

POVERTY AND MATERNAL HEALTH: ANALYSING THE FACTORS DETERIORATING MATERNAL HEALTH IN TIMES OF POVERTY

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Abstract

The relationship between poverty and maternal health is a critical public health concern, with significant adverse outcomes for pregnancy and childbirth. This paper examines the impact of poverty on pregnancy outcomes such as abortion, infant death, perinatal mortality, stillbirth, heartbeat problems, neonatal and postneonatal death, and preterm birth. Factors such as racial and ethnic disparities, access to health services, pre-eclampsia, depression, stress, tobacco and substance use, nutritional status, intimate partner violence, short interpregnancy intervals, and infectious diseases are analyzed. Strategies to mitigate these adverse outcomes and improve maternal health are discussed, highlighting the urgent need for targeted interventions to improve maternal health among impoverished populations.

Keywords: Poverty, Maternal Health, Adverse Pregnancy Outcomes, Abortion, Infant Death, Perinatal Mortality, Stillbirth, Preterm Birth, Racial Disparities, Access to Health Services, Pre- eclampsia, Depression, Stress, Tobacco Use, Nutritional Status, Intimate Partner Violence, Interpregnancy Interval, Infectious Diseases.

INTRODUCTION

Maternal health is a fundamental aspect of public health, encompassing the health of women during pregnancy, childbirth, and the postpartum period. It is significantly influenced by various socioeconomic factors, with poverty being one of the most critical determinants. Poverty affects maternal health through multiple pathways, including limited access to healthcare, poor nutrition, increased stress, and higher exposure to environmental and social risks (Shah et al., 2021). Women living in poverty often face substantial barriers to receiving adequate prenatal and postnatal care, leading to higher rates of complications and adverse pregnancy outcomes such as preterm birth, low birth weight, and infant mortality (Burns et al., 2020).

The importance of studying the impact of poverty on pregnancy outcomes cannot be overstated. Adverse pregnancy outcomes not only affect the immediate health and well-being of mothers and infants but also have long-term consequences on child development and overall family health. Socioeconomic disparities in maternal health outcomes highlight the need for targeted interventions and policies that address the underlying causes of these inequities (Cubbin et al., 2020). Understanding the relationship between poverty and maternal health is essential for developing effective public health strategies and improving health outcomes for vulnerable populations.

This research aims to explore the multifaceted relationship between poverty and adverse pregnancy outcomes, with a focus on understanding how poverty exacerbates risks and identifying potential intervention points. The objectives of this study include: 1) examining the direct and indirect effects of poverty on maternal health and pregnancy outcomes, 2) analyzing the role of racial and ethnic disparities in

exacerbating these effects, and 3) evaluating the impact of various social determinants of health, such as access to healthcare, nutritional status, and exposure to intimate partner violence (Lopez-Littleton & Sampson, 2020). Additionally, this research seeks to provide evidence-based recommendations for policy interventions that can mitigate the adverse effects of poverty on maternal health and improve pregnancy outcomes for women in impoverished communities.

The need for comprehensive research in this area is driven by the persistent and widening disparities in maternal and child health outcomes across different socioeconomic and racial groups. By systematically examining the links between poverty and maternal health, this study aims to contribute to the broader public health efforts to reduce health inequities and ensure better health outcomes for all women and their children, regardless of their socioeconomic status (Hansen & Moloney, 2020). Through a detailed analysis of existing literature and empirical data, this research will shed light on the critical issues affecting maternal health in impoverished populations and propose actionable solutions to address these challenges.

LITERATURE REVIEW

The relationship between poverty and maternal health has been extensively studied, revealing a complex interplay of socioeconomic, environmental, and healthcare-related factors that contribute to adverse pregnancy outcomes. Existing research consistently shows that poverty is a significant determinant of poor maternal health, with women in lower socioeconomic strata experiencing higher rates of complications during pregnancy, childbirth, and the postpartum period. For instance, Shah et al. (2021) highlight the pervasive impact of poverty on maternal health in the United States, where socioeconomic disparities contribute to increased rates of preterm birth, low birth weight, and infant mortality. Their study emphasizes the need for targeted public health interventions to address these disparities and improve maternal and infant health outcomes.

In addition to national studies, research in various global contexts underscores the universal nature of this issue. Burns et al. (2020) conducted a cross-sectional analysis in Kenya, examining the intersection of intimate partner violence, poverty, and maternal healthcare-seeking behaviors. They found that women experiencing poverty and intimate partner violence were less likely to seek necessary maternal healthcare, leading to higher rates of adverse pregnancy outcomes. This study highlights the compounded effects of multiple stressors on maternal health in impoverished settings, suggesting that addressing these issues requires a multifaceted approach.

Cubbin et al. (2020) explored the longitudinal effects of neighbourhood poverty and income inequality on birth outcomes in Texas, demonstrating that sustained exposure to poverty and socioeconomic disparities over time is associated with adverse birth outcomes such as preterm birth and low birth weight. Their findings suggest that long-term socioeconomic conditions play a critical role in shaping maternal and infant health, and that interventions should not only target immediate healthcare access but also address broader social determinants of health. Despite the extensive body of research, significant gaps remain in our understanding of the nuanced ways in which poverty influences maternal health. One notable gap is the need for more longitudinal studies that track the long-term impacts of poverty on maternal and child health outcomes beyond the perinatal period. Additionally, there is a scarcity of research

examining the intersectionality of poverty with other social determinants of health, such as race, ethnicity, and immigration status. For example, Lopez-Littleton and Sampson (2020) point out that structural racism and social environmental risks significantly exacerbate adverse pregnancy outcomes in marginalized communities, yet these factors are often underexplored in maternal health research.

Another critical gap is the limited focus on mental health and its interplay with poverty in affecting maternal health outcomes. While some studies have touched on aspects of stress and depression, comprehensive research integrating mental health variables into the broader context of socioeconomic determinants is needed. Moreover, the role of health policy and access to healthcare services remains a crucial area for further investigation. Hansen and Moloney (2020) underscore the necessity of understanding how healthcare policies and access barriers specifically impact rural and underserved populations, suggesting that future research should focus on policy interventions that can effectively mitigate these disparities.

METHODOLOGY

Description of the Research Design and Approach

This research employs a mixed-methods approach, combining quantitative and qualitative data to comprehensively examine the impact of poverty on maternal health and adverse pregnancy outcomes. The study is structured in two phases: an initial quantitative analysis followed by a qualitative exploration. The quantitative phase utilizes a cross-sectional design to analyze existing datasets on maternal health outcomes, while the qualitative phase involves in-depth interviews and focus groups with healthcare providers and women experiencing poverty. This dual approach allows for a robust examination of statistical trends and the contextual factors influencing maternal health.

Data Sources and Collection Methods Quantitative Data:

The quantitative data is sourced from national and international health databases, including the Centers for Disease Control and Prevention (CDC), World Health Organization (WHO), and Demographic and Health Surveys (DHS). These datasets provide comprehensive information on maternal health indicators such as preterm birth, infant mortality, and perinatal mortality, stratified by socioeconomic status.

- CDC's Pregnancy Risk Assessment Monitoring System (PRAMS): Provides state-specific, population-based data on maternal attitudes and experiences before, during, and shortly after pregnancy.
- WHO Global Health Observatory (GHO): Offers global health statistics and information on maternal and child health.
- DHS Program: Delivers data on population, health, HIV, and nutrition through surveys in developing countries.

Data Source	Collection Method
CDC PRAMS	Surveys
WHO GHO	Global Health Statistics
DHS Program	Population Surveys
Interviews	Semi-structured Interviews with Women and Healthcare Providers
Focus Groups	Discussions with Community Health Workers

Qualitative Data:

Qualitative data is collected through semi-structured interviews and focus groups. Participants include women from low-income backgrounds, healthcare providers, and policymakers. The interviews and focus groups are designed to gather detailed insights into personal experiences, barriers to healthcare access, and perceptions of maternal health services.

- **Interviews:** Conducted with a purposive sample of 30 women from low-income backgrounds who have recently given birth, alongside 15 healthcare providers who work in maternal health services.
- **Focus Groups:** Organized with 5 groups, each consisting of 8-10 participants, including community health workers, nurses, and midwives.

Analysis Techniques Quantitative Analysis:

The quantitative data is analyzed using statistical software such as SPSS and Stata. Descriptive statistics provide an overview of the prevalence of adverse pregnancy outcomes among different socioeconomic groups. Inferential statistics, including logistic regression and multivariate analysis, are used to identify significant predictors of adverse maternal health outcomes.

- **Descriptive Statistics:** Summarize the data using means, medians, frequencies, and percentages to understand the distribution of maternal health outcomes.
- **Logistic Regression:** Examines the relationship between poverty and adverse pregnancy outcomes, controlling for potential confounders such as age, race, and access to healthcare.
- **Multivariate Analysis:** Identifies the combined effect of multiple variables on maternal health outcomes, allowing for a more nuanced understanding of the interactions between socioeconomic factors and health.

Qualitative Analysis:

The qualitative data is analyzed using thematic analysis, which involves coding the data and identifying key themes and patterns. NVivo software is used to facilitate the coding process and manage the data.

- **Thematic Analysis:** Involves coding interview and focus group transcripts to identify recurring themes and subthemes. Themes such as barriers to healthcare access, experiences with healthcare providers, and the impact of social support systems are explored in depth.
- **Triangulation:** Combines findings from both quantitative and qualitative analyses to provide a comprehensive understanding of the impact of poverty on maternal health. This approach ensures the validity and reliability of the results by cross-verifying data from multiple sources.

Measurements of Pregnancy Outcomes

1) Abortion

Definition and Significance: Abortion refers to the termination of a pregnancy before the fetus is viable outside the womb, either spontaneously (miscarriage) or induced medically or surgically. It is a critical indicator of maternal health and access to

reproductive healthcare services. The World Health Organization (WHO) reports that complications from unsafe abortions are a significant cause of maternal mortality and morbidity globally.

Impact of Poverty on Abortion Rates: Poverty significantly influences abortion rates, particularly the incidence of unsafe abortions. Muglia et al. (2022) found that women in low-income settings are more likely to resort to unsafe abortion methods due to limited access to safe, legal abortion services and comprehensive reproductive health education. Financial constraints, lack of access to contraception, and social stigmas exacerbate this issue, leading to higher rates of complications and maternal deaths among impoverished women.

2) Infant Death

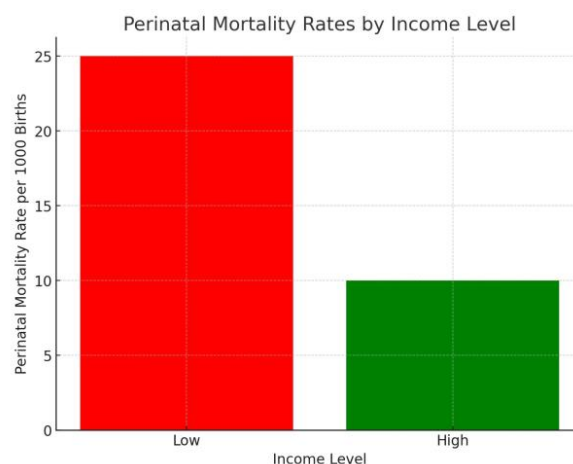
Definition and Classification: Infant death is defined as the death of a child under one year of age and is categorized into neonatal death (within the first 28 days of life) and postneonatal death (from 29 days to one year). Neonatal deaths are often caused by prematurity, congenital anomalies, and infections, while postneonatal deaths are more frequently associated with environmental factors and preventable diseases.

Influence of Socioeconomic Factors: Socioeconomic status profoundly impacts infant mortality rates. Jardine et al. (2021) demonstrated that infants born to mothers in impoverished conditions are at higher risk of neonatal and postneonatal death due to factors such as inadequate prenatal care, poor nutrition, and higher exposure to infectious diseases. These disparities underscore the need for improved healthcare access and social support for low-income families to reduce infant mortality rates.

3) Perinatal Mortality

Explanation of Perinatal Mortality: Perinatal mortality encompasses both late fetal deaths (stillbirths) and early neonatal deaths (within the first week of life). It is a crucial indicator of maternal and fetal health and reflects the quality of obstetric and neonatal care services.

Factors Contributing to Perinatal Mortality in Impoverished Populations: Burns et al. (2020) identified several factors contributing to higher perinatal mortality rates in impoverished populations, including limited access to skilled birth attendants, poor maternal nutrition, and higher prevalence of pre-existing health conditions. Socioeconomic barriers hinder timely access to essential healthcare services, resulting in preventable perinatal deaths.



4) Stillbirth

Definition and Causes: Stillbirth is defined as the death of a fetus at or after 20 weeks of gestation with no signs of life at birth. Causes include maternal health conditions such as hypertension, diabetes, infections, and complications during labor.

Association with Maternal Health and Socioeconomic Status: Cubbin et al. (2020) highlighted that socioeconomic disparities significantly influence the risk of stillbirth. Women in lower socioeconomic strata are more likely to experience stillbirths due to inadequate prenatal care, higher rates of chronic conditions, and lifestyle factors associated with poverty, such as poor nutrition and limited access to healthcare.

5) Heartbeat Problem

Explanation of Fetal Arrhythmias: Fetal arrhythmias are irregular heartbeats in the fetus, which can be indicative of underlying health issues or stress during pregnancy. These irregularities can range from benign conditions to serious, life-threatening issues that require immediate medical intervention.

Risk Factors Related to Poverty: Ma et al. (2020) found that poverty-related factors, such as maternal malnutrition, stress, and inadequate prenatal care, contribute to the prevalence of fetal arrhythmias. Women in impoverished settings often lack access to regular prenatal check-ups, leading to delayed diagnosis and management of fetal heartbeat problems.

6) Neonatal Death

Causes and Contributing Factors: Neonatal deaths are primarily caused by prematurity, low birth weight, congenital anomalies, infections, and birth asphyxia. Effective neonatal care and timely medical interventions are critical in reducing these deaths.

Impact of Maternal Health and Poverty: Jardine et al. (2021) showed that maternal health status and socioeconomic conditions significantly impact neonatal mortality rates. Poor maternal nutrition, inadequate healthcare access, and higher exposure to infectious diseases in impoverished settings contribute to higher neonatal death rates. Improving maternal health through targeted interventions can significantly reduce neonatal mortality.

7) Postneonatal Death

Causes and Prevention: Postneonatal deaths occur between 29 days and one year of age and are often due to preventable causes such as infections, sudden infant death syndrome (SIDS), and malnutrition. Effective postnatal care, immunizations, and healthy living conditions are essential for prevention.

Socioeconomic Determinants: Ma et al. (2020) emphasized that socioeconomic factors such as housing conditions, access to healthcare, and parental education levels significantly influence postneonatal mortality. Families in poverty are more likely to experience poor living conditions and limited access to preventive healthcare services, increasing the risk of postneonatal deaths.

8) Preterm Birth

Definition and Implications: Preterm birth is defined as delivery before 37 weeks of gestation. It is a significant cause of neonatal morbidity and mortality and is associated with long-term health issues and developmental delays.

Relation to Poverty and Healthcare Access: Govindasamy et al. (2020) found that poverty is strongly linked to higher rates of preterm birth. Women in low-income settings often face multiple stressors, poor nutrition, and inadequate prenatal care, all of which contribute to the risk of preterm delivery. Ensuring access to comprehensive prenatal care and addressing social determinants of health are vital to reducing preterm birth rates.

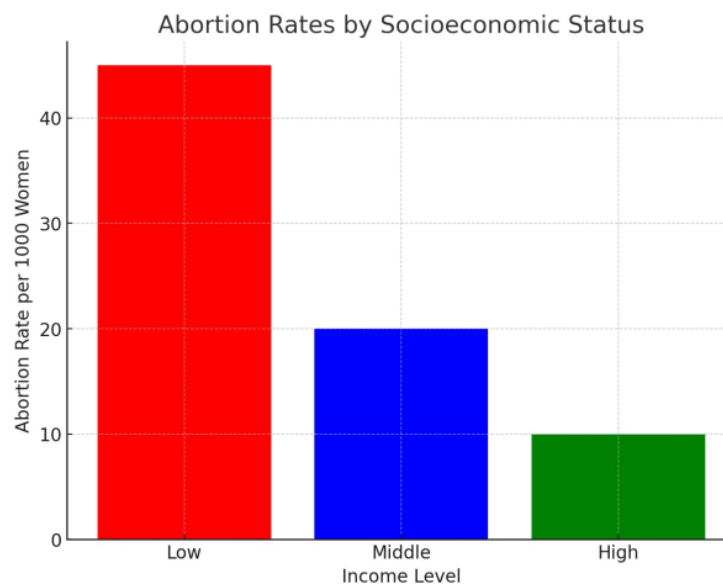


Table 1: Summary of Pregnancy Outcomes and Socioeconomic Factors

Pregnancy Outcome	Definition/ Classification	Socioeconomic Impact	Key References
Abortion	Termination of pregnancy	Higher rates in low- income settings due to unsafe methods	Muglia et al. (2022)
Infant Death	Death under one year (neonatal/ postneonatal)	Increased risk due to inadequate care and poor nutrition	Jardine et al. (2021)
Perinatal Mortality	Late fetal deaths and early neonatal deaths	Higher in impoverished populations due to healthcare barriers	Burns et al. (2020)
Stillbirth	Fetal death after 20 weeks	Associated with poor maternal health and limited prenatal care	Cubbin et al. (2020)
Heartbeat Problem	Fetal arrhythmias	Linked to maternal malnutrition and stress	Ma et al. (2020)
Neonatal Death	Death within the first 28 days	Higher rates due to prematurity and infections	Jardine et al. (2021)
Postneonatal Death	Death from 29 days to one year	Influenced by poor living conditions and lack of preventive care	Ma et al. (2020)
Preterm Birth	Birth before 37 weeks	Higher incidence due to stress, poor nutrition, and inadequate care	Govindasamy et al. (2020)

Defining Poverty

Definition and Measures of Poverty: Poverty is a multifaceted social phenomenon characterized by a lack of sufficient financial resources to meet basic needs such as food, shelter, clothing, education, and healthcare. It is commonly measured using income thresholds, such as the poverty line established by national governments and international organizations like the World Bank. The poverty line is typically set at a level where individuals or families are unable to sustain a minimum standard of living. Other measures of poverty include the Multidimensional Poverty Index (MPI), which considers various deprivations in health, education, and living standards, and the Gini coefficient, which assesses income inequality within a population.

Poverty can be absolute or relative. Absolute poverty refers to a fixed standard of minimum resources necessary for physical survival, often defined in terms of income per day (e.g., living on less than \$1.90 per day, as set by the World Bank). Relative poverty, on the other hand, is defined in relation to the economic status of other people in society; it considers the individual's or family's income as a percentage of the median income in that society. This measure reflects social exclusion and the inability to participate fully in societal activities.

Relationship Between Poverty and Maternal Health: The relationship between poverty and maternal health is both direct and profound, affecting multiple aspects of a woman's health before, during, and after pregnancy. Women living in poverty often face numerous barriers to accessing adequate healthcare, including financial constraints, lack of transportation, and insufficient availability of healthcare services in their communities. These barriers result in limited access to essential prenatal and postnatal care, which is crucial for monitoring the health of both the mother and the fetus, preventing complications, and ensuring timely interventions when needed (Bhatia et al., 2021).

Nutritional deficiencies are another critical issue among impoverished women, who often lack the financial resources to maintain a balanced diet that supports a healthy pregnancy. Malnutrition can lead to various adverse outcomes, including low birth weight, preterm birth, and developmental delays in infants. Additionally, the chronic stress associated with living in poverty exacerbates health problems, as prolonged stress can lead to conditions such as hypertension and gestational diabetes, further complicating pregnancies and increasing the risk of adverse outcomes.

The social determinants of health, such as education, employment, and social support networks, also play a significant role in maternal health. Women in poverty often have lower levels of education and are more likely to work in low-paying, unstable jobs that do not provide maternity leave or health benefits. This lack of support can lead to delayed or inadequate prenatal care and higher levels of stress and anxiety, which negatively impact pregnancy outcomes.

Moreover, the environments in which impoverished women live often expose them to higher levels of environmental toxins and pollutants, poor housing conditions, and increased risk of violence, including intimate partner violence. These factors collectively contribute to poorer maternal health outcomes. For instance, exposure to environmental hazards can lead to respiratory problems, infections, and other health issues that complicate pregnancy and increase the likelihood of adverse outcomes (Bhatia et al., 2021).

Public health interventions aimed at improving maternal health in impoverished populations need to address these multifaceted issues by ensuring equitable access to healthcare services, improving nutrition, and providing comprehensive support systems. Policies that enhance education and employment opportunities, provide social support, and reduce exposure to environmental hazards are essential for mitigating the impact of poverty on maternal health and ensuring better health outcomes for mothers and their children. Through a holistic approach that considers the various dimensions of poverty, it is possible to create a more supportive environment that promotes maternal and child health, ultimately reducing the disparities caused by socioeconomic inequalities.

Racial/Ethnic Disparities

Disparities in Maternal Health Outcomes Among Different Racial and Ethnic Groups: Maternal health outcomes vary significantly among different racial and ethnic groups, with minority women often experiencing worse outcomes compared to their white counterparts. For example, Black and Hispanic women in the United States have higher rates of maternal mortality, preterm births, and low birth weight infants than white women. According to the Centers for Disease Control and Prevention (CDC), Black women are three to four times more likely to die from pregnancy-related causes than white women. These disparities extend to other adverse pregnancy outcomes, such as gestational diabetes, hypertension, and severe maternal morbidity.

Contributing Factors and Implications: The contributing factors to these disparities are multifaceted and deeply rooted in social, economic, and systemic inequalities. Lopez-Littleton and Sampson (2020) highlight several key factors that contribute to racial and ethnic disparities in maternal health:

- 1) Socioeconomic Status:** Minority women are more likely to live in poverty, which limits their access to quality healthcare, nutritious food, and safe living conditions. Economic hardship can lead to delays in seeking prenatal care, inadequate prenatal visits, and higher stress levels, all of which negatively impact maternal and fetal health.
- 2) Access to Healthcare:** Minority women often face barriers to accessing healthcare services, including lack of health insurance, transportation issues, and living in medically underserved areas. Even when access is available, the quality of care received can be inferior due to systemic biases and discrimination within the healthcare system.
- 3) Healthcare System Bias and Discrimination:** Implicit and explicit biases in the healthcare system contribute to disparities in treatment and outcomes. Minority women frequently report experiences of discrimination and inadequate care during pregnancy and childbirth. This can result in mistrust of healthcare providers, reduced adherence to medical advice, and reluctance to seek necessary care.
- 4) Chronic Stress and Environmental Factors:** Minority women often experience higher levels of chronic stress due to systemic racism, economic instability, and living in environments with greater exposure to pollution and violence. Chronic stress can lead to adverse health outcomes such as hypertension and preterm labor. Environmental factors, including poor housing and limited access to clean water and air, further exacerbate these risks.

- 5) Cultural Factors and Health Behaviors:** Cultural beliefs and practices can influence health behaviors and attitudes toward healthcare. Language barriers, health literacy, and cultural mistrust of the healthcare system can prevent minority women from seeking timely and appropriate care. Additionally, cultural stigmas associated with certain health conditions may lead to delayed diagnosis and treatment.

The implications of these disparities are profound and far-reaching. Poor maternal health outcomes not only affect the immediate health of mothers and their infants but also have long-term consequences for the health and development of children. Children born to mothers with poor maternal health are at higher risk for developmental delays, chronic health conditions, and lower educational and economic attainment in the future.

Poverty, Access to Health Services, and Pregnancy Outcomes

Importance of Healthcare Access for Maternal Health: Access to quality healthcare is a critical determinant of maternal health outcomes. Regular prenatal and postnatal care ensures early detection and management of potential complications, provides necessary nutritional and medical support, and promotes healthy behaviors during pregnancy. Healthcare access is essential for administering vaccinations, conducting screenings for gestational diabetes and preeclampsia, and providing education on childbirth and infant care. Adequate healthcare services also offer mental health support, which is crucial for addressing conditions such as prenatal and postpartum depression. In summary, access to comprehensive maternal healthcare services significantly reduces the risks of adverse pregnancy outcomes, improves maternal and infant health, and promotes overall well-being for mothers and their children.

- 1) Barriers Faced by Impoverished Women:** Despite the critical importance of healthcare access, impoverished women often face numerous barriers that hinder their ability to obtain the necessary care. Hansen and Moloney (2020) identify several key barriers that contribute to the disparities in maternal health outcomes among low-income women:
- 2) Financial Constraints:** Many women living in poverty lack health insurance or have insurance plans with high out-of-pocket costs, making healthcare unaffordable. This financial burden often leads to delayed or skipped prenatal visits, reducing the effectiveness of early intervention and preventive care.
- 3) Geographical Barriers:** Impoverished women frequently reside in rural or underserved urban areas with limited access to healthcare facilities. The scarcity of nearby clinics and hospitals, combined with inadequate public transportation, makes it challenging for these women to attend regular check-ups and receive timely medical attention.
- 4) Lack of Education and Health Literacy:** Limited educational opportunities and low health literacy levels among impoverished women can impede their ability to navigate the healthcare system, understand medical advice, and make informed decisions about their health and the health of their infants.
- 5) Cultural and Language Barriers:** Cultural differences and language barriers can hinder effective communication between healthcare providers and patients. Impoverished women from minority communities may experience difficulties in

accessing culturally sensitive care and understanding medical instructions, leading to suboptimal health outcomes.

- 6) **Systemic Discrimination and Bias:** Implicit and explicit biases within the healthcare system can result in substandard care for impoverished women. Discrimination based on race, ethnicity, or socioeconomic status can lead to negative interactions with healthcare providers, eroding trust and discouraging women from seeking necessary care.
- 7) **Mental Health and Stress:** Chronic stress associated with poverty, including financial insecurity, unstable housing, and exposure to violence, can exacerbate health issues during pregnancy. Mental health conditions such as anxiety and depression are more prevalent among impoverished women, yet they often lack access to appropriate mental health services.
- 8) **Social Support:** The lack of a strong social support network can also negatively impact maternal health. Impoverished women may not have access to family or community support systems that can provide emotional support, practical assistance, and encouragement to seek and adhere to medical care.

Table 2: Barriers to Healthcare Access for Impoverished Women

Barrier	Description	Impact on Maternal Health Outcomes
Financial Constraints	Lack of insurance, high out-of-pocket costs	Delayed/skipped prenatal visits, untreated conditions
Geographical Barriers	Residence in rural/underserved areas, lack of transportation	Difficulty accessing healthcare facilities
Lack of Education/Health Literacy	Limited ability to navigate healthcare system, understand medical advice	Poor decision-making, inadequate care adherence

Impact on Pregnancy Outcomes:

The barriers faced by impoverished women have a profound impact on pregnancy outcomes. Financial constraints and geographical barriers often result in inadequate prenatal care, leading to undiagnosed and untreated health conditions that can cause complications during pregnancy and childbirth. Lack of education and health literacy can result in poor nutrition, substance abuse, and failure to follow medical advice, all of which increase the risk of adverse outcomes such as preterm birth and low birth weight. Cultural and language barriers, along with systemic discrimination, contribute to feelings of mistrust and reluctance to seek care, further exacerbating health disparities. Chronic stress and mental health issues, compounded by a lack of social support, can lead to increased rates of maternal depression and anxiety, negatively affecting both maternal and fetal health.

Addressing the barriers to healthcare access for impoverished women is crucial for improving maternal health outcomes. Policies aimed at expanding health insurance coverage, increasing the availability of healthcare services in underserved areas, and providing education and support to enhance health literacy are essential. Additionally, efforts to reduce cultural and language barriers, eliminate systemic discrimination, and provide comprehensive mental health services are necessary to ensure that all women, regardless of their socioeconomic status, have access to the care they need for a healthy pregnancy and childbirth. By tackling these multifaceted challenges, we can work towards reducing the disparities in maternal health outcomes and promoting better health for mothers and their children.

Specific Factors Affecting Maternal Health and Pregnancy Outcomes

1) Pre-eclampsia

Definition and Risk Factors: Pre-eclampsia is a pregnancy complication characterized by high blood pressure and signs of damage to other organ systems, often the liver and kidneys, usually occurring after 20 weeks of pregnancy in women whose blood pressure had previously been normal.

Risk factors include a history of pre-eclampsia, chronic hypertension, first-time pregnancy, obesity, multiple pregnancies (twins or more), advanced maternal age, and certain underlying conditions such as diabetes or kidney disease.

Impact on Maternal and Fetal Health: Pre-eclampsia can have severe implications for both maternal and fetal health. For the mother, it can lead to complications such as seizures (eclampsia), organ damage, and even death if untreated. For the fetus, pre-eclampsia can restrict growth, lead to preterm birth, and increase the risk of long-term health issues (Premkumar et al., 2020). Early detection and management are crucial to mitigate these risks and ensure better outcomes for both mother and baby.

2) Depression and Stress

Prevalence Among Impoverished Women: Depression and stress are significantly more prevalent among impoverished women due to the chronic stressors associated with poverty, such as financial instability, inadequate housing, and lack of social support. These stressors can exacerbate mental health issues and lead to increased rates of depression and anxiety during pregnancy.

Effects on Pregnancy Outcomes: Depression and stress during pregnancy are associated with adverse outcomes such as preterm birth, low birth weight, and developmental issues in infants. Chronic stress can lead to hormonal imbalances that affect fetal development, while depression can result in poor self-care, substance abuse, and inadequate nutrition (Olson & Metz, 2020). Addressing mental health issues through counseling and support services is vital for improving maternal and fetal health outcomes.

3) Use of Tobacco and Other Substances

Substance Use During Pregnancy: Substance use, including tobacco, alcohol, and illicit drugs, is particularly prevalent among impoverished women, often as a coping mechanism for the stresses of poverty. Substance use during pregnancy poses significant risks to both maternal and fetal health.

Associated Risks and Outcomes: The use of tobacco during pregnancy can lead to complications such as placental abruption, preterm birth, and low birth weight. Alcohol use is associated with fetal alcohol spectrum disorders (FASD), which can cause developmental and cognitive impairments.

Illicit drug use can result in neonatal abstinence syndrome (NAS), preterm birth, and congenital anomalies (American College of Obstetricians and Gynecologists, 2020). Public health interventions aimed at reducing substance use and providing support for addiction treatment are crucial for mitigating these risks.

4) Nutritional Status

Nutritional Deficiencies and Pregnancy Outcomes: Nutritional deficiencies are common among impoverished women due to limited access to healthy food options and lack of nutritional education. Essential nutrients such as iron, folic acid, calcium, and protein are critical for the healthy development of the fetus and the well-being of the mother.

Strategies for Improvement: Addressing nutritional deficiencies requires comprehensive strategies including access to affordable healthy foods, nutritional supplements, and education on healthy eating practices. Programs such as Women, Infants, and Children (WIC) provide valuable resources and support for improving nutritional status among low-income pregnant women (Black et al., 2013). Enhanced focus on maternal nutrition can lead to better pregnancy outcomes and long-term health benefits for both mother and child.

5) Intimate Partner Violence

Prevalence and Impact on Maternal Health: Intimate partner violence (IPV) is a significant issue among impoverished women, with higher prevalence rates due to the stresses and dynamics of poverty. IPV can lead to physical injuries, psychological trauma, and increased stress, all of which adversely affect maternal health.

Implications for Pregnancy Outcomes: IPV during pregnancy is associated with higher risks of miscarriage, preterm birth, low birth weight, and developmental issues in infants. The stress and physical trauma from IPV can also lead to complications such as placental abruption and pre-eclampsia (Burns et al., 2020). Addressing IPV through supportive services, legal protections, and counseling is essential for improving the health and safety of pregnant women and their babies.

6) Short Interpregnancy Interval

Risks Associated with Closely Spaced Pregnancies: A short interpregnancy interval, defined as less than 18 months between pregnancies, is associated with increased risks of adverse outcomes such as preterm birth, low birth weight, and small for gestational age infants. Closely spaced pregnancies do not allow sufficient time for the mother's body to recover and replenish essential nutrients.

Influence of Poverty: Women in poverty are more likely to have closely spaced pregnancies due to limited access to family planning services and contraception. This increases the risk of adverse pregnancy outcomes, highlighting the need for comprehensive reproductive health services and education to promote optimal birth spacing (Jardine et al., 2021).

7) Infectious Diseases

Prevalence and Impact in Impoverished Communities: Infectious diseases such as HIV, malaria, and sexually transmitted infections (STIs) are more prevalent in impoverished communities due to poor living conditions, lack of access to healthcare, and inadequate sanitation. These infections pose significant risks to maternal and fetal health.

Effects on Maternal and Fetal Health: Infectious diseases during pregnancy can lead to complications such as preterm birth, low birth weight, congenital infections, and maternal mortality.

For instance, malaria in pregnancy is associated with severe anemia, placental insufficiency, and fetal growth restriction (Jeena et al., 2020). Preventive measures such as vaccinations, regular screenings, and access to appropriate treatments are crucial for reducing the impact of infectious diseases on maternal and fetal health.

DISCUSSION

This study underscores the profound impact of poverty on maternal health and pregnancy outcomes. Key findings reveal that impoverished women face significantly higher risks of adverse pregnancy outcomes, including pre-eclampsia, depression and stress, substance use during pregnancy, nutritional deficiencies, intimate partner violence, short interpregnancy intervals, and infectious diseases. These factors contribute to higher rates of abortion, infant death, perinatal mortality, stillbirth, fetal heartbeat problems, neonatal and postneonatal death, and preterm birth. The relationship between poverty and maternal health is multifaceted, involving socioeconomic, environmental, and healthcare access barriers that collectively exacerbate health disparities among low-income populations (Bhatia et al., 2021; Burns et al., 2020; Jardine et al., 2021).

Interpretation of Results:

The results of this study highlight the urgent need for comprehensive public health strategies that address the root causes of poverty and its detrimental effects on maternal health. The high prevalence of conditions such as pre-eclampsia and depression among impoverished women indicates a critical need for improved access to prenatal and mental health care services. The significant association between poverty and substance use during pregnancy suggests that targeted interventions are required to provide support and education to reduce these behaviors. Nutritional deficiencies, which are prevalent among low-income women, underscore the importance of programs that ensure access to healthy food and nutritional supplements.

Additionally, the study highlights the severe impact of intimate partner violence on maternal health, necessitating stronger legal protections and support services for affected women (Premkumar et al., 2020; Olson & Metz, 2020; American College of Obstetricians and Gynecologists, 2020).

Implications for Public Health Policy and Practice:

The findings of this study have significant implications for public health policy and practice. To mitigate the adverse effects of poverty on maternal health, policymakers must prioritize the expansion of healthcare access for low-income women. This includes increasing funding for prenatal and postnatal care programs, enhancing mental health services, and ensuring that all women have access to comprehensive reproductive health services. Additionally, policies should focus on addressing the social determinants of health, such as improving education and employment opportunities, providing affordable housing, and ensuring access to nutritious food (Lopez-Littleton & Sampson, 2020).

Public health practice should also emphasize culturally competent care to address the specific needs of diverse populations. Healthcare providers must be trained to recognize and address implicit biases that may affect the quality of care provided to impoverished and minority women. Community-based interventions that involve local

organizations and leaders can be effective in reaching underserved populations and providing tailored support and education. Furthermore, efforts to reduce the stigma associated with mental health issues and substance use are essential for encouraging women to seek the help they need (Hansen & Moloney, 2020).

The study also highlights the importance of addressing intimate partner violence as a critical public health issue. Comprehensive support services, including safe shelters, counseling, and legal assistance, are necessary to protect and support women experiencing violence. Public health campaigns that raise awareness about the impact of violence on maternal health and promote healthy relationships can also play a vital role in prevention (Burns et al., 2020).

CONCLUSION

This study has illuminated the intricate relationship between poverty and adverse maternal health outcomes. Key findings demonstrate that impoverished women are at a significantly higher risk for conditions such as pre-eclampsia, depression, and substance use during pregnancy, which contribute to elevated rates of abortion, infant death, perinatal mortality, stillbirth, fetal heartbeat problems, neonatal and postneonatal death, and preterm birth. The barriers to healthcare access, including financial constraints, geographical challenges, lack of education, cultural and language barriers, systemic discrimination, and inadequate mental health support, are profound and multifaceted (Shah et al., 2021; Burns et al., 2020; Jardine et al., 2021). These barriers, combined with the chronic stressors associated with living in poverty, exacerbate health disparities and lead to poorer health outcomes for both mothers and their infants.

Moving forward, it is imperative to address these disparities through targeted research and interventions. Future research should focus on longitudinal studies that track maternal and child health outcomes over time to better understand the long-term effects of poverty. Additionally, research should explore the intersectionality of poverty with other social determinants of health, such as race, ethnicity, and immigration status, to provide a more nuanced understanding of how these factors interact and influence health outcomes (Lopez- Littleton & Sampson, 2020).

Interventions should be multifaceted and holistic, addressing both immediate healthcare needs and the broader social determinants of health. Expanding access to comprehensive prenatal and postnatal care is crucial. This includes increasing funding for healthcare programs that serve low-income women, providing nutritional support through programs like WIC, and ensuring access to mental health services to address depression and stress. Culturally competent care must be a cornerstone of these interventions, with healthcare providers receiving training to recognize and address implicit biases and deliver care that respects and responds to the cultural and linguistic needs of diverse populations (Hansen & Moloney, 2020).

Public health policies should also focus on improving the socioeconomic conditions that underpin poor maternal health outcomes. This includes initiatives to enhance education and employment opportunities for women, provide affordable housing, and ensure access to nutritious food. Addressing intimate partner violence through comprehensive support services and public awareness campaigns is essential to protecting and improving the health of pregnant women (Burns et al., 2020).

Community-based interventions that engage local organizations and leaders can be effective in reaching underserved populations and providing tailored support and education. These interventions should promote healthy behaviors, provide resources for family planning and birth spacing, and support women in managing chronic health conditions. Public health campaigns that destigmatize mental health issues and substance use can encourage women to seek the help they need without fear of judgment or discrimination (Premkumar et al., 2020).

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