

A day in the life of a maternity unit: immersive simulation for final year midwifery students

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Midwifery education aims to provide students with the skills, clinical knowledge, life-long learning philosophy and decision-making ability to become safe, competent and compassionate midwives in a maternity landscape of uncertainty and change (Vermeulen et al, 2017; Deegan and Terry, 2013). Student midwives report challenges with applying their theoretical learning into the clinical practice (Folliard & Sanders, 2022), and so innovative educational approaches are needed for students to feel secure in their knowledge and ability to apply theory to practice upon nearing completion and entering the midwifery profession.

Simulation based learning events and role-play scenarios are well established educational approaches, used widely across midwifery undergraduate programmes (Schweitzer et al, 2024; Deegan & Terry, 2013). Forming part of experiential learning philosophy (Laverie, Hass & Mitchel, 2020), simulation provides students the opportunity to extend existing knowledge, enhance their problem-solving skills in an interactive and creative format, replicating many of the challenges student midwives face in practice learning settings (Lee & Peacock, 2020). Many healthcare students report that simulation-based learning techniques are preferable learning strategies, providing freedom to consolidate skills in a safe learning environment without the emotional burden of worrying about mistakes being made whilst caring for patients in practice (Lendahls & Oscarsson, 2017).

Unfolding case study and real time sim – a powerful combination

Unfolding case study promotes systematic logical thinking, information-seeking and critical analysis of clinical data (Englund, 2020). Active learning strategies including case study promote higher order skills, increasing student's agency in their learning, and critical thinking at a deeper cognitive level (Bristol et al, 2019). A 'day in the life of a maternity unit' provided the opportunity to combine a series of twelve unfolding patient case studies with real-time immersive simulation for final year midwifery students. Real time simulation was used to promote students to replicate the clinical areas, advancing students technical skills such as cannulation with reflection and interprofessional communication skills across a range of simulation modalities (McKelvin & McKelvin, 2020). Students were given space and time to complete tasks as they would, such as

suturing, using a combination of role play and simulation models enabling students to practice all stages of each skill combined with non-technical skills.

At the outset of the simulation clear, concise communication was used in a pre-brief which included exploration of the learning objectives and key roles. This allowed facilitators time to prepare their roles and an opportunity for suggestions, feedback and orientation to the learning environment for those unfamiliar. To ensure a wide range of simulated experiences students were given both professional and patient roles, transitioning halfway through the day to enable experience of both sides of the caring relationship. Careful consideration and planning involved a timeline of patient location and care episodes to ensure there was no overlapping between student and service user roles.

Students had identified issues in the planning stages, which concerned them about qualifying. One of these challenges was keeping contemporaneous records whilst providing routine care. Resources used to support simulation teaching had often been heavily procured from one of the larger trust partners, which can create disparity in student familiarity of documentation. These were incorporated into the simulation experience, and 'patients' had personalised pre-filled paper maternal notes, completed to the point of care the patient would be attending, some of which contained errors or medication contraindications to promote thorough history-taking skills and patient-centred communication. Completing safety huddle attendance records, observation charts, handover tools, and emergency proformas, amongst others, required students to manage their time between contemporaneous documentation and care delivery which was reportedly separated in the clinical learning environment.

Embedding everyday practice

The simulation ran continuously with students covering staff shortages, a lunch break acting as the mental pause to move seamlessly to the next role, covering care delivery for peers and managing arising emergencies as per in the hospital setting. Whilst in the student role, learners used the freedom of acting as patients to optimise peer learning, prompting their allocated carer to document clinical activities, reminding each other of guidelines, protocols and exploring differences in clinical placement policies. Students also used their patient roles to create common clinical scenarios such as aggressive patients requiring conflict resolution, reasons for incident reporting, mental health deterioration and raising parental concerns about neonatal care providing non-technical skills refinement.

The simulation focus was on fundamental aspects of care, rather than emergency management. This included checking the resuscitaire and liaising with different

maternity areas via telephone calls whereby the students used walkie talkies to contact each other to arrange transfer of patients and co-ordinate care appropriately. Students moved between clinical areas and although the focus was on everyday skills from clinical practice, some of these elements had been identified by students as causing anxiety and needing to be refreshed due to extended periods away from certain clinical areas as they rotated in their student learning through different maternity departments.

Embedded in a research module, the experience required students to provide a rationale for each action and decision taken, combining elements of theory and practice acquired throughout their course aligning the learning outcomes with evidence-based best-practice. Educators aimed to increase student's critical-thinking and student confidence in evidence-based rationale, providing students case studies through which they could demonstrate professional evidence informed knowledge in a psychologically safe environment without the pressures of making mistakes with patients or usual placement demands (Vermuelen et al, 2017, Changuti et al, 2023). When present, psychological safety supports peers to trust and respect each other (Edmondson, 2019) and this philosophy for the day-long immersive simulation enabled students to engage with midwifery skills and patient-centered holistic care delivery, reflecting in action, auditing personal practice and relating the episodes of care considering biopsychosocial-spiritual health and maternal wellbeing in the context of midwifery care provision and care-planning.

Facilitators guided students' clinical decision-making via coaching techniques, prompting self-assessment and identification of knowledge-gaps and areas for development. Using a coaching philosophy assisted students to envisage themselves in professional roles with facilitators offering collegial advice when called upon, rather than providing answers to student queries. Students were able to 'step up' taking responsibility for care whilst the educational team 'stepped back' creating space for students to problem-solve collaboratively in a supportive facilitated environment (Lobo & Kenward, 2021: 52). The range of professional facilitators enabled students to fully immerse themselves in the simulation with each maternity area (midwife led pool room, obstetric theatre, in patient wards) will allocation of roles complimentary to specialist expertise (nurses, midwives and operating department practitioners).

Evaluation

Simulation draws on higher level thinking, encouraging students to move away from memory recall, instead learning through tacit learning experiences practicing skills and the essential components of care such as relationship-building, and holistic assessment required for professional practice (Brstol et al, 2019). However, these elements of

student training can be compartmentalised in practice environments leading students to feel anxious about how they will 'cope' with competing demands of clinical practice which an immersive, real-time unfolding case study simulation can mitigate against. Students acknowledged that they needed to think more widely than just delivering the necessary 'skill', (McKelvin & McKelvin, 2020) and instead were able to consider this is the wider context of the patient experience. During the debrief, students critically reflected on effective multidisciplinary team-working, exploring leadership principles, and how they had felt their teamwork and effective communication skills had been enhanced (Eisenmann et al, 2018; Changuti et al, 2023). Using several simulation strategies created a closer sense of community across learners and facilitators and an appreciation for different multi-disciplinary roles (Bristol et al, 2019).

The power of enacting both sides of the caring relationship featured strongly in student evaluation. Students highlighted the value of taking a patient role, identifying how this would impact their future practice. During an unanticipated bradycardia and a transfer from the birthing unit to theatre, both students and facilitators reported an increase in anxiety and surge in adrenaline, emulating their feelings in practice. When students felt moments of their simulation decisions had been unsuccessful, or that their actions had been incorrect, they were able to step outside the simulation, have a rapid, immediate debrief with facilitators and re-enter the experience immediately rectifying their previous approach and making positive changes to their care delivery and knowledgebase.

Student feedback:

<p>"I feel it was really supportive and lecturers and facilitators were able to really understand the pressures and uncertainties and help me build on those! Despite my tears in the labour room."</p>
<p>"a really fun and open day to make mistakes, ask for help, be creative, thank you"</p>
<p>"I loved it. I was able to take my time getting things done and felt supported. It was nice to have another student as the patient, and a friendly facilitator. We've had emergency simulations before, so I found it really helpful to have a day of being a midwife with routine care."</p>
<p>"Such a brilliant day. A lot of our simulation work is primarily skills based, was really nice to practice wider thinking and multidisciplinary working too. Thank you"</p>

Conclusion

Simulation gives students active experiential learning opportunities to consolidate, refine and perform many technical and non-technical skills in a safe and supportive learning environment. Student evaluation has demonstrated that this is a positive addition to their

preparation for upcoming qualification and provides a holistic experience within a multidisciplinary sphere to prepare them for professional work.

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