

A Study on Knowledge on Antenatal Care among Mothers Admitted in Obstetric Ward in Dhaka Medical College and Hospital

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Abstract

Introduction: Adequate prenatal treatment is crucial to supporting optimal fetal development, appropriate organogenesis, and a robust immune system in the infant. The nutritional status of the mother has a direct effect on both her own health and the health of her child. **Methodology:** This was a cross-sectional study conducted at the Obstetric Ward in Dhaka Medical College and Hospital from January 2019 to April 2019, and a total of 150 admitted mothers from the Obstetric Ward enrolled in this study. The data was collected using a pretested, modified questionnaire. The data was inputted and analyzed using the Statistical Package of Social Science (SPSS) software, specifically version 23.0. The study gained ethical clearance from the Institutional Review Board (IRB) of Dhaka Medical College and Hospital in Dhaka, Bangladesh. **Objective:** The study aimed to assess the knowledge of antenatal care among mothers admitted to the obstetric ward at Dhaka Medical College and Hospital. **Results:** According to age distribution, 50%, 41.3%, and 8.7% of the respondents belonged to the age groups of 15–25 years, 26–35 years, and 36–45 years, respectively, with a mean age of 26.47 ± 5.652 years. According to the distribution by family type, the majority of the respondents (66%) belonged to the nuclear family and only 34% were in the joint family. The study revealed that the majority of the respondents (25.3%) education was primary, followed by 20% being SSC, 34.7% being HSC, 7.3% being graduates and only 12.7% being illiterate. According to the distribution by profession, 71.3 percent of respondents were housewives and the rest of them, 28.7%, were in service. According to the distribution by residence, most of the respondents (48.7%) were from finished buildings, 10.7% were from semi-pucca buildings and only 40.7% were from other types of residence. Most respondents (73.3%) used sanitary toilets and only 26.7% used non-sanitary toilets. Most of the respondents (82%) were Muslims, 9.3% were Hindus, 4.7% were Christians, 2.7% were Buddhists, and only 1.3% had other religions. Among the respondents, (32.7%) had antenatal clinics available in their community and 67.3% had no antenatal clinics in their community. The majority of the respondents (66%) received antenatal care during pregnancy and 34% did not receive any antenatal care during pregnancy. Most of the respondents (86%) knew that vaccination was important during pregnancy and 14% had no knowledge of the importance of vaccination during pregnancy. Among the respondents, (48.7%) had knowledge of four ANC visits and 51.3% had two visits. The majority of the respondents (82.7%) had a normal mode of delivery and 17.3% had a cesarean section. The majority of the respondents (86.7%) received ANC in the clinic and 13.3% at home. Most of the respondents (88.7%) were more than 18 years old while getting married and 11.3% were less than 18 years old. Most of the respondents (90%) were 20 years old at the birth of their first baby, while 10% were less than 20 years old. The majority of the respondents (61.3%) babies' birth weight was more than 2.5 kg at birth and 38.7% of respondents' babies' birth weight was less than 2.5 kg at birth. The majority of the respondents (85.3%) got information from an NGO or hospital, 66% from TV, 0.7% from radio, 1.3% from print media, 6% from billboards, and 21.3% from family physicians. Finally, this study revealed a statistically significant association between the respondent's knowledge about the toxemia of pregnancy and the age of the respondents ($P = 0.001$), as well as a highly significant association between the respondent's sex and the written protocol for universal precaution. ($P=0.000$). **Conclusion:** This study revealed that the level of knowledge of the participants regarding antenatal care was moderate. To improve this situation, there is an urgent need for multi-channel awareness.

Key words: Knowledge, antenatal, care, mothers, obstetric ward.

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INTRODUCTION

The healthcare system in Bangladesh has seen significant changes and improvements, resulting in an elevated status. Over the past decade, there has been a consistent and noteworthy advancement in various aspects of mother and child health. However, there remains a significant area in which we must dedicate much effort, namely the sluggish advancement in enhancing maternal care and reproductive health infrastructure. It pertains to the holistic health of mothers, encompassing their physical, nutritional, and emotional well-being. An essential objective of both the Millennium Development Goals (MDG) and the National Health Policy of Bangladesh is to enhance the well-being of mothers and children, as well as to guarantee the availability of resources for the secure and hygienic delivery of children at the community level. The Government of Bangladesh aims to guarantee the well-being and survival of all mothers and children by providing suitable and sufficient family planning services, prenatal and postnatal care, maternal health care, critical obstetrical services, and promoting maternal support. Antenatal care (ANC) has a crucial impact on the adoption of evidence-based practices that are essential for the well-being of women and their newborns [1]. However, the ANC (Antenatal Care) coverage in Bangladesh is inadequate, with only around 50% and 21% of pregnant women receiving 1 and 4 ANC visits, respectively. Several studies have examined the correlation between antenatal care (ANC) and perinatal mortality in both developing and industrialized nations; however, the findings are inconclusive. We must prioritize antenatal care and counseling, with a particular focus on promoting maternal nutrition, birth readiness, and family planning. The primary objective should be to identify the disparity between the National Health Policy and the implementation of maternal care practices in Bangladesh [3]. Women who have low attendance for antenatal care are more likely to experience adverse pregnancy outcomes. Insufficient awareness and understanding of this issue among women can result in significant negative effects for both the mother and her infant. It is crucial to enhance information and raise awareness about the true severity of this problem to address the multiple adverse outcomes associated with this condition [4]. Antenatal care is a field of medicine that focuses on diagnosing general medical conditions before symptoms appear, as well as addressing nutrition, immunology, health education, and social medicine. It also aims to prevent and detect pregnancy abnormalities at an early stage [5]. The primary and crucial aspect of maternal and child health (MCH) care is antenatal care (ANC). Antenatal care coverage serves as a crucial metric for assessing the extent to which health services are being utilized within a country. The main goal of prenatal care is to ensure the delivery of a physically sound mother and a healthy infant. During prenatal care, healthcare providers detect any anomalies that may occur during pregnancy and

administer tetanus immunizations to pregnant women. Improved ANC can lead to a decrease in maternal and newborn morbidity and mortality rates. Optimally, this care should commence during the initial stages of pregnancy and persist until birth via a sequence of appointments for regular physical and other assessments. Antenatal care refers to the comprehensive monitoring and support provided to pregnant women to ensure the well-being and development of both the mother and the fetus, as well as the infant. In 1988, during the FIGO meeting in Rio (Brazil), the World Congress introduced the safe motherhood program and instructed consultant national societies to prioritize their efforts towards safe motherhood activities. Antenatal care originated as a humanitarian service in Paris in 1788, specifically in two shelter facilities dedicated to abandoned women. The concept of providing preventive care during pregnancy, known as prenatal care, has been widely accepted and the quality of care is improving in all industrialized nations. Seven in Bangladesh, approximately 35% of pregnant women receive antenatal care at least once, while around 25% of deliveries are attended by qualified workers. Only 40% of the population has access to primary health care [8]. Unlike the situation depicted in this illustration, antenatal care in the majority of developed countries is fully conducted within hospital settings. The maternal mortality risk in Bangladesh is 150 times higher compared to developed countries. The maternal mortality rate stands at approximately 5.5 per 1,000 live births [9]. Based on the Health Service Report 1989, Bangladesh exhibits one of the worst rates of maternal death globally due to the prevalent reliance of Bangladeshi mothers on their husbands or heads of the family for decisions on antenatal care (ANC). This suggests that the involved parties also require motivation. There was no significant correlation identified between the proximity of health services and the adoption of ANC [9]. Prenatal care is crucial for women during pregnancy. Currently, in Bangladesh, the annual mortality rate for women owing to pregnancy and childbirth-related causes stands at 23,000. The survival of both the mother and child, as well as the future growth and development of the infant, are influenced by factors such as maternal nutritional status, behaviors during pregnancy and delivery, and the availability of obstetric care. [10-11]. Nevertheless, there is a scarcity of research and insufficient national-level data in Bangladesh pertaining to maternal awareness of prenatal care. Consequently, the researcher has formulated this study. The objective of this study was to evaluate the level of understanding regarding antenatal care among mothers who were admitted to the obstetric ward of Dhaka Medical College and Hospital (DMCH).

OBJECTIVES

General objective:

- To assess the knowledge on antenatal care among mothers admitted in obstetric ward in Dhaka Medical College and Hospital in Dhaka.

Specific objectives:

- To assess the socio demographic variables of the respondents.
- To see the practice related variable to pregnancy of the respondents.
- To find out attitude related variables of the respondents.
- To find out IEC related variables of the respondents.
- To assess the association between knowledge and socio-demographic variables of the respondents.

METHODOLOGY

This was a cross-sectional study conducted at the obstetric ward of Dhaka Medical College and Hospital from January 2019 to April 2019. Written informed consent was obtained, and a total of 150 admitted mothers from the obstetric ward enrolled in this study. A pretested modified questionnaire that included socio-demographic characteristics, knowledge and practice about ANC, pregnancy outcome and IEC was used to collect the data. All the data were cleaned, edited and entered into the computer for analysis. The data were analyzed by the Statistical Package of Social Science (SPSS) software, version 23.0. A comprehensive inferential statistical analysis was conducted, and the findings were displayed in tables and charts, showcasing the frequency and percentage distributions. Chi-square tests were conducted to assess the relationship between age groups and knowledge of toxemia of pregnancy, as well as the participants' education level and their knowledge of toxemia of pregnancy. A significance threshold of $P < 0.05$ was used. The study received ethical clearance from the Institutional Review Board (IRB) of Dhaka Medical College and Hospital, Dhaka, Bangladesh. The study employed specific criteria for both inclusion and exclusion, which were as follows:

Inclusion Criteria

1. Age > 15 years
2. Mothers admitted in Obstetrics Ward
3. Willing to participate in the study

Exclusion Criteria

1. Age < 15 years
2. Non-admitted OPD mothers
3. Unwilling and unable to participate in the study.

RESULTS**Table No. 1: Distribution of the respondents by age (n=150)**

Age	Frequency	Percent
15-25	75	50.0
26-35	62	41.3
36-45	13	8.7
Total	150	100.0
Mean \pm SD=26.47 \pm 5.652		

Table-1 shows 50%, 41.3% and 8.7% of the respondents belonged to age group 15-25 years, 26-35 years and 36-45 years respectively with mean age 26.47 \pm 5.652 years.

Table No. 2: Distribution of the respondents by type of family (n=150)

Type of family	Frequency	Percent
Nuclear	99	66.0
Joint	51	34.0
Total	150	100.0

Table-2 shows that most of the respondents (66%) belonged to nuclear family and only 34% were in joint family.

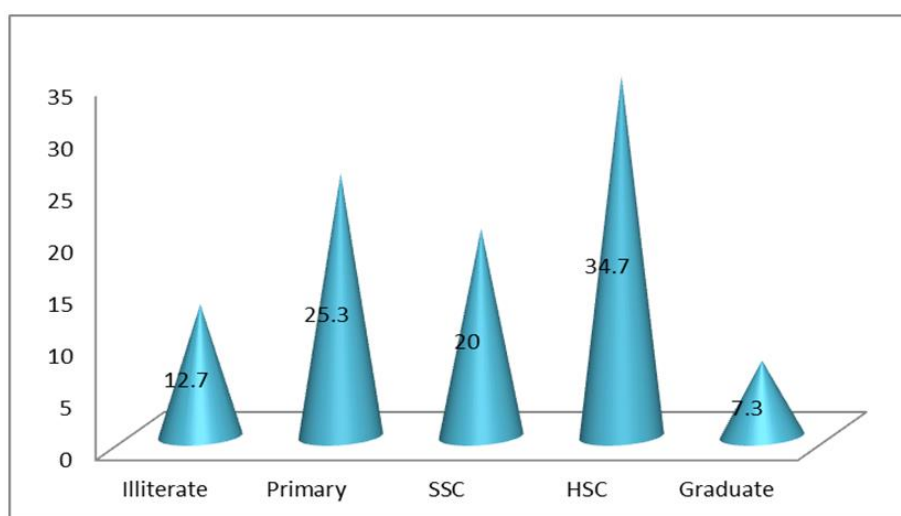
**Figure-1: Distribution of the respondents by qualification**

Figure-1 reveals that among the respondents 25.3% education were primary, followed by 20% were

SSC, 34.7% were HSC, and 7.3% were Graduate and only 12.7% illiterate.

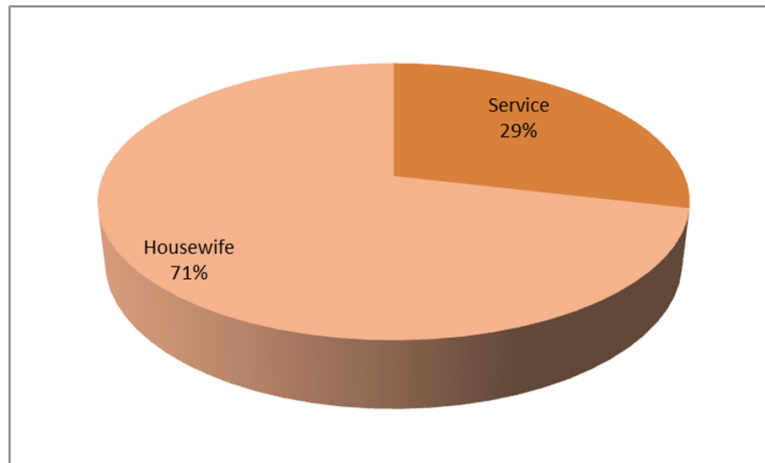


Figure-2: Distribution of the respondents by occupation

Figure no. 2 shows that most of the respondents (71.3%) occupation was housewife and rest of them (28.7%) was in service.

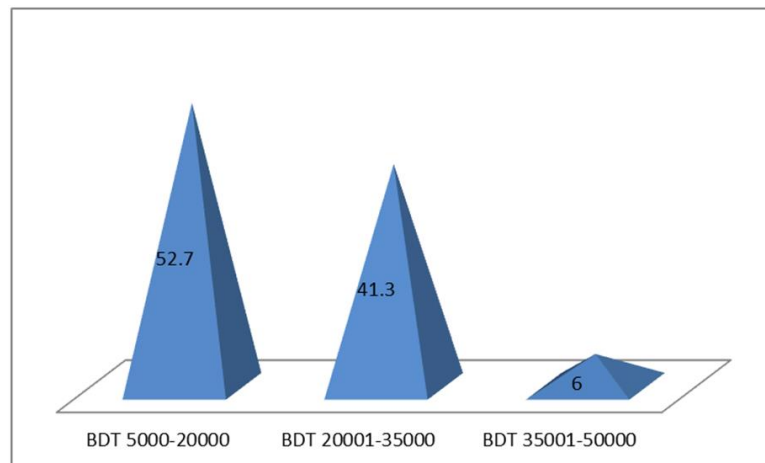


Figure-3: Distribution of the respondents by monthly income

Figure-3 shows 52.7%, 41.3% and 6% of respondents belonged to income group BDT 5000-20000, 20001-35000 and 35001-50000 respectively.

Table -3: Distribution of the respondents by type of residence (n=150)

Type of residence	Frequency	Percent
Tinshed	73	48.7
Semi-pacca	16	10.7
Others	61	40.7
Total	150	100.0

Table-3 shows that most of the respondents (48.7%) residence was tinshed, belonged to 10.7% were semi-pacca and only 40.7% others.

Table No. 4: Distribution of the respondents by type of toilet use (n=150)

Type of toilet use	Frequency	Percent
Sanitary	110	73.3
Non-sanitary	40	26.7
Total	150	100.0

Table-4 reveals that majority of the respondents (73.3%) used sanitary toilet and only 26.7% non-sanitary toilet.

Table- 5: Distribution of the respondents by religion (n=150)

Religion	Frequency	Percent
Muslim	123	82.0
Hindu	14	9.3
Buddhist	4	2.7
Christian	7	4.7
Others	2	1.3
Total	150	100.0

Table-5 shows that the majority of the participants (82%) identified as Muslim, while 9.3% identified as Hindu, 4.7% identified as Christian, 2.7%

identified as Buddhist, and only 1.3% identified as belonging to other religions.

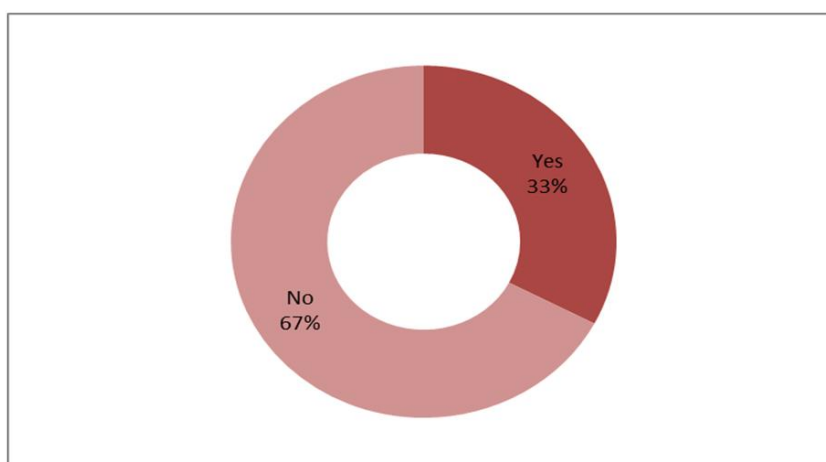


Figure-4: Distribution of the respondents by availability of antenatal clinic in community

Figure no. 4 reveals that among the respondents (32.7%) have antenatal clinic available in their

community and 67.3% did not available in their community.

Table- 6: Distribution of the respondents by receiving antenatal care during pregnancy (n=150)

Antenatal care received	Frequency	Percent
Yes	99	66.0
No	51	34.0
Total	150	100.0

Table-6 shows that most of the respondents (66%) received antenatal care during pregnancy and 34% did not received.

Table-7: Distribution of the respondents by knowledge of importance of vaccination during pregnancy (n=150)

Vaccination is important during pregnancy	Frequency	Percent
Yes	129	86.0
No	21	14.0
Total	150	100.0

Table-7 shows that most of the respondents (86%) had knowledge that vaccination is important during pregnancy and 14% did not know.

Table-8: Distribution of the respondents by knowledge on the number of antenatal care visit (n=150)

Number of antenatal care visit	Frequency	Percent
Four times	73	48.7
Two times	77	51.3
Total	150	100.0

Table-8 Reveals that among of the respondents 48.7% had knowledge on the four times ANC visit and 51% had knowledge no two times visit.

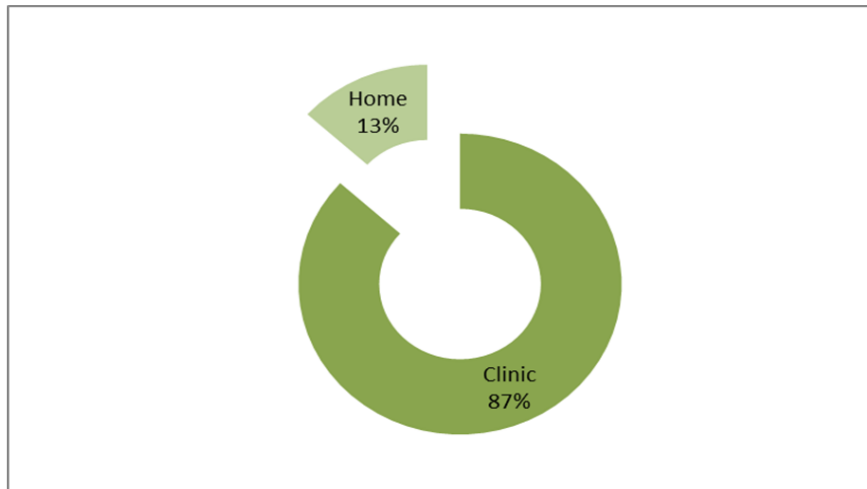


Figure-5: Distribution of the respondents by place of antenatal care received

It is found from Figure No 5 that majority of the respondents (86.7%) received care in clinic and 13.3% were in home.

Table-9: Distribution of the respondents by the age of marriage (n=150)

Age of marriage	Frequency	Percent
More than 18	133	88.7
Less than 18	17	11.3
Total	150	100.0

Table-9 reveals that most of the respondents (88.7%) were more than 18 years while getting married and 11.3% were less than 18 years.

Table-10: Distribution of the respondents by the age during birth of first child (n=150)

Age of mother birth	Frequency	Percent
20 years	135	90.0
Less than 20 years	15	10.0
Total	150	100.0

Table10 shows that most of the respondents (90%) were 20 years old during birth of their first baby while 10% - were less than 20 years.

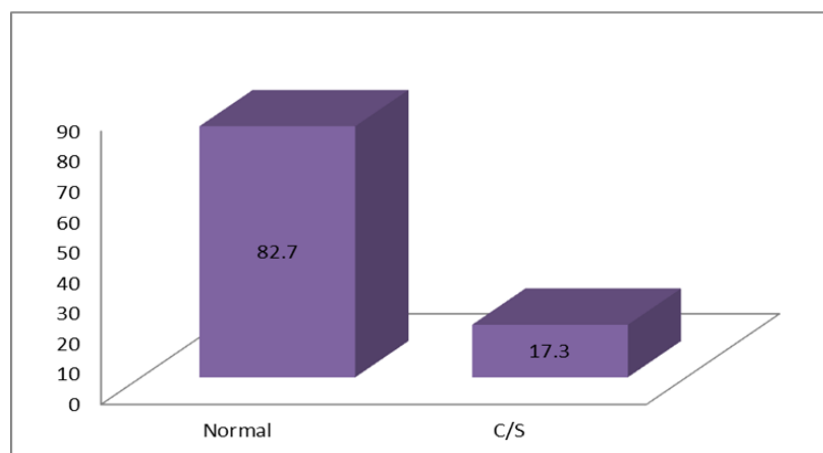


Figure-6: Distribution of the respondents by the mode of delivery

Figure-6 reveals that majority of the respondents (82.7%) had normal mode of delivery and 17.3% by caesarean section.

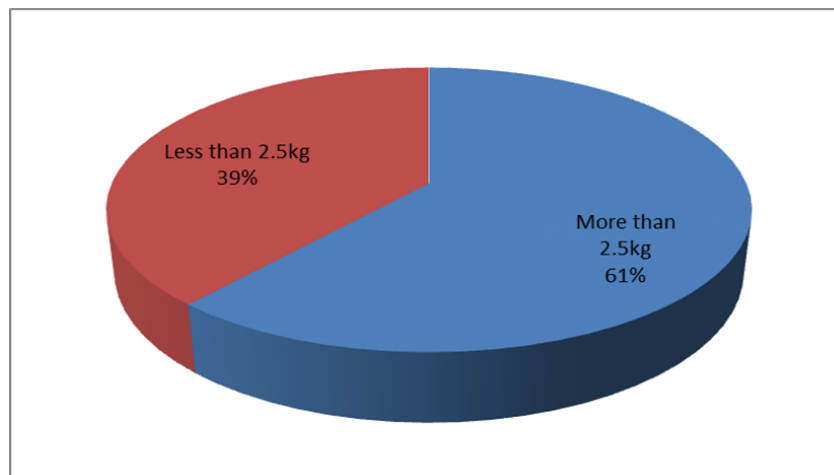


Figure-7: Distribution of the respondents by the knowledge on their baby's weight at birth

Figure-7 shows that most of the respondents (61.3%) baby's birth weight was more than 2.5kgs at birth and 38.7% was less than 2.5kgs at birth.

Table-11: Distribution of the respondents' by source of getting information about antenatal care (Multiple Response)

From where you know antenatal care	Frequency	Percent
TV	99	66.0
Radio	1	0.7
Print media	2	1.3
Bill board	9	6.0
NGO or hospital	128	85.3
Physician	32	21.3

Table-11 shows that majority of the respondents (85.3%) got information from NGO or hospital, 66% were from TV, 0.7% was from radio, 1.3%

was from print media, 6% were from bill board, and 21.3% from family physician.

Table-12: Distribution of respondents by association between knowledge about toxemia of pregnancy and age of the respondents (n=150)

Do you know about toxemia of pregnancy	Age of the respondents			Total	P-Value
	15-25	26-35	36-45		
Yes	3	7	2	12	0.001
No	72	55	11	138	
Total	75	62	13	150	

Table-12 shows there is significant association between respondent's knowledge about toxemia of pregnancy and age of the respondents (P=0.001).

Table-13: Distribution of respondents by association between knowledge about toxemia of pregnancy and their qualifications (n=150)

Do you know about toxemia of pregnancy	Qualification of the respondents					Total	P-Value
	Illiterate	Primary	SSC	HSC	Graduate		
Yes	0	0	1	3	6	10	0.000
No	19	38	29	49	5	140	
Total	19	38	30	52	11	150	

Table-13 reveals highly significant association between knowledge about toxemia of pregnancy and their qualifications (P=0.000).

DISCUSSION

A descriptive cross-sectional study was undertaken to evaluate the level of antenatal care knowledge among mothers admitted to the obstetric ward at Dhaka Medical College and Hospital. The study included a sample size of 150 participants. In this study, it was observed that 50%, 41.3% and 8.7% of the respondents belonged to the age groups of 15–25 years, 26–35 years and 36–45 years, respectively, with a mean age of 26.47 5.652 years. This current study showed that most of the respondents (66%) belonged to nuclear families and only 34% were in joint families. The study revealed that the majority of the respondents (25.3%) education was primary, followed by 20% being SSC, 34.7% being HSC, 7.3% being graduates and only 12.7% being illiterate. Of the respondents (71.3%), the occupation was housewife, and rests of them (28.7%) were in service. The study revealed that 52.7% of respondents fell into the income range of BDT 5000-20000, while 41.3% belonged to the income group of 20001-35000, and just 6% were in the income group of 35001-50000. These findings closely align with a previous study conducted in Bangladesh in 2009 [12]. The current survey revealed that the majority of the participants (48.7%) lived in tinshed households, while 10.7% lived in semi-pacca residences, and only 40.7% lived in other types of residences. The majority of the respondents (73.3%) said toilet use was sanitary and only 26.7% said it was non-sanitary. Most of the respondents (82%) religions were Muslim, 9.3% were Hindu, 4.7% were Christian, 2.7% were Buddhist and only 1.3% was others. Among the respondents (32.7%), there is an antenatal clinic available in their community and 67.3% do not have an antenatal clinic in their community. The study indicates that the majority of the participants (66%) had prenatal care throughout pregnancy, while 34% did not receive any antenatal care. Mahto B13 made a similar observation in a different study in Nepal in 2008. Most of the respondents (86%) know that vaccination is important during pregnancy and 14% do not. According to the respondents, 48.7% know of four ANC visits and 51.3% have had two visits. The majority of the respondents (82.7%) had a normal mode of delivery and 17.3% had a cesarean section. The study revealed that 86.7% of the participants received antenatal care (ANC) at the clinic, whereas 13.3% received it at home. This finding is consistent with a study conducted in Nepal by Sharma BR in 2000 [14]. The study shows that most of the respondents (88.7%) were more than 18 years old when they got married and 11.3% were less than 18 years old. Most of the respondents (90%) were 20 years old at the birth of their first baby, while 10% were less than 20 years old. shows that most of the respondents (61.3%) babies' birth weight was more than 2.5 kg at birth and 38.7%'s birth weight was less than 2.5 kg at birth. The majority of the respondents (85.3%) got information from an NGO or hospital, 66% from TV, 0.7% from radio, 1.3% from print media, 6% from a billboard, and 21.3% from a family physician. It is very close to the study done in Ethiopia in 2009 as well as

some other studies [15-18]. finally, our study observed a statistical association between the respondents' knowledge about toxemia during pregnancy and age ($P = 0.001$). A highly significant association was found between the respondent's sex and the written protocol for universal precaution. ($P=0.000$). A similar observation was noted in some other studies [19, 20].

LIMITATIONS OF THE STUDY

The study was conducted in a single center with a small sample size over a short study period. So, the results may not represent the whole community.

CONCLUSION

Based on the findings of the study, it is clear that the level of knowledge of the participants regarding antenatal care was moderate. To make it more satisfactory, there is a need to take appropriate measures from the government or NGO. To improve this situation, there is an urgent need for multi-channel awareness to increase antenatal care utilization. This can be achieved by an intensive health education program or health campaigns in the community through health workers or service providers to improve their status of knowledge and lead a healthy life. The status of ANC coverage and the level of utilization of antenatal care services were not satisfactory enough, so parallel with the educational status, there is an urgent need for multi-channel awareness to increase antenatal care visits. It seems to strengthen the capacity of government and non-government organizations to provide antenatal care services for all pregnant women. This can be accomplished by the implementation of more assertive health education campaigns within the community, facilitated by health workers, schools, and non-governmental organizations (NGOs).

RECOMMENDATIONS

A large scale survey should be carried out throughout the rural community to determine the actual level of ANC service status. Develop and disseminate Information-Education & Communication (IEC) materials on importance of mother and child health to enrich the awareness level on reproductive health and shape their positive attitude on antenatal services. All concerned organization should pay their attention to achieve the coverage for four times ANC visits, TT immunization and iron tablet distribution.

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Conflict of Interest: None declared

Ethical Approval: The study was approved by the Institutional Review Board (IRB) of Dhaka Medical College and Hospital (DMCH), Dhaka, Bangladesh.

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