Practice Makes Perfect First: High-Fidelity Simulation for Obstetrical Hemorrhage

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INTRODUCTION

- The death of a woman following the delivery of a newborn is a catastrophic event for the family

GOALS

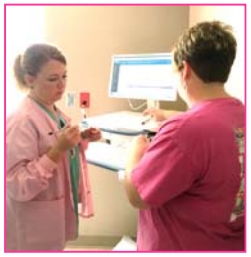
- Apply best practice education strategies to teach healthcare providers on high-risk, low incident obstetric events
- Design high-fidelity simulation-based obstetrical scenarios
- Incorporate the *North Carolina Perinatal Quality Initiative on Obstetrical Hemorrhage Bundles* into the high-fidelity simulation-based obstetrical scenarios
- Develop multi-disciplinary team education sessions
- Conduct the simulation scenarios in the real-life setting of the UNC Nash Health Care, Women's Center
- Evaluate the high-fidelity simulation-based education program

METHODS

- Attended the North Carolina Perinatal Quality Initiative Maternal Safety Bundle Obstetric Hemorrhage Webinar
- Literature review conducted on best practices to educate adult learners
- Multi-disciplinary team formed
  a) Five staff nurses
  b) Nurse educator
  c) Supervisor from the hospitals blood bank department
  d) Executive nurse leader
- Reviewed variance reports
- Team discussed the literature recommendations
- Developed high-fidelity simulation obstetrical hemorrhage scenarios
  a) Pre-term obstetrical hemorrhage
  b) Post-op Cesarean section obstetrical hemorrhage
  c) Patient history of drug addiction obstetrical hemorrhage
- Education sessions scheduled
  a) Participants not required to pre-register
- Implemented education Sessions in a patient room in the UNC Nash Health Care, Women's Center
- Conducted a debriefing session after each high-fidelity simulation scenario
- Evaluated the high-fidelity simulation education experience with the *Simulation Effectiveness Tool- Modified (SET-M)*

PARTCIPANTS

- (25) Labor and delivery nurses
- (5) CRNA staff member
- (4) Nurse leaders



RESULTS

59% (n = 20) of participants completed the *Simulation Effectiveness Tool- Modified (SET-M)*

- 3 point Likert scale
  a) 3 = strongly agree
  b) 2= somewhat agree
  c) 1 = do not agree
- Debriefing received the highest mean score 2.9/3.0
- Average mean score for all questions, except medication score, ranged between 2.7-2.9/3.0
- Medications use was not part of the scenario

LESSONS LEARNED

- Incorporate medications in simulations
- Encourage physician involvement
- Coordinate sign-up process for participants to control group size for each simulation activity
- Include ancillary departments in the evaluation process following the simulation event

IIMPLICATIONS FOR PRACTICE

- Simulation based education is an appropriate technique for adult learners (Blevins, 2014)
- Simulated clinical experiences allow for the rehearsal of a critical obstetrical emergency with the team, which gives them an opportunity to practice, and work out any issues in a controlled setting
- Simulation allows for the identification of deficiencies so appropriate action can take place before the true emergency exists (Osman et al., 2009).
- This project demonstrated a positive response from the clinical staff involved in the simulation for having the opportunity to rehearse the critical event of obstetrical hemorrhage requiring massive blood product transfusion
- Competency programs for the obstetrical team should include simulation exercises for the improvement of staff confidence and knowledge

REFERENCES

- Incorporate medications in Auguste, T. C., Goffman, D., Deering, S., Pliego, J. F., Andreatta, P. B., Erickson, L., & Daniels, K. (2012). Simulation-based team training in obstetric emergencies. ONTEMPORARYOBGYN.net, 30-39.
- Blevins, S. (2014, March-April). The Impact: The impact of simulation on patient care, 23(2), 120-121.
- Leighton, K., Ravert, P., Mudra, V., & Macintosh, C. (2015, September/October). Updating the Simulation effectiveness tool: item modifications and reevaluation of psychometric properties. Nursing Education Perspectives, 36, 317-323.
- Main, E. K., Scavone, B. M., Low, L. K., Bingham, D., Fontaine, P. L., Gordan, J. B., & Levy, B. S. (2015). National partnership for maternal safety: consensus bundle on obstetric hemorrhage. JOGNN, 44, 462-470.
- Osman, H., Campbell, O. M., & assar, A. H. (2009, March). Using Emergency Obstetric Drills in maternity units as a performance improvement tool. Birth, 36(1), 43-50.
- The Joint Commission."Preventing Maternal Death," Sentinel Event Alert, Issue 44, January 26.