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Link between gender inequality and women's satisfaction with maternal healthcare services: a cross-sectional study in Khulna, Bangladesh

Sk. Faijan Bin Halim,[1] Orpa Akter,[1] Md. Karimul Islam [ID] [2]

¹Economics Discipline, Khulna University School of Social Science, Khulna, Bangladesh
²BRAC Institute of Governance and Development (BIGD), BRAC University, Dhaka, Bangladesh

Correspondence to
Md. Karimul Islam;
karimulislamku@gmail.com

ABSTRACT

Background Gender inequality within households remains a significant barrier to accessing maternal healthcare services in many low-resource settings, including Bangladesh. Understanding the relationship between the gender inequality faced by women in households and their perceived satisfaction with maternal healthcare services is important.

Objective This study aims to identify the factors influencing gender inequality and investigate the association between gender inequality faced by women within households and their perceived satisfaction with maternal healthcare services.

Design Conducted between October and November 2022, employing a cross-sectional design.

Settings and participants 150 women who are at their prenatal or postnatal stages are systematically sampled from *Khalishpur* municipality and *Dighalia* subdistrict from Khulna, Bangladesh.

Outcome measures Gender inequality within the households is assessed using a validated five-point Likert scale of five items. Participants with an average score below or equal to the median value are considered to be facing gender inequality within households. Satisfaction with maternal healthcare services is measured across five variables using a similar scale. Based on the responses, a standardised score is generated to measure the satisfaction level with maternal healthcare services.

Results We find that women are around seven times more likely to experience gender inequality in their households if their husbands are engaged in self-employed jobs or skilled labour compared with unemployment (p<0.10). Coercive actions, such as physical assault (odds: 6.428, p<0.01) and preventing women from financially supporting their maternal kin (odds: 14.909; p<0.01), are positively related to gender inequality. Such inequality negatively relates to women's perceived satisfaction with their maternal healthcare services (−1.851, p<0.01). Additionally, traditional home delivery, verbal abuse and the forced use of traditional medication reduce satisfaction levels. On the other hand, increased prenatal care is expected to increase satisfaction with maternal services as perceived by women (0.545, p<0.10).

Conclusions The study prioritises promoting equity in opportunities for both males and females, with access to maternal health, and educational opportunities within households. Reduced inequality within households may

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ The cross-sectional design captures the association between the gender inequality faced by women within households and satisfaction with maternal healthcare services.
⇒ Systematic random sampling ensures representative insights from 150 women.
⇒ Implemented a structured questionnaire validated by an alpha test, ensuring reliability.
⇒ A small sample size limits generalisability.

help minimise the extent of coercive behaviour against women. The national maternal health strategy should focus on basic health services for pregnant women, with free prenatal and postnatal check-ups for pregnant mothers to improve their perinatal healthcare services.

INTRODUCTION

Millions of women in developing countries like Bangladesh face life-threatening pregnancy and childbirth complications due to gender inequality.[1] While significant strides have been made in improving maternal health over the past decade,[2] challenges remain. The Government of Bangladesh has made efforts to reduce the maternal mortality ratio (MMR) from 434 per 100 000 live births in 2000 to 173 per 100 000 in 2017,[3] with the current rate standing at 156 per 100 000 live births.[4]

Despite this progress, the quality of maternal healthcare services remains inadequate.[5] A study found that 48% of 103 796 women did not receive any prenatal or postnatal care in Bangladesh.[1] Additionally, a large number of women die annually in Bangladesh due to pregnancy-related complications, often because unqualified attendants deliver babies at home.[6] In addition, anaemia affects approximately 70% of pregnant women, and 45% of babies are born underweight.[7] About 287 000 women die annually during and after

pregnancy and childbirth, with approximately 95% of these deaths occurring in low- and middle-income countries. The World Health Organisation (WHO) reports that nearly 800 women die daily from preventable maternity complications, equating to a maternal death every 2 min.[8] Due to inequality and limited participation of women in income-generating activities, many women must sacrifice proper maternal healthcare services.

For instance, although antenatal care (ANC) from skilled providers is critical for monitoring pregnancy and mitigating health risks for mothers and children, insufficient visits to doctors for ANC persist due to income constraints and discriminatory attitudes within households. According to the Bangladesh Demographic and Health Survey,[9] 88% of women who gave birth in the previous 2 years received ANC from medically trained providers at least once. However, disparities exist: rural women are less likely to seek ANC than urban women (86% vs 92%), and 97% of women in the highest wealth quintile sought care compared with 76% in the lowest. Only 41% of women had the recommended four or more ANC visits, with urban women (57%) more likely to do so than rural women (35%). Furthermore, only 21% received quality ANC, with significant gaps based on location and economic status: urban women were twice as likely to receive quality care as rural women (33% vs 17%), and only 8% of women in the lowest wealth quintile received quality ANC compared with 39% in the highest.

The ANC visits often depend on the economic condition of households, which is linked to participation in income-generating activities (IGAs). According to the Labour Force Survey 2022, women in Bangladesh spend eight times more time on unpaid care work compared with men.[10] Moreover, only 42% of women of working age are active in the labour force, and they often earn less than their male counterparts. According to statistics from the Bangladesh Bureau of Statistics, 54% of women have experienced physical or sexual abuse at least once in their lives. The inequalities coupled with coercive behaviour and physical and sexual abuse further affect maternal healthcare services.

Several studies have shown that gender inequalities negatively affect women's reproductive health by restricting access to information, increasing vulnerability to gender-based violence and limiting access to health services.[11 12] Gender inequalities are shaped by societal norms and perceptions, leading to disparities in positions, characteristics and attitudes between men and women.[13] Factors such as limited decision-making power, low educational attainment, intimate partner violence and restricted economic opportunities are closely associated with poor maternal and child health outcomes.[14]

For example, in 2015, the MMR in developing countries was 239 per 100 000 live births, compared with 12 per 100 000 in developed countries, highlighting significant disparities based on income levels, and rural and urban settings.[15] By tackling socioeconomic disparities, curbing coercive practices, promoting hospital births, regulating medication administration and expanding prenatal care services, policymakers can substantially elevate the satisfaction and overall well-being of pregnant women.

This study is particularly relevant in the context of gender development, aligning with the Sustainable Development Goal (SDG-3) to reduce maternal mortality. It explores how gender inequality relates to women's perceived satisfaction with maternal healthcare services. Besides, it aims to assess the factors associated with this inequality within households. To achieve these objectives, two research questions are posed: (1) What are the potential factors influencing gender inequality within households? (2) How does gender inequality relate to women's perceived satisfaction with maternal healthcare services?

METHODS

Study area

The study sites include the municipality of *Khalishpur* and the periurban subdistrict *Dighalia*, located in Khulna, the most populous district in southwestern Bangladesh. *Khalishpur*, an urban area with high population density and better healthcare services, is ideal for studying urban healthcare. Conversely, *Dighalia*, a periurban subdistrict, has limited healthcare infrastructure, higher poverty rates and traditional healthcare practices. This allows the study to capture a broader range of variability and conditions influencing maternal healthcare in different geographical and socioeconomic contexts. From each site, 75 participants are selected for the survey, resulting in a total of 150 samples. Alongside the questionnaire survey, additional information is collected from nearby health complexes used by the participants or their community.

Participants

The study relies on a cross-sectional study design. Data are collected from the target population of women who were in their prenatal and postnatal stages. Mothers in the postnatal stage were selected if they had delivered their babies within the last six months. This six-month period implies the time frame immediately preceding the survey, ensuring that the participants have recent experiences with maternal healthcare services.

Questionnaire design and testing

Before starting data collection, a structured questionnaire is finalised and divided into two parts. The first part highlights personal and demographic data, access to equity at the household level, and the voice and decision-making power of participants. The second part consists of participants' prenatal and postnatal care information and their satisfaction level with maternal healthcare services. The questionnaire undergoes reliability and validity testing, ensuring the reliability of constructs through Cronbach's alpha test. Validity is ensured through expert review and pilot testing with a small subset of the target population prior to the main survey. The Cronbach's alpha results, included in table

Table 1 Gender inequality and satisfaction with the maternal healthcare services received

Particulars	Mean	SD	Alpha
Gender inequality			
Equality in terms of opportunity to income-generating options like a male partner	2.34	1.04	0.92
Participation in household decision-making power like a male partner	3.38	1.06	0.91
The opportunity to education after marriage like a male partner	2.33	1.09	0.91
Equal treatment in healthcare at the household level like a male partner	2.24	1.09	0.90
Opportunity to freedom of movement like a male partner	2.40	1.03	0.93
Test scale			**0.93**
Satisfaction with maternal healthcare services			
Engagement and activity of household members in prenatal care	2.61	0.96	0.87
Engagement and activity of household members in postnatal care	2.50	1.07	0.87
The cooperation of household members during pregnancy	2.7	0.94	0.87
Quality of services during pregnancy	2.68	0.93	0.87
Level of awareness about postnatal care	2.40	0.89	0.87
Test scale			**0.87**

3, show the internal consistency of the Likert scale items used to measure the constructs, providing confidence in the reliability of these measures.

Sampling and data collection

This study adopts an in-person systematic random sampling technique to gather information from 150 women from the two study sites. The sample size is determined based on a margin of error of 8%, a 95% confidence level and an estimated prevalence of gender inequality at 50% as it seems unknown. We collect the list of women in their prenatal and postnatal stages from medical/clinical institutions in their respective regions (The term 'medical/clinical institutions' refers to local healthcare facilities such as hospitals, clinics and maternity centres in *Khalishpur* and *Dighalia*, where women in their prenatal and postnatal stages access medical care). For selecting participants, we follow two inclusion criteria: (1) women who are in their prenatal or postnatal stage and (2) if women are at their postnatal stages, they must have delivered their baby within the last 6 months. Those who do not meet these criteria are excluded from the study. Participants are recruited on a case-by-case basis during the survey period between October–November 2022.

Outcome variables

To measure the variable 'Facing gender inequality', we used five components as outlined in table 1. These components include decision-making power within households, access to income-generating opportunities, freedom of movement, availability of educational opportunities after marriage and equitable treatment in healthcare at the household level. The indicators for measuring gender inequality in households are supported by previous studies.[16] Each component employs a five-point Likert scale, where a score of 1 indicates 'never' and a score of 5 indicates 'always'. Based on the average score of these five components, we established a dummy variable for facing gender inequality, which is coded as 1 if the average score (after summing up the five components) is below or equal to the median value (3) and 0 if the average score is equal to or above the median value (4=often; 5=always). Consequently, a score of 1 signifies that a woman faces gender inequality in households, indicating that her opportunity like a male partner is not either 'ofen' (4) or 'always (5)' across most of the five components.

We used perceived satisfaction with maternal healthcare services as the dependent variable in two ways. First, we asked a direct question about whether participants were satisfied with the overall maternal healthcare services received in their households. Responses were measured on a five-point Likert scale, where 1 denotes 'strongly dissatisfied' and 5 represents 'strongly satisfied'. Second, we examined five specific components to gauge satisfaction with maternal healthcare services. The response categories for each component followed the same Likert scale, with 1='strongly dissatisfied', 2='dissatisfied', 3='neither satisfied nor dissatisfied', 4='satisfied' and 5='very satisfied'. These five indicators were standardised and summed to represent perceived satisfaction with maternal healthcare. The standardised scores range from −8.21 to +9.35.

Predictors

This study examines several predictors of gender inequality and satisfaction with maternal healthcare services, consistent with the literature.[17–33] The description of variables and the unit of measurement is placed in online supplemental annex table 1.

Data analysis and estimation technique

Data are analysed using the statistical software STATA V.16 (StataCorp, USA). First, the study presents descriptive statistics of the outcome and explanatory variables. Second, a Cronbach's alpha test is applied to measure internal consistency and determine whether the components reliably measure the outcome variables. Third, correlation analysis is conducted among sociocultural and economic variables to gauge how variables are related to each other. Then, a logistic regression model is estimated to identify the predictors relating to the probability of facing gender inequality within the household. Equation (1) describes the relationship as follows:

$$Logit(p_i) = log(\frac{p_i}{1 - p_i}) = \beta_0 + \sum \beta_i X_i \qquad (1)$$

Where, $log\left(\frac{\beta_i}{1-\beta_i}\right)$ is the odd ratio, P_i is the probability of facing gender inequality within the household, X_i stands for factors responsible for gender inequality and β_i is the parameter to be estimated.

An ordered logit model has been used to find out the association between gender inequality faced by women in households and their perceived satisfaction with maternal healthcare services. The satisfaction with maternal healthcare services takes the response from 1 to 5. Here 1=strongly dissatisfied, 2=dissatisfied, 3=neutral, 4=satisfied and 5=strongly satisfied. The equation of the ordered logit regression model is represented as equation 2:

$$log[\frac{y_j(x_i)}{1-y_j(x_i)}] = u_j - \left[\beta_1 x_2 + \beta_2 x_2 + \ldots + \beta_k x_k \right] \qquad (2)$$

Where, $J = 1, \ldots, j; i = 1, \ldots, k$; and Y_j is a cumulative probability, β_i is a column vector of parameters $(\beta_1, \beta_2, \ldots, \beta_k)$ and x_i is the column vector of explanatory variables. μ_j is only dependent on the probability of predicting the category and is not dependent on explanatory variables.

Additionally, we used a multiple linear regression based on the standardised score representing the perceived satisfaction with maternal healthcare services. The regression takes the same covariates as in Equation (2). The key variable of covariate is 'facing gender inequality'. We showed the relationship graphically by predicting the satisfaction against the gender inequality experienced by the expecting/new mothers within households.

Ethics approval

The study is approved by the Khulna University Ethical Clearance Committee of Research and Innovation Centre, Khulna University, Bangladesh (reference number–KUECC–2023-11-73). Since the study employed a face-to-face interview method, the data enumerators filled out the consent form based on the participants' verbal consent. The data enumerators read the checklist of the consent form and requested the participants to respond verbally. The consent form provided all participants with detailed information about the research purpose, the confidentiality of their information and their right to withdraw from the study at any time without justification. All participants are adults and, therefore, do not require parental consent for participation in the study. The approval committee endorses this process.

Patient and public involvement statement

The public was not involved in the design or execution of this study. Specifically, the involvement of patients or the general public was not solicited at any stage of the research process. The study was conceived and developed exclusively by the research team based on existing literature. The research questions were formulated by the research team without direct input from patients or the public. The public also did not participate in the recruitment strategy or process. Dissemination plans, including publications and presentations, will be managed by the research team without direct public or patient involvement.

RESULTS

Descriptive statistics

Table 2 exhibits the sociodemographic and background characteristics of the participants. The average age of the participants is 27 years. It is also evident that around 59.3% of the participants face gender inequality within households in their daily lives. This inequality may stem from the restriction from the lack of opportunity to engage in IGAs and education after marriage.[34] Only 17.3% of the participants were permitted to earn after marriage (table 2). In the same way, the opportunity for education after marriage is also very limited as shown in table 2.

As shown table 1, most of the indicators of gender inequality do not exceed the median value (3), indicating that the prevalence of gender inequality is saliently prevalent within households. For instance, the opportunity for women to engage in income-generating activities (IGAs) alongside male partners is limited in households. Similarly, freedom of movement is severely restricted, as indicated by the average figure shown in table 1, which is below the median value. The alpha analysis associated with each indicator demonstrates the value of internal consistency. It exhibits that the variables are reliable for measuring gender inequality within households.

Additionally, 79.3% of the participants are married off at an early age (younger than 18). The statistics in table 2 also show that 49.33% received no prenatal care at all. Among the women, 20% paid 1 to 2 times of prenatal visits to the doctor, which falls short of the standard number of visits (four times). Among the participants, 25.33% had three prenatal visits, and only 5.33% had the standard number of prenatal visits (four times) to the doctor. It indicates a significant portion of women does not avail the required number of visits to the doctor. Moreover, the average delivery cost for each participant is BDT 7946 which accounts for 67% of their monthly average income (SD=5791). Probably, due to such limited access and visits to doctors, women express dissatisfaction with maternal healthcare services.

Table 1 presents that the average satisfaction with the availability of prenatal care among households is 2.61, which falls into the boundary of dissatisfaction. Apparently, none of the indicators of maternal healthcare services exceeds the median threshold of satisfaction since the average figures are mostly below the median value (3). For instance, women are quite dissatisfied with the quality of pregnancy period services, the cooperation of in-law household members during the pregnancy period, the engagement and activity of in-law household members in prenatal and postnatal care and so on. Thus, the dissatisfaction expressed by the expecting or new

Table 2 Descriptive statistics of background information

Variable name	Mean value	SD	Min	Max
Age of the participant (years)	27.00	3.58	19	35
Monthly household income (BDT)	11 806.00	8672.00	3000	25 000
Monthly household expenditure (BDT)	10 540.00	2929.00	3000	25 000
Frequency of receiving prenatal care from hospital	1.00	1.42	0	4
Number of meals per day during last pregnancy	3.00	0.60	2	5
Relaxation time during pregnancy in the daytime (hours)	2.00	0.64	1	4
Sleep duration during last pregnancy (hours)	2.00	0.58	1	4
Number of visits to doctor from prenatal and postnatal period	1.00	1.47	0	4
Transportation cost (BDT)	158.85	213.00	0	1000
Cost of hospitalisation and delivery (BDT)	7946.00	5791.00	500	25 000
Religion (% Islam)	89			
Opportunity to earn after marriage (%)	17.3			
Opportunity to education after marriage (%)	67			
Marriage at an early age (%)	79.3			
Forced conception (%)	35.3			
Relying on traditional medication at home during pregnancy (%)	58.6			
Physical assault (%)	48.6			
Facing gender inequality within households (%)	59.3			
Number of visits to the doctor during the first 6 months of pregnancy (%)				
No visits	49.33			
1–2 times	20			
3 or more visits	25.33			
4 times	5.33			
Husband's occupation (%)				
Unemployed	7.33			
Farmer/day labour	66.00			
Skilled workers/self-employed	26.67			

BDT, Bangladeshi Taka; IGA, income-generating activity; Max, Maximum; Min, Minimum; SD, Standard deviation.

mothers cannot be ignored while discussing maternal health services.

The average monthly household income is BDT 11 806 with an SD of BDT 8672, indicating a wide variation in earnings. Furthermore, their average monthly family expenditure is estimated at BDT 10 540, which is quite close to their monthly family income. Earning mostly depends on occupation. The husband's occupation of the participants shows that 7.33% are unemployed, 66% are engaged in farming/day labour and 26.67% are engaged in skilled work/self-employed jobs.

Determinants of gender inequality in maternal health services

Table 3 displays the results of a logistic regression examining the likelihood of women experiencing gender inequality within households during pregnancy or early motherhood. The key predictors assessed include the husband's occupation, physical assault and restrictions on financial assistance to the women's maternal relatives.

The results suggest that if the husband is employed as a skilled worker or is self-employed, rather than being unemployed, the probability of the woman facing gender inequality within her in-laws' household increases. This finding implies that men in skilled jobs may feel a sense of superiority over their wives, which can foster household inequalities. Also, a higher income of the husband reduces the likelihood of the wife participating in the labour force, influenced by factors such as the time she dedicates to household chores and her socioeconomic status.

Physical assault emerged as a significant factor, increasing the likelihood that pregnant or new mothers face gender inequality (6.428, p<0.01). Furthermore, coercive behaviour by in-laws, such as preventing women from providing financial support to their maternal relatives, also significantly raises the probability of experiencing inequality (14.909, p<0.01).

Table 3 Logistic regression analysis of facing gender inequality within households

Variables	Outcome: facing gender inequality			
	OR	SE	(95% CI)	
Age of the participant	1.117	0.09	0.954	1.307
Family pattern	1.426	0.828	0.457	4.448
Marriage at an early age	0.777	0.539	0.2	3.024
Husband's occupation (ref: unemployed)				
Farmer/day labour	4.456	4.228	0.694	28.609
Skilled workers/self-employed	6.679*	6.786	0.912	48.933
Religion—other than Muslim	0.402	0.371	0.066	2.45
Forced conception	1.941	1.159	0.602	6.254
Relying on traditional medication at home during pregnancy	2.086	1.389	0.565	7.695
Prevents from seeking outside care	1.251	0.87	0.32	4.887
Physical assault	6.428†	4.255	1.756	23.523
Verbal abuse	0.28	0.274	0.041	1.9
Humiliation in front of others	1.482	1.194	0.306	7.188
Prevention from financially supporting maternal relatives	14.909†	11.009	3.507	63.387
Constant	0.004‡	0.01	0	0.533
Pseudo r-squared	0.413			
χ^2	83.652†			
Akaike informatio crit. (AIC)	147.035			
Bayesian information crit. (BIC)	189.184			

OR refers to odds ratio; SE refers to standard error; CI refers to confidence interval
*p<0.1.
†p<0.01.
‡p<0.05.

Association between gender inequality and satisfaction with maternal healthcare services

The variable of interest of the study is the gender inequality faced by expectant and new mothers within households. One of the key goals is to determine whether the inequality, as predicted by several factors (table 3), is associated with women's perceived satisfaction with maternal healthcare services in households. Table 4 represents that, as hypothesised, facing gender inequality within the household is negatively correlated with the perceived satisfaction level of maternal healthcare services. Satisfaction with maternal healthcare services is predicted to decrease by 1.851 scale points due to facing gender inequality within the household. The result is statistically significant at a 5%-level.

Figure 1 illustrates the relationship between gender inequality and satisfaction with maternal healthcare services they receive in households. The vertical axis denotes the probability of various satisfaction levels, ranging from very dissatisfied to very satisfied against the gender inequality (1=yes; 0=no) in the horizontal axis. The figure reveals that women facing gender inequality (gender inequality=1) have a significantly higher probability of being very dissatisfied or dissatisfied with maternal healthcare. In contrast, the probabilities of being satisfied or very satisfied are considerably lower for these women.

Conversely, women not facing gender inequality are more likely to report higher levels of satisfaction. This pattern highlights the detrimental bearing of gender inequality on the perceived quality of maternal healthcare, emphasising the need to address gender disparities to enhance women's healthcare experiences and satisfaction.

The ordinary list square (OLS) regression in online supplemental annex table 2 verifies the finding since it shows that women experiencing gender inequality at home are significantly less satisfied with the healthcare they receive during pregnancy (−2.337, p<0.01). This finding suggests that unequal treatment or discrimination based on gender within the household negatively associates with women's perceived satisfaction with maternal healthcare services. Based on this finding, figure 2 graphically illustrates the relation between facing gender inequality within households and the predicted values of women's satisfaction with maternal healthcare services. The downward slope indicates that as gender inequality rises, predicted satisfaction with maternal healthcare declines steadily. This visualisation emphasises the importance of addressing gender inequality within households, as it critically influences women's experiences and perceptions of maternal healthcare.

Additionally, verbal abuse, traditional home delivery and relying on traditional medication during pregnancy

Table 4 Ordinal logit regressions of satisfaction with maternal healthcare services

Variables	Outcome: satisfaction with maternal healthcare			
	Coef	SE	(95% CI)	
Facing gender inequality within households	−1.851*	0.508	−2.847	−0.855
Education	0.283*	0.088	0.111	0.456
Age	−0.177*	0.061	−0.297	−0.057
Marriage at an early age	−0.49	0.484	−1.439	0.458
Household size	0.019	0.156	−0.287	0.324
Forced conception	0.65	0.42	−0.174	1.473
Relying on traditional medication at home during pregnancy	−1.248	0.866	−2.945	0.448
Prevents from seeking outside care	−0.058	0.559	−1.154	1.038
Physical assault	−0.363	0.544	−1.429	0.703
Verbal abuse	−1.584†	0.705	−2.966	−0.203
Humiliation in front of others	−1.17†	0.533	−2.214	−0.125
Number of prenatal visits	0.545‡	0.314	−0.07	1.16
Number of visits to doctor from prenatal to postnatal period	−0.132	0.335	−0.789	0.524
Traditional home delivery	−2.686*	0.635	−3.93	−1.442
cut1 (threshold between categories 1 and 2)	−12.671	2.568	−17.703	−7.638
cut2 (threshold between categories 2 and 3)	−8.76	2.45	−13.561	−3.959
cut3 (threshold between categories 3 and 4)	−3.11	2.165	−7.352	1.132
cut4 (threshold between categories 4 and 5)	−0.574	2.13	−4.748	3.6
Pseudo r-squared		0.445		
χ^2		196.150*		
Akaike crit. (AIC)		280.967		
Bayesian crit. (BIC)		335.159		

Coef refers to the coefficients; SE refers to standard error; CI refers to confidence interval
*p<0.01.
†p<0.05.
‡p<0.1.

at home are also negatively predicting the satisfaction level. The OLS regression in online supplemental annex table 2 indicates the same finding. It shows that the significant negative relationship between traditional home delivery and satisfaction (−1.519, p<0.1) suggests that women who give birth at home tend to be less satisfied with maternal healthcare, likely due to perceived inadequacies compared with institutional care. It also shows
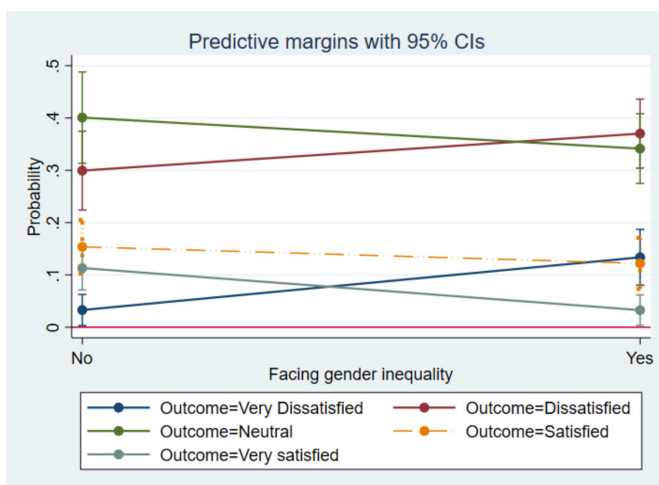
Figure 1 Predicted probabilities of different satisfaction levels against facing gender inequality.
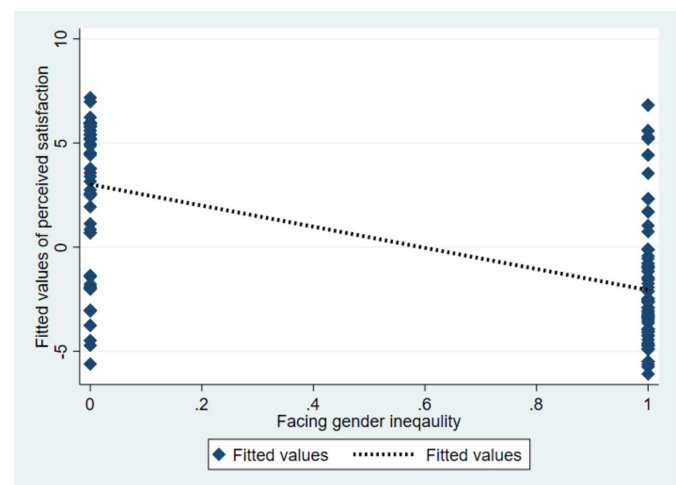
Figure 2 Predicted satisfaction with maternal healthcare services against facing gender inequality.

that women who are pressured to use traditional remedies instead of modern healthcare report significantly lower satisfaction (−2.753, p<0.01), suggesting they feel underserved.

The only variable that positively correlates with satisfaction is the number of prenatal visits (p<0.10). It is expected that the increased prenatal visits will help the mothers to explicitly care about their own and their babies' health, leading to enhancing their satisfaction with maternal care services. Online supplemental annex table 2 verifies the finding that satisfaction increases as the number of prenatal and postnatal visits to the doctor rises (0.717, p<0.05).

Strengths and limitations

One of the major strengths of the study is the adoption of a cross-sectional design that effectively captures the scenario of both gender inequality and satisfaction with maternal healthcare. Also, the systematic random sampling represents the target population in the study region, making the findings more reliable. We also used a structured questionnaire that was validated through an alpha test to ensure the data collected was reliable. However, the study's small sample size means that the results may not apply to the general population. To overcome this limitation, further research with larger and more diverse samples is needed to gain a more comprehensive understanding of the relationship between gender inequality and maternal healthcare satisfaction. In addition, a study outlining the causal inference to show this association will be more insightful and generalisable. Another limitation is that the measurement scale is contextualised; however, the detailed description of the measurement aids in understanding how we converted the measurement to the numeric scale.

DISCUSSION

The study aimed to identify the determinants that influence the gender inequality faced by pregnant and new mothers within households and how the inequality links to the perceived satisfaction with maternal healthcare received by the women. We find husband occupation and coercive behaviours are responsible for the gender inequality faced by women and also this inequality leads to the perceived dissatisfaction of pregnant women/new mothers.

The negative link between gender inequality and perceived satisfaction with maternal healthcare services suggests that gender inequality hinders women's access to quality maternal care. The findings are supported by former studies.[35] The study recommends prioritising the reduction of gender inequality. Implementing interventions that promote women's financial independence and decision-making power can improve their access to these essential services and increase satisfaction with the services.[11 35] Conditional cash transfers to pregnant or new mothers can economically empower women and

facilitate access to maternal healthcare services.[36] Gender-based violence, particularly, physical assault, should be addressed through targeted interventions as it is linked to gender inequality.[37]

The study finds that husbands' occupation, especially skilled labour or self-employed, is expected to increase the likelihood of facing gender inequality faced by women. This may happen since a husband's higher income decreases the likelihood of his wife participating in the labour force and limits her freedom to engage in IGA. The finding is justified by previous studies.[38 39] Furthermore, empowerment through creating suitable job opportunities can improve physical and mental health.[40]

The study also highlights the link between coercive behaviour, gender inequality and maternal healthcare satisfaction. Coercive actions, including physical assault (aligned with Willie *et al*[41]) and prevention of women from providing financial support to their maternal kin, exacerbate gender inequality and diminish women's satisfaction with maternal healthcare services. The finding is corroborated by another study in Bangladesh.[42] These behaviours create an environment of fear and helplessness, further marginalising women and undermining their health and well-being. Interventions to prevent and address coercive behaviour within households are crucial. Educating families about the harmful effects of such actions and providing support systems for women can help reduce these detrimental behaviours. Empowering women, especially in education, can help them raise their voice-raising power, and making them aware of their rights could reduce gender inequality within households and improve satisfaction with maternal healthcare.[43 44] The government can consider the issue in policy aimed at curbing gender-based violence.

Traditional home delivery practice is another factor that reduces maternal healthcare satisfaction. The result aligns with[45] who suggested that maternal and newborn health outcomes improve significantly through home visitation, task shifting to midwives and the training of traditional birth attendants. Women who deliver at home often lack access to professional medical care and support, which can lead to complications and a perception of inadequate care. The preference for home delivery may be influenced by cultural norms, financial constraints or limited access to healthcare facilities. Encouraging institutional deliveries through awareness campaigns and improving access to affordable and quality health services can significantly enhance women's satisfaction with maternal care. Health literacy campaigns are also important for increasing awareness and improving health status.[46]

Verbal abuse and reliance on traditional medication during pregnancy were identified as key factors that lower satisfaction levels with maternal healthcare. Verbal abuse creates a hostile environment, affecting women's mental health. The finding is congruent with Tiwari *et al*.[47] Similarly, satisfaction with maternal healthcare services depends on the process of care,[48] which is not ensured through forceful intake of traditional medication. As

a result, the forceful intake of traditional medication is negatively linked to satisfaction with maternal healthcare services.

Conversely, the study found that increased prenatal care is associated with higher satisfaction levels with maternal healthcare services. The finding is similar to previous studies,[49 50] however, contradicts the finding of Butler Tobah *et al*.[51] Regular prenatal check-ups allow for early detection and management of potential health issues, provide an opportunity for women to receive essential health education, and foster a supportive relationship between women and their healthcare providers. Expanding access to free or low-cost prenatal care and educating women about the importance of regular check-ups can enhance their satisfaction with maternal healthcare services. A comprehensive maternal health policy should be in place considering these suggestions.

CONCLUSIONS

This study reveals key insights into how gender inequality within households and women's satisfaction with maternal healthcare services are intertwined. By addressing these issues, the research contributes to a critical aspect of SDG-3, which aims to improve reproductive health, reduce maternal mortality and promote health equity for women.

The findings indicate that women whose husbands are skilled workers or self-employed, and those who experience coercive behaviours such as physical assault or financial control, face significantly higher levels of gender inequality. This inequality limits women's decision-making power and autonomy, affecting their access to essential healthcare services.

The study also highlights that gender inequality negatively impacts women's satisfaction with maternal healthcare. Women who experience higher levels of inequality are less likely to be satisfied with the quality of care they receive. The dissatisfaction also becomes salient, particularly if they undergo traditional home deliveries or are subjected to verbal abuse within households. In contrast, increased prenatal visits were positively associated with satisfaction.

To improve maternal healthcare experiences, it is essential to promote equitable household dynamics and support institutional births attended by skilled professionals. Alongside addressing gender inequalities, preventing coercive behaviours, and improving prenatal care can significantly enhance women's perceived satisfaction with maternal healthcare services. Comprehensive strategies addressing both maternal healthcare services and gender inequality should be implemented, including programmes that educate women about their rights and empower them within their households.

ORCID iD
Md. Karimul Islam http://orcid.org/0000-0001-7831-5975

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