



Reducing Maternal and Infant Mortality: Global Challenges and Integrated Strategies Toward 2030

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Abstract

This study aims to review the main challenges and factors influencing maternal and neonatal mortality worldwide, focusing on strategies to reduce these deaths and achieve the 2030 Sustainable Development Goals (SDGs). Despite progress, maternal and neonatal mortality remain high, especially in developing countries, due to social inequalities, lack of skilled health workers, and weak healthcare systems. Global crises like conflicts, climate change, and pandemics further strain health services, limiting access to quality care during childbirth.

To overcome these challenges, the study highlights the need to increase skilled birth attendants, enhance prenatal and postnatal care, and implement equity-focused programs. Strengthening political commitment and investing in maternal and neonatal health are crucial. Sustainable reductions in mortality can only be achieved through coordinated, interdisciplinary efforts that address both medical and social determinants of health.

Key Words: Challenges, Infant mortality, Maternal mortality, Strategies.

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1- INTRODUCTION

Despite notable progress, maternal and infant mortality remain unacceptably high in many low- and middle-income countries (LMICs), reflecting persistent global health inequities. With the 2030 Sustainable Development Goals (SDGs) deadline approaching, addressing these disparities through integrated, evidence-based strategies has become more urgent than ever (1). Reducing maternal and infant mortality is a top priority for both the World Health Organization and the United Nations SDGs for 2030. Over the past two decades, maternal mortality rates have significantly declined; the global maternal mortality ratio (MMR) dropped from 385 deaths per 100,000 live births in 1990 to 216 in 2015, representing approximately a 44% reduction (1, 2). However, progress has stalled since 2016 in many regions, particularly in low-income countries and crisis-affected areas. To achieve the SDG target of reducing the MMR to less than 70 deaths per 100,000 live births by 2030, accelerated efforts are essential (1, 3).

High maternal and infant mortality rates in sub-Saharan Africa, South Asia, and conflict zones highlight deep inequalities in access to healthcare services, quality of care, and social determinants such as poverty, education, and gender equity (4). Recent global crises—including the COVID-19 pandemic and climate change—have placed significant strain on health systems and disproportionately affected vulnerable women and newborns (3). Beyond clinical causes such as postpartum hemorrhage and infections, social and political factors—including poverty, low literacy, gender discrimination, and humanitarian emergencies—play a critical role in sustaining high mortality rates (2).

This study aims to review the key challenges and main determinants of maternal and infant mortality worldwide

and to propose practical, coordinated strategies essential for achieving the 2030 targets.

2- MATERIALS AND METHODS

This short communication presents a narrative review of scientific literature and international reports on maternal and infant mortality. Searches were conducted using prominent databases such as PubMed and Scopus, alongside reports from key international organizations including the World Health Organization (WHO), UNICEF, and the World Bank (2, 3). Peer-reviewed articles and official reports published up to April 2025 were identified using keywords like “maternal mortality,” “infant mortality,” “neonatal mortality,” “health disparities,” “social determinants,” and “global health.” To ensure accuracy and minimize bias, two independent reviewers selected and evaluated sources, resolving any discrepancies through discussion and consensus.

Inclusion criteria required relevance to maternal and/or neonatal mortality, coverage of global or regional data, scientific quality, and a temporal scope extending to April 2025. Extracted data focused on regional disparities, barriers to progress, the impact of social and political determinants, and the effectiveness of integrated interventions. These data were qualitatively analyzed and thematically categorized to provide a comprehensive overview of the current status, challenges, and potential solutions for reducing maternal and infant mortality. This study relied exclusively on published literature and secondary data; no individual or confidential information was collected or used. All phases of data collection, analysis, and reporting adhered to ethical research principles, maintaining impartiality and respecting intellectual property rights.

3- RESULTS

Maternal and infant mortality remain critical global health challenges, disproportionately affecting developing countries. Despite significant efforts over recent decades, progress in reducing these deaths has been uneven and, in some regions, has plateaued. Understanding the current trends, disparities, and underlying challenges is essential for informing effective interventions and policies aimed at saving lives and improving health outcomes worldwide.

3-1. Global Disparities and Trends

Nearly 99% of the 529,000 annual maternal deaths occur in developing countries, where the lifetime risk of dying from pregnancy-related causes is 1 in 16, compared to 1 in 2,800 in developed nations (5). Globally, 2.8 million infants die within the first month of life each year, with the majority of these deaths occurring in developing countries. Leading causes include prematurity, birth asphyxia, and infections (6). Although some reductions in infant mortality have been achieved, progress has stagnated, particularly regarding neonatal deaths (7).

3-2. Key Challenges

- **Socioeconomic and Structural Barriers:** Persistent inequalities, inadequate healthcare infrastructure, and workforce shortages limit access to essential services, especially in sub-Saharan Africa and South Asia (7–9).
- **Healthcare Access and Quality:** Limited access to skilled birth attendants and antenatal care remains a significant barrier (8, 9). High rates of preventable causes, such as obstetric complications and infections, highlight ongoing gaps in healthcare quality (7).
- **Regional Disparities:** Sub-Saharan Africa alone accounts for

approximately 70% of global maternal deaths (2, 10).

- **Global Crises:** Recent stagnation in progress is linked to conflicts, climate change, and the COVID-19 pandemic, which have strained health systems and diverted resources from maternal and child health (7).

3-3. Effective Strategies

- **Expanding Skilled Birth Attendance:** Ensuring that all deliveries are attended by qualified healthcare personnel is crucial (8, 11, 12).
- **Enhancing Antenatal and Postnatal Care:** Increasing access to quality antenatal and postnatal services, including family planning and community-based interventions, significantly reduces maternal mortality (11–13).
- **Addressing Social Determinants:** Tackling poverty, education, and gender inequity is essential for sustainable progress (4, 14, 15).
- **Political Commitment and Investment:** Strong political will and targeted investments in health systems and community engagement are vital (16).
- **Community-Based and Equity-Focused Programs:** Initiatives involving local communities and focusing on equity help tailor interventions and improve outcomes (17, 18).

4- DISCUSSION

Reducing maternal and infant mortality remains a pressing global challenge, particularly as the 2030 Sustainable Development Goals (SDGs) deadline approaches. Evidence indicates that clinical interventions alone are insufficient; sustainable progress depends on integrated, multisectoral strategies that

address health system limitations alongside social, economic, and political determinants (4, 19).

4-1. Integrated, Multisectoral Solutions Are Essential

The evidence clearly demonstrates that reducing maternal and infant mortality requires more than clinical care. Progress hinges on a coordinated, multisectoral approach that tackles health system challenges as well as the broader social, economic, and political factors influencing health outcomes (17).

4-2. Impact of Global Crises and Structural Barriers

Recent global crises—including the COVID-19 pandemic, climate change, and ongoing conflicts—have disrupted health services and reversed gains, especially in fragile settings (20). Persistent barriers such as inadequate infrastructure and workforce shortages are further compounded by poverty and discrimination, particularly in rural and marginalized communities (9, 21).

4-3. Proven Interventions and the Need for Context-Specific Adaptation

Expanding skilled birth attendance, strengthening midwifery, and ensuring access to emergency obstetric care have been proven effective in reducing mortality (21, 22). However, these interventions must be adapted to local contexts, with particular emphasis on community engagement, women's empowerment, and social protection programs (4, 23).

4-4. Political Will and Sustainable Investment

Sustained political commitment and increased investment are critical to scaling up interventions, strengthening health systems, and ensuring equitable access to care (2). Countries such as Malaysia and Sri Lanka exemplify how targeted policies

and universal health coverage can dramatically reduce maternal and infant mortality (24, 25).

4-5. Global Collaboration

Achieving the SDG targets will require renewed international cooperation, innovative financing mechanisms, knowledge sharing, and a steadfast commitment to leaving no one behind (1-3).

5- CONCLUSION

Maternal and infant mortality remain critical global challenges that disproportionately affect developing countries, where over 99% of maternal deaths and the majority of infant deaths occur. Despite efforts, progress has been uneven and stalled in some areas, underscoring the need to address key barriers such as social and economic inequalities, inadequate infrastructure and skilled workforce shortages, limited access to specialized childbirth care, and the impacts of global crises like COVID-19 and climate change.

Effective strategies must prioritize expanding skilled birth attendance, improving the quality of antenatal and postnatal care, tackling social determinants of health, and strengthening political commitment and targeted investment with an equity-focused approach. Only through comprehensive, coordinated efforts that address both maternal and infant health in the context of regional and social challenges can sustainable reductions in mortality be achieved and the 2030 Sustainable Development Goals met.

6- CONFLICT OF INTEREST: None.

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