

Title:

Increasing Nursing Students' Simulated Resuscitation Performance: A Standardized Simulation-Based Acute and Intensive Care Nursing Curriculum

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Session Title:

Simulation in Emergency Situations

Slot:

F 04: Monday, 30 October 2017: 9:30 AM-10:15 AM

Scheduled Time:

9:30 AM

Keywords:

Baccalaureate nursing education, Resuscitation and Simulation training

References:

Cheng, A., Lockey, A., Bhanji, F., Lin, Y., Hunt, E. A.,... Lang, E. (2015). The use of high-fidelity manikins for advanced life support training—A systematic review and meta-analysis. *Resuscitation*, 93, 142-149. doi: 10.1016/j.resuscitation.2015.04.004

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Ramm, D., Thomson, A., & Jackson, A. (2015). Learning clinical skills in the simulation suite: the lived experiences of student nurses involved in peer teaching and peer assessment. *Nurse Education Today*, 35(6), 823-827. doi: 10.1016/j.nedt.2015.01.023

Stone, K., Reid, J., Caglar, D., Christensen, A., Strelitz, B., Zhou, L.,... Quan, L. (2014). Increasing pediatric resident simulated resuscitation performance: A standardized simulation-based curriculum. *Resuscitation*, 85(8), 1099-1105. doi: 10.1016/j.resuscitation.2014.05.005

Sullivan, N. J., Duval-Arnould, J., Twilley, M., Smith, S. P., Aksamit, D., Boone-Guercio, P.,... Hunt, E. A. (2015). Simulation exercise to improve retention of cardiopulmonary resuscitation priorities for in-hospital cardiac arrests: A randomized controlled trial. *Resuscitation*, 86, 6-13. doi: 10.1016/j.resuscitation.2014.10.021

Wang, R., Shi, N., Bai, J., Zheng, Y., & Zhao, Y. (2015). Implementation and evaluation of an interprofessional simulation-based education program for undergraduate nursing students in operating room nursing education: a randomized controlled trial. *BMC Medical Education*, 15(1). doi: 10.1186/s12909-015-0400-8

Abstract Summary:

A standardized high-technology simulation-based acute and intensive care nursing curriculum was developed in this study. The impact of this curriculum on third-year nursing students' nursing management and teamwork during simulated resuscitation scenarios included decreased median seconds to start compressions and defibrillation at the end of the course.

Learning Activity:

LEARNING OBJECTIVES	EXPANDED CONTENT OUTLINE
The learner will be able to decrease median seconds to start compressions during a simulated resuscitation scenario at the end of the course.	A standardized simulation-based acute and intensive care nursing curriculum for third-year nursing students consisted of three modules: disaster response, emergency care, and critical care, incorporating clinical priorities (e.g. triage), basic resuscitation skills, airway/breathing management, circulation management and team work. Each simulation session was 60 minutes in length and repeated twice, consisting of an introduction (review of scenario and learning objectives), the resuscitation simulation and a debriefing. The debriefing focused on the nursing management and teamwork objectives.
The learner will be able to decrease median seconds to successful defibrillation during a simulated resuscitation scenario at the end of the course.	A standardized simulation-based acute and intensive care nursing curriculum for third-year nursing students consisted of three modules: disaster response, emergency care, and critical care, incorporating clinical priorities (e.g. triage), basic resuscitation skills, airway/breathing management, circulation management and team work. Each simulation session was 60 minutes in length and repeated twice, consisting of an introduction (review of scenario and learning objectives), the resuscitation simulation and a debriefing. The debriefing focused on the nursing management and teamwork objectives.

Abstract Text:

Background: Simulation-based curriculum has been demonstrated as crucial to nursing education in the development of students' critical thinking and complex clinical skills during a resuscitation simulation. Few studies have comprehensively examined the effectiveness of a standardized simulation-based acute and intensive care nursing curriculum on the performance of students in a resuscitation simulation.

Objective: To evaluate the impact of a standardized simulation-based acute and intensive care nursing curriculum on nursing students' performance in a resuscitation simulation.

Design: Two-group, non-randomized quasi-experimental design.

Setting: A simulation center in a Chinese University School of Nursing.

Participants: Third-year nursing students (N=39) in selecting the Acute and Intensive Care course were divided into a control group (CG, n = 20) and an experimental group (EG, n = 19).

Methods: The EG participated in a standardized high-technology, simulation-based acute and intensive care nursing curriculum. The standardized simulation-based curriculum for third-year nursing students consists of three modules: disaster response, emergency care, and critical care, which include clinical priorities (e.g. triage), basic resuscitation skills, airway/breathing management, circulation management and team work with eighteen lecture hours, six skill-practice hours and twelve simulation hours. The CG

took part in the traditional curriculum. This curriculum included two modules: emergency care and critical care with thirty-four lecture hours and two skill-practice hours (trauma).

Results: Perceived benefits included decreased median (interquartile ranges, IQR) seconds to start compressions [CG 32 (25-75) vs. EG 20 (18-38); $p < 0.001$] and defibrillation [CG 204 (174-240) vs. EG 167 (162-174); $p < 0.001$] at the end of the course, compared with compressions [CG 41 (32-49) vs. EG 42 (33-46); $p > 0.05$] and defibrillation [CG 222 (194-254) vs. EG 221 (214-248); $p > 0.05$] at the beginning of the course. Students in the EG felt that the teaching quality and outcomes of the domains were met more effectively than participants in the CG.

Conclusion: A simulation-based acute and intensive care nursing curriculum was created and well received by third-year nursing students and associated with improved performance in a resuscitation simulation.