Clinician's Commentary on Mori et al.¹

Mori and colleagues' well-done systematic review of simulation learning in physical therapy entry-to-practice curricula raises some interesting issues. As the authors note, simulation learning has been around for several decades, in many different forms. Although Mori and colleagues defined simulation quite broadly, as "the range of learning experiences (e.g., role playing) in which the learner had the opportunity to interact with the simulated clinical scenario," they still found only 23 articles to include in their review. Their extensive search initially found 800 abstracts, however, which probably reflects the fact that this field is still establishing itself and there is no agreed-upon definition of simulation learning, especially as it relates to entry-to-practice curricula. Depending on the definitions used, simulation learning can include standardized patients (low fidelity) and virtual reality (intermediate fidelity), as well as the high-fidelity simulations with computerized mannequins used for such purposes as practising surgical skills and CPR training, which are shown in the media when any new simulation centre is opened.

Patient safety, although not specifically mentioned in this article, has been one of the main drivers of patient simulation, and especially of high-fidelity simulation. Close to a decade ago, the Canadian Patient Safety Institute took the lead in this area, in response to data emerging across the country that showed an increasing number of adverse events in hospitals.^{2,3} Patient simulation was seen as both a safer and a more ethical way to learn than practising invasive techniques on real patients, and using simulation is also a way to teach patient safety competencies.⁴

Mori and colleagues divided the studies they reviewed into four key areas, based on the different learning objectives of the simulation activities.

GROUP A: SIMULATION ACTIVITIES FOR LEARNING SPECIFIC SKILLS

The authors found eight studies that used simulation as a means to measure or provide feedback to students on a specific physical skill, including mobilizations and the use of ultrasound. The use of simulation for these types of specific physical skills can be extremely helpful in physiotherapy, as there really is no other way to get detailed actual feedback for many of the "hands-on" techniques that we use daily within our scope of practice.

GROUP B: INTERACTIVE COMPUTER GAMES OR PROGRAMMED SIMULATION LEARNING ACTIVITIES

Mori and colleagues note that there have been few studies so far using interactive computer games or programmed simulated learning activities, and that the existing studies have methodological limitations.¹ This is interesting, as we have recently seen more and more emphasis and investment, at universities across Canada and around the world, in the area of online learning. The underlying assumption seems to be that younger learners will actually want to learn online because of their previous experiences with computers. It could be argued, however,

that while the latest generation may know how to use technology, they tend to use the Internet to find answers to specific questions, but not necessarily to learn something. As was noted by Gaba, an early researcher in the area of simulation, simulation is a socially constructed undertaking and does not occur in a vacuum; it is an activity conducted for various purposes in the social world of education, research, and work.^{5(p.12)} Certainly more work needs to be done in this area, as it seems that technology is driving interventions that are not necessarily being grounded in adult learning principles and educational objectives.

GROUP C: SIMULATION FOR MANAGING A CASE PRESENTATION

Patient simulation has been shown to be a fantastic technique to train both students and practising clinicians on issues of inter-professional collaboration, including high-risk situations (e.g., a patient in cardiac arrest and/or requiring intubation) in which many different team members must work together in a coordinated way.⁶

Therefore, it is somewhat surprising that only a few of the studies reviewed mentioned inter-professional education as a component. This may reflect the fact that many of the recent inter-professional activities using simulation have not actually been carried out within a research framework. As Mori and colleagues acknowledge, they did not search the grey literature, where many of these projects' findings might have been found.

GROUP D: USING SIMULATION TO REPRESENT CLINICAL EDUCATION

Significant changes in health care delivery in recent years have made it more and more challenging for academic coordinators of clinical education in Canadian physiotherapy programmes (comprise the National Association of Clinical Educators in Physiotherapy, NACEP) to provide clinical placements for students. The findings of Mori and colleagues' review suggest that simulation may help to take some of the pressure off, but it is not a panacea. In a patient-oriented profession, simulation will never replace the need for clinical placements that involve real patients, in real situations, in real clinical environments. But the use of simulation learning may allow programmes to partner more closely with clinical environments. Physiotherapists working mostly in clinical settings could help design and validate clinical scenarios used in simulation to better reflect real-life situations.

CONCLUSIONS

Certainly many physiotherapy programs across Canada have embraced simulation learning in some form, especially in the area of cardiorespiratory physiotherapy and inter-professional education and practice. Many certification programmes and licensing exams in the profession also use simulation. Mori and colleagues' review will be helpful to these groups and others, as it provides up-to-date evidence on the use of simulation in

physical therapy entry-to-practice programmes. It also identifies several gaps in the literature and areas for future research. It is imperative that physiotherapists be key players in the advancement of this field.

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