Virtual Simulation in Nursing Orientation: A Strategic Bridge to Safer Patient Outcomes

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Practice Problem

If virtual simulation is utilized in an obstetrical orientation program for novice nurses, will the novice nurse demonstrate greater competency in providing appropriate evidence-based nursing care and decreased “time to action/time to intervention” in a live simulation scenario (and ultimately with live patients)?

Clinical Question

I: Intervention: Lippincott V-Sim Obstetrical “Virtual Simulation” based on Post partum hemorrhage case studies/scenarios with “Determined Practice” (repetition) until mastery is reached (as evidenced by a score of 95-100%).
C: Comparison: Novice Nurse “time to appropriate/effective action/intervention” prior to completing V-sim and after completing V-sim.
O: Outcome: Novice Nurses who obtain a score of 95-100% on Lippincott’s “V-Sim” will demonstrate “decreased time to effective/appropriate action/intervention” after completing virtual simulation with a score of 95-100% (as well as the transformation of knowledge with live Obstetrical patients—beyond the scope of this project).
T: Time: 2-3 weeks.

Literature Review

• “Obstetric hemorrhage” is the leading cause of death in the U.S. with 54-93% of deaths being prevented if early and effective intervention is taken (AWHONN, 2015).
• Recommendations for the prevention and treatment of post-partum hemorrhage to reduce childbirth morbidity has been updated (World Health Organization [WHO], 2012).
• The Joint Commission on the Accreditation of Healthcare Organizational Standards has stated “inadequate training . . . was a major threat to patient safety” (Fero et al., 2009).
• The Robert Wood Johnson Foundation Initiative on the Future of Nursing, at the Institute of Medicine (IOM), “seeks to transform nursing as part of larger efforts to reform the health care system” in the effort to improve healthcare outcomes—bringing nursing into the 21st century (IOM, 2010).
• IOM recommends the use of simulation training as one teaching/learning strategy to be used in nursing that can be used to prevent errors in the clinical setting and increase patient safety (Kohn, 2000).
• Comparisons in performance, clinical competence, critical thinking, and readiness for practice, as well as in satisfaction, confidence, and effectiveness and increased learning have been reported through the use of simulation (Bambini, Washburn, & Perkins, 2009; Jeffries & Rizzolo, 2006; Lambton, O’Neill, & Dudum, 2008).
• The benefits of simulation include experiential and active learning. Active learning is the most effective way of learning. Benner (1984).
• “Simulation is used as a strategy, not a technology—to mirror, anticipate, or amplify real situations with guided experiences in a fully interactive way”. (Waxman, 2010).
• Simulation implementation includes the “expert performance” approach—a technique recently termed “Expert-Performance-based Training” (ExPerT) whereas, in this situation, “expert-based” scenarios are utilized (Harris et al, 2012).

Project Description

1. Novice Nurses (NN) were asked to assess and implement care of a PPH patient manikin.
2. Nursing assessment and implementation were observed and time to correct action/intervention was noted as # interventions completed.
3. NN were asked to complete a PPH virtual scenario until a score of 95-100% was reached.
4. NN were asked to assess and implement care of a PPH patient manikin.
5. Nursing assessment and implementation were noted post correct action/intervention was noted as # interventions completed.

Project Evaluation

Conclusions & Healthcare Implications

• Time to correct/appropriate intervention decreased post V Sim intervention.
• Greater item completion noted post V Sim intervention.
• Increased competency was demonstrated post V Sim intervention.
• Implement in nursing schools as well as in orientation programs to improve nursing time to correct action/intervention and competencies in the effort to safer patient outcomes and an improved healthcare system and improved healthcare outcomes.

References