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Advancing Maternal and Neonatal Safety through High-Fidelity Simulation Education

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Abstract

Concern over maternal and neonatal safety has increased globally over the decades. According to data from the World Health Organization, approximately 290,000 women globally lost their lives due to pregnancy-associated complications in 2020. Of particular concern is Taiwan, where the maternal mortality rate significantly surpassed that of its neighboring countries. In response to these findings, Taiwan's Ministry of Health and Welfare has prioritized enhancing pregnancy and childbirth safety as part of its annual patient safety initiatives.

Trainees of obstetrics and gynecology must learn to grapple with a complex range of challenges, ranging from intricate clinical symptomatology and high-risk surgical procedures to the complexities of medicolegal disputes and doctor–patient relationships. Simulation-based educational paradigms have emerged as pivotal solutions to address these challenges. Such pedagogical approaches provide a controlled simulated environment that enables medical professionals to cultivate nontechnical competencies such as interdisciplinary collaboration and patient communication, augment clinical self-efficacy, and mitigate real-world anxieties. High-fidelity simulation holds the potential to deliver an authentic, risk-mitigated learning experience, thereby refining the pedagogical standards of medical education. This approach lays the foundation for enhanced maternal and neonatal safety outcomes.

Keywords: neonatal and maternal mortality, patient safety, high-fidelity simulation education, interprofessional collaboration, learning stress

高階擬真教育於孕產兒安全之應用

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摘要

近年來，全球母嬰安全問題日益受到重視。根據世界衛生組織資料顯示，2020年，因孕產相關原因全球有近29萬女性喪命。其中，臺灣的孕婦死亡率尤為引人關注，明顯超出周邊國家。鑒於此，衛生福利部已將“維護孕產兒安全”列入年度的病人安全重點工作。

婦產科醫學培訓面臨眾多挑戰，不僅涉及複雜的臨床症狀辨識和高風險手術，還包括醫糾問題和醫病關係的管理。因此，以模擬為基礎的教育方法逐漸被認為是解決這些問題的關鍵策略。這種學習方式提供安全的模擬環境，使醫療從業者得以練習醫學技能、加強非技術性能力如團隊合作和溝通，並提升自信心，減輕臨床壓力。透過高階擬真模擬，我們不僅可以提供真實且低風險的學習環境，還能進一步優化醫學教育品質，為母嬰健康和安全提供有力的保障。此項文章旨在研析高階擬真教育在孕產兒安全中的卓越作用與提供實務經驗，期許為臺灣和全球母嬰健康及安全帶來持續的進步。

關鍵詞：新生兒和母親死亡率、病人安全、高階擬真教育、跨專業合作、學習壓力