Simulation in nursing: Where are we now?

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ABSTRACT

Despite the overflowing evidence on the promising impact and influence of simulation-based learning as a clinical training strategy for strengthening students' and professional nurses' competencies, it has not been fully utilized. The integration and implementation of simulation-based learning in the nursing curriculum and professional development activities of professional nurses are difficult because of the many challenging factors. However, these challenges are risks worth considering, if the benefits contribute to the delivery of safe and high-quality patient care. Moreover, while the First World countries are quite busy exploring and experimenting with the influences and effects of different simulation modalities used in healthcare, the low and middle-income countries are still struggling to find a way to start a simulation-enabled learning environment due to a lack of financial and logistic resources.

Keywords: nursing, simulation-based learning, challenges, safe and high-quality patient care

Despite the overflowing evidence on the promising impact and influence of simulation-based learning as a clinical training strategy for strengthening students' and professional nurses' competencies, it has not been fully utilized. There are higher educational institutions (HEIs) offering Bachelor of Science in Nursing programs that have already integrated simulation into their curriculum, and some hospitals have adopted simulation as part of their professional development activities; however, many are still awaiting training. The integration and implementation of simulation-based learning in the nursing curriculum and professional development activities of professional nurses are difficult because of the many challenging factors in setting up a training facility, such as infrastructure, appropriate selection of simulation modalities, expensive simulation equipment and simulators, training of trainers, logistics, and additional manpower for technology management. However, these challenges are risks worth considering, if the benefits contribute to the delivery of safe and high-quality patient care.

Simulation in healthcare is a clinical training strategy that allows participants to experience realistic clinical scenarios and to practice without harming real patients (Guerrero et al., 2022a). A national simulation study conducted in the United States reported that up to 50% of the traditional clinical training experience could be replaced by simulation (Hayden et al., 2014). In Saudi Arabia, a study conducted by Guerrero (2023)

reported that high-fidelity simulation can replace up to 40% of traditional skills, laboratory sessions, and clinical training. However, its effectiveness depends on the frequency of exposure and quality of the scenarios. Learning through simulation-based training improves participants' critical thinking skills, learning retention (Guerrero et al., 2022b), advanced clinical competencies (Kaliyaperumal et al., 2021), boosts clinical reasoning, enhances self-confidence in the clinical environment (Crowe et al., 2018), and improves teamwork and communication (Davis et al., 2018).

Furthermore, the use of simulations in the healthcare industry is growing rapidly, and the global market for healthcare simulations is predicted to increase by 2027 by around $3.19 and $7.7 billion, with a yearly investment growth rate of 14.6% to 17.8% (Sawyer et al., 2022). Simulation strategies have been widely adopted by healthcare industries in developed countries (Ismail et al., 2024). While the First World countries are quite busy exploring and experimenting with the influences and effects of different simulation modalities used in healthcare, the low and middle-income countries are still struggling to find a way to start a simulation-enabled learning environment due to a lack of financial and logistic resources.

Exploration of the other benefits and effects of simulations in improving safe and high-quality patient care should continue for better healthcare delivery to individuals, families, communities, and age groups worldwide. HEIs offering nursing programs, and hospital nursing administrators should take the initiative to collaborate with institutions and organizations with strong backgrounds to facilitate simulation activities to help them build a culture of simulation in their own backyards. Additionally, simulation advocates, organizations, and global healthcare simulation market players should extend their support and pledge their commitment to help HEIs offering health-applied programs, particularly nursing programs, and hospitals in low and middle-income countries to achieve sustainable global health for the people.

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