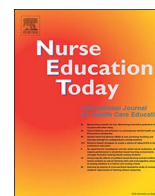




Contents lists available at ScienceDirect

Nurse Education Today

journal homepage: www.elsevier.com/locate/nedt

Training students to detect delirium: An interprofessional pilot study

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ARTICLE INFO

Keywords:

Interprofessional
Simulation
Nursing education
Standardized patients
Delirium
Dementia

ABSTRACT

Aim: The purpose of this paper is to report nursing student knowledge acquisition and attitude after completing and interprofessional simulation with medical students.

Introduction: The IOM has challenged healthcare educators to teach teamwork and communication skills in interprofessional settings. Interprofessional simulation provides a higher fidelity experience than simulation in silos. Simulation may be particularly useful in helping healthcare workers gain the necessary skills to care for psychiatric clients. Specifically, healthcare providers have difficulty differentiating between dementia and delirium. Recognizing this deficit, an interprofessional simulation was created using medical students in their neurology rotation and senior nursing students.

Method: Twenty-four volunteer nursing students completed a pre-survey to assess delirium knowledge and then completed an education module about delirium. Twelve of these students participated in a simulation with medicine students. Pre and Post Kid SIM Attitude questionnaires were completed by all students participating in the simulation. After the simulations were complete, all twenty-four students were asked to complete the post-survey regarding delirium knowledge.

Results: While delirium knowledge scores improved in both groups, the simulation group scored higher, but the difference did not reach significance. The simulation group demonstrated a statistically significant improvement in attitudes toward simulation, interprofessional education, and teamwork post simulation compared to their pre-simulation scores.

Conclusion: Nursing students who participated in an interprofessional simulation developed a heightened appreciation for learning communication, teamwork, situational awareness, and interprofessional roles and responsibilities. These results support the use of interprofessional simulation in healthcare education.

1. Background

The use of simulation in nursing education has evolved (Nehring and Lashley, 2009). These educational modalities provide learning opportunities in a controlled environment in which no real patients can be harmed. This allows students to become more proficient in technical skills and critical thinking before they encounter a real patient in a hospital setting. Students are able to make mistakes within the simulation, watch them play out as they might in a real patient, and then use a final debriefing session with educators, to talk about how they felt during the simulation and which actions they could have changed to improve the patient outcome (Aebersold and Tschannen, 2013).

Simulations have been found to decrease the anxiety of students in real hospital situations because they can rely on past simulated experiences (Meyer et al., 2014). Simulations can also provide experiences treating rare conditions, code blue situations, and other patient problems that may not be encountered in healthcare students' clinical sites. Additionally, clinical sites in specialty areas like mental health, for example, are difficult to obtain (Curl et al., 2016); simulation allows students to apply and practice the knowledge learned in the classroom.

Task trainers, mannequins and standardized patients (SP) are three modalities used in simulation. Task trainers foster the development of specific technical skills, such as inserting an intravenous or urinary catheter (Nehring and Lashley, 2009). Mannequins offer students

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opportunities to practice technical skills (i.e. nasogastric tube placement, tracheal suctioning, cardiopulmonary resuscitation with intubation, etc.) while immersed in a clinical scenario. Students are able to assess for physiologic changes resulting from their interventions (Nehring and Lashley, 2009). SPs are people who are trained to respond to students' questions. SPs have the advantage of providing immediate feedback regarding the student's affect (i.e. facial expression, tone, and demeanor) and responses to patient's statements, beliefs, or health concerns. Using SPs also provides a great way to evaluate the student's ability to educate patients regarding their illness (Nehring and Lashley, 2009).

The use of SPs in psychiatric nursing education has been supported. Doolen et al. (2014) reported positive student feedback after interacting with SPs who had been trained to demonstrate psychiatric disorders. Using SPs to train Nurse Practitioner students resulted in improved interviewing skills, confidence in assessment abilities, appropriate use of screening and diagnostic tools, and accurate diagnosis. In an earlier study, Yudkowsky (2002) found that 70% of students and 80% of faculty felt standardized patients were "very realistic" in their portrayal of a psychiatric illness. It is logical to conclude that SPs are a realistic alternative to actual psychiatric patients. However, SPs cannot offer the technical skills practice which is provided by task trainers and mannequins.

Combining different simulation technologies may increase the believability of the simulation. Some task trainers are bulky and must be laid on a bedside table away from the patient. This allows a skill to be performed in real time but may decrease fidelity. Without a task trainer, the procedure may be faked or removed from the simulation all together. Using a SP wearing an intravenous task trainer would allow the student to perform an intravenous catheter insertion or blood draw during the simulation in real time and increase the level of fidelity. SPs are also trained to respond to the task being performed as a real patient might (Kneebone et al., 2006).

1.1. Recognizing Delirium

Many healthcare providers have difficulty differentiating between dementia and delirium (Paquette et al., 2010). Rigney (2006) found that 72% of patients with cognitive defects went undetected with a standard mental status exam and that nurses identified fewer than 50% of patients who were moderately to severely delirious. It is believed that physicians and nurses fail to recognize delirium, in part, due to lack of assessment protocols and limited knowledge and skill in performing exams (Rigney, 2006).

Such difficulties in diagnosing delirium are particularly concerning in the elderly. Delirium is found in 14 to 56% of hospitalized elderly (10 to 22% on admission, 41 to 87% ICU, and 5 to 10% following surgery). This condition is associated with increased length of stay as well as increase mortality risk (Rigney, 2006). It is imperative that healthcare providers improve their ability to assess and treat delirium effectively, but as with any skills in the medical field, these assessment skills take practice (Paquette et al., 2010).

1.2. Inter-professional Education

Responding to the 2003 Institute of Medicine Health Professions Education report, which called for collaborative interprofessional learning as a core educational requirement, the interprofessional competencies (IPEC) were developed. These competencies aimed to guide healthcare educators to use deliberate and purposeful strategies for students to learn in interprofessional teams for the ultimate goal of building safer and more patient-centered healthcare (Interprofessional Education Collaborative Expert Panel, 2011).

An interprofessional simulation study by Reese et al. (2010) generated positive responses from students. Students claimed they were able to provide better patient care and they preferred to work

collaboratively rather than separately. Not only do interprofessional simulations provide more realistic scenarios, they may relieve any predisposed negative perceptions of other healthcare disciplines (Reese et al., 2010). Theoretically, simulation with multiple professions has the potential to be more cost effective.

1.3. Theoretical Framework

The simulation was developed using the National League for Nursing (NLN) Jeffries Simulation Theory (2016). Specifically, the faculty created the entire simulation experience in keeping with the educational practices, simulation design characteristics, and learner outcomes described in the theory (Jefferies, 2016).

1.3.1. Educational Practices

In keeping with the NLN Jeffries Simulation Theory, the simulation was developed collaboratively with medicine. Participants included neurology clerkship students and bachelorette nursing students. The facilitators were seasoned educators in nursing or medicine. The simulation experience was designed to embrace the concepts of active learning, feedback, student/faculty interaction, collaboration, high expectations and diverse learning. The simulation and debriefing allowed for adequate time on task (Jefferies, 2016).

1.3.2. Simulation Design Characteristics and Outcomes

The simulation was co-designed by medicine and nursing to target the following objectives: recognize delirium in a patient with chronic dementia, to foster effective communication between medical and nursing students, to understand respective roles and responsibilities, and to use teamwork to provide care. Designing the simulation with SPs, fostered the highest level of fidelity for training in the psychiatric realm (Rigney, 2006).

As recommended by International Nursing Association for Clinical Simulation and Learning (INACSL), the study used faculty who were competent in debriefing (INACSL Standards Committee, 2016). In 2009, several faculty at the school participated in a train-the-trainer workshop to facilitate simulations using a debriefing model developed by the Israel Center for Medical Simulation; hereafter referred to as MSR model Anon (n.d.). These trainers mentored the debriefers for this study. The debrief was structured to achieve the learning outcomes. Outcome data included nursing student knowledge of delirium and attitudes toward interprofessional simulation.

2. Methods

The pilot study was deemed exempt by the university institutional review board as it was educational research. Funding for the standardized patients was provided by the Reynolds Foundation on Aging as a part of a larger grant to support Geriatric and Interprofessional education. This paper only reports findings related to nursing student attitudes and knowledge. Given the voluntary nature of the study, nursing student consent was implied. They were provided with a certificate of completion to add to their professional portfolios. The impact on medical students was not a part of this study.

This study aimed to answer the following research questions: 1) Do students who receive online modules plus interprofessional simulation with standardized patients have more knowledge of delirium than peers who completed online learning only? 2) Are students' attitudes about interprofessional simulation influenced by participating in an interprofessional simulation with standardized patients?

2.1. Tools

The tools included a researcher-designed delirium knowledge survey and the KidSIM Attitude questionnaire. The KidSIM questionnaire is a 30-item scale designed to measure student perceptions of

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