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Background

- Globally, every minute a woman dies from complications related to pregnancy or childbirth, which equates to approximately 529,000 women per year. (1)
- A key HAAD public health priority goal is to reduce mortality and morbidity related to pregnancy and childbirth.
- One of the leading causes of maternal death is postpartum hemorrhage, and up to 93% of these deaths are preventable with appropriate training. (2)
- The UAE has seen a substantial reduction in infant mortality to 6.4 deaths per 1000 births. (3)
- However challenges still exist with regards to access to specialist care for high-risk pregnancies and obstetrical emergencies and patients may face journeys of up to three hours to receive appropriate care.

Introduction

- Prehospital care provider confidence and competence have major roles in ensuring quality care and patient safety during these emergency situations.
- Previous educational interventions (EI) for nurses that included classroom time and scenarios led to increased perceived confidence and competence. (4,5)
- Prehospital care providers are infrequently exposed to these presentations, which can lead to deterioration in competence and provider confidence.
- Prior studies have shown that simulation based training can improve knowledge, skills and increase clinical team performance. (6)

Objective

- We sought to improve provider competence in dealing with low-volume, high-risk obstetrical clinical presentations through a proven method of a targeted EI that incorporated scenario-based simulation.

Methods

- Prehospital care providers participated in an eight-hour evidence-based obstetrical emergency EI.
- This comprised of a didactic session addressing management of common obstetrical emergencies including
 - antenatal and post-natal emergencies
 - labour and delivery – normal delivery
 - labour and delivery – delivery complications
 - neonatal resuscitation
 - post-resuscitation care of the neonate
- This was followed by scenario-based simulation sessions, utilising medium and high-fidelity manikins.
- The learning objectives for the simulation sessions mirrored the learning outcomes from the earlier didactic sessions.
- This approach permitted synthesis of information and practical application in a safe environment.
- Post simulation debriefing was provided to all staff involved, with video playback utilised to facilitate recall during debriefs when required.
- Provider's impressions of the EI was evaluated immediately after the course through a self-assessment questionnaire utilising a five point Likert scale (1= strongly disagree; 5 = strongly agree).
- Participants were also provided with a free-text box for comments.
- Participation was voluntary and anonymous.

Results

- A total of 534 prehospital care providers successfully completed the EI over a two-month period (sixty sessions).
- Only two participants required remediation to complete the EI.
- In a survey sample of 218 of these participants, over 81% indicated they found the EI useful, and 79% found the feedback provided during debriefing helpful.
- Free text feedback from participants indicated they found the EI informative, challenging, enjoyable, and importantly, the ability to practice management of these scenarios in a safe simulated environment helpful.



Figure 1. Childbirth simulation in process

Summary

- The results of this pilot study cannot be conclusively linked to an improvement in either patient outcomes or provider competence
- However, previous EIs conducted in the organisation to address patient safety issues using a similar format have shown a measurable increase in provider performance.
- The fact that 99.6% of providers successfully completed the EI within one attempt, and 100% within two attempts indicates a reassuring level of skill competency was displayed during the EI.
- We hypothesise that the positive feedback received from providers and their performance within the EI may indicate an improvement in their future clinical performance when dealing with obstetrical emergencies, leading to safer care provision.

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