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THE IMPACT OF PREECLAMPSIA ON MATERNAL MORTALITY IN ASIA: A COMPREHENSIVE EVIDENCE SYNTHESIS

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Abstract

Preeclampsia remains one of the leading causes of maternal mortality globally, particularly in developing countries with limited access to antenatal care and emergency obstetric services. This study aims to synthesize scientific evidence regarding the relationship between preeclampsia and maternal mortality in Asia through a Systematic Literature Review (SLR). Using reputable databases such as Scopus, PubMed, and Web of Science, the study analyzed relevant articles published between 2020 and 2024. The results indicate that preeclampsia significantly contributes to maternal death through complications such as eclampsia, HELLP syndrome, and multi-organ failure. The trend of publications shows fluctuating research interest, with a peak in 2023, reflecting increased attention to maternal health post-pandemic. The majority of studies originate from the health sciences and biomedical fields, focusing on clinical interventions and pathophysiology. However, contributions from social, cultural, and policy-oriented research remain minimal, indicating a need for interdisciplinary integration. This review highlights critical risk factors such as chronic hypertension, limited prenatal care, and socio-economic disparities that exacerbate the impact of preeclampsia. It also emphasizes the importance of early detection, risk communication, and context-specific interventions in reducing maternal mortality. Ultimately, this synthesis provides a foundation for improving health policies, clinical practices, and future research directions related to preeclampsia and maternal mortality in Asia.

Keywords: ***eclampsia; health policy; maternal mortality rate; preeclampsia; risk factors***

INTRODUCTION

Preeclampsia is a notable obstetric challenge distinguished by heightened blood pressure, which can negatively affect vital organs like the kidneys, liver, and brain, and may place the fetus's well-being in jeopardy (Luo et al., 2021). This pathological condition typically manifests subsequent to the 20-week mark of gestation and has the potential to escalate into the more severe condition known as eclampsia if not managed with appropriate medical intervention (Sk, 2022). According to estimates from the World Health Organization (WHO), preeclampsia impacts close to 5-8% of pregnancies on a worldwide basis and is a primary reason for maternal mortality and severe issues affecting both mothers and neonates(W. Wang et al., 2024). The incidence of this condition exhibits variability between developed and developing nations, with a notably higher frequency recorded in developing countries, where accessibility to adequate healthcare services is frequently constrained(X. Wang et al., 2020).

Maternal mortality linked to preeclampsia continues to pose a formidable challenge within the realm of global health (Brandt et al., 2020). The World Health Organization highlights that preeclampsia constitutes roughly 10 to 15 percent of maternal fatalities in developing nations, with many cases linked to slow diagnosis and a lack of effective treatment(Pfeiffer et al., 2023). The alarming effects of preeclampsia, like eclampsia and HELLP syndrome (marked by hemolysis, heightened liver enzyme levels, and a drop in platelets), can lead to severe damage to organs, major hemorrhaging, and possibly deadly outcomes. In their study, (Coates et al., 2020) demonstrate that preeclampsia ranks high among the top reasons for maternal fatalities in multiple countries, particularly in sub-Saharan Africa and South Asia, where access to full maternity healthcare is frequently restricted.

This review of literature seeks to systematically investigate the existing scientific literature that discusses the effects of preeclampsia on the mortality rates of mothers(Zhang & Wei, 2021). Through the aggregation and analysis of prior research, this investigation seeks to enhance comprehension of the correlation between preeclampsia and maternal mortality (Yadav et al., 2022). A considerable spotlight will shine on discovering contributors that intensify the ailment, encompassing postponed diagnosis, accompanying health problems, and poor access to premium healthcare. Furthermore, this examination endeavors to assess the success rates of different medical interventions in addressing maternal mortality linked to preeclampsia, potentially informing future enhancements in health policy and clinical approaches.

This literature review will extensively examine different aspects of preeclampsia, covering its pathophysiological processes, related risk factors, effects on maternal mortality, along with approaches to prevention and treatment. A solid comprehension of these components is vital for designing more successful measures aimed at lowering maternal deaths related to preeclampsia, particularly in settings lacking resources.

LITERATURE REVIEW

Pathophysiology of Preeclampsia

During gestation, preeclampsia is identified as a systemic condition, largely stemming from problems with endothelial function, culminating in hypertension and protein in the urine(Bosquet Enlow et al., 2020). This dilemma is due to subpar vascular maturation in the placenta, culminating in less effective placental perfusion and resulting in hypoxic conditions, thereby triggering an inflammatory response that influences the complete maternal organism (Yang et al., 2021). In physiological circumstances, the vascular structures in the placenta undergo development conducive to facilitating adequate blood flow between the maternal and fetal circulatory systems (Tavarna et al., 2020). Alternatively, in situations involving preeclampsia, this adjusting mechanism is impaired, leading to higher blood pressure that risks damage to important organs like the kidneys, liver, and brain. Moreover, preeclampsia may precipitate the onset of HELLP syndrome, characterized by hemolysis, elevated liver enzyme levels, and a reduction in platelet count, potentially resulting in significant complications if not addressed promptly(Omar et al., 2022).

The sequelae associated with preeclampsia can escalate into more grave conditions, notably eclampsia, which is distinguished by the occurrence of convulsions, along with significant hemorrhaging and organ dysfunction impacting renal, hepatic, and cerebral operations(Arshad et al., 2024). This dysfunction in organ systems is frequently attributable to heightened vascular permeability, which precipitates edema and organ enlargement (Gemechu et al., 2020). In cases where severity increases, preeclampsia can result in abdominal hemorrhage and might lead to vascular incidents in the brain (Garovic et al., 2021). The peril to the fetus is markedly elevated, with a greater likelihood of preterm delivery and diminished birth weight, attributed to compromised blood circulation to the placenta that restricts the availability of oxygen and essential nutrients required for optimal fetal development. Understanding the intricate pathophysiological factors tied to preeclampsia is key for devising more successful treatment and preventive tactics(Cardona-Pérez et al., 2021).

Risk Factors for Preeclampsia

Different risk elements may contribute to preeclampsia, enhancing the probability of critical complications during the pregnancy period(Robbins et al., 2023). Both medical and genetic factors, including an individual history of hypertension, diabetes, obesity, and autoimmune disorders, are acknowledged as substantial contributors to the increased prevalence of preeclampsia (Fishel Bartal & Sibai, 2020). Women possessing a familial predisposition to preeclampsia or hypertension exhibit an increased vulnerability to this condition (Kavi et al., 2022). Moreover, socio-economic elements further intensify the risk, with individuals who experience limited access to prenatal healthcare and those residing in impoverished circumstances being more susceptible to the development of preeclampsia(Stitterich et al., 2021). Adverse lifestyle choices, including inadequate nutritional habits and a lack of physical exercise, similarly contribute to elevated blood pressure levels and increase the likelihood of gestational hypertension that has the potential to develop into preeclampsia. Hence, the discovery and control of these risk parameters are fundamental for the effective avoidance and resolution of this condition (Cao et al., 2024).

Environmental aspects have a notable impact on the rates of preeclampsia. Females residing in regions characterized by inadequate healthcare systems or lacking sufficient access to prenatal care exhibit an elevated propensity for experiencing complications associated with preeclampsia. In addition, increased levels of social and environmental challenges, like economic unpredictability, might aggravate pregnancy situations, consequently elevating the chances of preeclampsia (Sk, 2022). Investigations reveal that females from economically disadvantaged backgrounds, particularly those with poor health literacy, are more likely to ignore important warning

signals and defer seeking healthcare, thus amplifying the risk of health decline and elevating maternal mortality figures(Verschueren et al., 2020). The mitigation of these issues necessitates a comprehensive strategy that encompasses not only clinical interventions but also systemic enhancements in social and health policy frameworks.

Impact of Preeclampsia on Maternal Mortality

The repercussions of preeclampsia on maternal mortality rates are considerable, particularly within developing nations where healthcare infrastructure is frequently insufficient. Inadequately controlled preeclampsia might lead to eclampsia and HELLP syndrome, each representing major dangers to life (W. Wang et al., 2024). Data supports the idea that the lag in diagnosis and intervention plays a crucial role in aggravating maternal death rates for those with preeclampsia. Research conducted by (Medjedovic et al., 2022) demonstrated that severe preeclampsia not receiving appropriate management can result in multiple organ failure, thus heightening the likelihood of fatality. Moreover, the elevated prevalence of preeclampsia noted in developing countries is associated with inadequate access to healthcare resources capable of providing essential interventions, such as antihypertensive medications or alternative therapeutic options. Consequently, enhanced early identification and immediate medical intervention are essential for mitigating maternal mortality attributable to preeclampsia(Angelina et al., 2020).

Moreover, the incidence of preeclampsia significantly impacts fetal health, frequently resulting in severe complications that include, but are not limited to, premature delivery, reduced birth weight, and an increased risk of neonatal mortality(Olivier et al., 2021). The long-term ramifications for maternal health warrant equal consideration, as preeclampsia is associated with an augmented risk of future cardiovascular diseases and vascular disorders (Kassie et al., 2021). In certain instances, women with a history of preeclampsia exhibit a heightened likelihood of developing chronic hypertension or cardiac conditions subsequent to pregnancy. As a result, it is essential to tackle not only the prompt mortality linked to preeclampsia but also the lasting repercussions for both maternal and child health. The execution of educational and preventive initiatives aimed at enhancing awareness of these risks is critically urgent to mitigate the long-term effects of preeclampsia within the pregnant demographic (Hilowle et al., 2023).

Interventions and Management of Preeclampsia

Numerous strategies have been established to prevent and manage preeclampsia, predominantly emphasizing the early identification and treatment of hypertension during gestation. Systematic screening for preeclampsia in the second and third trimesters of pregnancy constitutes a critical measure for recognizing women at elevated risk (Pallangyo & Seif, 2023). Furthermore, the provision of pharmacological agents such as low-dose aspirin to women categorized as high risk, including those with antecedent preeclampsia or hypertension (Susanu et al., 2024), has demonstrated efficacy in diminishing the prevalence of preeclampsia (Bhattacharya et al., 2024). The management of gestational hypertension and preeclampsia necessitates consistent monitoring of blood pressure and, in particular instances, the administration of antihypertensive medications that possess a favorable safety profile for both the mother and the fetus, such as methyldopa or labetalol. In instances of more pronounced preeclampsia, management strategies involve the control of symptoms and clinical decisions aimed at expediting labor to mitigate the risk of additional complications (Flávio-Reis et al., 2024).

While medical interventions have demonstrated efficacy, the implementation of health policies that guarantee universal access to high-quality antenatal care is paramount in mitigating mortality associated with preeclampsia (Khan et al., 2023). Nations with robust health systems, exemplified by Scandinavian countries, have evidenced success in decreasing maternal mortality rates by prioritizing early detection, maternal health education, and prompt access to intensive care when necessary. Nevertheless, numerous developing nations continue to face significant obstacles in delivering timely and sufficient medical care. Consequently, global initiatives aimed at enhancing health infrastructure, advancing medical education, and ensuring access to essential medications and medical procedures are crucial determinants in lessening the impact of preeclampsia and diminishing overall maternal mortality rates (Sevene et al., 2020).

Although numerous investigations have been undertaken regarding preeclampsia and its ramifications on maternal mortality, there exist considerable deficiencies in the existing literature that necessitate rectification to enhance comprehension and intervention strategies (Padhan et al., 2023). Firstly, a predominant number of studies are confined to datasets originating from developed nations, whereas the incidence of preeclampsia and maternal mortality attributable to this ailment is markedly elevated in developing countries, which frequently possess more constrained medical infrastructure. Furthermore, a considerable deficit exists in the research investigating the socio-economic and cultural factors that influence the diagnosis and management of preeclampsia, especially in regions

with restricted healthcare access, complicating prevention and treatment strategies (Adepoju et al., 2021). Constraints in research methodologies further contribute to discrepancies in findings that prove challenging to generalize on a global scale. An additional obstacle is the effective implementation of policies at the national level, where, notwithstanding the scientific evidence advocating for the early detection and management of preeclampsia, factors such as inadequate resources, insufficient training of healthcare professionals, and disparities in healthcare accessibility persist as significant impediments (Falconi et al., 2022). Consequently, a more comprehensive and evidence-driven approach is imperative to bridge this gap, encompassing further research, policy formulation, and the enhancement of the global health system's capacity.

METHOD

This research adopted a Systematic Literature Review (SLR) framework to scrutinize and merge existing insights regarding the effect of preeclampsia on maternal mortality figures. The SLR approach was selected owing to its capacity to systematically and transparently identify, assess, and integrate pertinent research findings, thereby facilitating a more exhaustive and comprehensive analysis of a thoroughly investigated subject matter. The literature review process was conducted by leveraging reputable academic databases, including PubMed, Scopus, and Web of Science, to ensure the inclusion of high-quality and pertinent articles related to the research topic. The chosen articles satisfied stringent inclusion criteria, specifically studies that concentrated on the correlation between preeclampsia and maternal mortality, were disseminated in indexed international journals, and employed robust methodologies to quantify the impact in both clinical and epidemiological frameworks. The data collection endeavor within the Scopus database was carried out on February 18, 2025, focusing on articles concerning the effect of preeclampsia on maternal mortality in Asia during the timeframe from 2020 to 2024.

Databases were subsequently directed to exclusively extract articles from our final compilation for a thorough examination of publication year, article type, and country of origin. The identities of the nations were anonymized, and their publications were geographically mapped. Employing VosViewer software, we performed keyword analysis as well as a bibliometric assessment of citations. Following the identification and selection of appropriate articles, the subsequent phase involved data extraction, which encompassed information pertaining to study design, analytical methods, study population, primary outcomes, and contextual factors that may influence the results. Data analysis was executed utilizing a narrative methodology to scrutinize emerging patterns in the correlation between preeclampsia and maternal mortality, as well as to assess the efficacy of interventions employed in the included studies. The comprehensive review process adhered to PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines to guarantee transparency and objectivity at each phase of the investigation. The outcomes of this systematic literature review are anticipated to yield enhanced insights into the determinants influencing maternal mortality attributable to preeclampsia and to establish a foundation for policy recommendations and more efficacious clinical practices in the management of this condition.

RESULTS AND DISCUSSION

A review of the literature shows that there is a strong association between preeclampsia and maternal mortality in in many countries. Preeclampsia is a systemic disorder that occurs during pregnancy and is affected by endothelial dysfunction leading to hypertension and proteinuria(Kurjak et al., 2022). The condition stems from impaired development of blood vessels in the placenta, which leads to decreased placental perfusion and hypoxia, triggering an inflammatory reaction that affects the rest of the mother's body(Escobar et al., 2022). Under normal conditions, blood vessels in the placenta develop to allow sufficient blood flow between the mother and fetus(Pallangyo & Seif, 2023). However, in preeclampsia, this adaptation mechanism fails, causing an increase in blood pressure that risks causing damage to vital organs such as the kidneys, liver and brain(Souza et al., 2023). In addition, preeclampsia can also lead to HELLP syndrome(Kumari et al., 2023), which involves hemolysis, elevated liver enzymes, and decreased platelet count, all of which can lead to serious complications if not treated promptly(Hussein et al., 2023).

Mapping global publication trends: Year of publication and subject area.

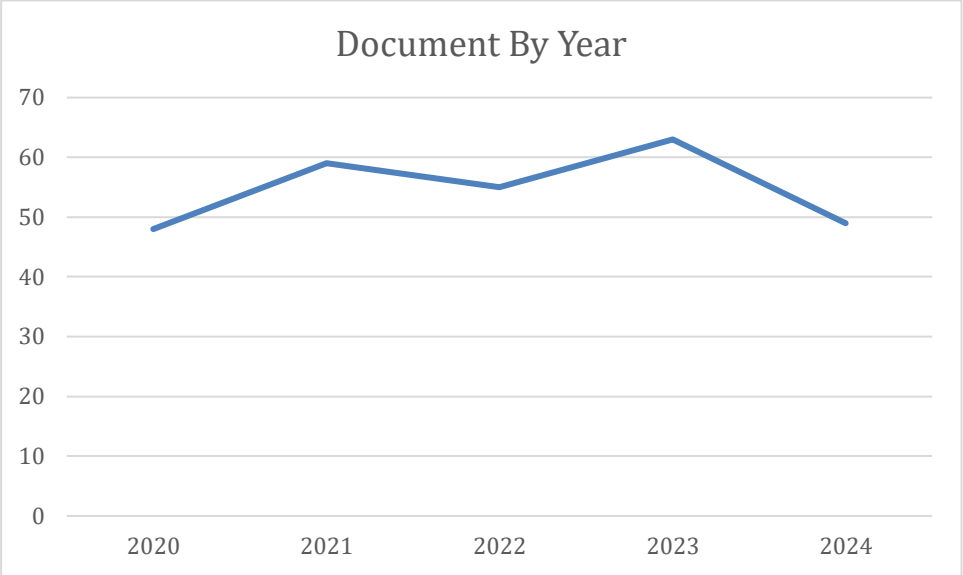

Figure 1. Document by year

The graph shows the trend in the number of published articles on the impact of preeclampsia on maternal mortality in Asia during the period 2020 to 2024. In 2020, the number of publications started with 48 documents and increased to 59 documents in 2021. This surge reflects the increased attention to maternal health issues, especially after the COVID-19 pandemic that affected many health systems in the Asian region. However, in 2022, there was a slight decrease to 55 documents, which may be due to a shift in focus or a reduction in resources for related research.

The year 2023 saw a peak in the number of publications with 63 documents, indicating a high level of interest in this topic as global and regional initiatives to reduce maternal mortality from preeclampsia increase. However, in 2024, the number of publications decreased significantly to 49 documents, which may indicate a stabilization of research interest or redirection of funding to other areas of maternal health. Overall, this trend shows fluctuations in the number of publications that could be influenced by various factors, including health policies, access to funding, and the urgency of the problem in the Asian region. This highlights the importance of research sustainability to support the development of more effective evidence-based policies.

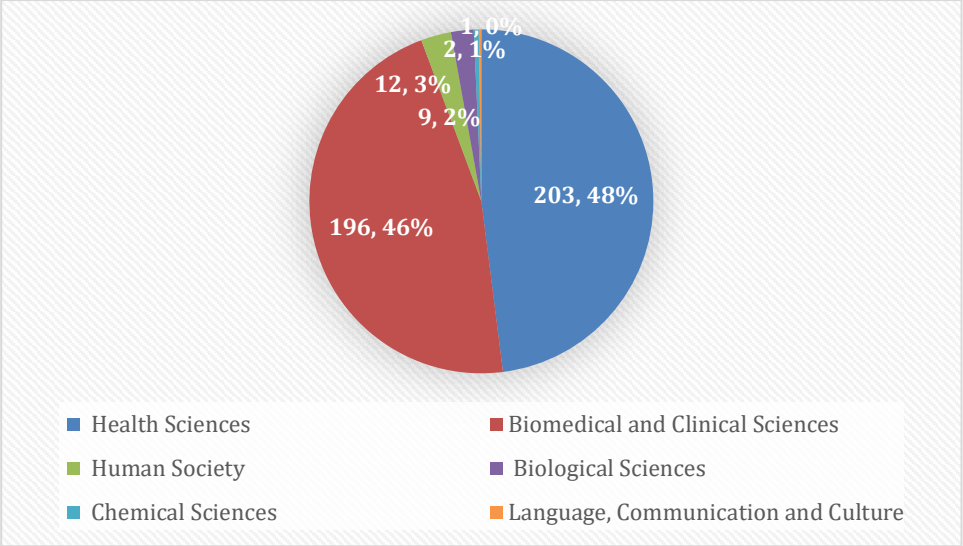

Figure 2. Document by subject area

The distribution of published articles by subject area showed a clear dominance of the Health Sciences and Biomedical and Clinical Sciences fields, with 203 and 196 documents, respectively. This reflects the major focus of research on clinical aspects, epidemiology and management of preeclampsia to reduce its impact on maternal mortality. The heavy emphasis on these two areas demonstrates the strong scientific interest in the diagnosis, pathophysiologic mechanisms, as well as therapeutic interventions for preeclampsia. However, this dominance also shows that the research approach related to preeclampsia is still very much centered on physical and clinical health.

On the other hand, research areas such as Human Society (12 documents), Biological Sciences (9 documents), and Chemical Sciences (2 documents) had a much smaller number of publications, while Language, Communication, and Culture only contributed 1 document. The low contribution from these fields shows the lack of attention to social, cultural and molecular aspects in understanding the impact of preeclampsia. In fact, social and cultural factors can play an important role in determining access and acceptance of health interventions in various communities. Therefore, efforts are needed to encourage interdisciplinary approaches that integrate social, policy, biological and communication perspectives to create a more holistic strategy for managing preeclampsia.

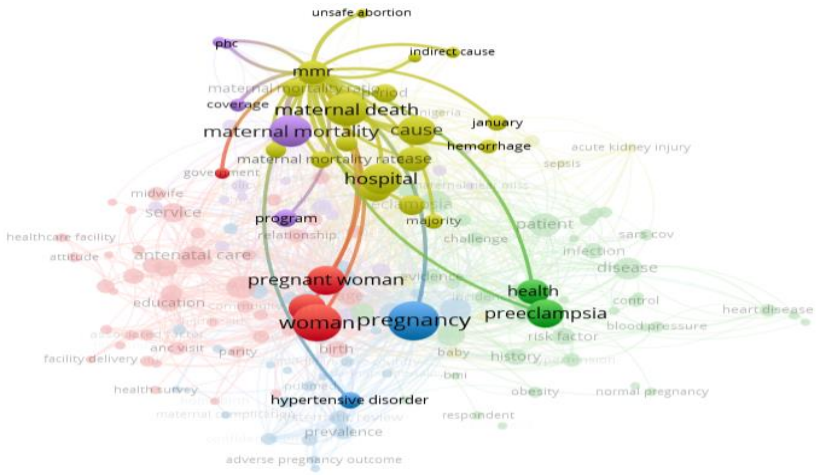

Figure 3. visual map research by VOSViewer application

The figure above is a visualization of the inter-topic relationships or keyword network in research related to the impact of preeclampsia on maternal mortality. This network analysis shows several clusters of interconnected keywords, representing the main focus in the existing literature. Yellow cluster (maternal mortality and causes), this cluster centers on keywords such as maternal mortality, maternal death, and hospital. It shows great concern for the direct and indirect causes of maternal mortality, including obstetric complications such as hemorrhage, unsafe abortion, and access to health facilities (hospitals). The main focus in this cluster is the analysis of the causes of maternal mortality and the contribution of preeclampsia as one of the main causes.

In the green cluster (preeclampsia and risk factors), keywords such as preeclampsia, health, hypertensive disorder, and prevalence dominated this cluster. This highlights studies that focus on hypertensive disorders during pregnancy, including prevalence and risk factors that contribute to preeclampsia. Research in this cluster tends to focus on the medical mechanisms, early detection, and long-term health impact of preeclampsia on mothers and babies. Red cluster (antenatal care and interventions), this cluster links keywords such as antenatal care, education, and facility delivery. This shows that the literature also covers the importance of care during pregnancy and community-based interventions, including education of pregnant women and access to health services to prevent complications such as preeclampsia. In the blue cluster (pregnant women and pregnancy), keywords such as pregnant woman, woman pregnancy, and birth indicate a focus on the general pregnant population. Research in this cluster appears to integrate a variety of perspectives, ranging from pregnancy conditions to complications that can affect the health of both mother and baby.

This visualization reveals that research on preeclampsia and maternal mortality has an interdisciplinary focus. There is significant attention to the causes of maternal mortality, antenatal care, prevalence of preeclampsia, and the relationship between medical conditions and access to health services. However, the inter-cluster relationships also suggest opportunities to integrate findings from different fields to support more holistic prevention and treatment strategies

Complications of preeclampsia can develop into more severe conditions, such as eclampsia, which is characterized by convulsions, as well as severe bleeding and organ failure affecting kidney, liver and brain function(Soto et al., 2023). This impairment in organ function is often caused by increased vascular permeability, which leads to edema and organ swelling(Harris et al., 2024). In addition, in more severe cases, preeclampsia can lead to intra-abdominal bleeding and even stroke(Berhe et al., 2024). The risk to the fetus is also very high, with increased chances of premature birth and low birth weight, due to impaired blood flow to the placenta which limits the supply of oxygen and nutrients needed for healthy fetal growth. Therefore, a deeper understanding of the pathophysiology of preeclampsia is essential for the development of more effective treatment and prevention strategies(Kea et al., 2023).

Preeclampsia can be influenced by various risk factors that can increase the likelihood of serious complications during pregnancy(Hilowle et al., 2023). Medical and genetic factors, such as a history of hypertension, diabetes, obesity and autoimmune disorders, are known to play a major role in increasing the prevalence of preeclampsia. Women who have a family history of preeclampsia or hypertension are also more prone to this condition(Wulandari et al., 2024). In addition to medical factors, socio-economic factors exacerbate the risk, with women who have limited access to prenatal care and who live in conditions of poverty more likely to develop preeclampsia. Unhealthy living habits, such as poor diet and lack of physical activity, also contribute to increased blood pressure and the risk of gestational hypertension that can progress to preeclampsia(Vasconcelos et al., 2022). Therefore, identification and management of these risk factors are crucial for effective prevention and treatment(Omar et al., 2022).

Environmental factors also play a significant role in influencing the prevalence of preeclampsia. Women who live in areas with limited health systems or who do not have adequate access to antenatal care have a higher likelihood of developing preeclampsia-related complications. In addition, high social and environmental stress, such as economic instability, can worsen the condition of a pregnancy and increase its susceptibility to preeclampsia(Awoyemi et al., 2023). Research shows that women who have lower socio-economic conditions, especially those with less health education, are more likely to ignore warning signs and delay in seeking treatment, which risks worsening their condition and increasing maternal mortality. Addressing these factors requires a multi-level approach, involving not only medical interventions, but also broader social and health policy improvements(Ward et al., 2024).

The impact of preeclampsia on maternal mortality is substantial, especially in developing countries where medical facilities are often inadequate. Inappropriately treated preeclampsia can progress to eclampsia and HELLP syndrome, both life-threatening conditions. Research shows that delayed diagnosis and treatment is one of the major factors that increase maternal mortality from preeclampsia(Beza et al., 2024). A study by Ghulmiyyah and Sibai (2012) showed that severe preeclampsia that is not managed properly can lead to multiple organ failure which increases the risk of death. In addition, the high prevalence of preeclampsia in developing countries is related to limited access to health facilities that can provide adequate treatment, such as antihypertensive therapy or other medical management. Therefore, improved early detection and prompt medical treatment are key to reducing maternal mortality due to preeclampsia(Beza et al., 2024).

In addition, preeclampsia can also have a major impact on the health of the fetus, which often has serious complications such as premature birth, low birth weight and increased risk of neonatal death(Sola et al., 2022). The long-term impact on the mother cannot be ignored either, as preeclampsia can increase the risk of heart disease and vascular disorders in the future. In some cases, women who have experienced preeclampsia have a higher chance of developing chronic hypertension or heart disorders after pregnancy(Pribadi et al., 2023). Therefore, it is important to pay attention not only to the immediate mortality caused by preeclampsia, but also to the long-term consequences for maternal and child health. Implementation of education and prevention programs that can raise awareness of this risk is urgent to reduce the long-term impact of preeclampsia on the pregnant population.

Various strategies have been implemented to prevent and manage preeclampsia, with the main focus on early detection and management of hypertension during pregnancy. Routine screening for preeclampsia in the second and third trimester of pregnancy is an important step to identify women at high risk. In addition, the administration of drugs such as low-dose aspirin to women at high risk, such as those with a history of preeclampsia or hypertension, has been shown to reduce the incidence of preeclampsia. Management of gestational hypertension and preeclampsia involves regular blood pressure monitoring and, in some cases, the use of antihypertensive drugs that are safe for both mother and fetus, such as methyldopa or labetalol. In more severe cases of preeclampsia, management involves symptom control and medical decisions to expedite labor to reduce the risk of further complications.

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Although many studies have been conducted on preeclampsia and its impact on maternal mortality, there are some significant gaps in the literature that need to be addressed to improve understanding and interventions. Firstly, most studies are limited to data from developed countries, while the prevalence of preeclampsia and maternal mortality from this condition is higher in developing countries, which often have more limited medical infrastructure. In addition, there is a lack of studies examining the socio-economic and cultural factors that influence the diagnosis and treatment of preeclampsia, especially in areas with limited access to health services, making prevention and treatment efforts more complexs (Soto et al., 2023). Limitations in research methodology also contribute to variations in results that are difficult to generalize globally. Another challenge is effective policy implementation at the country level, where despite scientific evidence supporting early detection and management of preeclampsia, factors such as limited resources, training of medical personnel, and disparities in healthcare access remain major barriers. Therefore, a more holistic and evidence-based approach is needed to close this gap, both in further research, policy development, and in capacity building of the global health system.

CONCLUSION

The literature reviewed in this review shows that preeclampsia is one of the leading causes of maternal mortality in many parts of the world, especially in developing countries with limited health systems. Findings from previous studies consistently show that preeclampsia not only increases the risk of severe pregnancy complications such as eclampsia and HELLP syndrome, but is also a major trigger of maternal death if not diagnosed and treated quickly and appropriately. In addition, inequalities in access to prenatal health services and limited capacity of medical facilities in disadvantaged areas exacerbate the situation and increase the risk of fatalities.

The review also found that most research is still dominated by clinical and biomedical approaches, focusing on the physiological aspects and treatment of preeclampsia. While these approaches are important, there is still a gap in the literature exploring the social, cultural and systemic factors that influence the management of preeclampsia and maternal health more broadly. The lack of studies from policy, health education and behavioral perspectives is a barrier to developing comprehensive, community-based intervention strategies.

Therefore, an interdisciplinary approach to preeclampsia-related research and intervention is needed, which not only focuses on the medical aspects, but also considers the social determinants and health policies that play a role in improving or hindering maternal access to adequate care. Governments and stakeholders need to encourage

collaboration between health professionals, academics and communities to create inclusive and evidence-based policies to address preeclampsia and reduce maternal mortality.

Future research should focus on strengthening the integration between early detection, community interventions and improved health care systems, especially in areas with a high burden of maternal mortality. In addition, further studies on the implementation of health technologies, training of medical personnel, and effective risk communication strategies will be essential to improve the success of preeclampsia prevention programs. The findings of this literature review are expected to serve as a foundation for the formulation of more effective and contextualized policies and clinical practices to reduce the risk of maternal mortality from preeclampsia globally.

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