

An Innovative Model to Teach Residents to Perform Artificial Rupture of Membranes and Fetal Scalp Electrode Placement

1. Purpose/Background

Many first year residents do not have any experience practicing obstetrical interventions prior to their labor and delivery rotations, including performing Artificial Rupture of Membranes (AROM) and Fetal Scalp Electrode (FSE) placement. While didactic learning can be beneficial, studies have shown that high-fidelity medical simulations promote learning for medical trainees and increase self-confidence in practice. Many education simulation models already exist in the OB/GYN sphere, particularly for obstetrical emergencies, and have shown improvement in perceived technical competencies for residents.

2. Methods

An OB skills workshop was developed using a fruit, condom and water model to teach first year family medicine residents to perform AROM and FSE placement prior to their labor and delivery rotation. The aim of the study was to evaluate if the new model would increase the perceived confidence levels of these residents in performing the above procedures. A pre/post survey was administered before and after the workshop.

3. Results

The intervention occurred in November 2022 with 13 first year resident participants. Thirteen completed the pre-survey and twelve completed the post-survey. On a Likert scale of 1-5 (1= not confident, 5=very confident), 69.2% (9) of first year residents selected a 1 on the pre-survey to the question regarding confidence performing an AROM (mean score 1.5). For FSE placement, 76.9% (10) of first year residents selected a 1 on the pre-survey (mean score 1.2). Additionally, 92.3% of first year residents had not performed either an AROM or an FSE placement.

When evaluating the post-survey, 83.3% (10) first year residents selected a 4 regarding confidence performing an AROM and 66.7% (8) selected a 4 regarding confidence performing an FSE. The mean score for confidence performing an AROM and FSE placement was 3.9 and 3.6, respectively.

The mean difference in confidence performing an AROM and FSE before the workshop versus after the workshop was 2.45 (95% CI, 1.8 to 3.05) and 2.35 (95% CI, 1.89 to 2.81), respectively.

4. Conclusions

This fruit model significantly increased residents' confidence in performing AROM and FSE placements. We expect that this confidence will improve their performance on their labor and delivery rotation. The

next step for this project is to evaluate second year residents' confidence in performing these skills and their perception of the utility of the fruit model in preparing them for these procedures."