

Brief Note on Simulation Techniques in Medicine

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EDITORIAL NOTE

As medicine is a time-consuming and difficult practice, the proficiency and effectiveness of medical professionals are expected. Students of medicine and residents face an additional challenge in keeping up with the most recent standards of care due to the continually changing pattern of healthcare delivery [1]. Calls to shorten professional training and impose time limitations throughout the educational process have the adverse effect of reducing student's and resident's access to acceptable quality and quantity of clinical experience.

This is an area where simulation could thrive. It can give an acceptable variety and number of clinical scenarios for all learners. Furthermore, by exposing all participants to the same scenarios and unique clinical cases, a more conventional approach to clinical curricula would be possible. This could be useful later on in potentially confronting the inadequacy and lack of preparedness that students of medicine and novice physicians have felt in recent years [2].

It's critical to change people's perceptions of simulation as a universally expensive commodity. Low-fidelity simulators, such as SPs and part-task trainers, are widely available, low-cost, and simple to use [3]. This can make it easier to incorporate into continuing education and recertification programs without having a significant financial impact [4].

The majority of medical care is now delivered by teams, and simulation, in conjunction with Crisis Resource Management and team training strategies, is critical to increasing patient safety [5]. Real team training has an advantage over improvised team training in that it allows for better observational learning, verbal persuasion, and heightened physiological responses due to familiarity among the members. Furthermore, putting a team simulation to the test in the field produces significantly more useful data than doing it in a simulation centre [6].

It's also crucial to address the misconception that simulation is exclusively for improving psychomotor skills. Simulation increases participant affective interpersonal communication, according to studies, and results in more compassionate and capable workers entering the industry [7].

The value of simulation is that it allows participants to review clinical events and practice skills individually and as a group until they attain competency. As a result, a new model of medical education is needed, one that prioritizes patient safety, avoids the flaws of exclusively apprenticeship training, and allows limitless opportunity to practice and refine skills in a risk-free environment.

A progressive approach is required to incorporate Healthcare Simulation (HS) as a teaching tool into undergraduate and postgraduate medical education curriculum. The gathering of human capital is the first step. As a teaching method, simulation requires well-trained facilitators. Improper objectives, inadequate to no learning, and distracted or even psychologically harmed participants can all result from a poorly conducted simulation. Before preparing for introduction and implementation of simulation as an educational method, medicine institutions must understand this and give proper training to their faculty in the operation of healthcare simulators. Following best practices during the pre-brief, the simulation itself, and debrief (including skill sign-off) is critical to a simulation program's long-term success [8].

The next step is to incorporate simulation into a teaching program's conventional curriculum. This can be accomplished by incorporating this modality into an existing curriculum or by creating new curricula. In four phases, the program director, content expert, and simulation expert collaborate to complete the process (planning, execution, evaluation, and revision) [9].

It is intended to provide feedback for additional practice in order to fix errors until the participant demonstrates competency and progresses to the next skill. It's also great for learning operations that aren't done very often. Simulation is versatile in that it can be used to improve learner confidence and self-sufficiency as well as enhance psychomotor skills.

The goal of mastery learning is to acquire a greater degree of performance than basic competence. Because each resident has distinct talents and weaknesses, mastery takes a variable amount of time. To continue through instructional units of increasing difficulty, each participant must fulfill a predetermined criterion. Once a skill has been mastered, the range of difficulty and

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clinical variance in simulation training is raised. Both must be altered in accordance with the training program's requirements [10].

When individuals are given time to achieve goals at a speed that is appropriate for their learning abilities, true learning occurs. Simulation can be integrated into courses with the help of qualified facilitators to achieve desired outcomes.

CONCLUSION

It is critical that Healthcare Simulation (HS) be implemented in undergraduate and postgraduate medical education all across the world. Although the evidence for its effectiveness in adult learning is overwhelming, its use is inconsistent and opportunistic. For the future, medical education needs to produce proficient and poised doctors. As a result, students and residents should be given opportunities to practice and perfect their skills before encountering real patients.

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