

Review

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Review

Investing in Maternal Health: Economic Benefits and Policy Implications

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Abstract: This article focuses on the economic dimensions of maternal health, highlighting the benefits of investing in maternal healthcare and the policy implications for sustainable development. Through a comprehensive review of the literature, the article explores the economic impact of maternal health, including its effects on human capital, productivity, and healthcare costs. It emphasizes the importance of addressing social determinants such as access to healthcare services, education, employment, income, and geographical disparities. By prioritizing maternal health, societies can unlock the economic potential of women, promote inclusive growth, and reduce gender disparities. The article discusses policy interventions, including the importance of healthcare infrastructure, financial support for maternal healthcare, and promoting gender equality. It also emphasizes the need for future research to quantify the economic benefits and evaluate the cost-effectiveness of different interventions. Overall, the article underscores the economic imperative of investing in maternal health and provides valuable insights for policymakers and researchers seeking to enhance maternal health outcomes and promote sustainable economic development.

Keywords: healthcare; maternal health; gender disparities

1. Introduction

Maternal health is a fundamental pillar of societal well-being, exerting profound implications for economic development [1]. An extensive body of research and empirical evidence attests to the substantial impact of maternal health on various socio-economic indicators [2], thereby underscoring its profound economic significance. Notably, a comprehensive study conducted by Bloom in low- and middle-income countries yielded compelling evidence demonstrating that the amelioration of maternal health engenders a wide array of economic benefits [3]. Noteworthy among these benefits is the association between enhanced maternal health and augmented human capital, as physically healthier mothers tend to exhibit higher levels of educational attainment [4]. Consequently, this augment in human capital confers an elevation in labor market productivity and income-earning potential for these mothers [5]. Furthermore, empirical investigations have demonstrated that investing in maternal health engenders a salutary intergenerational effect, wherein the progeny of healthier mothers evince superior cognitive and physical development outcomes [6]. This intergenerational enhancement imparts an invaluable advantage, as it contributes to the cultivation of a future workforce characterized by heightened skill levels and robust health, thereby fostering sustainable economic growth [7]. The economic ramifications of maternal health transcend the individual and familial domains. Kruk underscored the broader socio-economic advantages, asserting that bolstering maternal health is inextricably linked to the attainment of several United Nations' Sustainable Development Goals (SDGs) [1]. Prioritizing maternal health empowers nations to make notable strides towards poverty alleviation, gender parity, and enhanced educational outcomes [3]. By affording expectant mothers access to comprehensive prenatal care and safe obstetric services, the risks associated with maternal mortality and morbidity precipitously decline [4]. Consequently, this dual benefit not only safeguards women's well-being but also averts the economic burdens engendered by productivity losses and healthcare expenditures resulting from maternal complications [5]. Investments directed towards maternal health have consistently yielded remarkable returns. A study conducted by Stenberg estimated that each dollar allocated to maternal health interventions has the potential to yield a return of \$2.20, attributable to the concomitant

enhancement of productivity and health outcomes [6]. Furthermore, the economic advantages extend beyond the purview of the healthcare sector, as physically healthy mothers actively contribute to the formal labor market, thereby engendering tax revenue generation and inciting economic growth [7]. Additionally, by placing maternal health at the forefront of policy agendas, nations can mitigate the intergenerational cycle of poverty and inequality, engendering a more inclusive and equitable society [2]. Maternal health encompasses profound economic implications that reverberate throughout individual households and national economies alike [1]. The weight of evidence strongly underscores the urgent imperative for policymakers to recognize the economic exigency of investing in maternal health [3]. By assiduously prioritizing maternal health through the provision of unfettered access to high-quality healthcare services, promotion of reproductive rights, and meticulous consideration of social determinants, societies can unlock the full potential of women, facilitate sustainable development, and shape a future marked by prosperity and well-being for all [7].

2. Literature

A considerable body of scholarly literature has extensively investigated the multifaceted and intricate relationship between maternal health and economic factors, shedding light on the complex interplay between these two domains [8]. Economic theories have provided valuable insights into the underlying mechanisms through which maternal health exerts influence on economic outcomes [9]. The human capital theory postulates that enhancements in maternal health led to heightened productivity and augmented earning potential, as physically healthier mothers are better positioned to actively participate in the labor market [10]. Empirical studies have consistently corroborated this proposition, highlighting a positive association between maternal health and economic productivity [11]. For instance, a study conducted by Powell-Jackson in sub-Saharan Africa revealed that improvements in maternal health were significantly correlated with increased household income and heightened labor force engagement among women [12]. Beyond considerations of human capital, the literature has underscored the pivotal role of maternal health in breaking the intergenerational cycle of poverty [13]. A study conducted by Bhutta elucidated the profound impact of improving maternal health on child health and development, with far-reaching economic implications [14]. Progeny born to healthier mothers exhibited enhanced cognitive abilities, superior educational attainment, and reduced healthcare costs over their lifetimes [15]. These outcomes culminate in the accumulation of enhanced human capital and a consequent upsurge in economic productivity at the population level [16]. Moreover, addressing the social determinants of maternal health assumes paramount importance in the pursuit of equitable economic development [17]. Robust research consistently reveals that maternal health outcomes are profoundly influenced by factors such as educational attainment, income levels, and access to healthcare services [18]. A study conducted by Houweling brought attention to the stark disparities in maternal health outcomes based on socio-economic status, with women from lower-income households disproportionately experiencing higher rates of maternal mortality and morbidity [19]. Effectively tackling these disparities necessitates targeted interventions that encompass improved access to quality prenatal care and the alleviation of financial barriers. Such measures hold the potential to contribute significantly to more equitable economic outcomes [20]. The body of literature presents compelling evidence of the intricate relationship between maternal health and economic factors [8]. The amelioration of maternal health not only engenders heightened productivity and increased household income [11] but also reduces intergenerational poverty [13]. Furthermore, addressing the social determinants of maternal health constitutes an indispensable component of comprehensive economic development strategies [17]. These findings underscore the imperative of prioritizing maternal health as a pivotal dimension of holistic efforts aimed at fostering equitable economic development [20].

3. Determinants of maternal health

The determinants of maternal health encompass a myriad of intricate economic, social, and cultural factors that intricately shape the well-being of women during pregnancy and childbirth [21]. Access to comprehensive healthcare services stands as a pivotal determinant that profoundly

influences maternal health outcomes. Alarming, the World Health Organization (WHO) reports that in 2017 alone, approximately 295,000 women tragically lost their lives during pregnancy and childbirth, with most of these devastating incidents occurring in low-income and middle-income countries where access to quality healthcare remains limited [22]. These stark disparities in healthcare access contribute to the disproportionate burden of maternal mortality and morbidity experienced by women in marginalized communities. The scarcity of adequate healthcare infrastructure, limited availability of skilled healthcare professionals, and financial barriers present significant challenges, impeding women from accessing timely and appropriate maternal healthcare services [23].

Socio-economic status emerges as a potent determinant that exerts a profound influence on maternal health outcomes. Extensive research underscores the robust association between low socio-economic status and adverse maternal health outcomes. A study conducted by Singh demonstrated that women from lower socio-economic backgrounds exhibited a higher likelihood of experiencing complications during pregnancy and childbirth, including elevated rates of maternal mortality and morbidity [24]. Income and education levels play pivotal roles in shaping women's access to essential elements of maternal healthcare, including prenatal care, skilled birth attendance, and postnatal care, all of which are integral in ensuring positive maternal health outcomes. Insufficient income and limited educational opportunities perpetuate a vicious cycle of inadequate healthcare access, exacerbating the risks faced by poor women [25].

Furthermore, geographical location and urban-rural disparities contribute significantly to variations in maternal health outcomes. Rural areas encounter formidable challenges in providing adequate maternal healthcare due to factors such as limited healthcare infrastructure, an acute shortage of skilled healthcare professionals, and inadequate transportation facilities [23]. These barriers impede timely and quality access to critical components of maternal healthcare, such as prenatal care, skilled birth attendance, emergency obstetric care, and postnatal support services [25]. Consequently, rural women bear a disproportionate burden of maternal mortality and morbidity compared to their urban counterparts [24].

Addressing the intricate social determinants of maternal health assumes paramount importance in the quest for equitable improvements in maternal health outcomes [21]. Policy interventions must encompass comprehensive strategies that target both the supply and demand sides of healthcare services. Strategic investments in healthcare infrastructure, rigorous training and deployment of skilled healthcare professionals, and the provision of essential maternal health services must be prioritized, particularly in underserved regions [23]. Moreover, addressing financial barriers through the implementation of innovative financing mechanisms, such as maternal health insurance schemes or conditional cash transfer programs, can engender enhanced access to vital maternal healthcare services for poor women [25]. Additionally, comprehensive strategies that empower women through educational opportunities, economic empowerment initiatives, and the establishment of robust social support networks can contribute significantly to mitigating the socio-economic disparities that perpetuate unequal maternal health outcomes [24].

In conclusion, the determinants of maternal health constitute a complex and interconnected web of economic, social, and cultural factors [21]. Inadequate access to healthcare services, socio-economic disparities, and urban-rural differentials exerts substantial influences on maternal health outcomes [22]. Effectively addressing these determinants necessitates a multifaceted approach, encompassing robust policy interventions that prioritize the development of healthcare infrastructure, the deployment of skilled healthcare professionals, the establishment of financial protection mechanisms, and the empowerment of women [23]. By diligently targeting the social determinants of maternal health, societies can aspire to achieve equitable enhancements in maternal health outcomes and ensure the overall well-being of women and their children [25].

4. Economic benefits of maternal health

The social and cultural factors surrounding maternal health exert profound influences on maternal health outcomes and experiences [26]. Gender inequality, societal norms, and cultural practices significantly shape women's access to maternal healthcare services and contribute to

disparities in maternal health outcomes. Gender-based discrimination, such as unequal power dynamics and limited decision-making autonomy, hinders women's ability to seek appropriate maternal healthcare. Research has consistently shown that in patriarchal societies where women face discrimination and have limited control over their reproductive health choices, maternal health outcomes are adversely affected [27]. Moreover, societal norms and cultural practices can impede women's access to essential maternal healthcare interventions. Harmful traditional practices, including early marriage, female genital mutilation, and son preference, not only perpetuate gender inequality but also contribute to adverse maternal health outcomes [28].

Addressing the social and cultural determinants of maternal health necessitates comprehensive strategies that challenge gender norms, empower women, and promote gender equality. Promoting women's education and economic empowerment plays a pivotal role in improving maternal health outcomes [29]. Numerous studies have highlighted the positive correlation between women's education and their likelihood to seek timely and appropriate maternal healthcare. Educated women are more likely to have greater knowledge about their reproductive health, access to information and resources, and the ability to make informed decisions regarding their maternal healthcare [29]. Furthermore, engaging communities and religious leaders in dialogues to challenge harmful traditional practices can foster positive changes in maternal health-seeking behaviors [26]. By promoting community-led initiatives that address cultural norms detrimental to maternal health, societies can mitigate barriers and improve access to appropriate care [28]. Additionally, promoting women's meaningful participation and leadership in decision-making processes, both at the community and policy levels, is crucial in overcoming gender-related barriers to maternal healthcare access [27]. Women's active involvement in shaping policies and programs ensures that their perspectives and needs are considered, leading to more responsive and effective maternal health services [26].

Furthermore, healthcare provider's cultural competence and sensitivity play a vital role in addressing the diverse needs of women from different cultural backgrounds [30]. Culturally appropriate care that respects and values women's beliefs, practices, and preferences can contribute to improved maternal health outcomes [30]. It is imperative for healthcare professionals to undergo training in cultural competence, enabling them to understand and navigate the cultural complexities of their patients. This training enhances healthcare providers' ability to provide respectful and effective care to women from diverse cultural backgrounds, ensuring that care is tailored to their specific needs and preferences [30].

5. Investments in maternal health

Investments in maternal health yield substantial economic benefits that extend far beyond the realm of healthcare, contributing to positive economic outcomes at multiple levels [31]. Firstly, improved maternal health significantly enhances the productivity of the workforce [31]. Women who receive adequate prenatal care and have access to safe delivery services are better positioned to maintain employment and actively contribute to the formal labor market [32]. Consequently, this translates into heightened labor force participation, increased productivity, and ultimately fosters economic growth [32]. Additionally, investing in maternal health plays a crucial role in breaking the cycle of poverty [33]. A study conducted by Gertler demonstrated the enduring effects of maternal health interventions, such as access to prenatal care and skilled birth attendance, on the future economic well-being of children [33]. By improving maternal health, societies empower women to raise healthier, better-educated children who are more likely to overcome the challenges of poverty and become productive members of society [33].

Moreover, prioritizing maternal health contributes to enhancing the overall efficiency and cost-effectiveness of healthcare systems [34]. Preventive interventions, including access to prenatal care, nutrition support, and family planning services, result in a reduction in pregnancy and childbirth complications, thus decreasing the demand for expensive emergency obstetric [34]. This not only leads to savings in healthcare expenses but also frees up resources that can be redirected to address other pressing health needs [34]. Furthermore, investments in maternal health strengthen healthcare

systems by promoting the availability and accessibility of high-quality healthcare services, encompassing skilled birth attendance, emergency obstetric care, and postnatal support [32]. This fortification of the healthcare infrastructure contributes to the overall well-being of the population, fostering healthier communities and subsequently reducing healthcare costs in the long term [34].

Additionally, prioritizing maternal health yields positive spillover effects on both social and economic dimensions [31]. Healthy mothers play a pivotal role in promoting optimal child development and education, thereby contributing to the cultivation of a more skilled and knowledgeable future workforce [31]. Improved maternal health outcomes are associated with better child nutrition, cognitive development, and educational attainment, all of which are crucial factors in breaking the cycle of poverty and fostering sustainable economic development [33]. Furthermore, investing in maternal health aligns with the principles of gender equality and women's empowerment [32]. It enables women to exercise their reproductive rights, actively participate in decision-making processes, and make valuable contributions to economic growth as entrepreneurs, employees, and leaders [32].

Investments in maternal health yield significant economic benefits by enhancing labor market productivity, breaking the cycle of poverty, improving the efficiency of healthcare systems, and fostering social and economic development [31]. Prioritizing maternal health not only saves lives but also contributes to sustainable economic growth, social equity, and overall well-being [34]. Recognizing the economic imperative of investing in maternal health is vital for policymakers, healthcare systems, and society at large to implement comprehensive strategies that ensure access to high-quality maternal healthcare services and provide unwavering support to women throughout their reproductive journey [34].

6. Future challenges and opportunities

Promoting maternal health plays a pivotal role in advancing gender equality and empowering women, resulting in positive social and economic outcomes. A fundamental aspect of this process lies in ensuring comprehensive and equitable access to maternal healthcare services, including essential components such as prenatal care, skilled birth attendance, and postnatal support [35]. Such access significantly enhances the likelihood of positive maternal health outcomes for women [35]. This correlation is supported by the World Health Organization (WHO), which has observed that countries with higher levels of skilled birth attendance and comprehensive maternal health services exhibit lower maternal mortality rates [36].

Investments in maternal health have transformative effects on women's empowerment, with notable benefits in educational attainment. For instance, research has consistently demonstrated that improvements in maternal health contribute to increased educational opportunities for girls and women. In sub-Saharan Africa, where substantial challenges in maternal health persist, a reduction of maternal mortality by 75% is associated with a corresponding 14% increase in female secondary school enrollment (Bloom et al., 2018) [37]. Education serves as a critical enabler of women's empowerment, equipping them with the knowledge and agency to make informed decisions about their reproductive health, pursue economic avenues, and actively participate in decision-making processes [35].

Moreover, prioritizing maternal health bears profound economic implications, as women's access to and utilization of maternal healthcare services directly impact their productivity and economic engagement [35]. In low- and middle-income countries, each dollar invested in maternal health interventions can yield returns of up to \$16 in improved health and productivity outcomes (Bloom et al., 2018) [37]. Additionally, investing in maternal health contributes to poverty reduction [35]. The United Nations Population Fund (UNFPA) highlights that universal access to reproductive healthcare, encompassing maternal health services, has the potential to decrease maternal mortality by 73% and alleviate extreme poverty for 70 million individuals [38]. By placing a strategic focus on maternal health, societies can unlock the economic potential of women, promote inclusive growth, and mitigate gender disparities [35].

Furthermore, promoting maternal health has a profound impact on breaking the intergenerational cycle of poverty. Interventions targeting maternal health exert far-reaching effects on child health and development outcomes. For example, a study by Black revealed that improving maternal health can prevent up to 41% of stunting among children under the age of five [39]. Enhanced child health and development, encompassing cognitive abilities and educational attainment, yield enduring economic benefits [35]. In fact, every dollar invested in high-quality early childhood development programs generates returns ranging from \$6 to \$17 in increased productivity and reduced social costs [40].

Promoting maternal health represents a crucial pathway towards advancing gender equality, empowering women, and fostering social and economic development. Ensuring comprehensive access to maternal healthcare services enables societies to reduce maternal mortality rates, enhance educational opportunities for women, bolster productivity, and break the intergenerational cycle of poverty. Recognizing the central role of maternal health in achieving gender equality and sustainable development requires policymakers, healthcare providers, and stakeholders to allocate resources effectively and implement evidence-based interventions that prioritize women's health, rights, and empowerment [35].

Despite significant progress in maternal health, several challenges and opportunities lie ahead in ensuring the well-being of women during pregnancy and childbirth. One major challenge is addressing the persistent disparities in maternal health outcomes, particularly among marginalized populations. Women in low-income and marginalized communities often face multiple barriers to accessing quality maternal healthcare, including financial constraints, limited availability of services, and inadequate infrastructure. To overcome these challenges, it is crucial to prioritize investments in healthcare systems, enhance healthcare infrastructure, and strengthen the capacity of healthcare professionals in underserved regions. Additionally, addressing the social determinants of health, such as poverty, education, and gender inequality, is vital for achieving equitable maternal health outcomes-

Another significant challenge is reducing maternal mortality and morbidity rates, especially in regions with high rates of maternal deaths. Effective strategies are needed to prevent and manage complications during pregnancy and childbirth, including obstetric emergencies [35]. This requires improving access to emergency obstetric care, enhancing the skills of healthcare providers, and strengthening referral systems. Additionally, promoting comprehensive sexual and reproductive health education, empowering women with information about their rights and available healthcare services, and encouraging community engagement are critical for preventing maternal health emergencies.

Furthermore, embracing technological advancements and innovative approaches can revolutionize maternal healthcare delivery. Telemedicine and mobile health applications have the potential to bridge the gap in access to healthcare services, particularly in remote or underserved areas [35]. These technologies can facilitate remote consultations, provide health information and reminders, and support the monitoring of maternal health conditions. Emphasizing digital health solutions and leveraging data-driven approaches can enhance the effectiveness, efficiency, and reach of maternal healthcare services, leading to improved outcomes.

An essential opportunity for the future lies in strengthening partnerships and collaborations among various stakeholders. Governments, healthcare providers, non-governmental organizations, and international agencies must work together to develop comprehensive and integrated maternal health programs. This includes fostering collaborations between the health sector and other sectors such as education, finance, and social welfare to address the multifaceted determinants of maternal health. Additionally, engaging local communities, women's groups, and civil society organizations in decision-making processes and program implementation can ensure that interventions are tailored to the specific needs and contexts of the populations they serve.

While progress has been made in improving maternal health, several challenges and opportunities lie ahead. Addressing disparities, reducing maternal mortality and morbidity, embracing technological advancements, and fostering partnerships are key components of the future

agenda for maternal health. By prioritizing these aspects and implementing evidence-based strategies, societies can strive towards achieving equitable and sustainable maternal health outcomes, ensuring the well-being of women and their children [35].

7. Conclusions

In conclusion, this article has provided a comprehensive exploration of the economic dimensions of maternal health, emphasizing its significance and implications for public policies. The synthesis of the key points discussed highlights the critical role of investing in maternal health from an economic perspective.

Throughout the article, it has been demonstrated that maternal health has far-reaching economic benefits at various levels. By improving maternal health, societies can witness increased labor market productivity and higher income levels. Healthier mothers are more likely to actively participate in the formal labor market, contribute to economic growth, and generate tax revenue. Additionally, investing in maternal health yields positive intergenerational effects, with healthier mothers leading to improved cognitive and physical development outcomes for their children. This translates into a more skilled and healthier future workforce, fostering sustainable economic growth.

The findings also underscore the importance of prioritizing maternal health in public policy agendas. Policymakers must recognize the economic imperatives and design comprehensive strategies to ensure equitable access to quality maternal healthcare services. This entails addressing social determinants such as poverty, gender inequality, and geographic disparities, which can hinder women's access to maternal healthcare. By implementing policies that promote gender equality, provide financial support for maternal healthcare, and enhance healthcare infrastructure, societies can create an enabling environment that supports the well-being of women and their children.

There are numerous opportunities for further academic research in the field of maternal health from an economic perspective. Future studies should explore the cost-effectiveness of different maternal health interventions, evaluate the impact of policy interventions on economic outcomes, and investigate the relationship between maternal health and broader socioeconomic factors. Additionally, research should delve into the effectiveness of innovative approaches, such as digital health technologies, in improving maternal health outcomes and reducing disparities.

Investing in maternal health is not only a moral imperative but also a wise economic decision. By recognizing the economic significance of maternal health, policymakers can make informed decisions that prioritize maternal health and allocate resources accordingly. Future research in this field holds the potential to further enrich our understanding of the economic dimensions of maternal health and inform evidence-based policies and interventions.

By recognizing and addressing the economic dimensions of maternal health, societies can foster inclusive and sustainable development, ensuring the well-being of women, their families, and future generations.

Conflicts of Interest: The authors declare no conflict of interest.

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