Original Article

Sociodemographic Determinants of Delivery Practices among Women in Bangladesh: A Community-based Study

Nasrin Afrose[1], M Ashiqur Rahman[2], M Mizanur Rahman[3], M Rashedul Hassan[4], Sharif Mohammad Ehsan[5], Rozina Afroz[6]

Abstract:

Background: Maternal mortality remains a public health concern globally, particularly in low- and middle-income countries. Bangladesh has made significant progress in reducing maternal mortality and increasing institutional deliveries but disparities and rising caesarean section (CS) rates persist. **Objective:** This study aims to explore factors influencing delivery practices among married women in Keraniganj Upazila, Dhaka, Bangladesh. **Methods:** This community-based cross-sectional study was conducted in March 2023 among 180 married women in Keraniganj Upazila near Dhaka, who had given birth within the last 10 years. Data were collected through face-to-face structured interviews using a semi- structured questionnaire covering socio-demographic characteristics, antenatal care (ANC) and delivery practices. Ethical approval was obtained from the Institute of Epidemiology, Disease Control and Research (IEDCR). **Results:** Most respondents (66.8%) were aged 20–30, and 91.7% had formal education. Half had migrant husbands. ANC attendance was high (95%), with 56.67% preferring private hospitals. Institutional deliveries accounted for 95% of births with CS rates at 86.67%. Postnatal complications were reported in 6.67% of mothers and 1.67% of infants. **Conclusion:** The findings indicate a marked preference for private facility births alongside an alarming rate of caesarean deliveries highlighting the urgent need for policy interventions.

Keywords: Delivery practices, Antenatal care, Caesarean section, Institutional delivery.

J Com Med Col Teachers' Asso July 2025; 29(2): 103-107

1. Dr Nasrin Afrose
   Assistant Professor, Department of Biochemistry
   Comilla Medical College, Comilla
2. Dr Md. Ashiqur Rahman
   Medical Officer, Dhaka Medical College
3. Dr Md. Mizanur Rahman
   Epidemiologist, Institute of Public Health Dhaka
4. Dr Mohammad Rashedul Hassan
   Epidemiologist, Institute of Epidemiology,
   Disease Control and Research (IEDCR), Mohakhali, Dhaka
5. Dr Sharif Mohammad Ehsan
   Associate Professor, Department of Biochemistry
   Comilla Medical College, Comilla
6. Dr Rozina Afroz
   Senior Scientific Officer
   Department of Medical Entomology
   Institute of Epidemiology Disease Control and Research (IEDCR)

Address of correspondence:

Dr Nasrin Afrose
Assistant Professor, Department of Biochemistry
Comilla Medical College, Comilla
Email: nusaybah.bisc@gmail.com
Phone: +880 17 1285 4754

Introduction:

Maternal health remains a critical public health concern in Bangladesh, particularly during the time of delivery when both maternal and neonatal risks are at their peak. Despite notable progress in reducing maternal mortality over the past decades, the country continues to face substantial challenges in ensuring safe, equitable, and high-quality childbirth services, especially in peri-urban and rural areas[1]. To achieve Sustainable Development Goal (SDG) 3.1which targets a global maternal mortality ratio (MMR) below 70 per 100,000 live births by 2030 not only must healthcare access be expanded but the complex determinants influencing maternal health outcomes must also be addressed[2].

Among the most influential factors is the place of delivery. Women delivering at home-often with the assistance of untrained traditional birth attendants (TBAs) are significantly more vulnerable to complications such as postpartum hemorrhage, infections, and obstructed labor[3]. In contrast, institutional deliveries attended by skilled birth attendants (SBAs) are known to substantially reduce maternal and neonatal mortality. However, many women in peri-urban and rural settings still prefer home births due to cultural beliefs, lack of awareness, privacy concerns, mistrust in health systems, and financial limitations[4]. Another key factor is the mode of delivery, particularly the growing incidence of aesarean sections (C-sections).

DOI:https://doi.org/10.3329/jcomcta.v29i2.86029

While C-sections are lifesaving when clinically justified, their overuse-especially in private facilities-has become a pressing concern in Bangladesh. Numerous procedures are carried out without medical necessity, motivated by profit, convenience, or misconceptions about safety. Such practices not only impose financial strain on families but also expose women to surgical risks, prolonged recovery, and complications in future pregnancies[5]. The World Health Organization advises that C-section rates should ideally remain within 10–15% at the population level; however, current rates in many parts of Bangladesh, including peri-urban zones, far exceed this recommendation[6].

Sociodemographic characteristics-such as maternal age, education, parity, and household income-also play a critical role in delivery decisions. Research indicates that women from disadvantaged or less-educated backgrounds are less likely to receive adequate antenatal care (ANC) or deliver in health facilities[6]. Consequently, health outcomes for both mothers and newborns are often compromised. ANC itself is a vital component of maternal health, improving birth preparedness, enabling early detection of complications, and increasing the likelihood of institutional delivery[7]. Yet, gaps in ANC coverage persists in rural areas due to resource limitations, inadequate awareness, and logistical challenges. Cultural and psychological factors further influence childbirth practices. Many women report discomfort with male health professionals, fear of mistreatment in hospitals, or face family pressure to adhere to traditional home delivery customs[8]. This study aims to examine the delivery practices of married women in Keraniganj Upazila, with specific attention to the place of delivery, mode of delivery, and the underlying sociodemographic determinants. The findings are expected to inform equitable maternal health policy and support Bangladesh's ongoing efforts to meet SDG 3.1.

Methods:

This cross-sectional study was conducted in March 2023 in Keranigonj Upazila, a rural area in Bangladesh, to explore factors influencing maternal health outcomes. The target population comprised 180 married women aged 18–49, who had given birth within the last 10 years. Participants were selected using purposive sampling to ensure diversity in sociodemographic characteristics. Inclusion criteria required participants to have at least one child under 10 years of age, and all participants provided informed consent. Data were collected through face-to-face interviews using a semi-structured questionnaire administered in Bengali. The questionnaire gathered information on sociodemographic factors, antenatal care (ANC) utilization, delivery practices, and cultural influences on childbirth decisions. Pre-testing of the instrument was done to ensure clarity. Data analysis was performed using SPSS version 20. Descriptive statistics were used to summarize. Ethical approval was granted by the Ethical Review Committee of IEDCR and participant confidentiality was maintained throughout the study.

Results:

Table-I: Distribution of respondents by socio-demographic characteristics n=180

Variables	Number	Percentage
Age (years)		
<20	21	11.7
20-25	57	31.8
26-30	63	35
>30	39	21.8
Education		
Illiterate	6	3.3
Literate	3	1.7
Primary	30	16.7
SSC	93	51.7
HSC	33	18.3
Masters	9	5
Non Institutional Education	6	3.3
Occupation		
House wife	168	93.3
Service	3	1.7
Day labourer	3	1.7
Unemployed	6	3.3
Husband's Occupation		
Businessman	36	20
Service	15	8.3
Day labourer	15	10
Rickshaw puller	12	6.7
Farmer	9	5
Migrant worker	90	50
Monthly family expenditure		
<10,000	9	5
10,000 - 20000	93	51.7
> 20,000	78	43.4

DOI:https://doi.org/10.3329/jcomcta.v29i2.86029

Table I shows that most participants (68%) were aged between 20–30 years. Education levels varied, with 91.7% having at least secondary-level schooling. The majority were housewives (70%), and 50% of their husbands were migrant workers. Monthly household income levels ranged broadly, with a notable proportion in the low to middle-income brackets.

Table-II: Variables about the antenatal care practices in respondents (n=180)

Variables	Response	Frequency	Percentage
Status in ANC center visit in last Pregnancy	Yes	171	95
	No	9	5
Frequency of ANC visit in last pregnancy	<3	12	6.67
	3-5	117	65
	>5	42	23.33
TT Vaccination Status	Taken	177	98.33
	Not Taken	3	1.67

Table II shows that majority of respondents attended antenatal care (95%) in last pregnancy and. 65% respondents attended ANC for 3-5 times in total pregnancy period and almost all of them were TT vaccinated (98.33%).

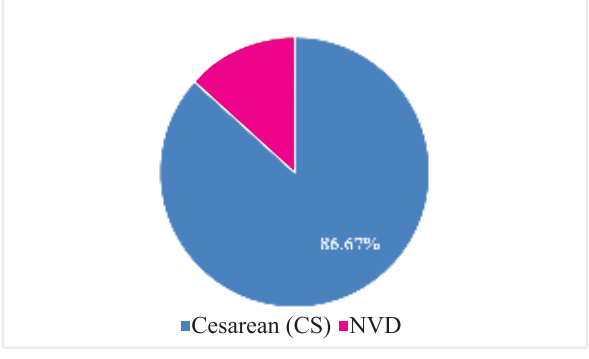

Figure-1: Mode of Delivery among respondents (n=180)

Caesarean overwhelmingly dominates at ~87%, with normal deliveries at ~13%.

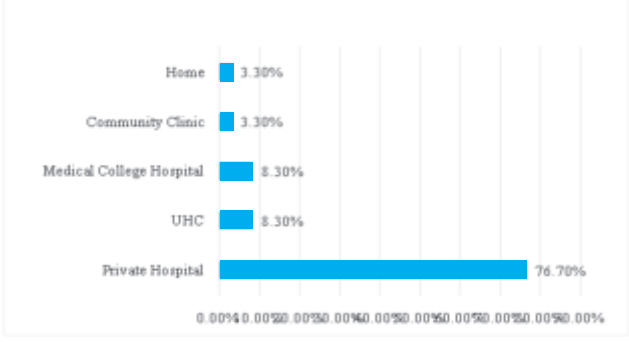

Figure-2: Place of Delivery in last pregnancy in respondents (n=180.)

Figure 2 shows that most of the respondents had their last delivery in health facilities and 76.8 % in private hospitals. Only 3.3 % respondents deliveredat home.

Table-III: Reasons behind choosing preferred place of delivery among respondents, (n=180)

Variables	Reasons	Frequency	Percentage
Hospital delivery preferred due to	Risk Free	69	48.9
	Good Service	54	38.3
	Motivated by Health Worker	18	12.8
Home delivery preferred due to	Privacy	3	15.3
	Less costly	18	46.1
	Non satisfactory service	6	15.3
	Others	9	23.3

Table III finds that most of the respondents preferred hospital delivery (78.33%) and they prefer hospital as it is risk free (48.9%), provides good service (38.3%) and as they were motivated by hospital by health workers (12.80%). Only 21.67% prefers home delivery, among them, the reason behind preference of home delivery as it is less costly (46.10%)

Table-IV: maternal outcome in last pregnancy among respondents (n=180.)

Variables	Response	Number	Percentage
Last delivery complication			
Mother	Yes	12	6.67%
	No	168	93.33%
Child	Yes	3	1.67%
	No	177	98.33%

Table IV reveals that out of 180 respondents only 6.67% mothers and 1.67% child had suffered post-delivery complications.

Discussion:

The findings from Keranigonj indicate that most births now occur in health facilities, mirroring national and regional trends. In Bangladesh, the proportion of facility deliveries has surged in recent years—from 16% in 2006 to 53.4% in 2019[7]. South Asian countries have experienced similar increases; for example, facility births in Bangladesh grew from 4% to 29% between 1993 and 2011[9]. Nevertheless, these averages conceal stark inequalities. A woman's wealth, education, and urban residence strongly predict facility use[9]. Approximately half of Bangladeshi women still deliver in institutions[8], meaning poorer and rural families often remain excluded. Notably, wealthier

DOI:https://doi.org/10.3329/jcomcta.v29i2.86029

women disproportionately seek care in private hospitals (perceived as offering higher quality), despite the higher out-of-pocket costs[8-9]. Such socioeconomic disparities in maternal healthcare access have been documented across South Asia including in Nepal and Myanmar[9].

The caesarean section (C-section) rate in Keranigonj was also very high, consistent with national statistics. In Bangladesh, the C-section rate climbed steeply over recent decades—from about 3% of births in 2000 to nearly 24% by 2014[10]. Much of this increase has been driven by the private sector. Studies show that clinicians earn substantially more for performing surgical deliveries than vaginal births12, creating financial incentives to favor C-sections. Similar patterns are reported in other South Asian countries: private clinics in India and Sri Lanka have also been observed to overuse C-sections for profit[11-12]. In the absence of strong oversight, this "supply-induced" demand is likely to result in many unnecessary medical surgeries. This matters because needless C-sections carry risks for both mothers and infants and impose heavy financial burdens on families: women undergoing surgical delivery face longer hospital stays, higher fees and greater economic loss[13].

Antenatal care (ANC) uptake in Keranigonj was relatively high, reflecting successful outreach by government and NGOs[14]. Over half of Bangladeshi women now receive the recommended four or more ANC visits and nearly all receive at least some pregnancy checkups. Despite this, many women still by pass public clinics (often choosing private providers instead), likely due to concerns about service quality[15]. Cultural factors also influence birth practices. Although home deliveries were uncommon in this sample, adherence to traditional beliefs and family decision-making remains a factor in rural Bangladesh, as seen throughout South Asia[16-17].

Bangladesh's situation reflects a mixed South Asian landscape. India has similarly achieved large gains in institutional delivery (e.g., from 26% of births in 1992 to 79% by 2011),9 yet stark rural–urban and wealth gaps persist. In contrast, Sri Lanka has long enjoyed one of the lowest maternal mortality ratios globally-around 30 per 100,000 live births-through its robust public health system, universal maternal services, and progressive social policies[18]. These comparisons suggest that Bangladesh's policy priorities should include further strengthening primary public maternity care, regulating financial incentives in the private sector, and reducing cultural and cost barriers. Addressing these issues-such as improving affordability of care, upgrading rural infrastructure, and ensuring medically appropriate use of C-sections are critical to closing equity gaps and achieving SDG targets for maternal health.

Conclusion:

The study reveals high institutional deliveries but raises concern over unnecessary C-sections and persistent cultural and financial barriers. Strengthening public healthcare and regulating practices are crucial. Targeted efforts can advance safer maternal care and support SDG 3.1 goals.

Acknowledgements:

The authors would like to thank the participants of this study for their valuable time and contributions.

References:

1. World Health Organization. Trends in maternal mortality: 1990 to 2010. Geneva: WHO; 2010.

2. National Institute of Population Research and Training (NIPORT), ICF. Bangladesh demographic and health survey 2017–18. Dhaka, Bangladesh and Rockville, MD, USA: NIPORT and ICF; 2020.

3. Pervin J, Moran A, Rahman M, et al. Determinants of institutional delivery in rural Bangladesh: a population-based cross-sectional study. PLoS One. 2021;16(5):e0251627.

4. Ahmed S, Creanga AA, Gillespie DG, Tsui AO. Economic status, education and empowerment: implications for maternal health service utilization in developing countries. PLoS One. 2010; 5(6): e11190.

5. Lumbiganon P, Laopaiboon M, Gulmezoglu AM, et al. Method of delivery and pregnancy outcomes in Asia: the WHO global survey on maternal and perinatal health 2007–08. Lancet. 2010 Feb 13;375(9713):490–9.

6. Kabir MA. Delivery practices in rural Bangladesh: the role of traditional birth attendants. East Afr J Public Health. 2007;4(2):67–72.

7. Bhutta ZA, Das JK, Bahl R, et al. Can available interventions end preventable deaths in mothers, newborns, and stillbirths? Lancet. 2014 Aug 30; 384 (9940):347–70.

8. Yaya S, Bishwajit G, Udenigwe O, et al. Factors associated with the utilization of institutional delivery services in Bangladesh. PLoS One. 2017;12(2):e0171573.

9. Saha S, Wong KLM, Talukder A, et al. The effect of wealth and antenatal care on institutional delivery in Bangladesh. Health Policy Plan. 2012 Sep;27 (6):465–75.

10. Matsubara S, Saito E, Kizuki M, et al. Inequities in maternal health care access in Southeast Asia: analysis of Demographic and Health Surveys. BJOG. 2020 Aug;127(10):1198–206.

11. National Institute of Population Research and Training (NIPORT), ICF. Bangladesh Demographic and Health Survey 2017–18. Dhaka, Bangladesh and Rockville, MD, USA: NIPORT and ICF; 2020.

12. Sarker BK, Rahman M, Rahman T, et al. Reasons for preference of home delivery with traditional birth attendants (TBAs) in rural Bangladesh: a qualitative exploration. Int J Health Policy Manag. 2016 Jun;5(6):345–52.

13. Gibbons L, Belizán JM, Lauer JA, et al. The global numbers and costs of additionally needed and unnecessary caesarean sections performed per year: overuse as a barrier to universal coverage. World Health Report Background Paper 2010;30.

14. Sarker BK, Rahman M, Ali N, et al. Quality of antenatal care in rural Bangladesh: evidence from a community-based cross-sectional study. BMC Pregnancy Childbirth. 2016 Sep 2;16:272.

15. Saha S, Talukder A, Lee T, et al. The effect of user fees on quality of maternal health care: evidence from Bangladesh. Reprod Health. 2012 May 18;9(1):45.

16. Shrestha SK, Ojha S, Shrestha S, et al. Safe delivery in rural Bangladesh: skilled attendants and sociocultural factors. Reprod Health. 2012 Apr 18;9:25.

17. Shrestha SD, Pradhan A, Shrestha S, et al. Factors associated with institutional delivery in rural Nepal. Int J Gynaecol Obstet. 2012 Nov; 117 (2):157–60.

18. Ministry of Health, Sri Lanka. Maternal health care in Sri Lanka: achievements and challenges. Colombo: Ministry of Health; 2020.

DOI:https://doi.org/10.3329/jcomcta.v29i2.86029