

SIMULATION IN NURSING

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ABSTRACT

Simulation in education is a specially designed animated model that looks like a live environment in which learners can experience different real-life situations. This is an effort to improve the alignment of coursework and field experiences. A simulation program can be based on hypothetical situations to study how a system works. These kinds of programs allow the learners to modify the variables in the provided virtual scenario.

KEY WORDS: Simulation, Education.

INTRODUCTION

Simulation is a technique or device that attempts to create characteristics of the real-world situation. Simulation allows the educator to control the learning environment through scheduling of practice, providing feedback, and minimizing or introducing environmental distractions. In health care, simulation may refer to a device representing a simulated patient or part of a patient; such a device can respond to and interact with the actions of the learner. Simulation also refers to activities that mimic the reality of a clinical environment and that are designed for use in demonstrating procedures and promoting decision making and critical thinking. In health care education, simulation can take many forms, from relatively simple to highly complex.

Importance of Simulation in Nursing Education

Nursing education involves a practice-oriented curriculum in which emphasis is placed on both theoretical knowledge and psychomotor skills.

- In skill-based education, where learning through practice occupies a central role, it is important to ensure the integration of theoretical knowledge into practice.
- In this context, simulations represent an innovative teaching method that stimulates a number of senses at the same time among learners.
- Simulation is a method which can be designed to reflect real-life conditions, and which provides the opportunity to work in contexts that are closer and more representative of real settings.
- Depending on the clinical situation or scenario; the simulation method will involve a student or a group of students performing a number of patient care

activities on a manikin, player or standardized patient.

- The simulation method allows students to repeatedly practice their clinical skills until they develop a sense of proficiency; to learn at their own pace; and to freely make mistakes. Simulations is an educational process that can replicate clinical practices in a safe environment.
- Nursing students who take part in education programs involving simulations perform fewer medical mistakes in clinical settings, and are able to better develop their critical thinking and clinical decision-making skills.

For these reasons, we recommend that simulations, which represent an interactive learning method, are rendered more common in institutions providing nursing education.

Purposes of Simulation in Healthcare

Healthcare simulation has four main purposes: Education, assessment, research, and system integration.

- **Simulation education:** Simulation in education provides a safe and controlled environment to teach a wide set of skills, both technical (e.g. injections, IV placement) and non-technical (soft skills such as communicating with patients).
- **Simulation-based assessment:** Simulation also provides a reliable educational assessment method. Assessing knowledge via exams, whether written or oral, have been a traditional way of testing for competency. However, when real tasks can be accurately simulated, having students demonstrate

competency becomes the basis for effective evaluation.

- **Simulated-based research:** Testing medical devices or new techniques under a range of simulated conditions before they are used on real patients is one type of simulated-based research. Other types of research in this area include studying new procedures and methods in simulated conditions, and data collection via patterns in computer-based simulations. “The ultimate goal of increasing knowledge and understanding to improve training, evaluation, and design of systems is the same.”
- **Systems integration of simulation:** This refers to the integration of simulation-based learning into institutional healthcare training and delivery systems.

Using simulation to build clinical experience

Healthcare simulation in nursing education is not a new concept. It's been used historically to teach and verify competency through the creation of real-world situations and experiences.

- The simulation-based learning framework focuses on a learner-centered approach to teaching skills, collaboration, clinical decision making, prioritization, communication, and critical thinking to support clinical judgement in patient care.
- There are several types of healthcare simulation tools and scenarios used in education today, including whole-body manikins—either static, where the manikin does not respond to the learner, or high-fidelity where it does—to task trainers or actors who portray patients, to simulated healthcare scenarios using augmented and virtual reality software platforms.
- With the move from in-person to the virtual classroom settings due to the pandemic, virtual simulation (VS) has moved front and centre and enabled many students to experience a realistic experience through digital tools, from the comfort and safety of their homes.
- These programs provide authentic experiences for students to interact, learn and enhance their clinical decision making, collaboration, and clinical judgement skills. Schools of nursing have adopted virtual simulation tools as their go-to alternative to clinical experience.
- The Society for Simulation in Healthcare supported the use of simulation as a viable, evidence-based, alternative to in-person clinical experience several years earlier, while the National Council of State Boards of Nursing had previously recognized that in-person clinical experience could be difficult to obtain, even before the pandemic, so recommended that simulation could be used as substitute for up to half of the clinical hours of experience required in undergraduate education.

- In fact, healthcare organizations have recognized that simulation is an effective way to teach new skills and assess and insure competency of all nursing staff.
- Nursing education demonstrated it could evolve quickly to meet the needs of its students during a health crisis. And the collaboration and innovation of simulation product developers, educators, learning management systems and technology has positioned nursing education well to support the future of healthcare.

CONCLUSION

Simulation-based education is a teaching and learning approach that can enhance learning experiences for students on healthcare programmes. Within undergraduate nursing and midwifery education, simulation can support students in developing graduate attributes necessary to become practice-ready professionals.

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