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Exploring the Socio-economic factors associated with Maternal Health: Pregnancy and Childbirth behavior in Rural Areas of Bangladesh

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Abstract

Maternal health outcomes in Bangladesh remain a critical public health concern, particularly in rural areas where socio-economic disparities persist. Despite efforts to improve maternal healthcare, many women still face significant challenges due to limited knowledge, cultural perceptions, and poor practices surrounding pregnancy and childbirth. Moreover, women are being dominated in various ways by men in the society surrounding pregnancy. They are being stigmatized in various ways, economically suppressed and even gender discrimination is being created. This study aims to investigate the socio-economic factors that influence the knowledge, perceptions, and practices (KPP) associated with pregnancy and childbirth among women in rural Bangladesh. A qualitative approach was adopted to ensure comprehensive insights. Qualitative data were collected from 50 women of reproductive age (16–35 years) through structured questionnaires, while qualitative data were gathered via in-depth interviews, key informant's interviews, FGDs, and case studies including health workers, community leaders, and pregnant women. Descriptive and thematic analysis were employed to interpret the qualitative data using NVivo software. The study found that women with higher education levels and household income demonstrated significantly better knowledge and practices regarding antenatal and postnatal care. Cultural beliefs, such as the preference for home births and reliance on traditional birth attendants, were prevalent and influenced by lower educational attainment and limited access to formal healthcare. The involvement of husbands and family members in decision-making was also a critical factor affecting maternal healthcare utilization. Qualitative insights revealed deep-rooted myths, gender norms, and financial constraints as barriers to improved maternal health practices. Socio-economic status, education, and cultural perceptions play a pivotal role in shaping women's knowledge and behavior regarding pregnancy and childbirth in rural Bangladesh. Above all, the dominant attitude of men towards women is one of the reasons for the degradation of women's social status. For which rural women are getting very little support from men even in a sensitive moment like pregnancy and childbirth. The childbirth revolves around stigmatization of women, economic exploitation and gender inequality. Interventions aiming to improve maternal health must consider these underlying factors and adopt culturally sensitive, community-based strategies to promote awareness and access to healthcare services.

Introduction

Maternal health refers to the health of women during pregnancy, childbirth, and the postnatal period. As part of maternal health, pregnancy and childbirth are not only biological processes but also deeply social and economic experiences. Globally, maternal health outcomes are significantly influenced by a range of socio-economic determinants, including education level, income status, employment, access to healthcare, and cultural practices (WHO, 2022). These factors contribute to disparities in maternal and neonatal outcomes, particularly in low- and middle-income countries (LMICs), where limited access to health services and persistent poverty exacerbate maternal vulnerability. Globally, approximately 287,000 women died from pregnancy-related causes in 2020, which equates to one woman dying every two minutes (WHO, 2023). While maternal mortality has declined by 34% since 2000, progress has stalled in many low- and middle-

income-countries (LMICs), particularly in sub-Saharan Africa and South Asia. An estimated 1.9 million babies were stillborn in 2021 globally, with over 40% of stillbirths occurring during labor, which are largely preventable with timely interventions (UNICEF, WHO, UNFPA, World Bank, & UN DESA, 2023). Globally, only 81% of births are attended by skilled health personnel, leaving approximately 44 million women annually without essential obstetric care (WHO, 2022). While 86% of pregnant women receive at least one antenatal care visit, just 65% complete the recommended four visits. Postnatal care coverage is lower, particularly in rural and low-income populations (UNICEF, 2022).

Bangladesh has significantly reduced its maternal mortality ratio (MMR) from 574 per 100,000 live births in 1990 to 123 in 2020 (WHO, 2023). However, regional disparities and gaps in emergency obstetric care remain a concern. Bangladesh still records over 63,000 stillbirths annually, ranking 7th globally in terms of the absolute number of stillbirths. This equates to approximately 1 stillbirth in every 41 births (UNICEF, 2023). As of 2022, Bangladesh has a birth rate of 18.2 births per 1,000 people and a death rate of 5.3 per 1,000 people, translating into approximately 9,246 live births per day and 2,499 deaths per day on average (World Bank, 2023). Currently, 53% of deliveries in Bangladesh are attended by skilled providers, which marks a substantial improvement from 15% in 2001, though rural-urban gaps persist (NIPORT, 2020). Around 82% of women receive at least one antenatal care visit, but only 47% complete all four recommended visits. Postnatal care remains low, especially in hard-to-reach areas (NIPORT, 2020). Pregnancy and childbirth are related to each other. Childbirth, also known as labor or delivery, is the end of pregnancy. Pregnancy ought to be recognized as both biological and social. It is a period of social gestation during which both babies and mothers become constructed through everyday experiences. Only recently has pregnancy been technically and socially constructed as a dynamic duality with a fetus as the woman's partner (Morgan et. al., 1999). The issue is complicated and related with the socio-cultural practices of this country. In recent years, pregnancy and childbirth have become significant topics of social and academic discussion, both in Bangladesh and globally.

Maternal health is a critical component of national and global health systems. Pregnancy is not a static event but a prolonged process involving physical, emotional, and social changes over approximately ten months. While natural, pregnancy and childbirth are influenced by several key factors—social, economic, and cultural—which play crucial roles in women's health. Although many studies have explored pregnancy and childbirth globally, only a limited number have focused on rural areas of Bangladesh. These regions often lack proper maternal care, relying instead on traditional practices and superstitions, such as kabiraji treatments. As a result, rural women may not receive adequate medical support or knowledge during pregnancy and childbirth. This study aims to address this gap by examining how socio-economic and cultural factors influence maternal health practices in rural Bangladesh. It will explore women's societal positions, gender-based violence, and barriers to accessing proper care. Key areas include family support, economic status, cultural taboos, food habits, rest, healthcare access, and childbirth rituals. By integrating both traditional and scientific perspectives, this research hopes to contribute to a more holistic understanding of reproductive health and promote safer maternal care in underserved communities.

Literature Review

Pregnancy and childbirth are significant milestones in a woman's life, deeply affecting families and communities (Chacko, 2020). These experiences are shaped by a range of biological, social, cultural, and policy factors (Chacko, 2020; Henderson et al., 2018). Globally, maternal and infant mortality rates remain alarmingly high, with an estimated 15 million preterm births and 3 million stillbirths annually (Gravett & Rubens, 2012). Maternal health outcomes are influenced across a woman's life span, highlighting the importance of comprehensive, life-cycle-based healthcare (Chacko, 2020).

Beliefs and Practices in Urban Areas

Cultural norms and local practices strongly influence maternal care in urban environments. Choudhury et al. (2012) compared maternal health practices in urban slums and non-slum areas of Dhaka, finding poorer conditions and lower access to healthcare in slums. In these areas, women often depend on informal sources like landladies for antenatal and postnatal advice. Traditional and home births without skilled attendants are common, influenced by entrenched beliefs and limited access to formal care. Similarly, Higginbottom et al. (2016) studied immigrant women in Canada, highlighting barriers they face in navigating a new healthcare system, especially regarding maternity services. These women often struggle with language, cultural differences, and institutional biases, which affect the quality and accessibility of care.

Women's Empowerment and Reproductive Health

Empowerment is a key determinant of maternal health. Prata, Tavrow, and Upadhyay (2017) examined how various dimensions of empowerment—economic, reproductive, and social—impact women's experiences during pregnancy and childbirth. While some women may be financially independent, they may lack decision-making power in reproductive matters. The study also emphasized how empowerment (or the lack of it) influences outcomes such as fertility choices, access to contraception, and abortion rights. It also highlighted how mistreatment during childbirth, including abuse or discrimination, is a global issue, particularly in contexts where women have limited autonomy. In the Philippines, marital status was shown to impact women's reproductive health decisions, reinforcing the intersection between empowerment and maternal care.

Inequality and Mistreatment in Maternity Care

Mistreatment during pregnancy and childbirth remains a critical concern. Vedam et al. (2019) explored this issue in the U.S., using WHO's framework of quality maternity care to identify seven dimensions of mistreatment: physical, sexual, and verbal abuse; stigma and discrimination; substandard care; poor communication; and inadequate healthcare infrastructure. Their study found disparities across racial and socio-economic lines, with women of color and those giving birth in hospitals reporting higher rates of mistreatment. These findings stress the importance of context-sensitive, respectful maternity care to ensure safety and dignity.

Lifestyle Changes during Pregnancy

Lifestyle transformations during pregnancy are common and can influence maternal health. Coutinho, da Silva, and Duarte (2014) studied Portuguese and immigrant women in Portugal, identifying shifts in food habits, sleep patterns, social activities, and even sexual relationships. These changes are often driven by both physical symptoms and the new responsibilities of motherhood. Many women reduce physical

activity during pregnancy, which can have health implications. The study highlights the need for proper planning and monitoring to reduce maternal and fetal morbidity and ensure healthy transitions.

Cultural Perspectives on Pregnancy Loss

Cecil (1996) explored the cultural meanings and emotional responses associated with pregnancy loss, including miscarriage, stillbirth, and neonatal death. Using comparative accounts from regions like rural India, urban America, and Northern Ireland, the study revealed that societal beliefs about when a fetus gains human status greatly influence grief responses. In Western societies, technological advancements and reduced infant mortality have raised expectations, making pregnancy loss more emotionally devastating. However, societal norms often discourage open mourning, leading to a lack of emotional support. Cultural interpretations of miscarriage, along with varying beliefs about causes and treatment, shape how women cope with loss.

Reproductive Health and Complications in Bangladesh

Maternal health in Bangladesh remains a pressing concern, with high maternal and infant mortality rates. Abedin and Arunachalam (2020) linked these outcomes to limited maternal autonomy and inadequate antenatal care. Women in Bangladesh often lack decision-making power due to low levels of education, restricted mobility, and economic dependence. These factors are particularly pronounced in rural areas, where access to healthcare is also limited. Research shows that 41.5% of pregnancies in Bangladesh are high-risk, yet only 34% of women seek help from trained personnel (Shameem Ahmed et al., 1998). Home births are the norm, with more than 90% of deliveries occurring without medical assistance (Barnett et al., 2006). Despite government efforts, antenatal care remains underutilized, and only 18% of pregnant women take iron supplements for at least four months (Barnett et al., 2006).

Socio-Economic Determinants of Maternal Health

Socio-economic conditions are crucial determinants of maternal outcomes. Marmot (2015) and UNICEF (2021) underscore how education, income, and employment affect health behavior and access to care. Women in lower socio-economic groups are more likely to experience poor nutrition, inadequate antenatal visits, and limited awareness about complications. Say et al. (2014) found that maternal mortality rates inversely correlate with income and education, with the highest risks in sub-Saharan Africa and South Asia. Gender inequality and harmful cultural practices further delay access to life-saving maternal services (Campbell & Graham, 2016). These findings highlight the need for integrated approaches that combine healthcare delivery with social development to improve maternal health.

While extensive research has been conducted globally and in Bangladesh, many studies analyze socio-economic variables in isolation. Few have explored how income, education, employment, and gender norms collectively shape maternal experiences. This research aims to fill that gap by focusing on rural Bangladesh, where compounded socio-economic disadvantages are most visible. Using a qualitative methodology—including in-depth interviews and case studies—the study captures women's lived experiences and perceptions regarding pregnancy and childbirth. It particularly considers vulnerable groups such as adolescent mothers and marginalized populations. This research contributes to the growing recognition of maternal health as a complex development issue. Understanding how socio-economic barriers intersect and influence care-seeking behaviors is essential to improving maternal health outcomes. It also offers insights for policymakers, NGOs, and healthcare providers working toward Sustainable Development Goal 3: ensuring

healthy lives and promoting well-being for all. The findings apply not only to Bangladesh but also to other low- and middle-income countries facing similar challenges.

Table 1: A framework of the research

Associated factors of Pregnancy and Childbirth	
Broader Goals	Research questions
Family planning methods and pregnancy complications	To what kinds of family planning methods do they follow, and are there health-related issues during pregnancy
Childbirth methods and traditional reasons	To describe the kind of method they prefer when it comes to childbirth (normal delivery or caesarean section) and what are the reasons behind it.
Prohibitions and rituals of pregnancy and childbirth	To identify that what kind of prohibitions and rituals are observed during pregnancy and after childbirth.
Traditional rural services	To That what kind of services do rural women provide during pregnancy and what kind of treatment do they receive that time.
Interconnections between pregnancy and gender discrimination	To explain how pregnancy and gender discrimination are related to each other.

Theoretical Framework

Pregnancy and childbirth are not only biological processes but also deeply embedded in social, cultural, and economic contexts. Social theory helps us understand how these life events are shaped by societal structures, including family roles, cultural norms, and gender dynamics. As childbirth introduces new social roles—mother, father, and family—it becomes a key point of social reproduction, not just individual experience. Influences from kinship systems, medical authority, and societal expectations reflect how women's bodies become sites of both biological and cultural reproduction.

Mary Douglas's idea of the body as a microcosm highlights how women's reproductive roles mirror larger social structures. Theories of medicalization explain the dominance of biomedical practices in childbirth, often sidelining traditional knowledge and midwifery. Meanwhile, gender theories shed light on the power imbalances that limit women's autonomy and influence how maternal care is accessed and provided, especially in low-resource settings. John Bowlby's Theory of Prenatal Attachment further complements this framework by showing how emotional bonds between parents and the fetus begin during pregnancy. These early attachments are influenced by social conditions, emotional well-being, and healthcare access. The theory emphasizes the importance of maternal and paternal bonding in ensuring long-term child development and mental health.

Finally, Sherry Ortner's feminist theory critiques the cultural devaluation of women's roles, associating them more with nature and domesticity. This perspective helps explain the persistent socio-economic inequalities that affect women's reproductive health and decision-making power in pregnancy and childbirth. Together, these theories provide a holistic understanding of how socio-economic, cultural, and gendered factors intersect to shape maternal experiences and outcomes.

Conceptual framework

The conceptual framework defines the relationship between the independent and dependent variables of the study. The conceptual framework below is a hypothetical work based on the information of the study. Here, the education, employment, health services, cultural norms and practices, and decision-making power are interlinked and have direct influence on pregnancy and childbirth. Besides, the initiation of pregnancy and childbirth are also connected with the knowledge, attitudes and practices regarding pregnancy and childbirth behaviors.

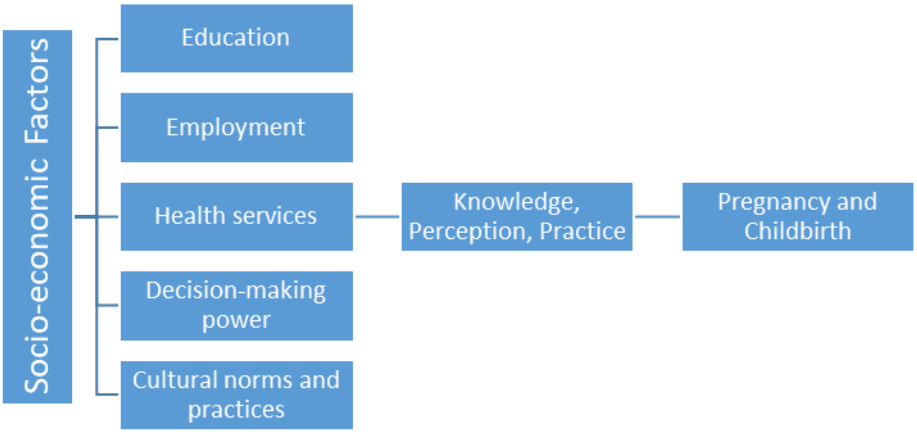

Figure 1 Conceptual Framework of Socio-economic factors associated with Pregnancy and Childbirth

Study Design

This study employs a qualitative research design, combining both in-depth interviews and case studies to capture the multifaceted nature of socio-economic factors influencing pregnancy and childbirth. The rationale for this design is to triangulate findings and ensure a comprehensive understanding of the lived experiences of women, as well as descriptive significant patterns across different socio-economic groups. Through the use of qualitative methods, it enables us to discover and collect in-depth information about their views and the meanings associated with pregnancy and childbirth. Such findings can create a comprehensive picture of how society's people and women conceptualize pregnancy and childbirth in the context of their lives. In addition, qualitative methods provide a naturalistic, interpretative approach that helps to provide an better in-depth understanding of how people interpret their situation, attitude, behavior, and belief.

Study Area

The study was conducted in Gojaharpur village, located in Bishka Union under Tarakanda Upazila, Mymensingh district. This remote village lacks access to urban facilities, making it a suitable site for the research. Bishka Union, now known as No. 10 Bishka Union, covers 14.15 km² with a population of 37,375 (2011 census).

Gojaharpur has a population of 2,767. The area includes schools, a health center, markets, and limited infrastructure. Most residents depend on agriculture, small businesses, and informal jobs, with poor road access, especially during the monsoon.

Figure 2 The study area- Bishka

Sampling and sample size

A stratified random sampling technique is used to select 50 respondents who have experienced pregnancy or childbirth within the past three years. Additionally, 20 in-depth interviews are conducted with healthcare providers, community leaders, and mothers to gain qualitative insights into the socio-cultural and economic barriers to maternal health. Among the respondents, there were 48 married women, 1 was divorced, and 1 was widow and the age limit of the woman were 16 to 35 and 1 is exceptional host it was 70. The socio-demographic characterization of the sample is shown below:

Age Group	Number 50
16	2
21-33	39
34-35	8
70	1
Marital Status	Number 50
Married	48
Divorced	1
Widow	1
Single	0
Employment Status	Number 50
Employed	4
Unemployed	46

Table 2 Sociodemographic Characterization of the sample

Methods, Tools and Procedures of data collection

There are different methods of data collection depending on the nature and objectives of the study as well as availability of resources. In this study, the data are collected through interview, observation, key informant interview, focused group discussion (FGD), case study. In this study, audio recorder, camera, laptop, mail, pencils, eraser,

a dairy are used as data collection tool. The questionnaire was also constructed. Besides, a checklist was used to ensure the quality and accuracy of the data collection. The discussions were conducted at a time and date convenient for participation schedules were held at their respective participation and permission, without revealing their ethical status information. All discussions were conducted in Bengali language to allow participants to comfortably express their ideas.

Unit of observation and analysis

In this study, the unit of analysis was women, married women, and newly married couples who were planning for future pregnancy and childbirth. Rather than, there were also some women like widows, divorced, midwives and health workers. The unit of observation in this research was the knowledge, attitude and practice related to pregnancy and childbirth. As this research has followed a qualitative approach, data has been processed through qualitative methods. Qualitative data are analyzed thematically using NVivo. Themes are developed inductively to explore the social context and personal narratives of women's reproductive health experiences.

Limitations of the Study

This study faced time constraints due to the COVID-19 pandemic, limiting data collection and fieldwork. Budget limitations and the qualitative approach also restricted broader generalization. The findings may be affected by response bias, as only willing participants were interviewed. A larger sample and extended timeframe could have better identified gaps in institutional health services. Future research should consider longitudinal or quasi-experimental designs.

Ethical Considerations

Ethical approval was obtained from an accredited IRB. Informed consent was secured from all participants, ensuring confidentiality, anonymity, and voluntary participation. Pseudonyms were used to protect identities.

Results

Family Planning Awareness and Practices

The knowledge and practice of family planning among rural women appeared to be limited, influenced by poverty, illiteracy, and cultural or religious beliefs. One key informant, Nilufar Akhter (age 35), a health worker at the Upazila Health Complex, highlighted that although various contraceptive methods are available—including pills, injections, implants, vasectomy, and condoms—pills are most commonly used due to their availability at no cost from government programs. She noted,

"Many people avoid other methods due to cost, religious beliefs, or perceived complexity."

In contrast, another informant (age 27) shared,
"We poor idiots, where can we get so much money that we eat these things [pills] regularly... children are God's gift." Similarly, a 22-year-old informant explained, "Our family is a pious family, and it is a sin to take these family planning methods."

These responses suggest that misconceptions, socio-religious norms, and financial constraints significantly affect family planning decisions in rural communities, echoing findings from previous research (Huda et al., 2017).

Perceptions of Abortion and Miscarriage

Miscarriage and abortion were largely viewed through cultural and spiritual lenses.

Many women attributed miscarriages to supernatural causes rather than physiological ones. For example, Shahana (age 17) believed her baby died due to a "slap by the devil," citing traditional beliefs reinforced by local healers. However, medical diagnosis later revealed anemia due to malnutrition as the cause.

Another respondent (age 26) recounted, *"I fell in the bathroom and after that the baby stopped moving... the doctor later said the baby died from a head injury in the womb."*

These narratives underscore a critical gap between biomedical understanding and traditional beliefs regarding pregnancy loss.

Decision-Making on Pregnancy and Testing

The decision to conceive often appeared to be influenced by family members, particularly husbands and in-laws. Lutfunnahar (age 18) shared that she was pressured into pregnancy just two months after marriage to fulfill her ailing father-in-law's wish for a grandchild, resulting in the cessation of her education.
Pregnancy tests were seldom used initially. Many women reported recognizing pregnancy through symptoms like missed periods or vomiting. One respondent (age 20) noted,

"I realized I was pregnant when I saw my period was over and I was vomiting again and again."
Others used services provided by rural welfare centers to confirm pregnancy.

Maternal Care Access and Utilization

Although the Government of Bangladesh provides financial maternity support (BDT 800 over three years), most women were unaware of or did not access these benefits. One woman (age 30) reflected, "Poor people can be fit like rich people again, we always eat what we get." Informants reported turning to traditional healers (kabiraj) more frequently than to professional health services due to affordability and accessibility.

An informant (age 35) stated,
"My sister died during her second childbirth. we went to kabiraj instead of the doctor. Later, she was taken to the hospital, but it was too late."

Food and Nutrition Practices

Most participants could not maintain a balanced diet during pregnancy due to financial hardship. Although women knew about the need for nutritious food, such as green vegetables, fish, milk, and fruits, many said they could not afford them regularly. In some cases, dietary restrictions were also influenced by social or religious beliefs.

Changes During and After Pregnancy

Respondents described both physical and psychological changes during and after pregnancy. These are categorized below:

Table 3 Changes during and after pregnancy

Health Issue	Number of Respondents
Vomiting	27
Anemia	5
Stomach ache	4

Fever	4
Urinary tract infections	3
Back pain	2
Loose bowels	2
Typhoid	1
Hormonal problems	1
Jaundice	1

Changes during Pregnancy

Type of Change	Sub-type
Physical and Routine	Eating habits, movement, working style, and dress patterns
Psychological	Increased emotional sensitivity, worry
Family dynamics	Altered relationships, more rest needed

Changes after Pregnancy

Type of Change	Sub-type
Responsibilities	Increased workload, caregiving demands
Lifestyle	Decreased rest and sleep, time constraints

This study investigated the socio-economic factors influencing knowledge, perception, and practices associated with pregnancy and childbirth among rural women. The data reveals significant disparities in access to information, support systems, and healthcare services, all of which are shaped by socio-economic constraints.

Pregnancy-related Knowledge

Access to information regarding pregnancy and childbirth remains limited among the study population, with a significant correlation between lower educational levels and the lack of awareness about essential pregnancy-related knowledge. While modern technologies such as the internet, Google, and YouTube provide ample sources of information, many rural women are either unaware of these platforms or lack the necessary skills to utilize them. Furthermore, although some women expressed a desire for more information, they rely primarily on traditional sources, including advice from their mothers, aunts, and community health-conscious women. As one informant, Sumi (18), expressed:

"No, we stupid people are reading up to class 3 or 4, how can we understand so much about the Internet, YouTube or Google? I know what my mother and aunt are saying about this and also sometimes gain knowledge from TV."

Interestingly, some women with children noted that their kids, who are more familiar with modern technology, assist them in acquiring information, especially through YouTube.

Support from the Husband and Family

Support systems during pregnancy, particularly from husbands and extended family members, also depend heavily on socio-economic conditions. In many rural households, economic constraints and family structure impact the level of support a pregnant woman receives. Many husbands are forced to work away from home due

to financial pressures, which limits their involvement in domestic duties and support during pregnancy. However, in some families, especially those with extended family structures, there is a notable increase in support from family members in the absence of the husband. As one informant (age 17) stated:

"My husband helped me a lot with the housework when I was a kid, even though my family was quite supportive at that time."

Yet, some women reported a lack of support from their husbands, with many indicating that husbands follow traditional social norms and exhibit indifference towards pregnancy-related matters.

Pregnancy and Treatments

This study highlights the various practices and treatments used during pregnancy in rural communities. It was found that many women do not follow standard healthcare protocols like regular check-ups or maintaining a nutritious diet. Most did not take pregnancy tests, relying instead on symptoms such as vomiting and fatigue. A significant number preferred traditional treatments such as Kabiraji, which includes the use of amulets, holy water, and religious rituals due to affordability and cultural familiarity.

"After my marriage, we didn't use family planning, but when we couldn't conceive, we didn't visit a doctor due to financial hardship. We followed Kabiraji advice for years and finally had our first child after three years."
—Anjali Roy, Age 30

Kabiraji Treatment

Kabiraji involves local religious healers such as Moulavis, Ojhas, and Boiddhos. It remains popular due to its low cost and spiritual appeal. Many women see it as their primary option due to financial limitations and cultural influence.

"We believed in the Kabiraji path and followed it for years. Eventually, I conceived without visiting a doctor."
—Anjali Roy, Age 30

Table 4 Pregnancy Treatments among Informants

Treatments Name	Number of Participants (N)
Kabiraji	32
Medical	15
Homeopathic	3
Kabiraji + Medical	25

Medical Treatment

Medical services are underutilized despite the presence of healthcare facilities. Many women only seek medical help in emergencies. A health worker shared:

"We provide pregnancy-related services in rural areas, aiming to reduce maternal and infant mortality, but women rarely use them."

"Why so many checkups? God gave the child and will protect it."
—Joythi Datta, Age 22

Homeopathic Treatment

Though less common, some women opt for homeopathic remedies due to affordability.

"I took homeopathy because of severe abdominal pain during pregnancy."
—Informant, Age 28

Socio-Economic Constraints and Healthcare Access

Women's healthcare choices are deeply affected by poverty, lack of education, and entrenched traditions. Those with some education or digital access tended to make informed decisions. Religious beliefs, delivery practices, newborn care concerns, and cultural taboos also influence choices.

Table 5 Treatment Barriers

Treatment Barriers	Personal	Structural
Lack of education	Limited knowledge	Gender stereotypes
Lack of support	Absence of family support	Economic hardship
Religious beliefs	Cultural influence	Medical costs, unemployment
Cultural beliefs		Social stigma, lack of facilities

Personal Barriers

Most women had minimal education and relied on family for pregnancy knowledge. Cultural norms often restricted their access to professional care.

"During labor, my mother-in-law gave me holy water from Mecca to reduce pain."
—Rima Akter, Age 24

Structural Barriers

Poverty and unemployment severely limited access to medical treatment. Financial control often rested with husbands or in-laws, further restricting women's choices.

"I lost my baby because the midwife failed during home delivery. We went to the hospital too late."
—Sabina, Age 32

Religious Beliefs and Cultural Practices

Religious beliefs and cultural norms have a profound influence on pregnancy and childbirth practices in rural areas. Many women rely on religious rituals and beliefs as primary sources of care during pregnancy and childbirth. This reliance on religious and cultural practices sometimes prevents them from seeking proper medical care. In some communities, women believe that traditional remedies and religious objects—such as amulets—will ensure a safe pregnancy and delivery. For instance, one informant, aged 29, explained:

"It is better to try to have a normal baby at home because having a cesarean section destroys the veil, and since my husband is a Moulavi, he does not want it. So, all the kids in my family, including me, were normal at home."

Cultural taboos surrounding pregnancy also prevent rural women from accessing nutritious food and medical services during pregnancy. Specific foods are considered harmful to the baby due to traditional beliefs, as shown in Table 6.

Taboo Foods, Times, and Myth

The mother and baby need adequate nutrition food for development acts as the pregnancy is the crucial moment for the women and family. It is found that they have some taboos regarding food intake. Considering the taboos, they refrain from consuming many nutritious foods even though it is part of social prejudice. This study revealed the rural taboos regarding pregnancy and childbirth.

Table 6: Taboo Foods and Beliefs

Taboo Foods	**Rural Beliefs**
Duck Meat and eggs	The baby's voice will be like a duck
Beef belly	The child will have asthma
Mirror Carp	Convulsions (khimcuni)
Pigeon meat	The baby's eyes will be white
Mrigel Fish	Epilepsy
Pigeon meat	The baby will have shortness of breath
Bangi	The baby's skin will crack
Pumpkin	The baby's body hair will be more

One informant, Shorifa (Age 24), shared:

"I had typhoid fever and I went to kabiraj for treatment. But it did not help, and my condition worsened. As doctor prescribed, I tried to eat as much nutritious food as possible according to the economic condition of my family, but my mother-in-law forbade me from eating certain foods like duck meat, eggs, and mirror carp, due to social taboos associated with them."

Additionally, rural women often follow specific taboo times when it comes to outdoor activities during pregnancy. They believe that certain times of day, such as midday or dusk, are harmful for the baby due to the presence of evil spirits. Women are also discouraged from leaving the house during certain lunar phases or on specific days, as shown in Table 7.

Table 7 Taboo Times and Beliefs

Taboo Time	**Beliefs**
Down	Evil spirits are grooming outside and causing harm to the child
Midday	Evil spirits movement
Dusk	Evil spirits movement

Taboo Time	Beliefs
Lunar eclipse	Harm to the baby
Saturday & Tuesday	Kabiraj's prohibition (baby's problems like sickness)
Movement during pair months	Harm to the baby

An informant, Age – 22, explained:

"I had a baby almost three years after my marriage and many people told me a lot about having a baby so late. The first time I had a fever when I was a baby. I did not see a doctor and thought it might get better and after a while it gets better. But when I tried to give birth of my child at home with the normal session, my condition worsened and then I had a cesarean section. Then I come home and take the amulet from Kabiraj for me and my daughter and keep it in my and her body for 6 months so that my daughter and I are safe. And at that time, it was forbidden for us to go out of the house for a couple of months, because it could harm us."

Mode of Delivery and Newborn Health

In rural communities, home births with the assistance of untrained midwives (Daii) remain the dominant mode of delivery. This practice is often associated with poor outcomes, as the midwives may not possess adequate training or medical equipment. As one midwife, Anwara Begum (Age 70), described:

"I've been delivering babies since 1988 using scissors, hot water, and Dettol. I get paid in cash or household items."
—Anwara Begum, Midwife, Age 70

Lack of professional oversight leads to complications.

"My baby got a urinary infection after birth but recovered with an injection."
—Shilpy, Age 27

"My newborn had oxygen deficiency, so we took him to the hospital. He stayed in an incubator for a week."
—Lutfunnahar, Age 19

Table 8: Common Newborn Health Issues

Health Issues
Weight loss
Malnutrition
Lack of oxygen
Shortness of breath
Urinary tract infections

The study reveals how cultural traditions, gender discrimination, financial hardship, and lack of education shape rural women's experiences with pregnancy and childbirth. Traditional healing remains dominant due to accessibility and belief systems, though it often comes at the cost of maternal and child health. Addressing these challenges requires improving access to education, employment, healthcare services, and promoting gender equity in decision-making.

Pregnancy and Childbirth-Related Rituals

The study found that both Hindu and Muslim communities in rural areas observe numerous rituals tied to pregnancy and childbirth, reflecting strong cultural and religious influences on maternal care. For example, Hindu families practice "Sadh" during the seventh month of pregnancy and use amulets and holy water for protection. After birth, rituals like putting honey in the newborn's mouth are performed to ensure a sweet voice. Similarly, Muslim families recite the azan (call to prayer) at a boy's birth and use incense to ward off evil spirits.

These customs show a deep belief in supernatural protection to prevent complications. Fulema, a 29-year-old housewife, described avoiding outdoor work during lunar eclipses to protect her unborn baby (Case Study #3). Many families rely on traditional healing methods despite the availability of healthcare services. One woman shared:

"After experiencing vomiting and stomach issues, I realized that I was pregnant, though I didn't take a pregnancy test... At seven months pregnant, I contracted jaundice and sought help from a kabiraj, who applied yellow powder to my ear." (Case Study #4)

This highlights the continued reliance on traditional healers (Kabiraj), particularly due to accessibility and cultural norms.

Gender Discrimination and Reproductive Health

The preference for male children was a recurring theme, exposing the deep-rooted gender discrimination in rural communities. Hasina, a 26-year-old maid, shared that bearing a son was seen as securing social and economic status (Case Study #5). In contrast, the birth of a daughter often led to criticism and emotional strain. This gender bias reflects broader inequality where a woman's worth is frequently tied to her ability to produce male offspring. Several women reported that failing to do so led to social exclusion or even divorce (Case Study #6).

Stigmatisation and Social Pressure

Infertility and delayed childbirth carry significant stigma. Arifa Akhter, a 22-year-old housewife, was blamed by her in-laws for not having children, reflecting how reproductive challenges are often seen solely as the woman's fault (Case Study #6). Nasima Akter, after 11 years of marriage without children, faced severe judgment from her community. These cases highlight the societal expectation that motherhood is a woman's primary role and the emotional toll when she does not meet this expectation.

Employment, Education, and Autonomy

The study also found that lack of education and employment severely limits women's autonomy in health decisions. Many women were financially dependent on their husbands and lacked access to formal medical care. Taslima, 25, shared:

"If I had finished my education and gotten a job, I would have had more respect in my family and could afford proper treatment for myself and my children." (Case Study #7)

This emphasizes how economic dependence and low education contribute to poor maternal health outcomes, reinforcing reliance on traditional practices.

Overall, cultural beliefs, gender bias, stigma, and socio-economic constraints deeply affect pregnancy and childbirth experiences in rural areas. Addressing these

challenges requires improving education, employment opportunities, and access to healthcare while promoting gender equality and social support for women.

Discussion

Pregnancy and childbirth are critical life events with global significance, impacting women, families, and communities (Chacko, 2020). The results of this study underscore the significant role that socio-economic, cultural, and structural factors play in shaping the pregnancy and childbirth related knowledge, perceptions, and practices in rural communities. These factors influence how women perceive healthcare, access medical services, and adhere to cultural and religious practices. Addressing these barriers and providing targeted education and healthcare services is essential to improving maternal and child health outcomes in rural areas. While the maternity care in the UK is provided by various healthcare professionals, with recent policies emphasizing woman-centered care (Henderson et al., 2018). In Bangladesh, maternal health has seen notable improvements over the past decades.

However, the country continues to face challenges stemming from social inequalities, early marriage, and restricted access to quality healthcare in rural and marginalized communities (National Institute of Population Research and Training [NIPORT], 2020). Understanding the socio-economic dimensions that affect pregnancy and childbirth is essential to designing effective interventions, especially for vulnerable populations. In rural Africa, economic barriers, educational attainment, gender inequality, healthcare access, and social support networks are crucial factors affecting maternal health (Jeanne N. Alberta, 2024). Similarly, in Latin America and the Caribbean, education, maternal parity, age, region, marital status, housing conditions, health services, prenatal care, and safety of health services are associated with maternal mortality (Marcia Cordero Rizo & Julián Guillermo, 2011). Addressing these socioeconomic factors through targeted interventions, such as improving healthcare access, educational initiatives, and policy enhancements, is essential for reducing maternal health disparities and ensuring equitable care for all pregnant women. Socioeconomic factors significantly impact maternal health outcomes, contributing to disparities in pregnancy and childbirth experiences. Income, education, employment, and housing conditions influence access to healthcare and maternal health outcomes (J. S & Prabakar S, 2024).

A conceptual framework highlights how structural social determinants affect social position and intermediary determinants, ultimately influencing birth outcomes and health inequity (Valentin Simoncic et al., 2022). In Bangladesh, socio-economic disparities significantly influence maternal health services utilization. Early marriage, limited secondary education, and gender-based decision-making norms remain prominent obstacles (Islam et al., 2019). While the country has made commendable progress in reducing maternal mortality—from 574 per 100,000 live births in 1990 to 173 in 2017 (WHO, 2019)—challenges persist, especially in rural and refugee populations. Studies have shown that women with higher educational attainment and those from wealthier households are more likely to access antenatal care and skilled birth attendance (Choudhury & Ahmed, 2011). Moreover, household decision-making power and financial autonomy have a direct impact on maternal care-seeking behaviors (Khatun et al., 2021). Only recently has pregnancy been technically and socially constructed as a dynamic duality with a fetus as the woman's partner (Morgan et. al., 1999). The issue is complicated and related with the socio-cultural practices of developing country. These findings highlight the profound impact of socio-economic status on maternal healthcare practices. Lower levels of education and economic

hardship are key barriers to acquiring accurate pregnancy-related knowledge, which in turn influences healthcare decisions and practices. Future interventions should focus on improving education and access to healthcare information, especially through digital platforms, to bridge the knowledge gap in rural communities.

Pregnancy and childbirth are universal phenomena, but the socio-economic factors influencing these experiences vary significantly across the globe. This study provides valuable insights into how rural women in Bangladesh navigate pregnancy and childbirth, especially concerning the influence of education, employment, health services, cultural practices, and religious beliefs. A critical analysis of these factors highlights the complex interplay between socio-economic status, health outcomes, and cultural norms, drawing comparisons with global trends and the specific context of Bangladesh. Globally, cultural and religious beliefs have a profound impact on pregnancy and childbirth. In rural Bangladesh, the influence of these norms is particularly pronounced, with many women relying on traditional practices such as kabiraji treatment and amulets to address health issues during pregnancy and childbirth. These practices often replace formal medical interventions, even when the situation may require professional care. Similarly, in other parts of the world, especially in developing regions, traditional healers play a critical role in maternal health (Koblinsky et al., 2016). While these practices may provide comfort and support, they are often linked to a lack of access to formal healthcare services and a limited understanding of modern medical treatments (Bhattacharyya et al., 2015).

The study found that rural women in Bangladesh also engage in various rituals and taboos related to food and movement during pregnancy. These practices are deeply rooted in cultural beliefs and can restrict a woman's mobility and access to proper nutrition, thereby impacting her health and that of her baby. For instance, during lunar eclipses or solar eclipses, many women believe that engaging in regular activities might harm the child, which aligns with findings from other studies that demonstrate the prevalence of cultural restrictions in rural areas (Ullah et al., 2019). Such beliefs can perpetuate ignorance about the importance of rest, balanced nutrition, and proper healthcare. One of the most critical socio-economic factors influencing maternal health in Bangladesh is the education and employment status of women. As the study reveals, most rural women are not formally educated and have limited opportunities for paid employment. This lack of education restricts their ability to make informed decisions regarding their health, including pregnancy and childbirth. Globally, studies show that women with higher levels of education tend to have better access to healthcare services and are more likely to make informed decisions about their reproductive health (Sachs, 2015).

In Bangladesh, women with limited education often lack knowledge about family planning methods, medical abortion, and even basic pregnancy-related health issues, which can result in risky behaviors such as reliance on untrained midwives and traditional healers. The lack of formal education is further compounded by financial insecurity, as most rural women depend on their husbands or families for economic support. This economic dependence often leads to a lack of decision-making power regarding their health and well-being. A study by Khan et al. (2018) found that women's economic dependence is a significant barrier to accessing health services in rural Bangladesh. In contrast, women with economic independence—whether through employment or education—have more agency in making decisions about their health, including seeking professional medical care. The accessibility and quality of healthcare services in rural Bangladesh are key determinants of maternal health

outcomes. In this study, many women reported relying on government-provided medicines and rural health workers for family planning, but they often faced barriers such as the inability to afford necessary medical treatments or transportation to urban hospitals. This mirrors global challenges faced by rural populations in low-income countries, where access to healthcare is limited, and the cost of treatment can be prohibitive (Douthwaite et al., 2017). The situation is exacerbated by the shortage of trained medical personnel and the dominance of untrained midwives, which increases the risks associated with childbirth in rural settings. The study also highlights the importance of health services that cater specifically to rural women, such as mobile health clinics or community-based health workers. These services can help bridge the gap between rural populations and formal healthcare facilities. However, the study emphasizes that, despite government efforts to increase healthcare access in rural Bangladesh, there is still a significant gap in terms of both availability and quality of services, as seen in similar contexts in sub-Saharan Africa and South Asia (Ravi et al., 2020). In many rural communities, women face challenges in asserting control over their reproductive health. The study found that women often lack decision-making power in pregnancy-related matters, as their choices are influenced by their husbands, mothers-in-law, and community norms. Gender discrimination remains a critical issue in many rural areas of Bangladesh, as women are often blamed for not having male children or for having multiple children, regardless of their health or personal preferences. Such social pressures can lead to increased vulnerability, as women are coerced into having more children or adhering to traditional practices that may not be in their best interest. Globally, gender inequality is a major barrier to reproductive health, and studies have shown that women in patriarchal societies often face social stigma and violence for not meeting societal expectations, such as having a male child (Rahman et al., 2017).

In Bangladesh, this is evident in the cases where women who give birth to daughters are devalued or blamed, as seen in the study's case studies. This gender bias not only impacts women's self-esteem but also their access to essential resources, as they may receive less attention or support from their families and communities compared to their male counterparts. Comparing Bangladesh with other countries globally, it is clear that socio-economic factors such as education, employment, and health services play a significant role in shaping maternal health outcomes. While Bangladesh has made significant progress in improving maternal health, challenges remain, particularly in rural areas where cultural and financial barriers persist. In many low-income countries, maternal health remains a critical issue, with disparities in healthcare access, education, and gender equality (UNFPA, 2020). However, Bangladesh's efforts in integrating community health workers and improving access to family planning services have shown positive outcomes, though there is still much work to be done to address the deep-rooted cultural and socio-economic challenges faced by rural women.

Recommendations

Based the study findings and informants' opinions, this study explored few recommendations that can be considered for safe pregnancy and childbirth as well as future development initiatives for pregnancy and childbirth in rural areas of Bangladesh. Men's attitudes toward women need to be transformed, particularly during pregnancy and childbirth. Social and family attitudes should change to support women more actively, ensuring they receive care and assistance during this critical time. Additionally, raising awareness about the harmful impact of social prejudices and traditional taboos can help women access proper nutrition and care. Increasing

the education rate of women in rural areas is essential, alongside efforts to reduce child marriage, to ensure safer motherhood and childbirth. Awareness programs on pregnancy and childbirth should be more widespread, and the accessibility and affordability of family planning services must be improved. To ensure rural communities have easy access to necessary healthcare services, the number of health complexes and hospitals in villages should be increased. Furthermore, the cost of doctor visits and medical treatments in urban hospitals should be reduced to make healthcare more accessible to rural populations. Equal importance should be given to both men and women in education, especially regarding childbirth and reproductive health. Additionally, enhancing women's roles in the workforce will provide them with greater autonomy, enabling them to overcome social and financial barriers, and to challenge injustices effectively.

Conclusion

In conclusion, this study underscores the complex relationship between socio-economic factors and pregnancy-related knowledge, perception, and practices in rural Bangladesh. Education, employment, cultural norms, and healthcare access all play critical roles in shaping women's experiences with pregnancy and childbirth. To improve maternal health outcomes, it is essential to address the barriers created by traditional beliefs, lack of education, and economic dependency. Efforts to increase women's education, empower them economically, and improve access to quality healthcare services are key to breaking the cycle of poor maternal health in rural Bangladesh. Global comparisons highlight the importance of adopting holistic approaches to maternal health, integrating both modern healthcare and culturally sensitive practices to support women's well-being.

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Author contributions

Both authors contributed to the completion of this work. Monir Hossen and Sohura Akter Mukta drafted the initial draft. M.H. edited and reviewed the manuscript. S.A.M. collected the data. Both authors approved this manuscript for publication.

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Data availability

Data will be available upon reasonable request.

Declarations

Informed consent

We prepared a consent form, discussed the research process, and provided this consent form to the participants before the interview. We listened to this consent form for those who didn`t know how to read it. The participating respondents were notified in support of their consent process that their commitment was voluntary and confidential. We informed them that their names would not be revealed in the study and would be used in pseudonyms. All participants consented orally and signed this consent form.

Conflict of interest

The authors declared that no conflict of interest exists

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