



Featured Article

Deteriorating Patients: Global Reach and Impact of an E-Simulation Program

Simon J. Cooper, PhD^{a,*}, Ruben Hopmans, MSc^b, Robyn P. Cant, PhD^a,
Fiona Bogossian, PhD^c, Anita Giannis, MEdSt^d, Rosey King, MA^a

^aSchool of Nursing Midwifery and Healthcare, Federation University Australia, Churchill, Victoria 3350, Australia

^bDepartment of Physiotherapy, Monash University, Frankston, Victoria 3199, Australia

^cSchool of Nursing, Midwifery and Social Work, The University of Queensland, Brisbane, Queensland 4072, Australia

^dSchool of Health Sciences, Federation University Australia, Mt. Helen, Victoria 3353, Australia

KEYWORDS

clinical knowledge;
continuing education;
nursing;
e-simulation;
nursing assessment;
students;
nursing;
work readiness

Abstract

Background: E-simulation may enable a feasible education solution to the management of deteriorating patients.

Method: The study involves a pre–post quasi-experimental evaluation of global data on educational outcomes from an e-simulation program.

Results: Qualified nurses ($n = 1,229$) and final year nursing students ($n = 1,742$) were among 5,511 participants from 20 countries who completed the program. Both groups' knowledge and performance improved significantly ($p = <.001$) with no difference between groups. Regression analysis revealed predictors of performance were education level, knowledge, experience, and being female. Participants positively evaluated the program and mode of delivery.

Conclusion: E-simulation may enhance students' preparation for practice and improve qualified nurses' management of deteriorating patients.

Cite this article:

Cooper, S. J., Hopmans, R., Cant, R. P., Bogossian, F., Giannis, A., & King, R. (2017, November). Deteriorating patients: Global reach and impact of an E-simulation program. *Clinical Simulation in Nursing*, 13(11), 562-572. <http://dx.doi.org/10.1016/j.ecns.2017.06.004>.

© 2017 International Nursing Association for Clinical Simulation and Learning. Published by Elsevier Inc. All rights reserved.

Conflict of interest: The authors declare they have no conflict of interest. Ethical statement: Applicable University and Institutional Ethics Approval were received for all phases of program development (2012-2014) (Lead institution: Monash University Human Research Ethics Committee CF11/3414-2011001825). Ethical approval was gained from Federation University for data collection and analysis in a further

phase (e-simulation). During online registration, potential participants are informed that anonymised performance data will be collected and that consent is implied if they continue the program. Funding source: not applicable. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

* Corresponding author: s.cooper@federation.edu.au (S. J. Cooper).

Applicable management of patients who are deteriorating is a key patient safety standard of international concern (Australian Commission on Safety and Quality in Healthcare, 2010; National Institute for Health and Clinical Excellence, 2007). Patients may show abnormal

vital and other clinical signs of deterioration for many hours prior to cardiac arrest with resultant low hospital survival rates—16% to 20% globally (Connell et al., 2016). Early warning signs are not necessarily recognised or acted on and clinician responses are dependent on levels of confidence, knowledge, experience, and clinical decision making skills (Massey, Aitken, & Chaboyer, 2009). In preparing nurses for practice, consideration should be given to the increasing demands of the workplace and the demand for high stakes decisions, critical thinking, and effective problem solving (Sharpnack, Goliat, Baker,

Rogers, & Shockey, 2013). Being prepared for specific aspects of practice or “work readiness” overall is essential and can be measured using personal characteristics such as confidence and clinical competence (Caballero, Walker, & Fuller-Tyszkiewicz, 2011), all of which predict work outcomes such as job satisfaction and work engagement (Walker & Campbell, 2013).

Aiming to enhance clinical performance, competence and confidence as preparation for aspects of practice simulation-based educational approaches expose students to believable (high-fidelity) situations and enable rehearsal and repetitive practice in safe settings (Lapkin, Levett-Jones, Bellchambers, & Fernandez, 2009; Ziv, Wolpe, Small, & Glick, 2003). In line with this, a variety of simulation education programs have been developed to improve the application of theoretical knowledge to clinical situations (Sharpnack et al., 2013) and to enhance health professional’s clinical competence in response to specific events—such as patient deterioration management (Hart et al., 2014). For example, Connell et al. (2016), in reporting a systematic review of simulated learning programs, identified that medium- and high-fidelity programs had a significant impact on educational outcomes with some identified clinical impacts. Further, there is sufficient evidence of rigor to include simulation-based assessments as part of a regulatory framework for health professions

(Holmboe, Rizzolo, Sachdeva, Rosenberg, & Ziv, 2011; Larue, Pepin, & Allard, 2015).

Face-to-face simulation programs are effective in enhancing knowledge and skills; however, these programs are costly in terms of equipment, skills, time, and the resources required to develop and supervise scenarios (Cooper, Porter, Bogossian, Cant, & the First2Act Team, 2014). More recently, interactive Web-based e-simulation programs (sometimes called “virtual” simulation) have become available, enabling easy access, global reach, and repeated practice at minimum cost (Cant & Cooper, 2014; Roh, Lee, Chung, & Park, 2013). An example of this is the FIRST²ACTWeb program (Feedback Incorporating Review and Simulation Techniques to Act on Clinical Trends [<http://first2actweb.com/>]) that incorporates e-simulations with a patient actor simulating three frequently occurring acute medical conditions. The program development and initial trials with student cohorts have been extensively reported with notable educational impacts (Bogossian et al., 2014; Buykx et al., 2012; Cooper et al., 2015a; Cooper, Bogossian, Bucknall, & Hopmans, 2015b; Cooper et al., 2017; Endacott, Scholes, Kinsman, & McConnell-Henry, 2010; Sparkes, Chan, Cooper, Pang, & Tiwari, 2016).

In this article, we report on the impact of the FIRST²ACTWeb program based on data extracted from program participation internationally. A key aim was to identify global nursing students’ knowledge and skills within the field and to compare outcomes with those of qualified nurses, reporting the degree to which students are prepared for practice in this domain.

Design

This study involves a pre–post quasi-experimental evaluation to measure the impact of a Web-based health professional education program.

Methods

The Program (FIRST²ACTWeb)

This screen-based, Web-hosted, “e-simulation” program developed in 2011 (Cooper, et al., 2014) includes lecture material, a program manual, pre and post program knowledge assessments, and three interactive video scenarios. These are cardiac, shock, and respiratory cases, which all run for eight minutes. Patient actors simulate patients who clinically deteriorate at the mid-point—four minutes. Program participants are required to “click” on various actions—such as inserting an IV line, taking vital signs, selecting a form of oxygen therapy, or recording an ECG—resulting in pop up videos of each action (Figure 1). The step-by-step stages of

Key Points

- Detection and management of patient deterioration is of international concern.
- A Web-based interactive simulation training program on patient deterioration increased nurses’ knowledge and self-reported competence and confidence.
- FIRST²ACTWeb (first2actweb.com) is a free open access learning methodology designed for nurses and other health professionals.

Download English Version:

<https://daneshyari.com/en/article/5567537>

Download Persian Version:

<https://daneshyari.com/article/5567537>

[Daneshyari.com](https://daneshyari.com)