

SIMULATION-BASED LEARNING (SBL) IN MEDICAL EDUCATION

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Simulation is a Latin word ‘simulare’ which means to copy or imitate. It can be defined as when conditions is formulated artificially to explore any possible medical procedure in a real-life situation. It is an artificial representation of the real-world process. Simulation-based learning is a growing field that offers a safe, controlled learning set up for medical students and professionals.¹ Simulators had been influential method of learning in medical and nursing education for around 400 years from the development of mannequins (dummies) in mid-17th century. However, it was once restricted to the practice of basic skills, but now it can be employed to increase learning competency and patient safety and hence it can diminish medical errors and improve team management skills among trainers and learners.² Also, simulators play a huge role in the grading criteria of the student as these are the best tool to assess the performance of learner clinical skills because it provides clear feedback about the competency of an individual when exposed to different artificial clinical scenarios.³

The literature search revealed both advantages and disadvantages of simulation-based learning. Some of the pros of using simulators are as mentioned. Deeply engaged learning: the simulated procedures and scenario-based learning provide a unique learning experience; they are real enough to involve students emotionally, such as high fidelity simulator ‘patient’ can take breaths, talk, blinks and move like real human.⁴ Understanding of intellectual concepts from in undergraduate studies, simulation can enhance the basic concepts of medical sciences students, e.g., how the drugs affecting the blood pressure would be difficult to perceive using traditional methods but it may be

understood better using simulation-based approach.⁵ self-confidence and satisfaction: Before the actual performance on patients, the simulation teaching can boost the students’ performance as one study reported that the training of medical students to handle resuscitation in shock increased their confidence to a greater level. The study by Ten Eyck et al. also reported the same results.^{6, 7} Patient safety: the practice of medical students directly on human subjects may put the patients at risk; therefore, the prior practice of procedures on simulators in control environment can save the patients from the risk of harm.¹

Furthermore, healthcare and academic institutions around the globe are now realizing the significance of SBL, and they are making arrangements for modern skill labs where simulation-based learning opportunities can easily be introduced. Other regulatory organizations are also accepting that hours of teaching spent on simulation-based practice is more beneficial than traditional teaching methods.⁸ In today’s era, the medical education is firmly linked to the correct medical practice and require real medical experience, for that, a planned curriculum and standard educational tools should be designed to complement bedside teaching. However, maintaining these standards require professional skills and expertise for instructors of SBME (simulation-based medical education).⁹ Also, the well-equipped tools in the simulation skill lab and high-fidelity simulators are necessary for the training of healthcare professionals in the 21st century. Educators’ training in SBME must be done in the shape of feedback, debriefing skills and problem-solving scenarios. This way, it can assure the effective utilization of simulation.¹⁰

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