



Original contribution

Obstetric team simulation program challenges



A.S. Bullough MD (Associate Professor)^{a,e,*}, S. Wagner MD (Associate Professor)^{b,e},
T. Boland MS, RNC (Clinical Nurse Specialist Women's Health)^{c,e},
T.P. Waters MD (Associate Professor)^{b,e}, K. Kim MD, PhD (Professor)^{a,e},
W. Adams MA (Biostatistician)^{d,e}

^aDepartment of Anesthesiology

^bDepartment of Obstetrics and Gynecology

^cObstetric and Gynecology Nursing Department

^dClinical Research Office

^eLoyola University Health System, Loyola University Stritch School of Medicine

Received 28 September 2015; revised 16 August 2016; accepted 17 August 2016

Keywords:

Team simulation challenges;
Obstetric emergency team
simulation

Abstract

Objective: To describe the challenges associated with the development and assessment of an obstetric emergency team simulation program.

Design: The goal was to develop a hybrid, in-situ and high fidelity obstetric emergency team simulation program that incorporated weekly simulation sessions on the labor and delivery unit, and quarterly, education protected sessions in the simulation center. All simulation sessions were video-recorded and reviewed.

Setting: Labor and delivery unit and simulation center.

Participants: Medical staff covering labor and delivery, anesthesiology and obstetric residents and obstetric nurses.

Measurements: Assessments included an on-line knowledge multiple-choice questionnaire about the simulation scenarios. This was completed prior to the initial in-situ simulation session and repeated 3 months later, the Clinical Teamwork Scale with inter-rater reliability, participant confidence surveys and subjective participant satisfaction. A web-based curriculum comprising modules on communication skills, team challenges, and team obstetric emergency scenarios was also developed.

Main results: Over 4 months, only 6 labor and delivery unit in-situ sessions out of a possible 14 sessions were carried out. Four high-fidelity sessions were performed in 2 quarterly education protected meetings in the simulation center. Information technology difficulties led to the completion of only 18 pre/post web-based multiple-choice questionnaires. These test results showed no significant improvement in raw score performance from pre-test to post-test ($P = .27$). During Clinical Teamwork Scale live and video assessment, trained raters and program faculty were in agreement only 31% and 28% of the time, respectively (Kendall's $W = .31, P < .001$ and $W = .28, P < .001$). Participant confidence surveys overall revealed confidence significantly increased ($P < .05$), from pre-scenario briefing to after post-scenario debriefing.

Conclusion: Program feedback indicates a high level of participant satisfaction and improved confidence yet further program refinement is required.

© 2016 Elsevier Inc. All rights reserved.

* Corresponding author at: Loyola University Health System, 2160 S. First Avenue, Maywood, IL 60153. Tel.: +1 708 216 8866.

E-mail address: abullough@lumc.edu (A.S. Bullough).

1. Introduction

The American College of Obstetricians and Gynecologists (ACOG) Committee Opinion (No 590) on Preparing for Clinical Emergencies in Obstetrics advocates improvement in response systems for in-patient emergency care [1]. Two ways in which to address this goal include standardization of obstetric emergency management protocols and team simulation training. The initial management and therapeutic interventions are critical when considering patient safety and a positive outcome in an obstetric emergency. Simulation training is able to identify mistakes in management during an obstetric crisis and is endorsed as a use of formal training by the Institute of Medicine, Joint Commission on Accreditation of Healthcare Organizations and ACOG to improve clinical skills, interdisciplinary teamwork and reduce communication-related errors [2-5].

At our tertiary care referral institution, the Obstetric department primarily deals with under-served, high-risk patients with multiple medical issues that can lead to a potential crisis. In the past 2 years, the labor and delivery unit (LDU) has seen an increase in the high-risk parturients. Because of our acuity and in response to the call for increased preparedness, we developed a hybrid, in-situ and high-fidelity obstetric emergency team simulation program comprising OBstetric, ANesthesiology and Nursing professionals (OBANN) to improve emergency clinical management on the LDU. In what follows we present a general description of the program, the team simulation challenges (Fig. 1) and lessons learned from our endeavor.

2. Materials and methods

Following institutional review board exemption, we implemented the OBANN program in three phases. Phase 1, the development phase from February 2014 to June 2014, involved scenario and web-based curriculum development as well as determination of assessment and learning instruments. Phase 2 from July 2014 to November 2014 tested the assessment instruments and training for those who were rating the

- Developing a simulation team of front-line care leaders
- Organizational and departmental support
- Determining objectives and safety aims
- Measuring training effectiveness
- Availability of information technology resources
- Implementing data driven change
- Creating a non-threatening learning environment
- Time and personnel limitations for in-situ sessions

Fig. 1 Obstetric team simulation program challenges.

participants in the scenarios. Phase 3 from December 2014 to March 2015 collected pilot data.

2.1. Phase 1 development

In Phase 1, an inter-professional group comprising an obstetric clinical nurse specialist, a nominated representative from the maternal fetal medicine group, the obstetric residency director, and two representatives from obstetric anesthesiology met on a monthly basis over a 5-month period to set objectives, create emergency simulation scenarios and develop a curriculum. The program objectives were (1) identification of the roles and responsibilities of the obstetric team members, (2) implementation of clear communication strategies, and (3) creation of an environment that promotes inter-professional mutual support during an obstetric crisis.

Four obstetric emergency scenarios with specific clinical objectives were constructed. The cases included eclampsia, shoulder dystocia with basic neonatal resuscitation, cord prolapse with basic neonatal resuscitation, and maternal cardiac arrest.

A Web-based tutorial composed of 5 different modules was also created. These modules comprised a program overview, team challenges, team communication skills, team interaction and applied teamwork regarding the simulation scenarios.

We determined that all participants working continuously (obstetric nurses) or on rotational assignment (obstetric and anesthetic residents) to the LDU would receive an e-mail invitation to access the OBANN web site. Initiating the program LDU participants were required to complete a 20-question multiple-choice questionnaire (MCQ) based on the simulation scenarios and the on-line web-site team communication modules. The same test was repeated 3 months later after completion of the quarterly high fidelity session.

The validated Clinical Teamwork Scale (CTS) Global was determined the best tool to assess scenario non-technical skills such as teamwork and communication. [6] The CTS tool measures 15 points on a 1-10 (unacceptable to perfect) Likert scale. The major CTS assessment headings included overall teamwork, communication, situational awareness, decision making, role responsibility and patient friendliness (in one scenario the patient is awake then has a seizure).

2.2. Phase 2 implementation

During phase 2 two volunteer obstetric nurses became CTS evaluation raters. Rater training involved reviewing the case content and objectives, practice rating, and discussion and revision of the CTS evaluation tool. A faculty member of the designing program team with simulation assessment experience reviewed the live and video practice rating session scoring and clarified any unclear items or missing items during the training period.

We also recorded participant self-confidence before and after each scenario. The self-confidence form comprised a short checklist of actions deemed essential for the successful management of the scenario emergency. Each action was followed by a 0-10 Likert confidence scale (Table 1). Participant

Download English Version:

<https://daneshyari.com/en/article/5884358>

Download Persian Version:

<https://daneshyari.com/article/5884358>

[Daneshyari.com](https://daneshyari.com)