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Title:
Using Simulation to Improve Nursing Students' Attitudes Toward Quality Improvement

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Session Title:
Meet the Poster Authors Session
Slot:
PST: Friday, March 27, 2020: 2:30 PM-3:15 PM

Abstract Describes: Completed Work/Project

Applicable Category: Academic, Students

Keywords: High fidelity simulation, Nursing education and Quality improvement

Abstract Summary:
Integration of quality improvement concepts in an evidence-based practice course was enhanced by adding a high-fidelity simulation component to the existing tabletop exercise. This activity improved students' knowledge of and attitudes toward their participation in future quality improvement initiatives.

References:

- American Association of Colleges of Nursing (2008). The essentials of baccalaureate education for professional nursing practice. Retrieved from http://www.aacnnursing.org/portals/42/publications/baccessentials08.pdf
- Cantrell, M. A., Mariani, B., & Meakim, C. (2016). An innovative approach using clinical simulation to teach quality and safety principles to undergraduate nursing students. Nurse Education Perspectives, 37(4), 236-238. doi:10.1097/01.NEP.0000000000000034
- Davey, P., Fioratou, E., Tully, V., & Lafferty, N. (2018). Medical education for healthcare improvement. Japan Journal of Medicine, 2(1), 304-315. doi:10.31488/jjm.1000132
- Dunagan, P. B. (2017). The quality improvement attitude survey: Development and preliminary psychometric characteristics. Journal of Clinical Nursing, 26, 5113-5120. doi:10.1111/jocn.14054
- Lee, N., Jang, H., & Park, S. (2016). Patient safety education and baccalaureate nursing students' patient safety competency: A cross-sectional study. Nursing and Health Sciences, 18, 163-171. doi:10.1111/nhs.12237
- Mennenga, H. A., Tschetter, L., & Sanjaya, L. (2015). Student perceptions of quality and safety competencies. International Journal of Nursing Education Scholarship, 12(1), 155-161. doi:10.1515/ijnes-2015-0034

- QSEN Institute (2019). Project overview: The evolution of the Quality and Safety Education for Nurses (QSEN) Initiative. Retrieved from http://qsen.org/about-qsen/project-overview/
- Zarifsanaiey, N., Amini, M., & Saadat, F. (2016). A comparison of educational strategies for the acquisition of nursing student's performance and critical thinking: Simulation-based training vs. integrated training (simulation and critical thinking strategies). BMC Medical Education, 16(2), 294. doi:10.1186/s12909-016-0812-0

Abstract Text:

Purpose: The Quality and Safety Education for Nurses (QSEN) Project identified six competencies necessary for the provision of high-quality, safe patient care in 2008 (QSEN Institute, 2019). In a parallel fashion, the American Association of Colleges of Nursing (2008) revised the BSN Essentials to ensure graduates develop skills for participation in continuous quality improvement (QI) activities. Despite these two actions, students perceive QI as the least important of the QSEN competencies (Mennenga, Tschetter, & Sanjaya, 2015). To prepare nursing students for participation in QI, nursing schools commonly use a lecture-based approach (Lee, Jang, & Park, 2016). However, active learning strategies may be more effective, providing the opportunity for a hands-on approach with QI activities. Clinical capstone experiences serve as another educational strategy, providing situational exposure to QI principles, especially if students are encouraged to delve deeper into the scope of a clinical problem (Davey, Fioratou, Tully, & Lafferty, 2018). Other active learning methods deserve exploration, including high-fidelity simulation (HFS). A paucity of information exists in nursing literature regarding use of HFS for QI education. Cantrell, Mariani, and Meakim (2016) found simulation to be well suited for teaching QSEN concepts because of the integration of critical thinking and situational judgment. Alternatively, a combination of simulation with lecture may provide a synergistic effect to enhance clinical judgment and working knowledge (Zarifsanaiey, Amini, & Saadat, 2016).

Methods: To determine if HFS improves students' attitudes about their future role in QI, 25 junior BSN students participated in an experimental study with pretest-posttest design. Before the activity, students completed Dunagan's (2017) Quality Improvement Nurse Attitudes Survey (QINAS), a 23-item Likert scale survey (Cronbach's $\alpha = 0.97$). Control group students ($n = 12$) completed the standard tabletop activity, investigating causes of a hypothetical hospital's high rate of central line-associated bloodstream infections (CLABSI). As members of a taskforce, they used fishbone diagrams to explore the multifactorial basis of CLABSIs. Students identified staffing levels, knowledge deficits, supply availability, attitudes, and institutional constraints as possible contributing factors. They then identified solutions, explored how to implement changes, and considered how to sustain positive outcomes. Intervention group students ($n = 13$), before starting the tabletop activity, first witnessed a bedside change-of-shift handover for a CLABSI patient. This exchange occurred between an experienced off-going nurse and a less experienced on-coming nurse. Behaviors including poor central line maintenance, incomplete communication, re-use of disposable supplies, incivility,

disregard of the patient's needs, and nurse fatigue were observed. Both control and intervention students repeated the QINAS after the tabletop activity.

Results: Pretest and posttest QINAS responses were analyzed using paired t-tests. Both groups demonstrated improvement in cumulative QINAS scores. A significant relationship was observed between QINAS scores and each activity ($p < .000$).

Conclusion: Deliberate education, with or without simulation, improves nursing students' attitudes about their role in quality improvement processes. Future research is necessary to determine students' perceptions of the value of the simulation-enhanced activity. Additional research is needed to evaluate the long-term effects of both activities on QI attitudes.