



The Role of Medical Midwives in Serviço Nacional Ambulância e Emergência Médica (SNAEM) Timor-Leste: Needs and Challenges

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Abstract

In Timor-Leste, medical midwives play a crucial role in the Serviço Nacional Ambulância e Emergência Médica (SNAEM), particularly in responding to maternal and neonatal emergencies. As the first point of contact in pre-hospital and emergency settings, midwives provide life-saving interventions, manage obstetric emergencies, and facilitate timely referrals to higher-level facilities. However, despite their essential role, midwives face significant challenges, including gaps in specialized emergency training, limited medical resources, and systemic barriers within the emergency medical service framework. This study aims to assess the role of midwives in SNAEM, identify the specific training and resource needs, and explore the challenges hindering effective service delivery. This review provides an insight how SNAEM handle obstetrician issue. The study also highlights challenges in communication, workforce capacity, and infrastructure that affect the timeliness and efficiency of emergency care. To address these challenges, the study proposes strategies to improve midwifery services within SNAEM, including enhanced training, better resource allocation, and stronger referral systems. Addressing these issues will enhance maternal and neonatal survival rates and strengthen the role of midwives in Timor-Leste's emergency medical services.

Key words: Medical Midwives, Roles, SNAEM, Timor-Leste

Introduction

Timor-Leste is a tiny island situated between Australia and Indonesia and located in southeast Asian nation. The country is an Eastern half of the island of Timor, it is around 14,918 square kilometers. Timor-Leste is one of the newest countries which is located in southeast Asian nation. The country occupying the half of island of Timor with total population 1.340,434 In 2022 Administratively, the country consists of 1 special autonomous region of Oecussi, 13 municipalities, 65 post administrative, 442 villages and 2.225 hamlets (Rangel, G., et al., 2023).

In Timor-Leste, emergency medical services (EMS) have made significant strides in addressing maternal and neonatal health concerns, but challenges remain in providing timely and effective care during emergencies. The Serviço Nacional Ambulância e Emergência Médica (SNAEM), the national ambulance and emergency service, has been instrumental in improving access to emergency care with various medical service providers (da Costa, F., et al., 2023). However, the role of medical midwives within this system is vital for managing obstetric and neonatal emergencies. Midwives are often the first responders, providing immediate care and stabilization until more specialized services are available. Despite their critical role, midwives face several barriers to effective service delivery, including insufficient training, lack of resources, and system constraints (WHO, 2021; UNFPA, 2020). This paper explores the needs, challenges, and recommendations for enhancing the role of medical midwives in SNAEM to improve maternal and neonatal survival rates in Timor-Leste.

Objectives

To assess the role of medical midwives within SNAEM in responding to maternal and neonatal emergencies; to identify the specific training and resource needs of midwives working in SNAEM; to explore the challenges faced by midwives in providing emergency obstetric and neonatal care; to recommend strategies to improve midwifery services within the SNAEM framework.

The Role of Midwives in SNAEM

Medical midwives in SNAEM serve as key responders in obstetric emergencies, bridging the gap between community-based maternal care and pre-hospital services. The obstetric emergencies cases mostly faced such as pre-eclampsia, obstructed labor, and postpartum

hemorrhage cases from community or transfer cases from municipality level to the national. Health professional workers responsibilities include stabilizing patients, administering first aid, and facilitating the timely transfer of patients to higher-level facilities when necessary. In areas with limited access to healthcare, midwives provide life-saving interventions in pre-hospital and out-of-hospital settings, making their role indispensable (UNFPA, 2020). On the other hand, medical professional including doctors, nurses and midwives at the SNAEM had provided care and delivery in an ambulance for patients when taking them from the community or from municipality level. Studies have shown that midwife-led emergency interventions can reduce mortality and improve overall healthcare accessibility, particularly in low-resource settings (Fikre R, et al.,2023). In Timor-Leste, SNAEM had been established to respond the emergency care in all health issues in the country such as emergency cases in the community, municipality and other emergency like natural disaster.

A medical midwife plays a crucial role in emergency care by providing immediate, specialized care to pregnant women experiencing complications during labor or delivery. This includes recognizing high-risk situations, performing necessary interventions, and coordinating with other healthcare professionals when needed (Beek et al., 2019). Medical midwives often act as frontline providers in emergency situations, particularly in resource-limited settings.

In Timor-Leste, medical midwives receive obstetric care-related information from the SNAEM call center. Based on this information, they are dispatched directly to the location, whether in the community or at the municipal level, to provide timely and efficient maternal healthcare. Their rapid response plays a critical role in managing obstetric emergencies, reducing maternal and neonatal risks, and improving overall maternal health outcomes.

Training and Skills Gaps

Despite their essential role, midwives often face significant gaps in training. While basic obstetric training is common, many midwives working in SNAEM lack the specialized knowledge and skills required to handle emergency neonatal resuscitation, advanced life support, and other critical care scenarios (WHO, 2021). Additionally, refresher courses and continuous professional development opportunities are often limited, leaving midwives underprepared for complex emergency situations.

To address these challenges, there is a pressing need for standardized training programs, including the implementation of Training of Trainers (ToT) programs and advanced clinical training for midwives. Enhancing their competencies in emergency obstetric and neonatal care will enable them to provide high-quality pre-hospital services for maternal and child health, particularly for pregnant women classified as emergency referrals.

Furthermore, strengthening SNAEM's capacity through structured training initiatives will improve the midwives' ability to respond effectively to emergencies at the community, municipal, and institutional levels. This includes coordinating with relevant healthcare institutions to facilitate the evacuation of patients to appropriate health facilities, such as the National Hospital of Guido Valadares and community health centers with inpatient care services in the capital, Dili. By investing in continuous skill development and standardized protocols, medical midwives will be better equipped to handle life-threatening obstetric emergencies and improve maternal and neonatal health outcomes across Timor-Leste.

Constraints

Midwives report facing severe resource constraints in providing emergency obstetric care. Many SNAEM ambulances lack essential medical equipment, including automatic fetal heart monitors, medications for obstetric emergencies, and neonatal resuscitation kits. These shortages significantly hinder midwives' ability to manage critical maternal and neonatal conditions effectively. Additionally, rural and remote areas in Timor-Leste suffer from poor road infrastructure, making timely patient transportation to higher-level care facilities a major challenge (WHO, 2021). Heavy rainfall, rugged terrain, and limited road networks further exacerbate delays, increasing the risks for mothers and newborns requiring urgent medical attention. The lack of access to essential medical supplies and adequate transportation has been identified as a key barrier to effective maternal and neonatal care, directly impacting both the quality and timeliness of life-saving interventions.

To address these challenges, SNAEM must invest in specialized emergency obstetric training programs. Future training initiatives should focus on different levels of expertise, including standardized training for midwives, Training of Trainers (ToT) programs, and advanced clinical training for senior emergency responders. Equipping midwives with enhanced skills in

emergency obstetric care, neonatal resuscitation, and advanced life support will strengthen SNAEM's capacity to deliver efficient pre-hospital services.

Furthermore, strategic partnerships with government agencies, international organizations, and healthcare institutions should be established to improve medical supply chains, ambulance equipment, and transportation infrastructure. Strengthening the healthcare system in Timor-Leste through targeted training, better resource allocation, and improved logistics will ultimately lead to better maternal and neonatal health outcomes, reducing preventable deaths and complications in emergency settings.

Systemic and Structural Challenges

Several structural issues impact the work of midwives within SNAEM (1) Weak communication systems between ambulances, health centers, and hospitals delay timely interventions, due to one way of communication through emergence telephone, (Krasovec, K. 2004); (2) Limited Workforce Capacity in Rural Areas Many rural and remote areas in Timor-Leste suffer from a severe shortage of trained midwives, forcing existing personnel to work long shifts under extreme pressure. The overwhelming workload often leads to burnout, fatigue, and increased stress, ultimately compromising the quality of care provided. The shortage of healthcare professionals also means that some communities have limited access to skilled maternal care, resulting in preventable maternal and neonatal complications. Addressing this issue requires targeted workforce expansion efforts, including incentive programs for midwives in rural areas, improved working conditions, and mentorship programs to support new midwives in high-demand regions Wild, K. J. (2009); (3) Cultural Barriers and Community Preferences Traditional beliefs and strong reliance on traditional birth attendants (TBAs) continue to be prevalent in some communities. Many families still prioritize home births with TBAs over facility-based deliveries with professional midwives, sometimes delaying critical interventions for obstetric complications. Additionally, misconceptions about modern medical practices, fear of hospital settings, and lack of awareness about emergency maternal care contribute to these delays. Community engagement programs, culturally sensitive education campaigns, and collaboration between midwives and TBAs can help bridge this gap, ensuring that women receive the appropriate care without unnecessary delays (Bohren et al., 2019).

Conclusion and Recommendation

Medical midwives are indispensable to SNAEM in Timor-Leste, particularly in maternal and neonatal emergencies. However, the lack of advanced training, insufficient resources, and systemic challenges undermine their effectiveness. To enhance midwives' contributions to emergency services, it is essential to implement comprehensive training programs for midwives, with a focus on emergency obstetric and neonatal care; Improve resource availability, including medical supplies and equipment for EMS, Strengthen communication and referral systems to improve coordination between ambulances, health centers, and hospitals, Increase investment in the midwifery workforce to reduce burnout and enhance retention, particularly in rural areas, Invest in healthcare infrastructure, including emergency response centers and maternity-specific ambulance services, to support midwives in their emergency response roles. Addressing these needs will improve the quality and outcomes of maternal and neonatal care in Timor-Leste and strengthen the role of midwives in emergency medical services.

Investing in Communication Technology for Ambulance Coordination and Patient Referrals. Enhancing communication systems is crucial for efficient emergency response and patient management. This can be achieved by digitalizing the communication network through an online service platform, enabling real-time coordination between ambulances, health centers, and hospitals. Implementing GPS tracking for ambulances, digital patient records, and mobile alert systems can help streamline referrals, reduce response times, and improve overall patient outcomes. Expanding midwifery training and workforce distribution to address shortages in underserved areas. Implementing support programs to prevent midwife burnout and ensure sustained quality of care.

Strengthening community outreach efforts to increase awareness and trust in professional maternal healthcare services. Developing collaborative approaches with TBAs to create a more integrated maternal healthcare system that respects cultural traditions while prioritizing safe delivery practices.

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