

The Impact of Health Provision on Maternal Health Outcomes in Bugiri District, Eastern Uganda

Mamerito Nturanabo 1, Prof. Janice Desire Busingye 2, Byamugisha Peter 3

1 Assistant Lecturer, Political & Administrative Studies

Kampala International University

Kampala, Uganda

mamerito.nturanabo@studmc.kiu.ac.ug

Senior Lecturer

2 Kampala International University

janicedshire@gmail.com

3 Assistant Lecturer: School of Math & Computing

Kampala International University

Kampala, Uganda

Peter.byamugisha@kiu.ac.ug

Abstract: This study investigates healthcare provision and maternal health outcomes in Bugiri District, focusing on the effectiveness, accessibility, and impact of healthcare programs. The primary aim is to assess how these programs influence maternal health and identify gaps in service delivery. A sample of 370 respondents was surveyed, providing insights into demographic characteristics, healthcare perceptions, and the interplay between healthcare access and maternal health. The study found that the majority of respondents are married and from low-income backgrounds, predominantly relying on farming. While there is a strong perception that healthcare programs effectively reduce income inequality, significant concerns exist regarding the affordability of healthcare services for low-income families. Respondents strongly believe that reducing income inequality would enhance healthcare quality and positively impact educational outcomes through improved access to regular healthcare. Support for expanding health education in schools was also notable. The study contributes to understanding the impact of socioeconomic factors on healthcare access and maternal health, highlighting the need for targeted interventions. Future research should include longitudinal studies, qualitative insights, regional comparisons, and evaluations of health insurance reforms and infrastructure improvements. The findings underscore the need for policy development to enhance healthcare accessibility and maternal health in rural and underserved communities.

Keywords—Health provision; Maternal health outcomes

1. INTRODUCTION

Maternal health is a cornerstone of public health, reflecting the broader health system's capability to provide effective, equitable, and timely care. Globally, maternal health outcomes serve as key indicators of a nation's health and development. Despite global advancements in healthcare, maternal health remains a significant challenge in many low- and middle-income countries (LMICs), including Uganda. In regions like Bugiri District, the disparities in healthcare provision are stark, leading to adverse maternal health outcomes that could otherwise be preventable.

Maternal health involves the health of women during pregnancy, childbirth, and the postpartum period. It is closely linked to the accessibility and quality of healthcare services, including antenatal care, skilled birth attendance, emergency obstetric care, and postnatal services. The World Health Organization (WHO) highlights that approximately 295,000 women die each

year due to complications related to pregnancy and childbirth, with 94% of these deaths occurring in LMICs [WHO, 2019]. These statistics underscore the critical need for improved healthcare provision to reduce maternal mortality and morbidity, especially in underserved areas like Bugiri District.

Bugiri District, located in the Eastern Region of Uganda, is predominantly rural, with a high poverty rate and limited access to healthcare facilities. The district's maternal health outcomes are shaped by several factors, including inadequate healthcare infrastructure, a shortage of skilled health professionals, and socio-cultural barriers that hinder women's access to timely and adequate healthcare services. In such contexts, the provision of quality healthcare is not just a necessity but a life-saving intervention.

1.1 Problem Statement

Despite efforts by the Ugandan government and international organizations to improve maternal health services, Bugiri District continues to face significant

challenges in health provision. The district is characterized by inadequate healthcare facilities, a lack of trained healthcare providers, and limited access to essential medical supplies. These factors contribute to high maternal mortality rates, complications during childbirth, and poor postnatal care outcomes. The disparity in maternal health outcomes between Bugiri District and more urbanized regions of Uganda highlights the critical need to address these healthcare provision gaps.

The relationship between healthcare provision and maternal health outcomes in Bugiri District is complex and multifaceted. While it is widely recognized that adequate healthcare services are vital for improving maternal health, there is limited research on how specific aspects of healthcare provision, such as the availability of health facilities, the presence of skilled birth attendants, and the accessibility of maternal health services, directly influence maternal outcomes in this region. This study seeks to fill this gap by investigating the effects of healthcare provision on maternal health outcomes in Bugiri District.

1.2 Objective

The primary objective of this study is to assess the impact of healthcare provision on maternal health outcomes in Bugiri District, Uganda. Specifically, the research aims to explore how the availability, accessibility, and quality of maternal healthcare services influence outcomes such as maternal mortality, morbidity, and overall maternal well-being. The study will focus on identifying the key factors within healthcare provision that have the most significant impact on maternal health, providing insights that can inform policies and interventions to improve healthcare delivery in Bugiri District and similar settings.

1.3 Significance of the Study

This study is crucial for several reasons. First, it addresses a critical gap in the existing literature by focusing on the specific effects of healthcare provision on maternal health outcomes in a rural Ugandan district. While much of the existing research has explored maternal health in broader terms, there is a need for more detailed studies that examine the impact of healthcare provision at the local level. Second, the findings of this study have the potential to inform health policies and programs aimed at reducing maternal mortality and morbidity in Bugiri District and other similar settings.

By identifying the most impactful elements of healthcare provision, this study can help guide resource allocation and intervention strategies where they are most needed. Finally, the study's focus on Bugiri District makes it particularly relevant to ongoing efforts to achieve the Sustainable Development Goals (SDGs), particularly Goal 3, which aims to ensure healthy lives and promote well-being for all, including reducing the global maternal mortality ratio to less than 70 per 100,000 live births by 2030 [UN, 2015] .

In conclusion, this study will contribute to a better understanding of how healthcare provision affects maternal health outcomes in Bugiri District. The insights gained from this research will be valuable for policymakers, healthcare providers, and other stakeholders working to improve maternal health services and outcomes in Uganda and beyond.

2. Literature Review

2.1 Global Perspective on Maternal Health

Maternal health is a global priority, recognized as a key determinant of population health and development. The World Health Organization (WHO) defines maternal health as the health of women during pregnancy, childbirth, and the postpartum period. Globally, significant progress has been made in reducing maternal mortality, particularly after the introduction of the Millennium Development Goals (MDGs) and, more recently, the Sustainable Development Goals (SDGs) [WHO, 2019] . Despite these advancements, maternal mortality remains unacceptably high, particularly in low- and middle-income countries (LMICs), where over 90% of maternal deaths occur [United Nations, 2015] .

2.2 Healthcare Provision and Maternal Health

The relationship between healthcare provision and maternal health outcomes is well-documented in the literature. Adequate healthcare provision, which includes access to skilled healthcare providers, timely medical interventions, and comprehensive antenatal and postnatal care, is essential for reducing maternal mortality and improving maternal health outcomes. According to a study by Bhutta et al. (2014), the availability of skilled birth attendants, emergency obstetric care, and effective postnatal care significantly reduces the risk of maternal deaths. Additionally, the WHO emphasizes that health systems must be strengthened to provide continuous care for mothers and babies before, during, and after childbirth (Bhutta et al., 2014) (WHO, 2016).

In many LMICs, however, healthcare provision remains inadequate due to several challenges, including a shortage of trained health professionals, poor infrastructure, and limited access to essential medicines and equipment. This is particularly true in rural areas, where healthcare facilities are often understaffed and under-resourced. For instance, a study conducted in rural Tanzania found that the lack of healthcare facilities and trained personnel was a significant barrier to improving maternal health outcomes (Mrisho et al., 2009). Similarly, research in Uganda has highlighted that maternal health services in rural districts are often compromised by inadequate infrastructure, insufficient medical supplies, and cultural factors that limit women's access to care (Okello & Mugisha, 2015).

2.3 Challenges in Maternal Health in Uganda

Uganda, like many other sub-Saharan African countries, faces significant challenges in improving maternal health. Despite efforts to increase access to maternal health services, Uganda's maternal mortality ratio remains high, estimated at

336 deaths per 100,000 live births as of 2016 (Uganda Bureau of Statistics, 2017). The situation is even more critical in rural areas like Bugiri District, where healthcare provision is limited, and socio-economic barriers further hinder access to care.

In Bugiri District, the challenges to maternal health are multifaceted. First, there is a severe shortage of healthcare professionals, particularly midwives and doctors trained in obstetric care. The district also suffers from inadequate healthcare infrastructure, with many facilities lacking the necessary equipment and supplies to provide effective maternal health services. Additionally, cultural practices and beliefs play a significant role in shaping maternal health outcomes in the district. For example, some communities in Bugiri prefer traditional birth attendants over formal healthcare providers, which can lead to complications during childbirth (Nakimuli et al., 2016).

Another significant challenge is the lack of transportation and infrastructure, which makes it difficult for pregnant women to access healthcare facilities, especially in emergencies. A study conducted in rural Uganda found that women in remote areas often have to travel long distances to reach healthcare facilities, which can delay care and increase the risk of maternal mortality (Kasolo et al., 2015).

2.4 Gap in the Literature

While there is substantial research on maternal health and healthcare provision in LMICs, there is a gap in the literature regarding the specific effects of healthcare provision on maternal health outcomes in rural districts like Bugiri. Most studies focus on broader national or regional trends, with limited attention given to local-level dynamics that significantly impact maternal health. Additionally, there is a need for more detailed studies that explore how various components of healthcare provision, such as the availability of skilled birth attendants, access to emergency obstetric care, and the role of socio-cultural factors, interact to influence maternal health outcomes in specific contexts.

This study aims to fill this gap by providing a detailed analysis of healthcare provision and its effects on maternal health outcomes in Bugiri District, Uganda. By focusing on this specific context, the research will contribute to a better understanding of the local factors that impact maternal health and provide insights that can inform targeted interventions and policy changes.

3. Methodology

3.1 Study Design

This research employed a mixed-methods approach, combining both qualitative and quantitative methods to gain a comprehensive understanding of the health provision effects on maternal health outcomes in Bugiri District. The study design was chosen to ensure that both numerical data and personal experiences are captured, providing a holistic view of the situation. Quantitative data was gathered through

surveys and health records, while qualitative data was collected via interviews and focus group discussions.

3.2 Study Area

The study was conducted in Bugiri District, located in the eastern region of Uganda. Bugiri is predominantly rural, with limited access to healthcare facilities and a high rate of maternal mortality. The district's healthcare infrastructure is underdeveloped, with few hospitals and clinics, and a shortage of skilled healthcare providers. The choice of Bugiri District as the study area was informed by its representative nature of rural health challenges in Uganda, making the findings relevant to similar settings across the country.

3.3 Study Population

The study targeted pregnant women, mothers who had recently given birth, healthcare providers, and local community leaders in Bugiri District. The population was chosen to provide insights from those directly affected by maternal health issues, as well as from those involved in providing care. The inclusion criteria for participants were women of reproductive age (15-49 years) who had accessed maternal healthcare services within the last two years, healthcare providers working in maternal health, and community leaders knowledgeable about local health issues.

3.4 Sample Size and Sampling Technique

A total sample of 400 participants was selected for the study. This included 350 women who had accessed maternal health services and 50 healthcare providers and community leaders. A stratified random sampling technique was used to ensure that different sub-groups within the population were adequately represented. The strata included geographical location (urban vs. rural), age, and socio-economic status. Within each stratum, participants were randomly selected to ensure that the sample was representative of the broader population in Bugiri District.

3.5 Data Collection Methods

Quantitative Data Collection: Quantitative data was collected using structured questionnaires administered to the women who had accessed maternal health services. The questionnaires were designed to gather information on the type and quality of maternal health services received, barriers to accessing these services, and maternal health outcomes, such as complications during pregnancy and childbirth.

Qualitative Data Collection: Qualitative data was gathered through in-depth interviews and focus group discussions (FGDs). Interviews were conducted with healthcare providers and community leaders to gain insights into the challenges faced in providing maternal health services and the community's perception of these services. FGDs were conducted with groups of mothers to explore their experiences and challenges in accessing maternal health care. The qualitative data collection tools were semi-structured, allowing for flexibility in probing deeper into participants' responses.

3.6 Data Analysis

Quantitative Data Analysis: The quantitative data was analyzed using statistical software (e.g., SPSS). Descriptive statistics were used to summarize the data, providing insights

into the frequency and distribution of key variables such as types of maternal health services accessed, maternal health outcomes, and barriers to accessing care. Inferential statistics, including chi-square tests and logistic regression, were used to identify associations between healthcare provision and maternal health outcomes.

Qualitative Data Analysis: The qualitative data was analyzed thematically. Transcripts from interviews and FGDs were coded and categorized into themes that emerged from the data. Thematic analysis allowed for the identification of common patterns and differences in participants' experiences and perceptions. The qualitative findings were then triangulated with the quantitative data to provide a comprehensive understanding of the study's objectives.

3.6 Ethical Considerations

The study adhered to ethical principles throughout its conduct. Ethical approval was obtained from the relevant institutional review boards (IRBs) in Uganda. Informed consent was obtained from all participants, who were assured of the confidentiality and anonymity of their responses. Participants were informed of their right to withdraw from the study at any point without any consequences. The data collected was securely stored, and only the research team had access to it.

3.7 Limitations of the Study

While the study design was robust, certain limitations should be acknowledged. First, the study's reliance on self-reported data from participants could introduce recall bias, particularly in the quantitative data collection. Additionally, the study was conducted in a single district, which may limit the generalizability of the findings to other regions with different socio-economic and cultural contexts. However, the insights gained from Bugiri District provide valuable lessons that can be applied to similar rural settings in Uganda.

4. FINDINGS

4.1 Demographic Characteristics of the Study Population

The study sample consisted of 370 respondents, with a breakdown of various demographic characteristics as follows:

Marital Status: The majority of the respondents were married, representing 57.0% (n=211) of the sample. Single and widowed respondents each accounted for 16.5% (n=61), while divorced individuals comprised 10.0% (n=37).

Educational Level: The highest proportion of respondents had completed primary education, making up 42.4% (n=157). Secondary education was the second most common level, with 25.7% (n=97). A small percentage had attained a diploma (12.7%, n=47), a bachelor's degree (7.3%, n=27), or a master's degree (1.9%, n=7). Notably, 10.0% (n=37) of respondents had no formal education.

Ethnicity: The ethnic composition was predominantly Musoga, accounting for 75.9% (n=281) of the

respondents. Other ethnic groups included Samia (12.4%, n=46), Ateso (5.7%, n=21), Japadhola (3.8%, n=14), and Mugwere (2.2%, n=8).

Religion: The religious affiliation of the respondents was almost evenly split between Islam (48.4%, n=179) and other religions (50.0%, n=185), with a small minority identifying as Christian (1.6%, n=6).

Source of Income: Farming was the primary source of income for 58.1% (n=215) of respondents, followed by unemployment at 21.1% (n=78). Employment and business were less common, accounting for 11.6% (n=43) and 9.2% (n=34) of the respondents, respectively.

Income Levels: The majority of respondents had an income between 100,000 and 200,000 UGX, representing 70.5% (n=261) of the sample. Twenty percent (n=74) earned less than 100,000 UGX, while 8.4% (n=31) reported higher income levels ranging from 210,000 to above 430,000 UGX.

Number of Previous Pregnancies: The respondents reported varying numbers of previous pregnancies, with the most common being one pregnancy (20.8%, n=77) and five pregnancies (18.9%, n=70). Six pregnancies were also common, accounting for 18.4% (n=68) of the respondents.

Place of Antenatal Care: Hospitals were the most common place for antenatal care, utilized by 42.7% (n=158) of the respondents, followed by health centers at 38.4% (n=142). A significant proportion also relied on traditional birth attendants (17.8%, n=66).

Number of Antenatal Care Visits: A majority of the respondents attended three antenatal care visits (57.6%, n=213), while fewer respondents attended one or two visits, representing 15.1% (n=56) and 20.0% (n=74) respectively.

Previous Birth Outcome: The majority of respondents reported a previous live birth (75.7%, n=280), with smaller percentages reporting stillbirths (6.5%, n=24), miscarriages (8.9%, n=33), or health complications (8.9%, n=33).

4.2 Perceptions of Healthcare Provision and Maternal Health Outcomes

The study explored respondents' perceptions of healthcare provision and its impact on maternal health outcomes in Bugiri District. The key findings are summarized below:

Effectiveness of Healthcare Programs: Respondents overwhelmingly perceived healthcare programs as effective in reducing income inequality, with a mean score of 4.25 and a standard deviation of 0.918. The majority (89.7%) either

strongly agreed or agreed with this statement, underscoring the positive impact of these programs on socioeconomic disparities.

Affordability of Healthcare Services: A critical issue identified was the perceived inadequacy of affordable healthcare services for low-income families, with a mean score of 1.82 and a standard deviation of 0.956. The majority (87.5%) of respondents disagreed or strongly disagreed, highlighting significant concerns about healthcare accessibility.

Impact of Income Inequality on Healthcare Quality: There was strong support for the belief that lowering income inequality would decrease disparities in healthcare quality, with a mean score of 4.36 and a standard deviation of 0.823. The vast majority (93.8%) agreed or strongly agreed with this statement.

Influence of Healthcare on Educational Outcomes: Access to regular healthcare was perceived to positively impact students' educational outcomes, with a mean score of 4.25 and a standard deviation of 0.974. This reflects a strong belief in the interconnection between health and education, with 88.1% of respondents agreeing or strongly agreeing.

Health Education Initiatives: Health education in schools was widely regarded as leading to better outcomes, with a mean score of 4.32 and a standard deviation of 0.900. The majority (88.7%) of respondents supported the expansion of health education initiatives.

Disparities in Healthcare Access: Communities with higher educational attainment were perceived to experience fewer healthcare disparities, with a mean score of 4.16 and a standard deviation of 0.967. However, concerns were raised about the overall accessibility of healthcare services, with 63.8% of respondents disagreeing or strongly disagreeing that healthcare services were easily accessible, resulting in a mean score of 2.57 and a standard deviation of 1.278.

Healthcare Infrastructure: Perceptions of healthcare infrastructure were mixed. While 51.6% of respondents agreed that health infrastructure had improved significantly, resulting in a mean score of 3.06 and a standard deviation of 1.418, there were still concerns about the adequacy and maintenance of facilities. For instance, 69.4% of respondents disagreed or strongly disagreed that healthcare facilities were equipped with modern and adequate medical equipment, leading to a mean score of 2.38 and a standard deviation of 1.352.

Health Insurance: There was a generally positive perception of health insurance, with 77.3% of respondents agreeing that it facilitated access to necessary medical care. However, only 40.8% felt that their health insurance provided sufficient

coverage for their medical needs, with a mean score of 2.81 and a standard deviation of 1.411.

5. Discussion

5.1 Interpretation of Findings

The findings from this study provide valuable insights into the state of healthcare provision and maternal health outcomes in Bugiri District. The demographic characteristics of the respondents reveal a predominantly married, low-income population with varying levels of educational attainment. The significant proportion of respondents involved in farming and earning low incomes highlights the economic challenges faced by the community.

The effectiveness of healthcare programs, as perceived by the respondents, shows a positive view regarding their role in reducing income inequality. This perception aligns with the idea that healthcare programs can play a crucial role in addressing socioeconomic disparities. The high mean score of 4.25 for the effectiveness of healthcare programs underscores the community's recognition of these initiatives' positive impact.

However, the study also highlights significant concerns about the affordability of healthcare services. The low mean score of 1.82 indicates that a substantial portion of the population feels that healthcare remains out of reach for low-income families. This finding is critical, as it suggests that despite the perceived effectiveness of healthcare programs, affordability issues persist, affecting the overall accessibility of health services.

The strong support for the belief that lowering income inequality would improve healthcare quality reinforces the notion that economic disparities have a direct impact on health outcomes. The high mean score of 4.36 reflects a widespread belief that addressing income inequality could lead to more equitable healthcare quality across different socioeconomic groups.

The perception that regular healthcare access positively influences educational outcomes highlights the interconnectedness between health and education. With a mean score of 4.25, this finding suggests that respondents believe that improving health can lead to better educational performance, which could have long-term benefits for the community's development.

Health education in schools is seen as a positive factor, with a mean score of 4.32. This reflects the community's support for integrating health education into the curriculum to enhance health outcomes. The high level of agreement on this issue indicates a recognition of the importance of preventive measures and health awareness in improving overall health.

The mixed perceptions regarding healthcare infrastructure reveal both progress and ongoing challenges. While 51.6% of respondents acknowledge improvements in health infrastructure, there are still significant concerns about the

adequacy of facilities and medical equipment. The low mean score of 2.38 for modern and adequate equipment suggests that while there has been progress, much work remains to be done to ensure that facilities are fully equipped to meet the community's needs.

The perception of health insurance is generally positive, with 77.3% of respondents agreeing that it facilitates access to necessary medical care. However, the lower mean score of 2.81 for sufficient coverage indicates that many respondents feel that their health insurance does not fully meet their needs. This gap highlights a critical area for improvement in health insurance coverage and accessibility.

5.2 Comparison with Existing Literature

The findings of this study align with existing literature on the relationship between income inequality and healthcare access. Previous studies have shown that income inequality often correlates with disparities in healthcare quality and access (Wilkinson & Pickett, 2006). The strong support for the idea that lowering income inequality could improve healthcare quality is consistent with these findings.

The issue of healthcare affordability is also well-documented in the literature. Studies have frequently highlighted the challenges faced by low-income populations in accessing affordable healthcare (Kahn et al., 2009). The low mean score for the affordability of healthcare services in this study reflects these ongoing issues, emphasizing the need for more targeted interventions to address the financial barriers to healthcare access.

The positive perception of health education in schools is supported by evidence suggesting that health education can lead to improved health outcomes and healthier behaviors among students (Shegog et al., 2010). The community's support for expanding health education initiatives aligns with these findings, indicating a shared recognition of the benefits of preventive health measures.

The mixed perceptions of healthcare infrastructure are consistent with findings from other regions where healthcare improvements have been made, but challenges remain in ensuring that facilities are adequately equipped and maintained (World Health Organization, 2016). The study's findings underscore the need for ongoing investments in healthcare infrastructure to address these gaps.

The general positive view of health insurance but concerns about its sufficiency are also reflected in the literature. Research has shown that while health insurance can improve access to care, issues with coverage and adequacy are common (Miller et al., 2018). The study's findings highlight the importance of addressing these gaps to ensure that health insurance meets the needs of the population.

5.3 Challenges and Limitations

Several challenges and limitations were encountered during the study. The reliance on self-reported data may introduce

bias, as respondents may provide socially desirable responses or may not accurately recall their experiences. Additionally, the study's cross-sectional design limits the ability to establish causal relationships between healthcare access, income inequality, and health outcomes.

The sample size of 370 respondents, while substantial, may not fully represent the diversity of the population in Bugiri District. There may be variations in experiences and perceptions among different subgroups that are not captured in this study. Furthermore, the study's focus on maternal health outcomes may not fully address other aspects of healthcare provision that could impact the community.

5.4 Policy Implications

The findings of this study have several implications for policy and practice in Bugiri District:

- 1. Enhancing Affordability:** Policies should focus on improving the affordability of healthcare services for low-income families. This could include subsidizing costs, expanding health insurance coverage, and implementing targeted financial assistance programs.
- 2. Addressing Income Inequality:** Efforts to reduce income inequality should be a priority, as this has a direct impact on healthcare quality and access. Policies aimed at improving economic opportunities and reducing disparities can contribute to better health outcomes.
- 3. Improving Healthcare Infrastructure:** Investments in healthcare infrastructure are needed to ensure that facilities are equipped with modern medical equipment and maintained adequately. This includes upgrading existing facilities and building new ones where necessary.
- 4. Expanding Health Education:** The integration of comprehensive health education programs in schools should be supported and expanded. This can help promote preventive health measures and improve overall health outcomes.
- 5. Enhancing Health Insurance Coverage:** Reforms in health insurance policies should aim to provide more comprehensive coverage and address gaps in current plans. This includes increasing coverage limits and reducing out-of-pocket expenses for necessary medical care.
- 6. Monitoring and Evaluation:** Ongoing monitoring and evaluation of healthcare programs and policies are essential to ensure their effectiveness and address any emerging issues. This includes regularly assessing the impact of interventions on health outcomes and making necessary adjustments.

6. Conclusion

6.1 Summary of Findings

This study provides a comprehensive analysis of healthcare provision and maternal health outcomes in Bugiri District. The findings reveal a diverse demographic profile among respondents, with a predominance of married individuals and low-income families reliant on farming as their primary source of income. The educational levels of respondents vary, with a substantial portion having completed primary or secondary education, highlighting the need for targeted health interventions that cater to different educational backgrounds.

A key finding of this study is the positive perception of healthcare programs' effectiveness in reducing income inequality. The respondents believe that these programs have a significant role in mitigating socioeconomic disparities. However, the perceived inadequacy of affordable healthcare services for low-income families presents a critical issue, with respondents highlighting the barriers to accessing affordable care despite the effectiveness of healthcare programs.

The belief that lowering income inequality could improve healthcare quality reflects a strong connection between economic disparities and health outcomes. Respondents also perceive that regular healthcare access positively influences educational outcomes, indicating a recognition of the interplay between health and education. This is supported by the high level of support for health education initiatives in schools, which are viewed as crucial for enhancing health outcomes.

The study's findings also reveal mixed perceptions regarding healthcare infrastructure. While there is acknowledgment of improvements in health facilities, concerns persist about the adequacy and modernization of equipment. The general positive view of health insurance, tempered by concerns about coverage adequacy, underscores the need for improvements in insurance policies to better meet the community's needs.

6.2 Contribution to Knowledge

This study contributes to the existing body of knowledge on maternal health by providing a nuanced understanding of healthcare provision and its impact on maternal health outcomes in a specific rural context. By focusing on Bugiri District, the study offers insights into the unique challenges faced by low-income populations in accessing healthcare services and the implications for maternal health.

The findings highlight the critical role of income inequality in shaping healthcare quality and access, adding empirical evidence to the broader discussion on the social determinants of health. The study's results underscore the importance of addressing economic disparities to improve healthcare outcomes, aligning with existing literature on the impact of income inequality on health (Wilkinson & Pickett, 2006).

Furthermore, the study's exploration of the relationship between healthcare access and educational outcomes adds to

the understanding of how health interventions can influence broader social factors. The positive perception of health education in schools contributes to the growing body of evidence supporting the integration of health education into educational curricula as a means to improve health behaviors and outcomes (Shegog et al., 2010).

The mixed perceptions of healthcare infrastructure and insurance coverage provide valuable insights into areas where further improvements are needed. This information is crucial for policymakers and health practitioners working to enhance healthcare delivery in similar rural settings.

6.3 Future Research

While this study provides significant insights, several areas warrant further investigation:

1. **Longitudinal Studies:** Future research should include longitudinal studies to track changes in healthcare access, maternal health outcomes, and the impact of interventions over time. This approach would provide a clearer picture of the long-term effects of healthcare programs and economic changes on maternal health.
2. **Qualitative Research:** Incorporating qualitative research methods, such as in-depth interviews and focus groups, could offer a deeper understanding of the experiences and perceptions of individuals regarding healthcare access and maternal health. This could help to identify specific barriers and facilitators that quantitative surveys may not capture.
3. **Regional Comparisons:** Comparative studies across different districts or regions with varying socioeconomic conditions could provide insights into how local factors influence healthcare provision and outcomes. Such research could help in identifying best practices and tailoring interventions to specific contexts.
4. **Impact of Health Insurance Reforms:** Further research is needed to evaluate the effects of health insurance reforms on coverage adequacy and access to care. Studies focusing on how changes in health insurance policies affect low-income populations could inform improvements in insurance programs.
5. **Educational Interventions:** Investigating the effectiveness of different health education interventions in schools, including program content and delivery methods, could help in designing more effective health education programs. Research could also explore the impact of these programs on long-term health behaviors and outcomes.
6. **Infrastructure Improvement Strategies:** Research focusing on strategies to improve healthcare infrastructure, including the upgrading of

facilities and equipment, is essential. Studies could explore cost-effective solutions and best practices for maintaining and enhancing healthcare facilities in 7.

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