



Is obstetrics and gynaecological multidisciplinary simulation training in the emergency department Important?

Qualitative analysis on trainee's experience

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Objective:

We hypothesise that multidisciplinary simulation between obstetrics and emergency trainees will provide shared experience and perspectives on dealing with emergencies in the emergency department (ED). The study questions were; how does MDT simulation improve the outcomes and attitudes towards Obstetrics and Gynaecology patients in ED? And does having a multidisciplinary simulation day improve teamwork and positively impact team performance?

Indroduction:

Simulation-based training is a well-established educational strategy increasingly utilised across medical disciplines to enhance clinical competency and optimise patient safety. It provides a structured, risk-free environment in which healthcare professionals can apply theoretical knowledge to realistic clinical scenarios. This enables the development of technical proficiency, clinical decision making and reflective practice.

Multidisciplinary simulation training has been shown to be a highly effective approach for enhancing team performance, particularly in context of high-pressure, time-sensitive events commonly encountered in critical care settings.^{3 4} Simulation fosters the development of essential non-technical skills including teamwork, leadership and effective communication-competencies that are critical for high level of collaboration required in clinical practice.^{5 6}

The Emergency Department (ED) is recognised as a high-risk clinical setting, with diagnostic errors occurring more frequently than in routine inpatient care.⁷ Contributing factors include a fast-paced environment, frequent disruptions and the involvement of multiple healthcare professionals managing a wide spectrum of clinical presentations and severities.⁸ In this environment, multidisciplinary simulation training has been shown to improve the quality and safety of patient care through enhanced team communication, shared mental models, and improved clinical performance during critical events⁹

Team-based simulation, rather than individualised training, is now recognised as the preferred approach for managing rare but life-threatening obstetric emergencies.¹⁰ The Practical Obstetric Multi-Professional Training (PROMPT) programme, introduced in 2008, exemplifies the effectiveness of this model. PROMPT has demonstrated significant improvements in team performance, a reduction in adverse outcomes, and better clinical results across various maternity settings.¹¹

The management of acute obstetric emergencies within the ED requires a well-coordinated multidisciplinary team (MDT) approach for timely assessment and intervention. According to the American College of Obstetricians and Gynaecologists (ACOG) Committee on Patient Safety and Quality Improvement, simulation-based training can be instrumental in identifying and correcting clinical errors, and in enhancing crisis communication skills.¹²

This paper aims to evaluate the significance of multidisciplinary simulation training in the emergency department for obstetric and gynaecological emergencies. It focuses on how collaborative training between obstetrics and gynaecology registrars and emergency medicine trainees enhances interprofessional understanding, teamwork, and shared clinical perspectives.

Method

Study design

This qualitative study employed thematic analysis to understand how MDT simulation involving Obstetrics and Gynaecology (O&G) and Emergency Medicine (EM) trainees influences teamwork and perspectives. A simulation day was organised as a one-day interprofessional workshop with the highest fidelity possible.

Participants and simulation design

Participants included eight O&G and EM trainees. The training day took place in a simulation suite and consisted of four scenarios of an obstetric or gynaecological case that could present in the Emergency Department. The scenarios were in a simulation suite with a high-fidelity simulation model.

Data Collection

Small group interviews were conducted. Each interview lasted approximately one hour and was held virtually. An independent interviewer facilitated the discussions to minimise bias. All interviews were audio-recorded and transcribed.

Data Analysis

A thematic analysis was conducted using Braun and Clarke's six-step framework:

- Familiarisation with the data through repeated reading of interview transcripts
- Generation of initial codes based on recurring patterns and phrases
- Searching for themes by grouping codes into broader categories
- Reviewing themes to ensure consistency and relevance to the research questions
- Defining and naming themes reflecting the key messages emerging from the data
- Producing the report

Open and axial codes were extracted in relation to the two questions:

1. How does MDT simulation improve the outcomes and attitudes towards Obstetric and Gynaecology patients?
2. Does having a multidisciplinary simulation day improve teamwork and positively impact team performance?

Results

Thematic analysis was conducted on the transcribed interviews, resulting in the identification of four key themes. These themes were developed through open coding, followed by axial coding. The analysis is summarised below:

	Theme	Communication across departments needs to improve	Current interdisciplinary teaching is insufficient	Simulations must encompass a range of relevant scenarios	Multidisciplinary simulation supports professional development
	Open codes	• Lack of interaction between departments • Interaction at senior roles • Differences of ED working	• Lack of practical interdisciplinary teaching • Training in O&G emergencies • Shared mental models	• Simulations are applicable to real life scenarios • Difference in approach to patient • Improvement of understanding different departmental approaches	• MDT simulation increase confidence in emergency scenarios • MDT simulation teaching were accurate and transferrable • Aware of roles and responsibilities
	Axial code	• Barriers to effective interdepartmental collaboration	• Need for practical interdisciplinary training to build shared understanding	• Broadening clinical perspective through relevant, interdisciplinary learning	• Professional development through realistic MDT simulation

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Discussion

This project explores the impact of an interprofessional training day that brought together trainees . Four key themes were identified:

1) Communication across departments need to improve.

Participants were asked: "How much joint working between Obstetrics and Gynaecology and Emergency Medicine goes on-either from your perception or your experience?".

'There's not a lot of direct working together necessarily'

'I think the only couple of times where I really felt like that we've come together and worked like cohesively as a team has been like maybe the very rare occasion.'

The final themes and reflections reinforced the rationale behind the study day as there is minimal interaction between the two teams unless a seriously unwell patient comes in. In such high-stake scenarios, close and seamless teamwork will improve patient care.

'When we do have to work together, there's a lot of good kind of joint working and interaction.....one of the challenges is the only times that we're really interacting is when there's a really sick patient'

'Very rarely see the Ed doctors themselves.'

Another question was 'What do you think are the key benefits of doing simulation day together?'

'And it's like team working. It's got to be a good thing when you know who the people are and the logistics'

One of the main reasons the day was designed was to provide experience with low frequency but high skill scenarios.

"We get a fair bit of theoretical, but not as much hands on"

"Specifically in ED, this is the first time I've had training"

"Not that much training beyond Life support courses there are parts of our curriculum which, like Perimortem caesareans sections which are kind of discussed."

2) Current Interdisciplinary teaching is insufficient

Participants discussed the differing approaches and underlying mental models that shape how the trainee's practice. The training day was seen as a valuable opportunity.

"Probably that's right. They're giving you an understanding of their viewpoint and also like of each other's knowledge. So, like the things that I was surprised they didn't know or things that they did that I didn't know, you know, like I think so knowing where each other's knowledge is and each other's priorities"

"So I think that when you know a team and you know people by name, I think automatically everything becomes easier"

"It was like useful to see how much they would approach it"

3) Simulations must encompass a range of relevant scenarios

The day aimed to be relevant to practice for both the ED and O&G trainees. This was a balance that was difficult as there are different learning objectives and skills . The objectives set out skills required by both sets. This was well received and the participants felt that the scenarios were based on real life situations.

4) Multidisciplinary simulation supports professional development

The day aimed to be relevant to practice for both the ED and O&G trainees. This was a balance that was difficult as there are different learning objectives and skills required by both the specialties differed. The objectives set out skills required by both sets and were worked into the scenarios. This was well received and the participants felt that the scenarios were based on real life situations that could occur.

This research had strengths. All the trainees who took part in the simulation day agreed to take part and they were questioned by an independent interviewer. There were consistent themes throughout the interviews and the aims of the days were also bought up spontaneously which suggested the day was designed successfully. The feedback from the trainees was overwhelmingly positive, learning in an MDT setting and with high fidelity simulation was felt to be highly useful.

There were limitations to the simulation day. The numbers of trainee attendees was low, only doctors and from one trust . The plan is to run it again with increased number to assess for a wider scope and acceptability.