin S. Undergraduate nursing students' experiences of anxiety-producing situations in clinical practicums: A descriptive survey study. *Nurse Educ Today*. 2019;76:103-8
8. Healthy simulation. Nursing simulation/about & Resources. Available from: <https://www.healthysimulation.com/nursing-simulation>
9. Health leaders. Health leader media Staff. The many forms of simulation training. 2009 Nov 3. 2009.

Available from:

<https://www.healthleadersmedia.com/nursing/many-forms-simulation-training>

10. Jeanne M. Carey; Kelly Rossler. The how when why of high fidelity simulation. 2021 May 9. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK559313>
11. Durmaz A, Dicle A, Cakan E, Cakir S. Effect of screen-based computer simulation on knowledge and skill in nursing students' learning of preoperative and post-operative care management: A randomized controlled study. *Comput Inform Nurs*. 2012 Apr;30(4):196-203.
12. Lewis KL, Bohnert CA, Gammon WL, *et al*. The Association of Standardized Patient Educators (ASPE) Standards of Best Practice (SOBP). *Adv Simul*. 2017;2:10. Available from: <https://doi.org/10.1186/s41077-017-0043-4> <https://advancesinsimulation.biomedcentral.com/articles/10.1186/s41077-017-0043-4#citeas>
13. Giorgio Guariso, Martin Hitz, Hannes Werthner. An integrated simulation and optimization modelling environment for decision support, *Decision Support Systems*. 1996;16(2): 103-117.
14. Wasson centre for clinical skills. Northeast Ohio medical University. Human patient simulator. Available from: <https://www.neomed.edu/wasson/simulation/human-patient-simulators>
15. Wolters Kluwer. Limited clinical sites for nursing students: Simulations are the answer. *Health*. 2017 March 26, Available from: <https://www.wolterskluwer.com/en/expert-insights/limited-clinical-sites-for-nursing-students-simulations-are-the-answer>
16. Evans C, Razia R, Cook E. Building nurse education capacity in India: Insights from a faculty development programme in Andhra Pradesh. *BMC Nurs* 2013;12:1-8.
17. Tiwari RR, Sharma K, Zodpey SP. Situational analysis of nursing education and work force in India. *Nurs Outlook*. 2013;61:129-36.
18. Sengupta M, Tungoe LC. Knowledge on simulation based learning in nursing education among nursing fraternity in selected nursing institutions of India. *Asian Journal of Nursing Education and Research*. 2021;11(3):409-14.
19. Singh A, Chauhan P, Mamatha TG. A review on tribological performance of lubricants with nanoparticles additives. *Materials today: proceedings*. 2020 Jan 1;25:586-91.

How to Cite This Article

Jan NAP. A literature review of simulation-based training for nurses in India. *International Journal of Advance Research in Nursing*. 2023;6(2):46-48.

Creative Commons (CC) License

This is an open-access journal, and articles are distributed under the terms of the Creative Commons Attribution-Non Commercial-Share Alike 4.0 International (CC BY-NC-SA 4.0) License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.