

## Utilization of Antenatal care Services in a selected Rural area in Bangladesh

N Begum<sup>1</sup>, M Rahman<sup>2</sup>, M M Rahman<sup>3</sup>, S K Nayan<sup>4</sup>, S N Zinia<sup>5</sup>, S Z Khan<sup>6</sup>

### Abstract

**Background :** Antenatal care, the care that a woman receives during pregnancy, helps to ensure healthy outcomes for mother and newborns. Utilization of antenatal care services is the basic component of maternal care on which the life of mothers and babies depend.

**Objectives :** To find out the utilization of antenatal care services in a selected rural area in Bangladesh.

**Methodology :** Descriptive cross-sectional study was conducted between January to June 2014. A total 199 married women of reproductive age who had a live baby below 5 years of age, were selected purposively from village Islampur in Dhamrai Upzilla under Dhaka district. Data were collected by face to face interview using a pre-tested structured questionnaire.

**Result :** The study revealed that 94.97% utilized ANC services among them 44.72% visited for ANC more than 4 times, 20.10% for 4 times and 30.15% less than 4 times during pregnancy. Health care centre was within walking distance. Most of them were young women aged between 23-27 years (45.72%) and 18-22 years (36.18%). Majority (33.16%) was educated up to secondary level but 83.42% were house wife. Economic status was lower economic group. Half of the respondents (52%) took ANC on their own and permission of husband and 95.97% received special care from their family during pregnancy. For birth planning 86.83% planned health provider to conduct delivery and 71.36% wanted hospital delivery. Majority (97.98%) took birth preparedness during pregnancy and 55% received antenatal care from qualified doctor. About 87% found them available on duty and good behavior was found by 70.90% respondents. Information about danger signs during pregnancy were received by 77.89% of the respondents.

**Conclusion :** Utilization of Antenatal care service was higher in the study area. Most of the mothers had idea about benefit of ANC. Mother's education, family support, behaviour, availability of health care service provider and distance of health centre influence higher utilization. Therefore, to strengthen and intensify the ANC service at all level of health care delivery throughout the country is necessary for sustainability and targeting suboptimum ANC utilization group.

**Key words :** Antenatal care, birth planning, birth preparedness, danger sign.

### Introduction

Pregnancy is potentially risky for all women worldwide. Millions more women survive but suffer from illness and disability related to pregnancy and childbirth<sup>1</sup> Antenatal care may assist in abating the severity of pregnancy related complications through monitoring and prompt treatment. The availability of routine prenatal (antenatal care) care has played a part in reducing maternal death rates, miscarriages, low birth weight and other preventable health problems.<sup>2</sup>

Antenatal care (ANC) is a type of preventative care with the goal of providing regular check-ups that allow doctors or midwives to treat and prevent potential health problems throughout the course of the pregnancy while promoting healthy lifestyles that benefit both mother and child. During check-ups, women will receive medical information over maternal physiological changes in pregnancy, biological changes, and prenatal nutrition including prenatal vitamins. Recommendations on management and healthy lifestyle changes are also made during regular check-ups.

It also offers opportunity to inform women about the danger signs and symptoms which require prompt attention from a health care provider. Key components of ANC include the communication of health-related information, screening for risk factors, the prevention and management of complications, and planning for delivery in a safe place by skilled attendants, tetanus toxoid immunization, iron supplementation, preparation for transportation to a delivery site. The ultimate aim of ANC is to achieve healthy babies and healthy mothers at the end of pregnancy.<sup>3</sup>

The ANC service inevitably require necessary health infrastructure and health professionals with appropriate skills and experience particularly in poor countries where pregnant women are at increased risk of morbidity and mortality due to poverty, malnutrition and infections.<sup>4</sup>

The use of ANC in developing countries is low compared to developed countries (97%). In developing countries, women spend more time on their multiple responsibilities for care of children, collecting water or fuel, cooking, cleaning, and trade than on their own health. They think it is a natural phenomenon and ignore in taking health care during pregnancy.<sup>5</sup>

The World Health Organization (WHO) recommends four antenatal care visits for women whose pregnancies are progressing normally, with the first visit in the first trimester (ideally before 12 weeks but no later than 16 weeks), and at 24-28 weeks, 32 weeks and 36 weeks. Each visit should include care that is appropriate to the woman's overall condition and stage of pregnancy, and help her prepare for birth and care of the newborn. If problems or potential problems that will affect the pregnancy and newborn are detected, the frequency and scope of visits are increased.<sup>6</sup>

Comparable data from the 2004 and 2007 Bangladesh Demography and Health Statistic (BDHS) showed that

<sup>1</sup> Dr. Nasreen Begum  
MBBS, MPH  
Assistant Professor  
Dept. of Community Medicine  
Northern International Medical College

<sup>2</sup> Dr. Mumtaz Rahman  
MBBS, MPH  
Assistant Professor  
Dept. of Community Medicine  
Northern International Medical College

<sup>3</sup> Prof. Dr. Md. Mahubbar Rahman  
MBBS, MPH  
Dept. of Community Medicine  
Dhaka Central International Medical College

<sup>4</sup> Dr. Shafia Khatun Nayan  
MBBS, MPH  
Lecturer  
Dept. of Community Medicine  
Northern International Medical College

<sup>5</sup> Dr. Sumsun Nahar Zinia  
MBBS, MPH  
Lecturer  
Dept. of Community Medicine  
Northern International Medical College

<sup>6</sup> Dr. Sharmin Zaman Khan  
MBBS  
Lecturer  
Dept. of Community Medicine  
Northern International Medical College

### Correspondence

Dr. Nasreen Begum  
MBBS, MPH  
Assistant Professor  
Dept. of Community Medicine  
Northern International Medical College

while antenatal care from any provider had increased by 17 percent over the past few years (from 58 percent in 2004 to 68 percent in 2011), antenatal care from a medically trained provider during the same period had increased by 7 percent only (from 51 to 55 percent, respectively).<sup>7</sup> Available information suggests that about 12,000 women in Bangladesh die due to pregnancy-related complications. The reduction of maternal mortality requires early detection of high risk pregnancies through appropriate antenatal care at community level and the existence of a mechanism to ensure timely access to referral facilities.<sup>8</sup>

**Materials and methods**

This cross-sectional type of descriptive study was carried out between January to June 2014. A total 199 married women of reproductive age who had one living child below five years were selected purposively from village Islampur in Dhamrai upazilla under Dhaka district. After taking informed consent, data were collected by face to face interview, using a pre-tested questionnaire. Data was entered into SPSS version 16.0 and analyzed by the researchers.

**Results**

Socio demographic profile of respondents revealed that utilization of ANC service was highest (45.72%) among the age group 23-27 yrs. Education level was up to secondary 33.16% and primary level 28.64%. Most of the respondents (83.42%) were house wife. Monthly income was between 5001-10000Taka (34.67%) families. (Table 1)

Table I : Socio demographic profile of respondents (no.199)

Age of respondents		
Age Group	Frequency	Percentage
Below 18	06	03.02%
18-22	72	36.18%
23-27	91	45.72%
28-32	30	15.08%

**Educational status of the respondents**

Educational Status	Frequency	Percentage
Illiterate	07	03.51%
Can Sign	15	07.53%
Primary Level	57	28.64%
Secondary Level	66	33.16%
S.S.C/Equivalent	31	15.58%
Graduate/Above	23	11.58%

**Occupation of the respondents**

Occupation	Frequency	Percentage
Housewife	166	83.42%
Service	12	6.03%
Housemaid	05	2.51%
Garments Worker	13	06.53%
Day Labourer & others	03	01.51%

**Monthly income of the family of the respondents**

Income (Tk)	Frequency	Percentage
Below 5,000	27	13.57%
5001-10,000	69	34.67%
10001-15,000	47	23.62%
15001-20,000	24	12.06%
Above 20,000	32	16.08%

**Socio cultural Factors**

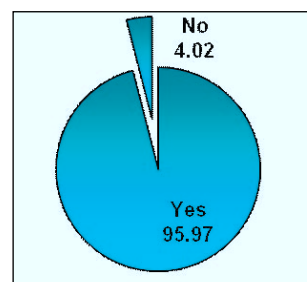


Fig 1 Special care of pregnant mother from family

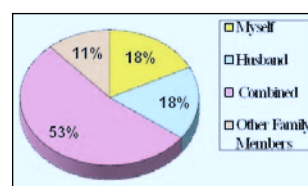


Fig 2 Permission for Antenatal Check up

Results on socio cultural factors showed 95.97% of respondents received special care from their family during pregnancy where as 4.03% respondents did not. (Fig 1) For ANC husband gave permission for 18% and 18% on own will. Combined wish was 53% and 12% after permission of other family members (Fig 2). Information about ANC service 45% received from family. Only 13% got information from mass media. (Fig 3). Idea about importance of utilizing antenatal care service showed that 41% mothers thought ANC important for safe delivery. About 23% thought for having a healthy mother, 34% thought for a healthy baby and 2% don't know about its importance. (Table II)

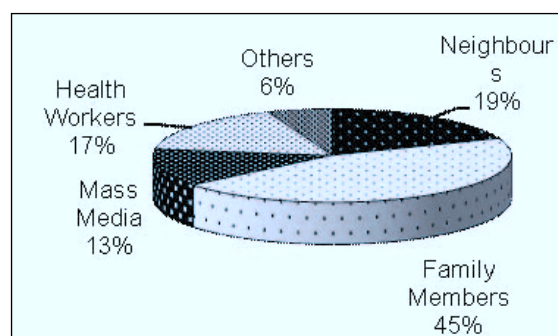


Fig 3 Source of information

Table II Idea about importance of utilizing antenatal care service

Variable	Frequency	Percentage
Safe Delivery	120	40.82%
Healthy Mother	67	22.79%
Healthy Baby	100	34.01%
Don't Know	7	02.38%
<b>Total</b>	<b>294</b>	<b>100%</b>

\* Multiple Responses

Birth planning of respondents

Table III Person will conduct delivery (no. 199)

Person	Frequency	Percentage
Dai	20	10.05%
Trained Birth Attendant	40	20.10%
Doctor	133	66.83%
Family Member	06	03.02%

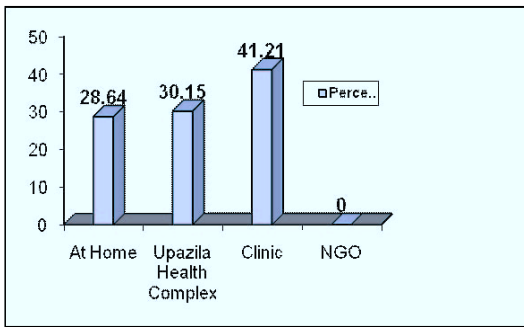


Fig 4 Choice for place of child birth

Table IV : Preparedness for delivery during pregnancy (no. 199)

Preparation for delivery	Frequency	Percentage
Yes	195	97.98%
No	04	02.02%

Birth planning of respondent's showed that 66.83% respondents planned that doctor to conduct the delivery, 20.1% by trained birth attendants, 10.5% by dais and 3.01% by family members. (Table V). Regarding place of child birth 28.64% respondents want to give birth of their child at home, 30.1% at upazila health complex, 41.2% at clinic and none at NGO. (Fig 4) and 97.98% respondents took birth preparedness during pregnancy where as 2.02% did not. (Table IV).

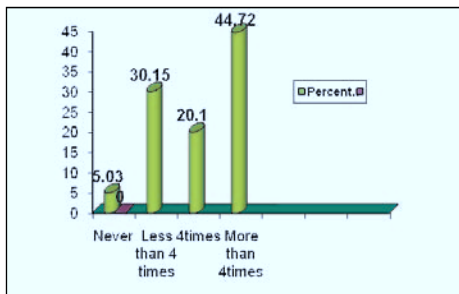


Fig 5 : Number of ANC service taken in the last pregnancy (No-199)

Table V : Antenatal Care Service related factor

Antenatal care service provider (No-189)		
ANC Service Provider	Frequency	Percentage
Health Assistant	16	8.47%
Paramedic	02	1.06%
Nurse	19	10.05%
Doctor	104	55.03%
Specialized Doctor	48	25.39%

Availability of the health care provider (No-189)

Available	Frequency	Percentage
Yes	165	87.31%
No	24	12.69%

Behavior of the health care provider (No-189)

Behavior	Frequency	Percentage
Very Good	54	28.57%
Good	134	70.90%
Bad	01	0.53%

Information given about danger signs during pregnancy (No-189)

Information Given	Frequency	Percentage
Yes	150	79.37%
No	39	20.63%

Distance of health care centre from the residence of respondents (No-189)

Distance	Frequency	Percentage
Within walking distance	88	46.56%
Needed transport	101	53.44%

Vaccination during pregnancy (No-189)

Vaccinated	Frequency	Percentage
Yes	135	71.43%
No	54	28.57%

Among the respondents 5.02% never took ANC service, 30.15% took ANC for less than 4 times, 20.1% took 4 times and 44.72% took ANC for more than 4 times during pregnancy. (fig V) Those attended for ANC service 8.47% respondents' service was provided by health assistant, 1.06% by paramedic, 10.05% by nurse, 55.03% by doctor and 25.39% by specialized doctor. Service provider was available 87.31% and good behavior was observed by 70.90% respondents. Information about danger signs during pregnancy were given to 77.89% of the respondents. Health care centre was within walking distance 46.56% respondents. Regarding vaccination status during pregnancy 71.43% of the respondents were vaccinated. (Table V)

Discussion

The study revealed that quite a significant proportion of the study participants were young aged women between 23-27years (45.72%) and 18-22 years (36.18%), here younger women seek ANC more than older women. Similar result was found in a study in rural Nepal that the majority of the women attended for Antenatal care were younger age of 20 - 24 years.<sup>9</sup> Most of the mothers 83.42% were house wife and educated up to Secondary level (33.16%) and primary level (28.64%). Md. Mosiur Rahman et al carried out a study in Bangladesh found educated women were more likely to attend for ANC during pregnancy than less educated and illiterate women. Educated women can realize the benefits of using maternal healthcare services. Education increases female autonomy, decision-making power within the household and capability to make decisions regarding their own health.<sup>7</sup>

Socio economic status among the respondents revealed that lower income groups (48.24%) had attended for ANC. In a study in rural India revealed similar result that most of the women attended for Antenatal care were from lower economic class<sup>10</sup>. Opposite picture was found by N. Nisar and F. White that women of higher income were two times more likely to use antenatal care services as compared to the lower income group (OR= 2.11, 95% CI 1.14-3.89) in urban settlement of Pakistan.<sup>11</sup>

Socio cultural aspects revealed that among the respondents 95.97% received special care from their family during pregnancy. Special care during pregnancy includes increase the amount of food, introducing protein (fish, meat), vegetables, milk and iron and vitamin supplementation. The current study revealed that about 52% respondents took ANC both with her own concern and permission of

husband. A study in Indonesia found that pregnant women took their family permission without question because they trusted them and they wanted their family to be happy with them.<sup>12</sup> Regarding source of information only negligible number 13% had media exposure. The result was not consistent with a study in Pakistan where media exposure was the main source of information.<sup>11</sup> Appropriate knowledge and attitude is vital in ensuring sustainable acceptance of antenatal services. In our study 98% women had good idea on importance of utilizing ANC service 41% mothers thought ANC important for safe delivery.

In birth planning significant number of women planned health providers to conduct delivery as they thought that delivery conducted by health professional was better than dai (traditional birth attendant) which was reflected in the result that 66.83% respondents chose doctors, 20.1% chose trained birth attendants. Only 10.5% and 3.01% chose dais and family members to conduct the delivery. Again it was also observed that only 28.64% of respondents wanted home delivery and rest 71.36% preferred hospital delivery.

Regarding birth preparedness 97.98% mothers were alert and conscious in saving money, arranging transport and made everything ready for any emergency during pregnancy. In Sub-Saharan Africa study results particularly establish that receipt of advice not only increases the likelihood of institutional delivery but it also heightens the effects of antenatal care on institutional delivery.<sup>13</sup>

It was evident from our study result that 5.02% respondents never took ANC care, and 94.97% utilized ANC service. Among them 30.15% took ANC for less than 4 times, 20.1% took 4 times and 44.72% took ANC for more than 4 times during pregnancy. Women of our study were educated, conscious about their health and utilized antenatal care service during pregnancy. This result is consistent with the study done in rural Nepal.<sup>9</sup> Another study in Bangladesh found that 55% received two antenatal visits, 33% received three to four visits, and 12% received five or more than five visits.<sup>8</sup>

Regarding antenatal care service provider majority 55.03% from doctor and 25.39% from specialized doctor. Similar picture was found in a study conducted in a rural area at province of Sindh in Pakistan according to their results most of their respondents had ANC from doctor.<sup>14</sup>

On asking availability of health care provider participants answered that health care provider was available for 87% respondents. Opposite scenario was found in a study in southern Nigeria that only 27.4% staffs were always present.<sup>15</sup>

In the recent study regarding the behavior of health care provider 28.57% of respondents got very good behavior, 70.90% of respondents got good behavior and 0.53% got bad behavior from the health care provider. Opposite picture was found in Zimbabwe by Mathole et al. explained that poor attitude of health care providers towards pregnant women contributes to low utilization of ANC services in Zimbabwe.<sup>16</sup>

Regarding advice on danger sign during pregnancy 79.37% of the respondents answer was positive that got information about danger signs during pregnancy where as 20.63% were not informed. Sulochana Dhakal et al showed in a study in Nepal that 79% women received health advice during their ANC. Most women received suggestions for a nutritious diet (84%), while only 27% got advice on danger signs in pregnancy.<sup>9</sup>

Pregnant women may find it difficult to travel long distance for taking antenatal care in rural areas especially when the condition of the roads is poor. In our study among those who attended ANC, 46.56% respondents said health care centre within walking distance and 53.44% respondents had to go there by vehicle. This can be explained that rural women were conscious and knew the benefit of ANC and they reached health centre by foot or by vehicle. The result of this study is consistent with the study in the rural Guatemala.<sup>17</sup>

In our study it was observed that 71.43% of the respondents were vaccinated against Tetanus and 28.57% were not vaccinated during pregnancy. Similarly another study in Bangladesh revealed that 73% received Tetanus toxoid vaccine (TT) during their ANC visit.<sup>18</sup>

## Conclusion

Utilization of antenatal care service was satisfactory (94.97%) in our study area which is higher than national figure (68%). Rural women of study area were found educated had knowledge on benefit of Antenatal care though they are from lower economic group but very enthusiastic in utilization of ANC service. Availability and accessibility of high quality ANC services, promoting information, education and communication in the community is recommended to increase effective and sustain utilization of ANC service.

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