

EFFECTIVENESS OF SIMULATION IN NURSING EDUCATION- A NARRATIVE REVIEW OF LITERATURE

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ABSTRACT

Nursing is the fastest-growing career now a days. To be able to work effectively as a nurse after completing training, receiving quality nursing education is the most important factor. Currently, the most effective teaching strategy and method for imparting theoretical knowledge and abilities in the nursing field is simulation. The objective of this literature review is to examine and provide current research on this subject. Literature review was carried out related to the concern derived from Google Scholar, PubMed, CINAHL, ProQuest, Nursing Journal and science direct. It included studies published in English, consuming the following keywords: Simulation, Simulation based education, Nursing, Nursing education. Learning by using simulations allows students to practice in a controlled environment without any fear of harming human beings. This will enhance their problem solving skills in clinical practice. Practicing in such protected environment and the sense of

safety boost students' self-esteem and self-confidence. This may help in reducing the gap between practice and clinical experience on patients.

Key Words: Simulation, Simulation based education, Nursing, Nursing education

INTRODUCTION

Nursing is the most emerging profession now a days, both the genders including males and females are keenly interested to opt this profession. The essential aspect of becoming a nurse is to get quality nursing education, so that he/she can serve productively after completing their training. Nursing education comprises of two main components including theoretical content and strong command on nursing skills. These are the basic pillars to become a professional nurse. As this profession demands a lot of clinical expertise, which requires lot of hands on practice. Nursing education has flourished with the passage of time. To develop a nurse expertise on the clinical side, simulation based nursing education was introduced. It is one of the artistic way to help nursing students to learn the skills and establish their decision making power on manikins that gives the sense and feeling of a real bedside scenario(1). It has emerged from a single hand for practicing cannulation to high fidelity simulation. It facilitates students to develop clinical expertise by practicing skills on dummy patients. It helps to enrich their communication skills, as a novice student nurse they are very confused about how to introduce themselves to patients or how to handle the critical situations like if the attendants are creating panic(2). This opportunity serves them as a rehearsal ground to polish their skills before they start working on human patients.

The simulation based learning offers to practice in different clinical scenarios, which includes difficult clinical situations as well. In addition, simulation based sessions are carried out under faculty supervision so that learners can get constructive feedback about their performance. They can make it better according to the guidance of highly trained and skillful mentors. It is also essential to see the efficiency how simulation based learning has made difference in the journey of nursing students. Simulation provides multiple times practice on same skill which is otherwise difficult in

real life patient(3). Even with simulators at the beginning, some students feel uncomfortable about learning these skills but after practicing them in the skills lab on manikins they become well confident and learn to become experts with time.

A study by Salma (2020) with the support of pre and post study intervention, a Quasi- experimental study design was conducted to explore the usefulness of simulation based nursing education in teaching end of life care to undergraduate nursing students at a private sector university in Karachi, Pakistan(4). The study participants gave feedback that this study helped them to learn how they have to deal with their emotions, when they are caring for a patient who is near to death. Secondly they have learned to enhance their attitudes and behaviors towards the family and patients who are experiencing these situations. Another study conducted by Carrero (2021) on simulation based education and its effects on nursing students accounts high satisfaction levels among students and they illustrated that their confidence levels have raised by this teaching pedagogy(5). It is evident from the above studies that teaching simulation based education, facilitates students in gaining best skills to serve the patients. A strong literature review is carried out to find out the effectiveness of simulation based nursing education introduced for the students.

As it is evident from the above mentioned studies that, it is very effective strategy to utilize simulation based nursing education for nursing students. It is essential to identify strategies to help students learn through this teaching modelity and to make ways to use these facilities at its best. Therefore, the purpose of this review was to explore the level of knowledge and confidence development by the use of simulation based education for nursing students, to check the attitude and behavioral changes of students that they develop through simulation based education and to examine the development of effective communication skills and to find the strategies to make this more acquainted and beneficial for students.

METHODS

Search Strategy

Literature search was done using Google Scholar, PubMed, CINAHL, ProQuest, Nursing Journal and science direct. "Simulation based nursing education, Strategies proposed to effectively utilize simulation based education, effectiveness of simulation based education, simulation based nursing education benefits for student nurses, knowledge enhancement of nursing students by simulation, faculty perception on simulation based education, high fidelity simulation and nursing student's perceptions", were used as keywords in searching articles. Total number of articles searched were 33 which included articles from various fields after sorting out for nursing linked articles 20 were selected, out of which 11 were offered as full text articles and when the abstracts were screened for most relevant and suitable articles, 07 were finally identified. Literature on simulation based nursing education in Pakistani (local) context was also searched and only one article was identified. A summary of the literature search is given in Figure 1.

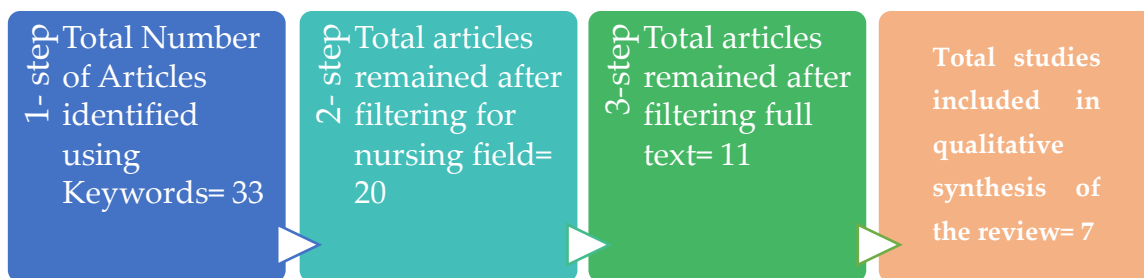


Figure 1. Summary of the literature review – screening, identification and selection of studies

LITERATURE ANALYSIS

With the advancement in time and technology, health related domains are also showing great progression. Nursing being the fundamental part of the healthcare system has also evolved with passage of time. This has involved advanced teaching methodologies, well qualified trainers, producing trained and skilled nurses. Simulation based education plays a vital role in preparing practically equipped nurses. A skills oriented pedagogy, used to teach nursing care to the students. It is a teaching methodology through which the gap between theoretical knowledge and practical application can potentially be filled(6).

Simulation based education prepare nursing students in various ways. This teaching method helped the students to gain a lot of knowledge and confidence through practicing skills in a specified area where manikins are present. When students get a chance to practice skills on manikins, it benefits them to develop more knowledge and understanding, as they are performing different scenarios including critical incidents so they get a chance to learn how to deal with them in actual setup. To practice it more thoroughly they can even repeat it multiple times to polish their skills and get perfect hands-on, so that they get well prepared to apply it on real patients.

When students perform skills on dummy's they gain confidence because as a student it is difficult to directly perform on the actual patients. They are novice so they become very anxious but with repetitive practice they get comfortable and competent. According to a research study this method facilitates students to manage their anxiety and fear related to dealing with patients in real bedside experiences. This helps them to practice in safe boundaries where there is no chance of harm(5).

Another domain in which simulation based education has worked is the attitude and behavioral modification. As student nurses the transition from didactic teaching to functioning as student nurse in clinical setup is very difficult, as they are not aware of the actual situation of bedside setup. This approach provides exposure on how to deal with those situations that are emotional or sensitive. It gives experience and makes a nurse stronger to deal with the critical conditions.

According to the research study high fidelity simulation facilitated nursing students to deal with patients who are at the end of their life's. It is the most crucial stage in the clinical experience. It is very important that the nurse should be proficient to handle these sort of panic circumstances. Simulation based practices helped nursing students to learn how to control their feelings and emotions while having these sort of situations. It facilitated them to get relaxed from the fear of unfamiliar scenarios. The most essential goal that is achieved through this practice is the accomplishment of quality care outcomes(4).

When the author was serving as a student nurse and was assigned in the oncology unit, she encountered a scenario where an 18year old boy was suffering from lung cancer. He was extremely sick, on continuous bipap support. The family was very concerned; all the members of the family were literally crying as the patient was very young and was fighting the battle of life and death. The author was also crying while standing at a side, unable to hold emotions. Thus simulation based approach would have helped students as well if they have practiced such scenarios in the lab. Because a nurse should be the strong person to deal with these sort of circumstances. If a nurse start crying and feeling down, then who would be the one to take care of this situation. This approach is the best one to teach nurses about their behavioral and attitude adaptation.

One more aspect that is well established through simulation based teaching pedagogy is communication skills. It is the most important feature of a professional nurse that, they must use effective communication techniques including verbal and non-verbal cues to deliver something to the patients and their families. If the communication is effective and therapeutic then a nurse can

efficiently deal with any sort of situations. Either it is a normal meet and greet or a critical panic state. But, when we talk about nursing students, they are very new to the profession. They don't know how to dialogue with the patients and their families? How to explain medical terminologies? How to talk when there is a code blue or life threatening situation? They must be skilled to deal all this. Thus, simulation based approach is the best platform where they can learn how to handle them with effective and therapeutic communication techniques. Through this they can identify their flaws and again they can practice it more to gain self-confidence. According to a study, simulation based clinical practices enables nursing students to enhance and nurture their communication skills and polish their cognitive abilities to perform more productively in the patient care areas(7).

This teaching pedagogy can be made more fruitful for the nursing students by providing high fidelity simulation arrangements in which they can learn with advance technology. Secondly, nursing faculty should be competent and qualified to conduct simulation sessions. They must be well acquainted to the advance manikins. Thirdly, there should be a system of providing feedback to the students while they are performing, so they can improve their skills and can apply them in their clinical rotations and further more in their professional life.

CONCLUSION:

Simulation based teaching is hence an effective and advantageous pedagogy for teaching nursing students to enrich their skills and give best patient outcomes in their clinical experience. Students have found a drastic change in their teaching and learning journey, when they were introduced with this effective method to polish themselves. It should be used in all the setups to help students develop their skills and empower their knowledge to achieve quality care which is the chief goal of nursing profession.

REFERENCES

1. Kim J, Park J-H, Shin S. Effectiveness of simulation-based nursing education depending on fidelity: a meta-analysis. *BMC Med Educ*. 2016 Dec 23;16(1):152.
2. Aebbersold M. Simulation-Based Learning: No Longer a Novelty in Undergraduate Education. *OJIN Online J Issues Nurs*. 2018 Apr 3;23(2).
3. Shin S, Park J-H, Kim J-H. Effectiveness of patient simulation in nursing education: Meta-analysis. *Nurse Educ Today*. 2015 Jan;35(1):176–82.
4. Rattani S, Kurji Z, Khowaja A, Dias J, AliSher A. Effectiveness of high-fidelity simulation in nursing education for end-of-life care: A quasi-experimental design. *Indian J Palliat Care*. 2020;26(3):312.
5. Carrero-Planells A, Pol-Castañeda S, Alamillos-Guardiola MC, Prieto-Alomar A, Tomás-Sánchez M, Moreno-Mulet C. Students and teachers' satisfaction and perspectives on high-fidelity simulation for learning fundamental nursing procedures: A mixed-method study. *Nurse Educ Today*. 2021 Sep;104:104981.
6. Eyikara E, Baykara ZG. The importance of simulation in nursing education. *World J Educ Technol Curr Issues*. 2017 Jan 2;9(1):02–7.
7. Luo D, Yang B-X, Liu Q, Xu A, Fang Y, Wang A, et al. Nurse educators perceptions of simulation teaching in Chinese context: benefits and barriers. *PeerJ*. 2021 Jun 17;9:e11519.