Reducing Failure-To-Rescue Events Through the Use of High-Fidelity Simulation

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Purpose and Rationale: Failure -to-rescue is one of the top preventable occurrences listed by the Agency for Health Care Research and Quality (2007). Failure-to-rescue is an adverse event or a death that occurs because of a healthcare providers' inability to recognize or respond to a deteriorating patient condition. The incidence of these events may be reduced by providing novice practitioners with the knowledge, skills and behaviors needed to appropriately respond to changing patient conditions through the use of simulated patient scenarios. A review of the literature underscores the need for reliable and valid instruments to assess simulation learning outcomes, especially in the cognitive and psychomotor domains. The purpose of this study was to complete initial psychometric testing of a simulation package designed to assess student nurse competence in responding to a deteriorating patient condition.

Research Questions: Is there a difference between student nurse performance and rater-agreement as assessed during phase one and phase two of this study? Is there a relationship between demographic characteristics of the sample and student performance during the scenario?

Method/Procedures: This is an instrument development study conducted in two phases. The researchers developed the simulation package which includes an orientation checklist, a scenario, the Heart Failure Simulation Competency Evaluation Tool © (HFCET), a computerized medical record, and user guidelines. The package was developed using practice guidelines, national safety initiatives, and descriptions of best practices related to the care of a patient who is experiencing a complication of heart failure. The domains in the 85-item tool are patient safety, assessment, communication, interventions and documentation. The package was sent to experts for content review and revised. During phase one, senior level student nurse (n = 84) competency was assessed by three independent raters using the HRCET during the fall of 2008. During phase two, senior level student nurse (n = 80) competency was assessed by two independent raters after extensive revision of the HRCET during the fall of 2009.

Results: Mean group scores for the HFCET for phase one and two of the study were low (98 out of a possible score of 174 = 56%, and 72 out of a possible score of 168 = 43%). Correlations among the three raters for the total scale during phase one of the study were .730, .763, and .777. , and during phase two with two raters was .839. There was no significant relationship between demographic characteristics and performance.

Discussion: The results of this study indicate senior-level nursing students are currently not adequately prepared to respond to deteriorating patient conditions. We conceptualize that repeated exposure to videos that model expert practice may increase novice nurse competency over time. Inter-rater agreement improved with instrument revision in this study. This project is a concrete example of how faculty in nursing programs and healthcare institutions can use simulation to address safety education.