

A Trial of Simulated Breech Delivery Skills Retention for OB/Gyn and ED Residents

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ABSTRACT

The study evaluated emergency medicine and ob/gyn residents for retention of clinical skills and knowledge of emergent breech delivery after simulation training .

Methods:

A teaching session using a discussion and video of a simulated breech delivery using a standardized patient in the ED was shown to PGY – 2 Emergency Medicine and OB/GYN residents. Residents then were evaluated on a simulator using a checklist. Multiple choice pre and post-test was done. Residents were re-evaluated at 1 month or 3 months.

Results:

13/15 residents completed the study. The mean pretest and posttest score increased from 5.7 to 7.8 after the teaching session. The improvement was retained at both one month (8 residents) and 3 months (5 residents) (7.25 and 7.6). Mean checklist scores for performance on the simulator were 14/19 at baseline after the teaching sessions and 14 /19 for both one and three month intervals groups. There was no difference between the performance of ED vs OB residents.

Conclusion:

Simulation training using a previously taped standardized patient exercise and a simulator to test clinical skills is an effective method to teach and assess breech delivery skills. Residents were able to maintain skills at one and three month intervals.



INTRODUCTION

Simulation is a useful modality for teaching rare but critical skills that may not present frequently in the clinical setting. There are few studies on long term retention of skills in this setting¹⁻⁶. We sought to measure retention of simulator skills and cognitive knowledge in PGY-2 residents after a teaching session consisting of lecture, viewing a video of an in situ hybrid simulation exercise and performing a simulated breech delivery on a high fidelity simulator.

METHODS

A previously made video of a hybrid standardized patient delivering a breech presentation in the ED, using a hemipelvis model was shown to PGY-2 ED and OB residents. It was followed by a lecture emphasizing the key points about breech delivery.

No resident had performed a breech delivery in a patient prior to the exercise. A 10 item pre-test and post-test on the domains of technical

knowledge, indications contraindications and complications was administered before and after the session. The session was followed by immediate individual performance by each resident of a breech delivery scenario on a Noelle simulator, and the performance was rated with a checklist by two faculty. Half the group retook the written exam and was retested on the simulator with the checklist one month later and half 3 months later. Statistical analysis included comparison of the baseline test and checklist scores to the scores at the one and three month intervals. The study was given an educational exemption by the IRB.



RESULTS

13/15 residents who started completed the study .The mean pretest and posttest multiple choice test scores increased from 5.7 to 7.8 out of 10 after the teaching session (range 4-8, 3-9). The improvement was retained at both one month (8 residents) and 3 months (5 residents)

(7.25 and 7.6, ranges 5-9 for both groups). Mean checklist scores for performance on the simulator were 14/19 (range 8-17) at baseline after the teaching sessions and 14 /19 (ranges 12-16 and 10-16) for both one and three month intervals groups. The performance of ED vs OB residents was similar. Further statistical testing was deferred due to the small number of subjects.

CONCLUSION

A pilot study showed that simulation using video and high fidelity simulators can substitute for clinical experience for teaching breech delivery with retention of skills at one and three month intervals.

REFERENCES:

1. Deering S, Brown J, Hodor J, Satin AJ. Simulation training and resident performance of singleton vaginal breech delivery. *Obstet Gynecol* 2006; 107:86-9
2. Maslovitz et al *Obstet Gynecol* 2007;109:1295-1300
3. Daniels K, Arafah J, Clark A, Waller S, Druzin M, Chueh J. Prospective randomized trial of simulation versus didactic teaching for obstetrical emergencies. *Simulation in Healthcare: The Journal of The Society for Medical Simulation*. 2010; 5:40-5.
4. Fisher N, Bernstein PS, Satin A, Pardani S, Heo H, Merkatz IR, Goffman D. Resident training for eclampsia and magnesium toxicity management: simulation or traditional lecture? *American Journal of Obstetrics & Gynecology* 2010; 203:379.e1-5.
5. Macedonia CR, Gherman RB, Satin AJ. Simulation laboratories for training in obstetrics and gynecology. *Obstetrics & Gynecology* 2003;102:388-92.
6. Patel RM, Crombleholme WR. Using simulation to train residents in managing critical events. *Academic Medicine* 1998;73:593.