Eureka Open Access Journals
Open Access | Peer Reviewed | International Journals | Multidisciplinary Areas

Eureka Journal of Health Sciences & Medical Innovation (EJHSMI)

ISSN 2760-4942 (Online) Volume 2, Issue 1, January 2026

https://eurekaoa.com/index.php/5

RISK FACTORS FOR THE PREVALENCE OF PERINATAL MORTALITY AND WAYS TO REDUCE THEM

Mamatkulov B
Abdulazizova D
Tashkent State Medical University

Abstract

Perinatal mortality remains a significant global public health challenge, particularly in low- and middle-income countries, where the majority of stillbirths and early neonatal deaths occur. It serves as a sensitive indicator of the quality and accessibility of maternal, obstetric, and neonatal healthcare services. This review aims to analyze the prevalence of perinatal mortality, identify key risk factors contributing to its occurrence, and examine evidence-based strategies for its reduction. The findings indicate that major risk factors include preterm birth, low birth weight, birth asphyxia, severe neonatal infections, maternal complications during pregnancy and childbirth, inadequate antenatal and perinatal care, socioeconomic disadvantage, and limited access to quality healthcare services. Regional disparities are particularly evident in sub-Saharan Africa and parts of South and Central Asia, where perinatal mortality rates remain disproportionately high. The review highlights that effective reduction of perinatal mortality requires a comprehensive approach, including strengthening antenatal care, improving intrapartum and neonatal services, expanding the use of evidence-based interventions, enhancing health system infrastructure, and implementing regular perinatal audits. Addressing social determinants of health and reducing inequalities in access to care are also essential for achieving sustainable improvements in perinatal outcomes.

Eureka Open Access Journals
Open Access | Peer Reviewed | International Journals | Multidisciplinary Areas

Eureka Journal of Health Sciences & Medical Innovation (EJHSMI)

ISSN 2760-4942 (Online) Volume 2, Issue 1, January 2026

https://eurekaoa.com/index.php/5

Keywords: perinatal mortality, maternal health, neonatal outcomes, risk factors, antenatal care, neonatal care, health system strengthening, stillbirth, early neonatal mortality.

Introduction

Perinatal mortality includes stillbirths and deaths occurring during the first week of life and serves as an important indicator of the effectiveness of maternal and newborn care, as well as the broader healthcare infrastructure. Stillbirth refers to fetal death occurring at or after 28 weeks of gestation but before delivery, while early neonatal mortality includes deaths of infants within the first seven days after birth. Perinatal mortality has profound consequences beyond healthcare, posing a major barrier to development, particularly in low- and middle-income regions. According to global data from 2019, approximately 4.3 million perinatal deaths were recorded, equivalent to one life lost every seven seconds. Early neonatal deaths account for approximately 40–60% of this total, with the majority of cases occurring in less developed countries. The burden of perinatal mortality is highest in sub-Saharan Africa (SSA), with a rate of 34.7 deaths per 1,000 live births. In Southern Africa, perinatal mortality rates are significantly higher than those observed in developed countries. Ghana, like many countries in sub-Saharan Africa, continues to face serious challenges related to perinatal mortality. This issue reflects broader regional trends since 2013, when Ghana was among 26 countries accounting for 80% of under-five child mortality.

Perinatal mortality has serious psychological, social, and financial consequences for families and significant implications for healthcare professionals. Collecting data on these events, monitoring trends over time, identifying risk factors and causes of death, and using this information as opportunities for learning are essential for improving maternal and neonatal care. This can be achieved through perinatal mortality audits, including stillbirths and early neonatal deaths. Perinatal mortality is a key indicator of the quality of maternal and newborn healthcare.

Eureka Open Access Journals
Open Access | Peer Reviewed | International Journals | Multidisciplinary Areas
OPEN ACCESS JOURNALS

Eureka Journal of Health Sciences & Medical Innovation (EJHSMI)

ISSN 2760-4942 (Online) Volume 2, Issue 1, January 2026

https://eurekaoa.com/index.php/5

Following the Millennium Development Goals, the current Sustainable Development Goals emphasize the need to reduce preventable perinatal deaths, including stillbirths and neonatal deaths. The United Nations estimates a global stillbirth rate of 13.9 per 1,000 births and a neonatal mortality rate of 17 per 1,000 live births [3]. A new global target under the SDGs aims to reduce stillbirths and neonatal deaths to no more than 12 per 1,000 live births by 2030 [8].

Perinatal mortality is defined as the death of an infant occurring between the 22nd week of gestation (or when birth weight exceeds 500 g) and seven days after birth. Following perinatal death, parents experience a process of perinatal grief. Midwives and nurses can develop interventions to facilitate this grief process. The aim of this review was to determine the effectiveness of nursing interventions in easing the grieving process resulting from perinatal loss. A systematic literature review was conducted, and studies meeting the inclusion criteria were critically appraised using the Joanna Briggs Institute assessment tool. Of the 640 articles identified, four were selected for analysis, including two quasi-experimental studies and two randomized controlled trials. The analyzed interventions demonstrated positive effects on psychological self-awareness, role functioning, bonding, depression, post-traumatic stress, and grief symptoms. These interventions were effective when implemented both before and after perinatal loss. Effective measures for bereaved parents included support from healthcare professionals, involvement in the loss process, emotional expression, distraction techniques, group sessions, social support, physical activity, and family education [2].

The perinatal mortality rate is a sensitive indicator of the quality of healthcare provided to women during pregnancy, childbirth, and the postpartum period, as well as to newborns during the first week of life. Routine perinatal audit helps identify all factors contributing to perinatal deaths and enables the implementation of appropriate interventions to reduce preventable losses. A retrospective study of perinatal outcomes was conducted at a medical college in

Eureka Open Access Journals
Open Access | Peer Reviewed | International Journals | Multidisciplinary Areas
Eureka Journal of Health Sciences & Medical Innovation (EJHSMI)
ISSN 2760-4942 (Online) Volume 2, Issue 1, January 2026

https://eurekaoa.com/index.php/5

Nepal over one year (April 2007–March 2008), analyzing 816 deliveries. Eleven stillbirths and eleven early neonatal deaths were recorded. Breech presentation with head entrapment and respiratory distress syndrome in preterm infants were common causes of perinatal mortality. According to the Wigglesworth classification, groups 1, 3, and 4 were the most frequent categories. Low birth weight was observed in 76.5% of perinatal deaths and 100% of early neonatal deaths, while prematurity accounted for 72.5% and 82%, respectively. The perinatal mortality rate was 26.9 per 1,000 births, comparable to other studies, although greater attention to improving neonatal care is required. Regular antenatal check-ups and enhanced neonatal care efforts are essential [7].

The proportion of child deaths occurring during the neonatal period continues to increase, and achieving the Millennium Development Goal of child survival is not possible without a substantial reduction in neonatal mortality. Each year, approximately four million children die within the first four weeks of life (the neonatal period). A similar number of infants are stillborn, and about 0.5 million women die due to pregnancy-related causes. Three-quarters of neonatal deaths occur during the first week of life, with the highest risk on the first day. Nearly all neonatal deaths (99%) occur in low- and middle-income countries; however, most epidemiological and other research focuses on the 1% of deaths occurring in high-income countries. The highest numbers of neonatal deaths are reported in South-Central Asia, while the highest rates are generally observed in sub-Saharan Africa. Most countries in these regions have made little progress in reducing neonatal mortality over the past 10–15 years. Globally, the leading direct causes of neonatal death are preterm birth (28%), severe infections (26%), and birth asphyxia (23%). Neonatal tetanus accounts for a smaller proportion of deaths (7%) and is largely preventable. Low birth weight is an important indirect cause of mortality. Maternal complications during childbirth significantly increase the risk of neonatal death, and poverty is strongly associated with increased risk.

Eureka Open Access Journals
Open Access | Peer Reviewed | International Journals | Multidisciplinary Areas

Eureka Journal of Health Sciences & Medical Innovation (EJHSMI)

ISSN 2760-4942 (Online) Volume 2, Issue 1, January 2026

https://eurekaoa.com/index.php/5

Preventing neonatal deaths has not been sufficiently prioritized within child survival and safe motherhood programs. As a result, approximately 450 newborns die every hour worldwide, largely from preventable causes—an unacceptable situation in the 21st century. To reduce perinatal mortality, it is essential to understand the key risk factors influencing its prevalence. This review examines the literature on risk factors associated with perinatal mortality, with particular attention to limitations of published studies, data applicability, and challenges in comparing findings across studies. In general, male infants, first-born children, twins, and infants requiring assisted delivery are at higher risk of mortality [4].

Neonatal mortality remains a major public health problem in developing countries. Globally, approximately 2.5 million neonatal deaths occur each year, with the highest mortality rates concentrated in sub-Saharan Africa and South Asia. Compared with countries reporting the lowest neonatal mortality rates, the risk of neonatal death in sub-Saharan Africa is up to 30 times higher. Ethiopia is among the countries with high neonatal mortality, and the burden of these deaths is underreported in pastoral regions such as the Somali region of eastern Ethiopia. A study conducted in public hospitals in the Somali region aimed to identify factors associated with neonatal mortality. Perinatal mortality is defined as fetal loss at or after 28 weeks of gestation (stillbirth) or neonatal death within the first seven days of life (early neonatal death). Globally, approximately three million perinatal deaths occur annually, with low- and middle-income countries accounting for 97–99% of the burden. Perinatal mortality reflects low socioeconomic conditions, poor utilization of maternal health services, and inadequate quality of obstetric and neonatal care. Inappropriate maternal healthcare during pregnancy, labor, delivery, and the postpartum period—particularly in the management of complications—and insufficient newborn care immediately after birth and during the first seven days of life are major contributors to the high burden of perinatal mortality in low-resource settings [6].

Eureka Open Access Journals
Open Access | Peer Reviewed | International Journals | Multidisciplinary Areas
OPEN ACCESS JOURNALS

Eureka Journal of Health Sciences & Medical Innovation (EJHSMI)

ISSN 2760-4942 (Online) Volume 2, Issue 1, January 2026

https://eurekaoa.com/index.php/5

Preterm birth is a global health problem with significant regional variation in prevalence. In 2010, approximately 11% of all live births worldwide—equivalent to 14.9 million infants—were preterm, occurring before 37 weeks of gestation. In 2013, complications related to preterm birth accounted for 35% of the 2.8 million neonatal deaths. Risk factors for preterm birth are multifactorial, including genetic, environmental, and socioeconomic influences. Interventions to prevent preterm birth in women with a short cervix include vaginal progesterone, cervical pessary, and cervical cerclage. Despite numerous preventive strategies, their effectiveness remains limited, particularly in twin pregnancies, which carry a high risk of preterm birth and lack recommended treatment for cervical shortening. Consequently, despite advances in neonatal care, prevention of preterm birth remains a major challenge. Cervical insufficiency, characterized by painless cervical dilation without contractions, is one of the most important causes of spontaneous preterm birth. Transvaginal ultrasound measurement of cervical length has become essential for identifying high-risk pregnancies. Mid-gestation cervical shortening predicts up to 33% of preterm births. Cervical funneling and intra-amniotic sludge are additional markers of increased risk. Studies by Berghella et al. and Hatanaka et al. demonstrated that these markers are significantly associated with spontaneous preterm birth before 35 weeks [9].

Global migration has increased substantially in recent decades, reaching historically high levels. Immigration has a significant impact on health, as immigrant populations are particularly vulnerable to healthcare inequalities. Immigrant women are predominantly of reproductive age and experience disproportionate adverse maternal and neonatal outcomes. Perinatal mortality is defined as the number of fetal and early neonatal deaths per 1,000 births. As key indicators of antenatal, obstetric, and perinatal care quality, these outcomes reflect the overall health status of a society. Evidence regarding perinatal mortality risk among infants born to immigrant women is conflicting. Some studies report higher risks compared with native populations, while others show similar or even

Eureka Open Access Journals
Open Access | Peer Reviewed | International Journals | Multidisciplinary Areas
Eureka Journal of Health Sciences & Medical Innovation (EJHSMI)
ISSN 2760-4942 (Online) Volume 2, Issue 1, January 2026

https://eurekaoa.com/index.php/5

lower rates. Due to insufficient clarity, a systematic review and meta-analysis was conducted to examine the risk of stillbirth, perinatal, and neonatal mortality among immigrant women compared with native women in host countries [1].

Despite major improvements in neonatal outcomes, many newborns worldwide continue to face serious health challenges during the first 28 days of life. In 2019, approximately 2.4 million neonatal deaths were recorded globally, corresponding to an average of 6,700 deaths per day. Neonatal mortality can be classified into early neonatal deaths (within the first seven days) and late neonatal deaths (from day 8 to day 28). The most common causes include sepsis, birth trauma, and preterm birth, accounting for nearly 75% of neonatal deaths. Previous studies have shown that nearly 60% of neonatal deaths in low- and middle-income countries occur within the first three days of life [9,10].

Conclusion

The analysis of existing literature demonstrates that perinatal mortality is a multifactorial and complex phenomenon closely linked to the quality of maternal and newborn healthcare, as well as broader social, economic, and health system factors. Despite notable global progress in child survival, perinatal deaths—particularly stillbirths and early neonatal deaths—remain unacceptably high in many regions of the world. Preterm birth, low birth weight, infections, birth asphyxia, and maternal health complications emerge as the leading direct causes, while poverty, inadequate healthcare infrastructure, and insufficient utilization of antenatal and perinatal services significantly increase the risk of adverse outcomes.

Reducing perinatal mortality requires coordinated and sustained interventions across the continuum of care, from preconception and antenatal periods to childbirth and the early postnatal phase. Strengthening skilled birth attendance, improving the quality of obstetric and neonatal care, expanding access to essential technologies, and ensuring timely referral and management of complications are

Eureka Open Access Journals
Open Access | Peer Reviewed | International Journals | Multidisciplinary Areas
OPEN ACCESS JOURNALS

Eureka Journal of Health Sciences & Medical Innovation (EJHSMI)

ISSN 2760-4942 (Online) Volume 2, Issue 1, January 2026

https://eurekaoa.com/index.php/5

critical measures. Additionally, routine perinatal mortality audits and data-driven decision-making play a key role in identifying preventable causes of death and informing targeted interventions. Ultimately, comprehensive strategies that integrate clinical, public health, and social approaches are essential to achieving meaningful reductions in perinatal mortality and improving maternal and newborn survival outcomes in line with global development goals.

References

1. Asefa Y. A. и др. Burden, causes, and risk factors of perinatal mortality in Eastern Africa: a protocol for systematic review and meta-analysis // Gates Open Res. F1000 Research Ltd, 2022. Т. 6. С. 123.
2. Jena B. H. и др. Magnitude and trend of perinatal mortality and its relationship with inter-pregnancy interval in Ethiopia: A systematic review and meta-analysis // BMC Pregnancy and Childbirth. BioMed Central, 2020. Т. 20, № 1.
3. Chinkhumba J. и др. Maternal and perinatal mortality by place of delivery in sub- Saharan Africa: A meta-analysis of population-based cohort studies // BMC Public Health. BioMed Central Ltd., 2014. Т. 14, № 1.
4. Murphy V. E., Schatz M. Asthma in pregnancy: A hit for two // European Respiratory Review. European Respiratory Society, 2014. Т. 23, № 131. С. 64–68.
5. Jena B. H. и др. Magnitude and trend of perinatal mortality and its relationship with inter-pregnancy interval in Ethiopia: A systematic review and meta-analysis // BMC Pregnancy and Childbirth. BioMed Central, 2020. Т. 20, № 1.
6. Punguyire D., Koray M. H., Abiiro G. A. Predictors and prevalence of perinatal mortality in Ghana: a systematic review and meta-analysis // BMC Public Health. BioMed Central Ltd, 2025. Т. 25, № 1.

Eureka Open Access Journals
Open Access | Peer Reviewed | International Journals | Multidisciplinary Areas

Eureka Journal of Health Sciences & Medical Innovation (EJHSMI)

ISSN 2760-4942 (Online) Volume 2, Issue 1, January 2026

https://eurekaoa.com/index.php/5

7. Punguyire D., Koray M. H., Abiiro G. A. Predictors and prevalence of perinatal mortality in Ghana: a systematic review and meta-analysis // BMC Public Health. BioMed Central Ltd, 2025. T. 25, № 1.
8. Chinkhumba J. и др. Maternal and perinatal mortality by place of delivery in sub- Saharan Africa: A meta-analysis of population-based cohort studies // BMC Public Health. BioMed Central Ltd., 2014. T. 14, № 1.
9. Veloso F. C. S. и др. Neonatal death prediction scores: A systematic review and meta-analysis // BMJ Paediatr Open. BMJ Publishing Group, 2024. T. 8, № 1.
10. Fernández-Férez A. и др. Nursing Interventions to Facilitate the Grieving Process after Perinatal Death: A Systematic Review // International journal of environmental research and public health. NLM (Medline), 2021. T. 18, № 11.