

Simulation Training for Impacted Fetal Head Emergencies with a Balloon Cephalic Elevation Device

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INTRODUCTION

- **Impacted Fetal Head (IFH):** IFH is a prevalent complication that can occur at cesarean section delivery with an estimated incidence between 2-5% depending on the patient population.¹
- Emergency cesarean sections rose from 5% in 1980 to 18% in 2015 of all deliveries in the UK, of which second stage cesarean section has also risen.²
- Common techniques to facilitate cesarean section delivery with IFH include hand-push, reverse breech, and Patwardhan method.^{3,4}
- A balloon cephalic elevation device is also an option that has shown to significantly reduce risks for both mother and baby including uterine extensions, incision to delivery time, maternal hospital stay in days, estimated blood loss and maternal blood transfusion as well as fetal admissions to NICU and neonatal sepsis.^{3,4}
- Therefore, it is imperative all providers involved in these cases be trained and skilled on how to handle this situation when it arises.

METHODS

- This was a cross-sectional, anonymous self-administered internet survey that was developed by investigators using Qualtrics[®] software.
- 22-question survey administered between April and July 2022.
- Question types included demographic information, rank, multiple choice, and 5-point Likert scale questions.
- Questions evaluated training practices, current management, and multidisciplinary emergency preparedness for IFH emergencies.

ANALYSIS

- A total of 129 surveys were analyzed using descriptive statistics and Chi-square automatic interaction detection.

RESULTS

- 54% of respondents had more than 10 years of experience in obstetrics, and 47.1% have experienced an IFH emergency greater than 20 times.
- Of the physicians who used hand-push, approximately one quarter (24.35%) of physicians were not confident the registered nurse was skilled or knowledgeable in performing hand-push.
- When asked if respondents feel confident in placing a balloon cephalic elevation device, the majority (29%) strongly disagreed.

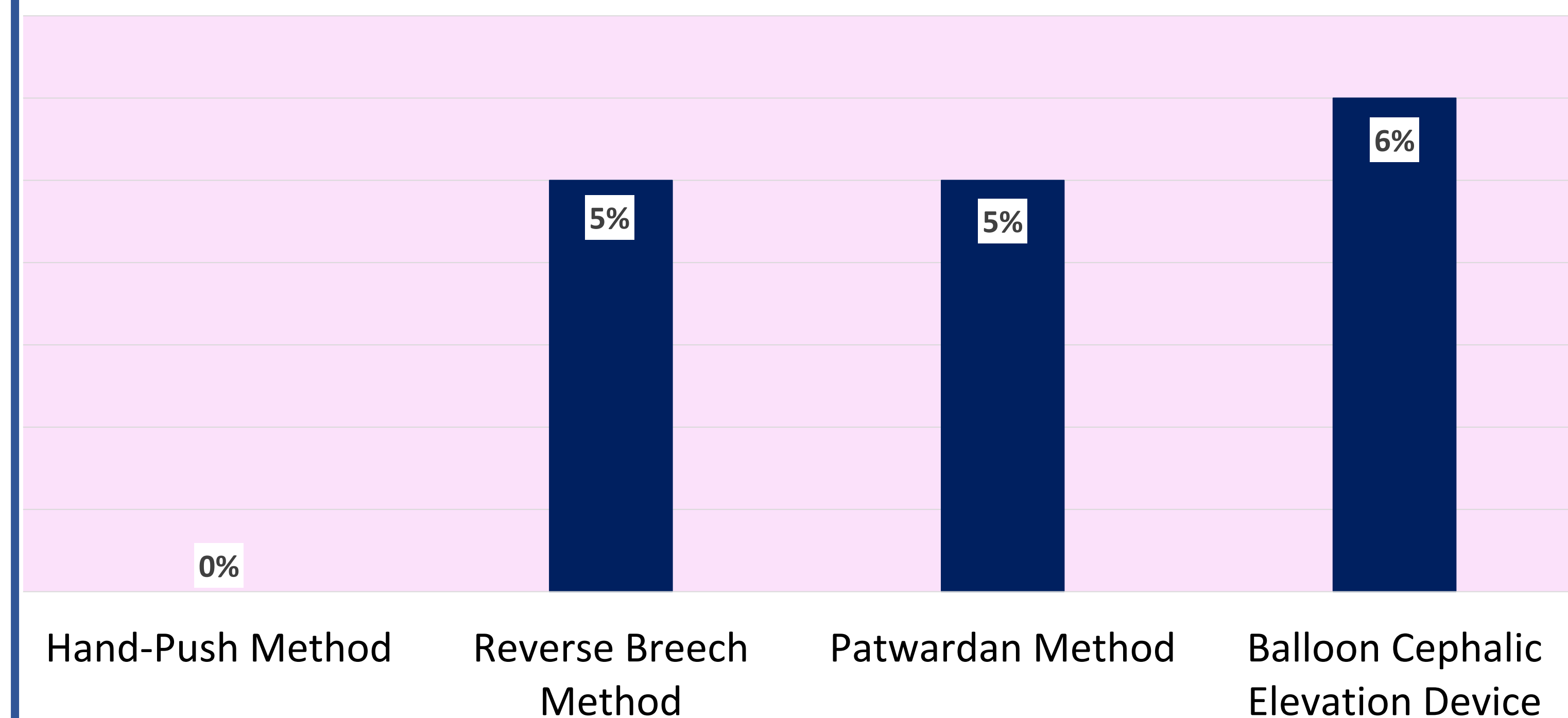
CONCLUSIONS

- IFH during cesarean section is a complication that often requires a collaborative effort of a multidisciplinary team including physicians and registered nurses to improve outcomes.
- For labor and delivery teams who do not participate in emergency preparedness drills for IFH, a balloon cephalic elevation device should be considered and trained using simulation.
- The low percentages of simulation training for IFH reported by respondents highlights the need for more simulation training.
- A trainer is available for simulation of an IFH the balloon cephalic elevation device.

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Types of Simulation Training used for Management of IFH



6% of respondents report having done simulation training only with a balloon cephalic elevation device whereas less respondents had simulation training with the hand-push, reverse breech, and Patwardhan methods.