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Trends in Antenatal Care Engagement among Women in A Tertiary Care Hospital in Bangladesh

Dr. Sonia Nasrin[1*], Dr. Anuradha Karmaker[2], Dr. Rubayet Zereen[3], Dr. Sayma Afroze[4], Dr. Nusur Akhter[5]

[1]Assistant Professor, Department of Obstetrics & Gynecology, Enam Medical College & Hospital, Savar, Dhaka, Bangladesh
[2]Associate Professor, Department of Obstetrics & Gynecology, Enam Medical College & Hospital, Savar, Dhaka, Bangladesh
[3]Medical Officer, Department of Obstetrics & Gynecology, National Institute of Cancer Research & Hospital (NICRH), Dhaka, Bangladesh
[4]Assistant Professor, Department of Obstetrics & Gynecology, Shaheed Monsur Ali Medical College & Hospital, Dhaka, Bangladesh
[5]Assistant Professor, Department of Obstetrics & Gynecology, Anwer Khan Modern Medical College, Dhaka, Bangladesh

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***Corresponding author:** Dr. Sonia Nasrin
Assistant Professor, Department of Obstetrics & Gynecology, Enam Medical College & Hospital, Savar, Dhaka, Bangladesh
E-mail: sonianasrin260@gmail.com

Abstract

Background: Antenatal care (ANC) engagement is essential for ensuring healthy pregnancy outcomes by providing timely medical interventions and education to expectant mothers. In Bangladesh, various factors such as socioeconomic status, education level, and access to healthcare services significantly influence antenatal care (ANC) utilization. This study aimed to explore the trends in antenatal care engagement among women in Bangladesh. ***Methods:*** This observational cross-sectional study took place over six months at Shaheed Suhrawardy Medical College Hospital in Dhaka, Bangladesh. During this period, 100 women admitted to the Obstetrics and Gynaecology Ward for delivery were purposively selected as participants. Thorough clinical examinations and pertinent investigations were conducted. Data analysis was performed using MS Office tools. ***Results:*** In Bangladesh, educated women are more likely to have regular antenatal care (ANC) and make at least four visits. Women over 25 years old tend to attend ANC less frequently, whereas regular attendance is seen in 91.1% of women aged 20-25. Primiparous women had a higher ANC attendance rate at 95.7%, but women with higher parity (≥4) also showed an increased usage of ANC services at 71.4%. Cesarean sections were more prevalent in rural areas at 56.4% compared to 71.0% in urban areas. Regarding neonatal outcomes, 15% of babies were born with low birth weight, and prematurity was observed in 15% of cases. ***Conclusion:*** In Bangladesh, a rich tapestry of cultural, educational, and socioeconomic elements plays a pivotal role in shaping the way maternal healthcare is sought. There is a notable disparity in access across urban and rural areas, differences in education levels, preferred treatment facilities, economic standing, and pregnancy experiences.

Keywords: ANC, Antenatal care, Bangladesh, Education, Maternal, Obstetrics, Women.

INTRODUCTION

Despite significant advancements in primary health care in Bangladesh over the past decades, only 21% of pregnant women receive at least four ANC visits. Moreover, just 31% of births occur at health facilities, and only 41% of women have skilled birth attendants during childbirth [1]. The limited access to health providers and facilities means that nearly 73% of mothers do not receive four or more ANC visits from skilled professionals, significantly below the eight 'contacts' recommended by the World Health Organization (WHO) [2]. There is a notable disparity between urban and rural areas, with 74% of urban women receiving ANC from trained providers compared to only 49% of rural women [3]. Enhancing access to quality ANC and ensuring its consistent implementation are crucial steps toward achieving the health-related Sustainable Development Goals in Bangladesh. Antenatal and postnatal care are crucial for improving maternal health and preventing deaths, but they're poorly developed in Bangladesh, especially among Indigenous women [4]. WHO recommends at least four antenatal visits, starting by the fourth month, yet only 12% of recent pregnancies in Bangladesh meet this standard. The median first visit occurs at 5.4 months, with only one

in seven women starting care in the first trimester. Although 84% received dietary advice, just 54% were informed about where to seek help for complications, and only 45% received comprehensive guidance [5]. Since the fourth Population and Health Program in 1992, Bangladesh has focused on reducing maternal mortality and improving maternal health [6]. Many women face life-threatening complications during pregnancy and childbirth, often due to a lack of awareness about available healthcare services, leading to low utilization and increased maternal morbidity and mortality. Quality antenatal care (ANC) entails medical supervision from conception to delivery by a physician, midwife, obstetrician, or a combination of these professionals [7]. Since the fourth Population and Health Program in 1992, Bangladesh has focused on reducing maternal mortality and improving maternal health [6]. Many women face life-threatening complications during pregnancy and childbirth, often due to a lack of awareness about available healthcare services, leading to low utilization and increased maternal morbidity and mortality. Quality antenatal care (ANC) entails medical supervision from conception to delivery by a physician, midwife, obstetrician, or a combination of these professionals [7]. Quality healthcare during pregnancy includes promotive, preventive, and curative aspects, with antenatal care (ANC) as a key component providing multiple care types and educating mothers in a formal setting. There is an ongoing debate about the most critical ANC contact points during pregnancy [10]. Routine prenatal care involves lab tests to identify potential complications, such as a complete blood count, blood type, urinalysis, and screenings for rubella, hepatitis B and C, STIs, HIV, and tuberculosis, particularly early in pregnancy [11]. Syphilis screening is recommended for all pregnancies, with additional tests at 28-32 weeks and delivery for high-risk women. Blood group and Rh-type screenings should also be done in the first trimester, followed by an antibody screen at 28 weeks for Rh-negative women to prevent hemolytic disease of the newborn [12]. Recent evidence clarifies that while some antenatal care strategies effectively improve health, like treating anemia and managing STIs, they might not significantly reduce maternal mortality [13]. Routine height and weight monitoring, for instance, has not been effective in reducing serious complications or maternal deaths [14].

METHODOLOGY

This observational cross-sectional study was conducted at Shaheed Suhrawardy Medical College Hospital over six months, from November 2018 to April 2019 with a sample size of 100. Participants were selected using purposive sampling. The study included women admitted to the Obstetrics and Gynecology Ward for childbirth who gave informed consent. Women with co-morbid conditions like heart disease or diabetes mellitus were excluded as per the exclusion criteria. Women who needed prompt delivery due to medical or obstetric complications were also excluded from this study. Information was gathered through informed consent about participants' age, sociodemographic characteristics, parity, pregnancy trimester, ANC check-up frequency and regularity, BP checks, TT vaccination, medication compliance, planned delivery location, and food intake. The study involved thorough clinical evaluations, including general, systemic, and gynecological exams. Participants underwent routine tests such as hemoglobin, ESR, LFT, random blood sugar, complete urine examination, and an abdominal and pelvic ultrasound. Data analysis was conducted using MS Office tools.

RESULT

In this study, participants ranged in age from 17 to over 35 years, with 42.0% in the 20-25 age group and 24.0% in the 26-30 age group. The mean age was 23.5 ± 9.54 years. A majority of respondents (62.0%) came from urban areas, and 49.0% had only primary education. Economic class distribution included 52% from the poor class, 28% from the upper class, and 20% from the middle class. In terms of occupation, 58.0% of respondents were housewives, and 20.0% were daily workers. Regarding reproductive status, 46.0% were primigravida, 40.0% had parity 2 to 3, and 14.0% were multiparous. For childbirth location, 48.3% delivered at their parent's house, 37.0% at their in-law's house, and only 14.5% in a hospital. In this study, only 34.2% of rural mothers attended regular antenatal check-ups, in contrast to 87.0% of urban mothers. It was observed that women over 25 years were less likely to visit service centers during pregnancy than those under 25. All women under 20 attended regular ANC, and 91.1% of those aged 20-25 did too, with participation declining as age increased. Educated women were more likely to receive regular antenatal care and have four or more visits: 88.2% for those highly educated, 71.4% for primary, 66.7% for secondary, and just 23.0% for illiterate women. In rural areas, ANC attendance was notably low, with only 13 women participating. Primiparous women had a significant impact on antenatal care attendance, with 95.7% receiving care. While ANC attendance was only 30.7% among women with 2-3 children, it rose significantly to 71.4% for those with four or more children.

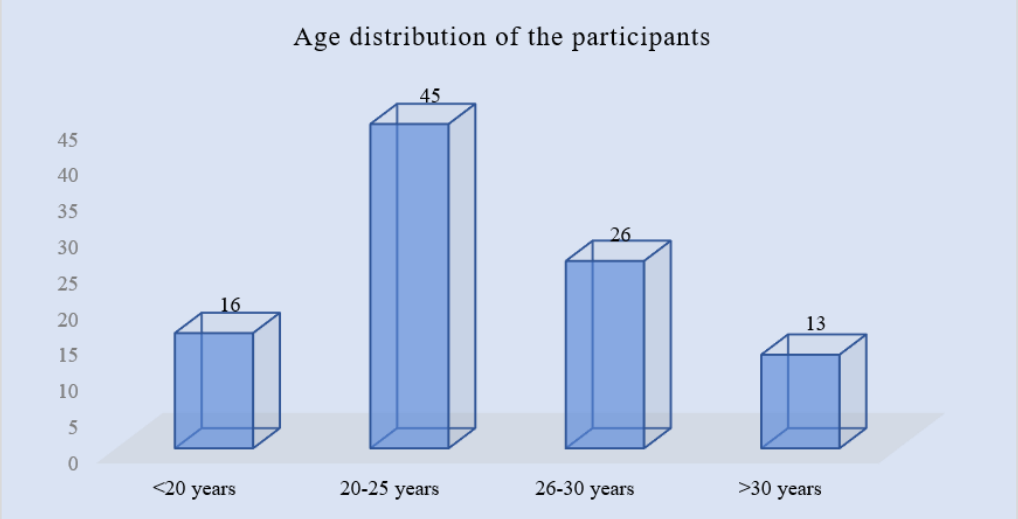

Figure I: Column chart showed age wise participants distribution (N=100)

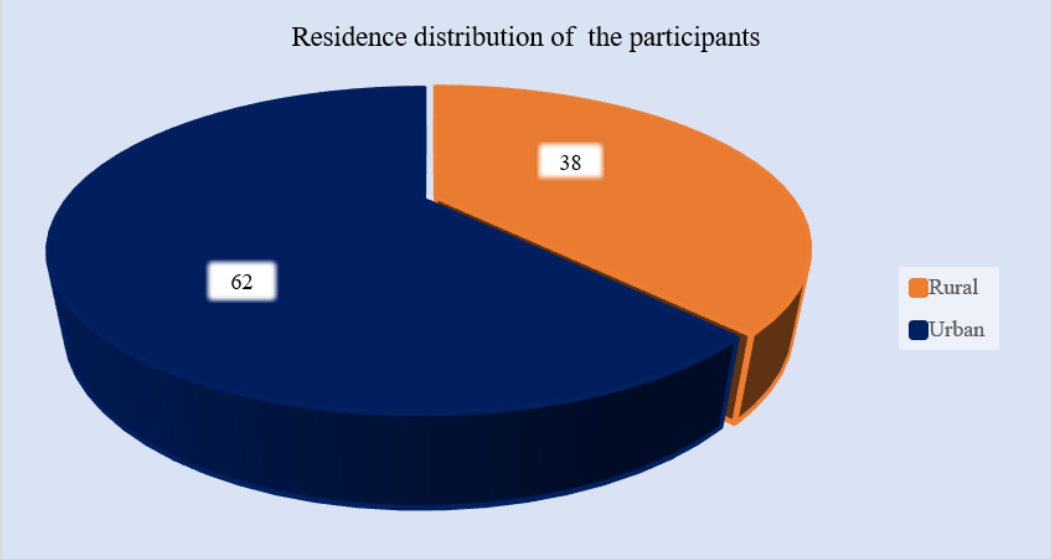

Figure II: Pie chart showed residence wise participants (N=100)

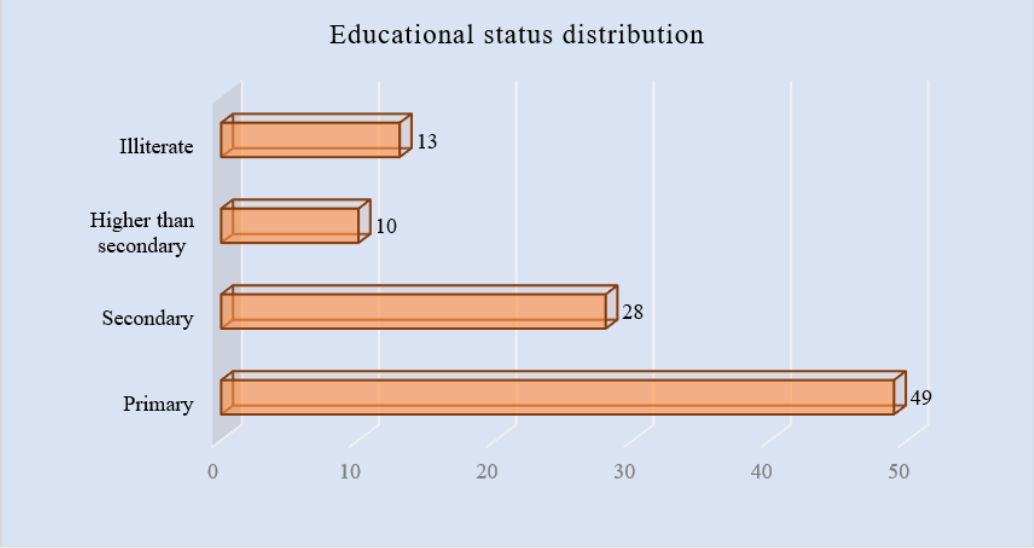

Figure III: Bar chart showed educational status of participants (N=100)

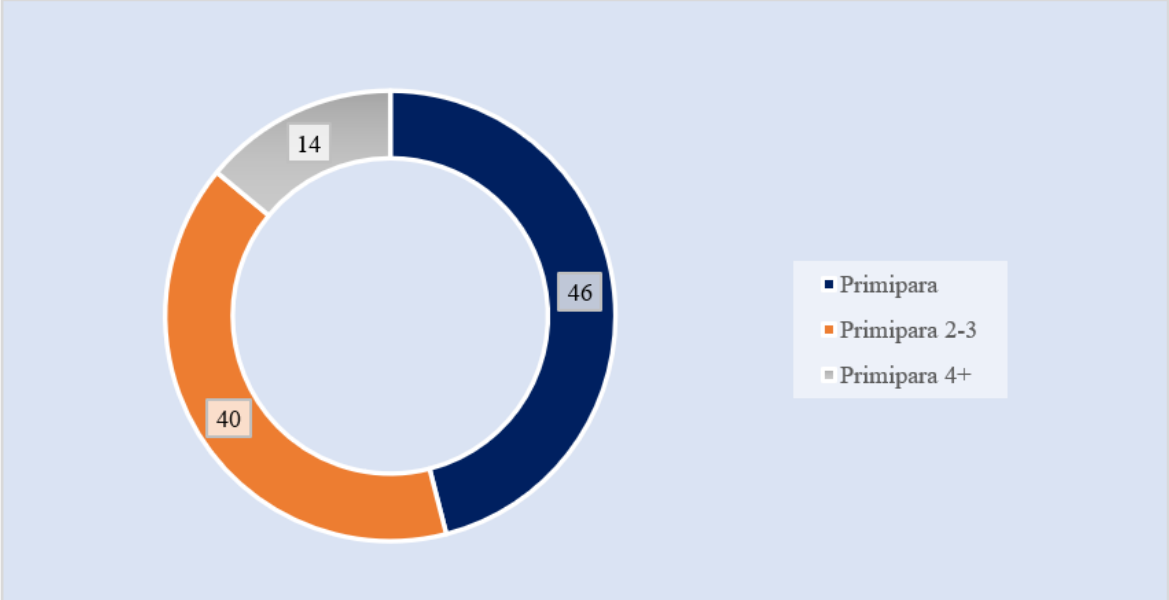

Figure IV: Ring chart showed obstetrics history (parity) of mothers (N=100)

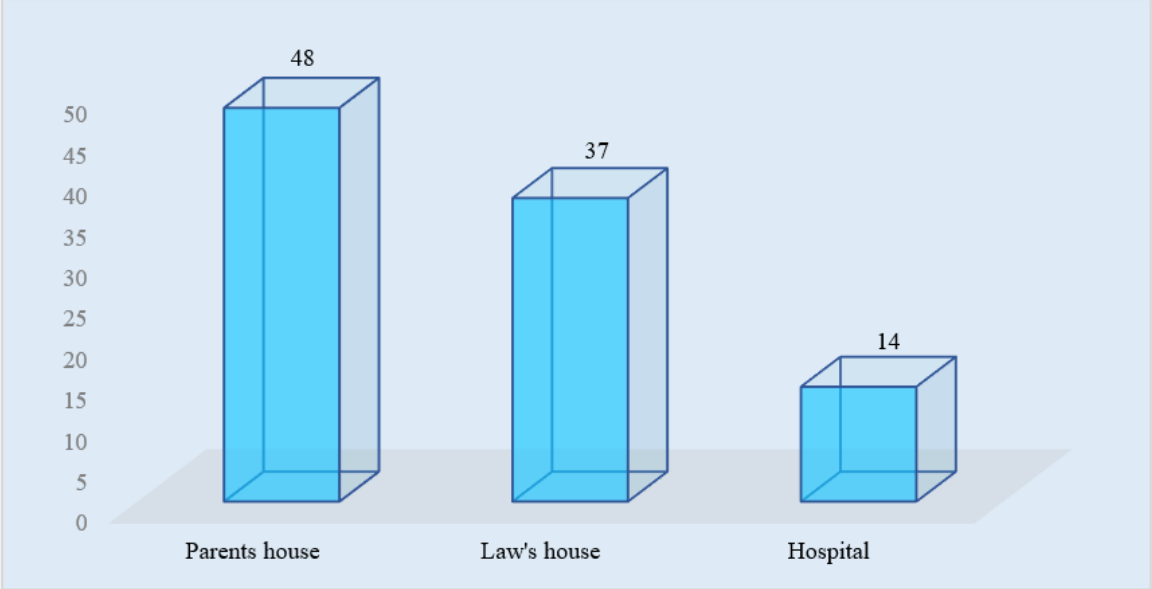

Figure V: Column chart showed place of first childbirth of participants (N=100)

Table 1: Frequency of ANC

ANC	Rural (n=38)	Urban (n=62)
Regular	13(34.2%)	54(87.0%)
Irregular	25(65.7%)	8(12.9%)

Table 2: ANC visits by age groups

Age (Year)	Frequency		Total
	Regular (n=67)	Irregular (n=33)	
<20	16	0	16
20-25	41	4	45
26-30	10	16	26
>30	0	13	13

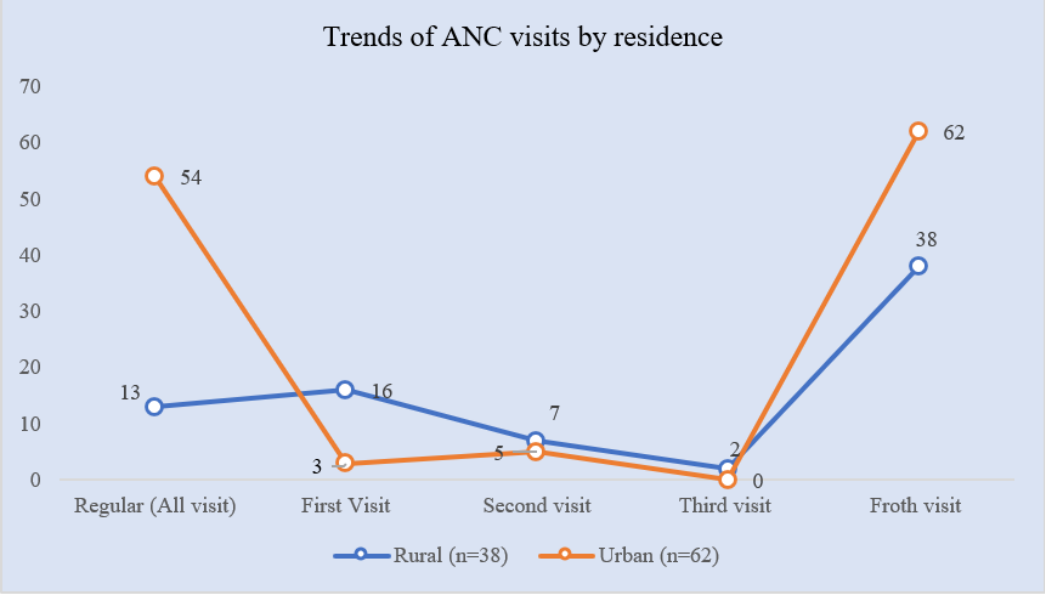

Figure VI: Line chart showed trends of ANC visits by residence (N=100)

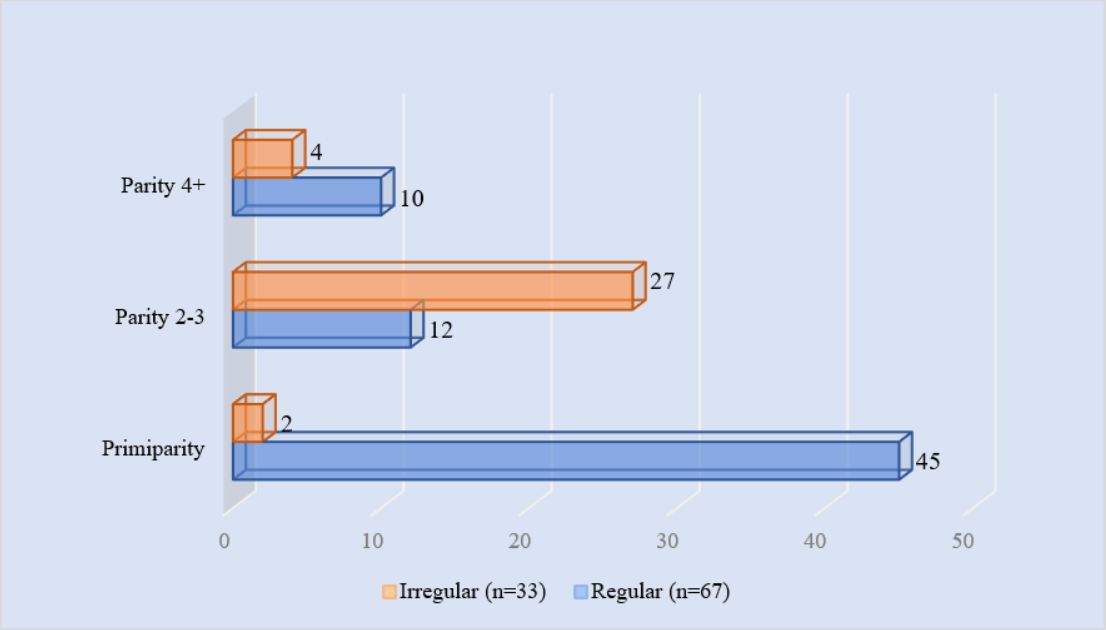

Figure VII: Bar chart showed antenatal care by parity of participants (N=100)

DISCUSSION

In the study, a large portion of participants were aged 20-25 years (42.0%) and had completed a primary level of education (42.0%). Most participants were housewives, followed by daily workers. Factors contributing to low ANC utilization included place of residence, age, educational level, distance to health services, and access to mass media. Another study found the highest number of cases in the 25-29 age group (30.2%), followed by the 20-24 age group (27.5%) and the 30-34 age group (19.8%). A study in rural Bangladesh indicated that higher education was linked to increased ANC usage [15]. It was observed that all women under 20 and 91.1% of those aged 20-25 received regular ANC, with a decline in this trend as age increased. A study by Islam MR *et al.*, [4] found that women aged 25-35 were less likely to visit service centers during pregnancy compared to those under 25. Nationally, the ANC visit rate in Bangladesh is 60.3% [15], but this study showed a slightly higher rate of 67.0%. In sub-Saharan Africa, 68% of women have at least one antenatal visit, whereas other regions range from 82% to 86% [4]. In the study, 42.0% of respondents married at or before 18 years of age, with rural areas showing a greater prevalence (71.0% compared to 24.1% in urban areas). Among the women, 39.0% married between 19 and 25 years, and 19.0% between 25 and 30 years, with none of the latter from rural areas. Aktar S *et al.*, [16] found marriage rates of 8.5% for ages 20-24, 3.4% for ages 25-29, and 2.5% for ages 30-34. Parity influences ANC use, with higher-parity women

generally using less ANC across all regions [17]. A study in the Chittagong Hill Tracts found that Indigenous groups had less access to healthcare facilities, contraception, and ANC visits compared to Bengali people [15]. The current study shows that 88.2% of higher-educated mothers received regular ANC, in contrast to 71.4% with primary education, 66.7% with secondary education, and only 23.0% among the illiterate. A previous study [16] reported that 34.7% of respondents had education between grades I to V, 33.9% between grades VI to X, 11.9% had passed the SSC examination, and only 2.5% were college graduates. In our study, 88.1% of rural women did not have regular medical check-ups during pregnancy, with only 11.9% attending such check-ups, highlighting that regular medical care during pregnancy is uncommon among women in rural areas [6]. The study on childbirth locations highlights care-seeking behaviors, revealing that 48.3% of respondents had their first child at their parent's house, 37.0% at their in-law's house, and 14.5% in a hospital. Comparatively, another study [16] found that 74.6% gave birth at their parent's house, 18.6% at their in-law's house, only 0.8% at a government hospital, and nearly 6% at private clinics. A study [17] suggested that the disadvantages of low educational levels can be mitigated. Lack of education doesn't have to be a strong determinant in the use of antenatal care if suitable interventions are made to encourage women to utilize available services. In your study, antenatal care attendance was notably high among primiparous women, with 95.7% receiving care. This trend decreased significantly among women with 2-3 parity, where only 30.7% attended ANC. Interestingly, ANC attendance increased again among women with higher parity (4+), reaching 71.4%. Meanwhile, another study [17] found that older women had slightly lower levels of antenatal care compared to those under 35 years of age.

LIMITATION OF THE STUDY

The limitations of this study include a small sample size and a single hospital setting, which reduces national applicability. As a tertiary care facility, it may not reflect primary or secondary center conditions. A larger-scale study is needed. Additionally, varying management protocols and purposive sampling may have introduced bias.

CONCLUSION & RECOMMENDATION

In Bangladesh, a diverse array of cultural, educational, and socioeconomic elements significantly shapes maternal healthcare-seeking behaviors. Disparities are evident in access to healthcare between urban and rural regions, reflecting differences in education levels, preferred treatment facilities, economic status, and previous pregnancy experiences. These factors collectively impact how and when maternal healthcare is accessed, highlighting the importance of tailored interventions to bridge these gaps and ensure that all women receive the care they need regardless of their background or location.

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