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Assessing the competency of final-year nursing students in obstetric emergency management

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Abstract

Obstetric emergencies represent critical situations that demand rapid recognition and skilled intervention to prevent maternal and neonatal morbidity and mortality. As frontline caregivers, nurses must demonstrate advanced clinical competency in such scenarios. This study investigates the competency of final-year nursing students in managing obstetric emergencies, evaluating their knowledge, clinical skills, and decision-making capabilities. Using a cross-sectional design, 150 final-year students from three nursing colleges were assessed using objective structured clinical examinations (OSCEs), simulation-based scenarios, and knowledge-based questionnaires. The findings reveal significant competency gaps in areas like postpartum hemorrhage, eclampsia, and shoulder dystocia management. This paper emphasizes the urgent need for curriculum enhancement, more hands-on training, and early exposure to emergency obstetric care for nursing students before graduation.

Keywords: PPH, OSCEs, graduation, hemorrhage, eclampsia, neonatal morbidity, mortality

Introduction

Obstetric emergencies are unpredictable and life-threatening events that require immediate and efficient responses. Nurses, particularly those working in maternity care units, are expected to possess the competence to manage these emergencies effectively to safeguard both maternal and neonatal outcomes. With maternal mortality still a significant concern in low- and middle-income countries, enhancing the preparedness of future healthcare providers-especially nurses is essential for achieving Sustainable Development Goal 3.1, which aims to reduce the global maternal mortality ratio.

Final-year nursing students are on the threshold of professional practice and are expected to be competent in fundamental clinical skills, including those related to obstetric emergencies. However, existing literature points toward a mismatch between theoretical learning and practical readiness among nursing graduates. Factors such as limited clinical exposure, simulation inconsistencies, and insufficient mentorship contribute to this competency gap.

Obstetric emergencies commonly encountered in clinical settings include postpartum hemorrhage (PPH), hypertensive disorders like eclampsia, umbilical cord prolapse, uterine rupture, and obstructed labor. Timely and accurate management of these conditions demands not only theoretical understanding but also critical thinking, prompt decision-making, and technical skills. This study seeks to evaluate the competency of final-year nursing students in managing obstetric emergencies and identify educational strategies to enhance their preparedness.

Materials and Methods

This cross-sectional study was conducted among 150 final-year nursing students enrolled in three different nursing institutions across urban and semi-urban regions. Data collection took place over three months through structured assessments consisting of knowledge-based questionnaires, simulation-based clinical scenarios, and OSCE stations.

The knowledge assessment included 30 multiple-choice questions covering key obstetric emergencies such as PPH, eclampsia, shoulder dystocia, cord prolapse, and neonatal resuscitation. Clinical competency was evaluated using five OSCE stations designed to assess practical skills, critical decision-making, and team communication. Each station included standardized patients and mannequins with faculty assessors grading the students using a rubric based on international nursing competency standards.

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Simulation-based assessments focused on high-fidelity scenarios including eclamptic seizure management, active management of the third stage of labor (AMTSL), and neonatal resuscitation. Pre- and post-simulation confidence

surveys were also administered to measure perceived self-efficacy among participants.

Results

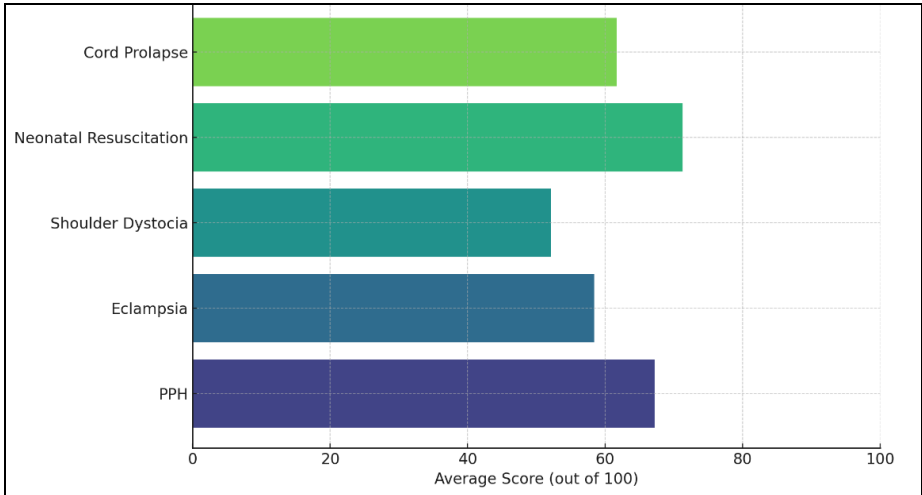


Fig 1: Competency Scores across Key Obstetric Emergencies (N=150)

The overall competency level across all scenarios indicated moderate proficiency, with an average score of 62.1%. The highest competency was seen in neonatal resuscitation (71.3%), while the lowest was in managing shoulder dystocia (52.1%). Knowledge-based assessments revealed that only 48% of students could correctly sequence steps in

managing eclampsia. Simulation confidence scores showed significant improvement post-intervention (mean increase of 18%, $p<0.01$), suggesting the effectiveness of hands-on training. However, less than 30% of students could demonstrate proper uterotonic administration techniques without prompts.

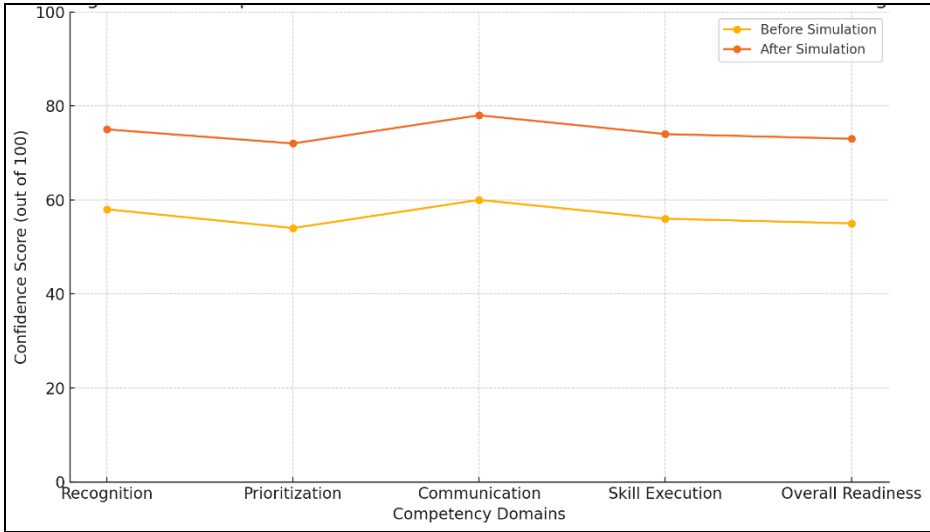


Fig 2: Self-reported confidence before and after simulation-based training

Discussion

The results of this study reflect a concerning gap in the preparedness of final-year nursing students for obstetric emergencies. While theoretical knowledge was moderately adequate, practical application and situational response were lacking in several high-risk areas. This misalignment points to systemic challenges in nursing education, particularly in how clinical competencies are taught and assessed. One critical observation was the disparity between self-perceived readiness and actual performance. Students reported relatively high confidence levels in handling emergencies prior to simulations, but many failed to perform adequately in timed OSCE scenarios. This highlights the limitations of classroom learning and the

overestimation of competence in the absence of real-time clinical experience. Simulation training emerged as an effective tool for bridging this gap. The marked improvement in confidence and performance post-simulation underscores the necessity of integrating structured simulation exercises into the standard nursing curriculum. Moreover, faculty mentorship during simulation played a pivotal role in reinforcing decision-making skills and procedural accuracy. Another area of concern was the lack of familiarity with emergency kits and supplies, especially in managing shoulder dystocia and cord prolapse. This deficiency could lead to delayed interventions in actual clinical practice. Including mandatory drills and mock emergency response

sessions within hospital postings may significantly boost preparedness.

Conclusion

This study underscores the urgent need to revamp nursing education strategies to better equip students for obstetric emergencies. While final-year nursing students possess a baseline understanding of key emergency concepts, practical execution and crisis management require significant improvement. Incorporating more simulation-based learning, real-world clinical exposure, and continuous assessments are critical steps toward enhancing the readiness of nursing graduates. Educators and curriculum developers must prioritize competency-based training to ensure that every nursing student transitions into the workforce with the skills necessary to respond effectively in life-threatening obstetric situations.

Conflict of Interest

Not available

Financial Support

Not available

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