

## “An Assessment of the Factors Affecting Antenatal Care among Reproductive Aged Women in Chuadanga District of Bangladesh”

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**Abstract:** Antenatal services are the most effective interventions to improve maternal health and prevent maternal and infant deaths. We conducted a cross sectional study in Chuadanga Sadar Hospital, Bangladesh during the period from 10<sup>th</sup> August 2018 to 15<sup>th</sup> September 2018. The study aimed to identify the factors affecting antenatal care among reproductive aged women in Chuadanga district of Bangladesh. A total number of 300 ever-married reproductive aged women with at least one child from Chuadanga District of Bangladesh were interviewed through a structured questionnaire using purposive sampling technique. Majority of the respondents were aged between 20-25 years, secondary educated, housewife, Muslim, got married between the ages 16-18 years. Chi-square test reveals that, respondent's age, education, age at first marriage, age at first birth, nutritional status, monthly family income and expenditure, husband's occupation, place of residence and number of child ever born are associated with both of antenatal care and postnatal care. Maternal health services become a national health concern in Bangladesh; however, delivery care and post-natal care are quite low, therefore, the government of Bangladesh should implement interventions to increase awareness and availability of health facilities in order to improve the coverage of maternal health services.

**Key word:** Interventions, Reproductive, Antenatal Care

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### I. Introduction

The United Nations Millennium Development Goal (MDG5) for 2015 focuses on improving maternal health by improving quality of life for women in developing countries, including Bangladesh<sup>1</sup>. One of the MDG5 strategic goals is to improve access to prenatal and postpartum programs that effectively reduce the morbidities associated with postpartum maternal health. Specific cultural and socio-economic barriers experienced by women living in Bangladesh that may limit access to maternal services. Bangladeshi women are already at high risk of post-partum disorders such as infection, hemorrhaging, urologic dysfunction and pelvic pain. Maternal health services include effective prenatal and postnatal care, measures to prevent, detect and manage high-risk pregnancies and births particularly those to adolescents and late-parity women, adequate delivery assistance by trained persons, preferably nurses and midwives, but at least by trained birth attendants and management of the complications of unsafe abortion through expanded and improved family planning services. A recent demographic and health survey, carried out in Bangladesh in 2011, found that, about 52% of women received at least one antenatal care (ANC) from medically trained provider during their pregnancy<sup>2</sup>. Women living in rural Bangladesh are vulnerable to complications (morbidities) during pregnancy and postpartum with over half of women reporting one or more complications, including: preeclampsia, urinary incontinence, urinary tract infection, and other infections. The utilization of maternal health care is one of the important factors to reduce the incidence of such maternal morbidity and mortality. In Bangladesh, the trend for utilization of maternal health services. Internationally, increasing attention given to maternal health has been concentrated in reducing maternal mortality. The tragedy of not preventing these avoidable or treatable deaths resulted in 536,000 maternal deaths worldwide in 2005<sup>1</sup>. Developing regions accounted for 99% (533,000) of these deaths, with sub-Saharan Africa and Southern Asia accounting for 86% of them<sup>3</sup>. In every minute of each year a woman dies from complications of pregnancy, abortion attempts and childbirth<sup>4</sup>. Millions more women

survive but suffer from illness and disability related to pregnancy and childbirth. The Government of Bangladesh (Gov) had undertaken some initiatives to improve maternal health services such as implementation of community health clinic, campaigning to increase awareness, demand side financing etc. Maternal health situation in rural areas are still in a worst condition in Bangladesh although access to health services has increased over the decades. Therefore, this is important to observe the situation of access to maternal health especially antenatal care and delivery in countryside of Bangladesh. It may be helpful for policy makers to develop future programs for increasing the utilization of maternal health services in rural areas of Bangladesh.

## II. Objectives

### General Objective:

To identify the factors which are affecting antenatal care among reproductive aged women in Chuadanga district of Bangladesh

### Specific Objectives:

To assess the initiatives to increase access to antenatal care for ultra-poor population of Bangladesh  
To know more about antenatal care services and present conditions in Bangladesh

## III. Methodology and Materials

We conducted a cross sectional study in Chuadanga Sadar Hospital during the period from 10<sup>th</sup> August 2018 to 15<sup>th</sup> September 2018. The study aimed to identify factors affecting antenatal among reproductive aged women in Chuadanga District of Bangladesh. A total number of 300 ever-married reproductive aged women with at least one child from Chuadanga District of Bangladesh. In this study the method of direct interview was used for data collection. The enumerators were mainly responsible to collect information and recorded them properly. Attention was given to record factual and true statement made by the respondents. In this survey five enumerators were engaged, of whom all were female. Three were the Diploma in Nursing Science and Midwifery final year students and other two were MPH final semester student of the Department of Public Health. They visited several wards and indoor department to collect the data by personal interview. A wide discussion about the coverage and the contents was made with the enumerators. They were given necessary training and instructions regarding ways of collecting data. All concepts and definitions used were clearly explained and also given the field training and instructions regarding ways of collecting data. All concepts and definitions used were clearly explained and also given the field training as well to the enumerators. Before beginning the field work, we have discussed with the In-charge of Chuadanga Sadar Hospital about the importance of this research. Then they were given permission for data collection. The fieldwork was commenced on from 10<sup>th</sup> August 2018 and was completed 15<sup>th</sup> September 2018. A total number of 300 ever-married reproductive aged women with at least one child from Chuadanga District of Bangladesh were interviewed through a structured questionnaire using purposive sampling technique.

### Inclusion Criteria

- Ever-married and reproductive aged group.
- Age between 20-25 years
- Inhabitant of Chuadanga District of Bangladesh.

### Exclusion Criteria

- Age not between 20-25 years
- Not given consent
- Severely ill women

### Category of the different variables for logistic regression:

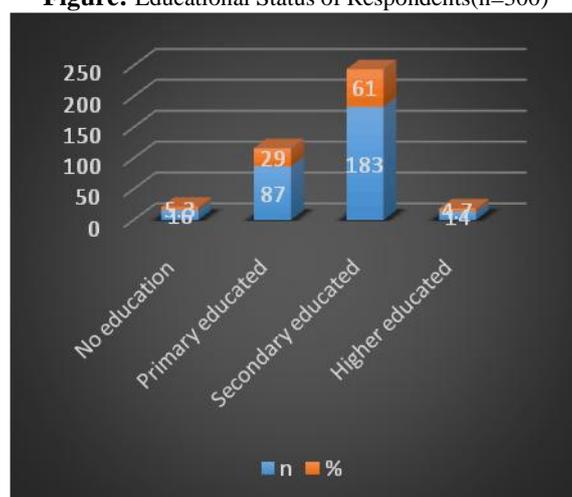
Independent variables	Category
Education of respondent	0= illiterate, 1= literate
Education of respondent husband	0= illiterate, 1= literate
Occupation of respondent husband	0= Non-profession, 1= profession
Monthly income	0= less than equal 5000, 1= greater than 5000
Exposure to mass media	0= no, 1 = yes
Current age	0= less than equal 20, 1= greater than 20
BMI	1= underweight, 2= Normal weight, 3= overweight
Nature of delivery	0= Non-caesarian, 1=caesarian
Place of delivery	1= Home, 2 = Hospital/clinic

Dependent variables	Category
Four antenatal visits	0= no (< 4 visits), 1= yes ( $\geq$ 4 visits)
Postnatal care	0= no, 1 = yes

#### IV. Results

In this study we conducted a cross sectional study in Chuadanga Sadar Hospital during the period from 10<sup>th</sup> August 2018 to 15<sup>th</sup> September 2018. The study aimed to identify factors affecting antenatal among reproductive aged women in Chuadanga District of Bangladesh. A total number of 300 ever-married reproductive aged women with at least one child from Chuadanga District of Bangladesh. More than half of the respondents (58.3%) were aged 20-25 years, about one-third of the respondents (24.3%) were aged < 20 years and only 17.3% are aged > 25 years (Table 3.1). Majority of the women (59.3%) got married between age 16 to 18 years and 18% of the respondents are get married in their early ages (before age 16 years). The rest 22.7% of respondents got married after age of 18 years. Similarly, more than two-third of respondents gave their first birth before age 21 years, where 34.7% gave first birth even before 18 years of age. Majority of the respondents (61.0%) have at one child, where 31.0% respondents have two children and 8% of respondents have three children. Most of the respondents (96.0%) were from rural areas and only 4.0% of the respondents were from urban areas.

**Figure:** Educational Status of Respondents(n=300)



**Table I:** Percentage distribution of selected socio-demographic variables. (n=300)

Socio-demographic variable	n	%
<b>Current Age</b>		
<20 years	73	24.3
20-25 years	175	58.3
> 25 years	52	17.3
<b>Age at Marriage</b>		
<16 years	54	18
16-18 years	178	59.3
>18 years	68	22.66
<b>Age at First Delivery</b>		
<18years	104	34.7
18-20 years	112	37.3
> 20 years	84	28
<b>CEB</b>		
One child	183	61
Two child	93	31
Three child	24	8
<b>Place of Residence</b>		
Urban	12	4
Rural	288	96
<b>Educational Status of Respondents</b>		
No education	16	5.3
Primary educated	87	29
Secondary educated	183	61
Higher educated	14	4.7
<b>Educational Status of Respondent's Husband</b>		

No education	33	11
Primary educated	41	13.7
Secondary educated	176	58.7
Higher educated	50	16.7
<b>Occupation of Respondent’s Husband</b>		
Job	33	2.7
Business	76	33
Farmer	149	50.3
Day Labor	42	14
<b>Monthly Income of Family</b>		
≤ 6000 taka	122	40.7
6000-8000 taka	126	42
> 8000 taka	52	17.3
<b>Monthly Expenditure of Family</b>		
≤ 6000 taka	124	41.3
6000-8000 taka	131	43.7
> 8000 taka	45	15

**TableII:** Distribution of Selected Health related Variables. (n=300)

Health related variables	n	%
<b>Body Mass Index (BMI)</b>		
Underweight	30	10
Normal	238	79.3
Overweight	32	10.7
<b>Currently Used Contraceptive</b>		
Yes	23	12.3
No	263	87.7
<b>Previously Used Contraceptive</b>		
Yes	222	74
No	78	26
<b>Adopted Method</b>		
Oral pill	102	34
Condom	96	32
IUD	2	0.7
Injection	22	7.3
No adopted method	78	26
<b>No. of Antenatal Visits</b>		
<4 visits	248	82.7
≥visits	52	17.3
<b>Place of Antenatal visits</b>		
Hospital	183	61
Clinic	98	32.7
Community health center	15	5
NGO	4	1.3
<b>Nature of Delivery</b>		
Non-caesarean	202	67.3
Caesarean	98	32.7
<b>Breastfeeding</b>		
No	21	7
Yes	279	93
<b>Total</b>	<b>300</b>	<b>100</b>

**Table III:** Patterns of Antenatal Care Visits According to the Selected Socio-economic, Demographic and Health Related Variables. (n=300)

Characteristics	No of antenatal visits			P-value
	< 4 visits	≥4 visits	Total	
<b>Place of Residence</b>				
Rural	239(83.0%)	49(17.0%)	288(100.0%)	0.04
Urban	9(75.0%)	3(25.0%)	12(100.0%)	
<b>Educational Status of Respondents</b>				
No education	15(93.8%)	1(6.2%)	16(100.0%)	0
Primary educated	77(88.5%)	10(11.5%)	87(100.0%)	
Secondary educated	150(82.0%)	33(18.0%)	183(100.0%)	
Higher educated	6(42.9%)	8(57.1%)	14(100.0%)	
<b>Education of Respondent’s Husband</b>				
No education	26(78.8%)	7(21.2%)	33(100.0%)	0.017
Primary	34(82.9%)	7(11.5%)	41(100.0%)	

<b>educated</b>				
<b>Secondary educated</b>	152(93.8%)	24(18.0%)	176(100.0%)	
<b>Higher educated</b>	36(72.0%)	14(57.1%)	50(100.0%)	
<b>Occupation of Respondent's Husband</b>				
<b>Job</b>	17(51.5%)	16(48.5%)	33(100.0%)	0
<b>Business</b>	66(86.8%)	10(13.2%)	76(100.0%)	
<b>Farmer</b>	134(89.9%)	15(10.1%)	149(100.0%)	
<b>Day Labor</b>	31(93.4%)	11(26.2%)	42(100.0%)	
<b>Monthly Income</b>				
<b>&lt; 6000 taka</b>	102(83.6%)	20(21.2%)	122(100.0%)	0
<b>6000-8000 taka</b>	115(91.3%)	11(21.2%)	126(100.0%)	
<b>&gt; 8000 taka</b>	31(59.6%)	21(21.2%)	52(100.0%)	
<b>Monthly Expenditure</b>				
<b>&lt; 6000 taka</b>	102(82.3%)	22(17.7%)	124(100.0%)	0
<b>6000-8000 taka</b>	121(92.4%)	10(7.6%)	131(100.0%)	
<b>&gt; 8000 taka</b>	25(55.6%)	20(44.4%)	45(100.0%)	
<b>Types of Family</b>				
<b>Nuclear</b>	225(86.5%)	35(19.5%)	260(100.0%)	0
<b>Joint</b>	23(57.5%)	17(42.5%)	40(100.0%)	
<b>Exposure to Mass Media</b>				
<b>Yes</b>	157(82.2%)	34(17.8%)	191(100.0%)	0.043
<b>No</b>	91(83.5%)	18(16.5%)	109(100.0%)	
<b>Religion</b>				
<b>Muslim</b>	241(82.5%)	51(17.5%)	292(100.0%)	0.043
<b>Hindu</b>	7(87.5%)	1(25.0%)	12(100.0%)	
<b>Current Age</b>				
<b>&lt;20 years</b>	59(80.8%)	14(21.2%)	73(100.0%)	0.048
<b>20-25 years</b>	147(84.0%)	28(21.2%)	175(100.0%)	
<b>&gt; 25 years</b>	42(80.8%)	10(21.2%)	52(100.0%)	
<b>Age at First Marriage</b>				
<b>&lt; 16 years</b>	42(77.8%)	12(21.2%)	54(100.0%)	0.045
<b>16-18 years</b>	149(83.7%)	29(21.2%)	178(100.0%)	
<b>&gt;18 years</b>	11(21.2%)	68(100.0%)	57(83.8%)	
<b>Age at First Delivery</b>				
<b>&lt; 18 years</b>	82(78.8%)	22(21.2%)	104(100.0%)	0.04
<b>18-20 years</b>	96(85.7%)	16(14.3%)	112(100.0%)	
<b>&gt;20 years</b>	70(83.3%)	14(16.7%)	84(100.0%)	
<b>CEB</b>				
<b>One child</b>	152(83.1%)	31(16.9%)	183(100.0%)	0.03
<b>Two child</b>	77(82.8%)	16(17.2%)	93(100.0%)	
<b>Three Child</b>	19(79.2%)	5(20.8%)	24(100.0%)	
<b>BMI</b>				
<b>Underweight</b>	25(83.3%)	5(16.7%)	30(100.0%)	0.02
<b>Normal</b>	202(84.9%)	36(15.1%)	238(100.0%)	
<b>Overweight</b>	21(65.6%)	11(34.4%)	32(100.0%)	
<b>Total</b>	<b>248(83.7%)</b>	<b>52(17.3%)</b>	<b>300(100.0%)</b>	

## V. Discussion

This study is an attempt to investigate the influencing factors of antenatal care of mother through different methods in accordance with some selected socio-demographic and health related factors. The data were collected from Chuadanga district through purposive sampling. A total of 300 data have collected for this study through personal interview. To carry out these objectives of the study, it has been developed an analytical framework which is based on widely used of statistical techniques like univariate analysis, bivariate analysis, and binary logistic regression analysis. The principle objective of the present chapter is to summarize the major findings of this study and to represent some conclusion, recommendation and policy implications. In this study, the majority of respondents live in rural area which is 96.0%. The educational background of the respondents is concerned that respondents have the secondary level of education (61.0%) and respondent's husbands have secondary level of education (58.7%). So, it can be mentioned that a big number of respondents has at least the secondary level of education under their belt. We see that all respondents of our study are housewives and maximum respondent's husband are farmer. Most of respondent's (42.0%) monthly family income is 6000-8000 taka and 97.3% respondents are Muslim. The majority (58.3%) of respondents' is 20-25 years of age and 59.3% respondent's age at first marriage belong to age group 16-18 years. Respondents have previously used contraceptive (74.0%). Among them 34.0% respondent adopted oral pill. Majority of respondent antenatal visits <4 time, which is 82.7% and also 61.0% respondents having antenatal visits in hospital. Large number (82.7%) of respondent's antenatal visit <4 times and also 61.0% respondent antenatal visit in hospital. For the case of

caesarean and non-caesarean delivery, we observe that the last child birth of non-caesarian is 67.3% and caesarian is only 32.7%. Among the total respondent for last child delivery is taking help in hospital/clinic 62.3% and 37.7% at home. Place of residence is one of the most important Socio-economic determinants of antenatal care. In a study on postnatal care<sup>5</sup> found that place of residence were significantly ( $p=0.0001$ ) associated with antenatal care in Nigeria. From our results, we see that 25.0% urban, and 17.0% rural persons have >4 times antenatal visit, and 50.0% urban, 16.7% rural persons have postnatal care. Education of respondent is another important Socio-economic determinant of antenatal care, delivery care and postnatal care<sup>6</sup>. And<sup>7</sup> demonstrated that respondents' level of education ( $p<0.05$ ) were significantly associated with antenatal care in Nigeria. We see that 6.2% illiterate, 11.5% primary educated, 18.0% secondary educated and 57.1% higher educated persons have >4 times antenatal visit, and 31.2% illiterate, 17.2% primary educated, 16.9% secondary educated, and 21.4% higher educated persons have postnatal care. Occupation of respondent's husband is important socio-economic determinant of antenatal care, delivery care and postnatal care. The study shows that, 48.5% service holder, 13.2% businessman, 10.1% farmer, and 26.2%-day labor husband's wives have postnatal care. Age of respondent is also most important demographic determinant of antenatal care, delivery care and postnatal care. This study shows that, 19.2% respondent age  $\leq 20$  years, 16.0% respondent age 20-25 years, and 19.2% respondent age >25 years have >4 times antenatal visit and 17.8% respondent age  $\leq 20$  years, 16.6% respondent age 20-25 years, and 23.1% respondent age >25 years have postnatal care. The same results were found<sup>6, 8</sup> and <sup>9</sup>. From contingency analysis, we observe that place of residence, educations of respondent, occupation of respondent's husband, monthly income and expenditure of family, types of family, exposure to mass media, religion, current age, age at first birth, CEB, and BMI are significantly related with number of antenatal visit (Table 4.1). Again, place of residence, educations of respondent, occupation of respondent's husband, monthly income and expenditure of family, types of family, exposure of mass media, religion, current age, age at first marriage, age at first birth, CEB, BMI, number of antenatal visit, place of antenatal visit, nature of delivery, delivery assistant and place of delivery are significantly related with postnatal care. It is found that, the education of respondent would increase with the respondent's number of antenatal visit also increase. In case of respondent education has a positively significant effect on no. of antenatal visit. The risks of no. of antenatal visit for literate persons are 12.975 times higher than rural people. The monthly income has positively significant effect on medical checkup during pregnancy. The risks of medical checkup during pregnancy for monthly income >6000 taka are 29.232 times higher than  $\leq 6000$  taka. In case of body mass index have positively significant effects on no. of antenatal visit. The risks of no. of antenatal visit for underweight are 0.850 times lower than normal weight and the risks of no. of antenatal visit for overweight are 0.746 times lower than normal weight.

### **Limitations of the study**

This cross-sectional study was conducted in a single community. It was also based on respondent's personal report on satisfaction. So, the results might not reflect the actual scenarios of the whole community.

## **VI. Conclusion and recommendations**

Improvement of maternal health care services especially antenatal is regarded as an important component for achieving targets of MDGs by the year 2015. Assessment of overall health facilities of a society as well as a country like Bangladesh, maternal morbidity and maternal health seeking behaviors' are powerful indicator which influenced by various socio-demographic factors. Therefore, proper investigations are to be needed for identifying the most important factors and implicating policy against those factors. In this study, it has been found that education of respondent and occupation of husband has strong association with antenatal care, and postnatal care. Thus, we can say that respondent's education and occupation of husband are two most important factor for reducing morbidity as well as improvement of maternal health. The evidence from this study suggests that public health policies aimed at reducing maternal morbidities and mortalities in Bangladesh should include strategies that will improve maternal health care service (MHCS) through: Increasing maternal education in all regions especially rural areas. Health campaigns against early marriage and awareness program to inform adolescent and young women about the consequences of early pregnancy may play vital role. Income generating work opportunities should be increased for women so that they can be financially independent to seek better health care services. Initiatives to increase access to antenatal for ultra-poor population. Availability of health care facilities and skilled health professionals need to be ensured in the rural areas of Bangladesh so that women do not seek care from non-qualified unskilled doctors, pharmacy or traditional healers.

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