

Indicators of Maternal Health Care Services: Bangladesh Context

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Abstract: Maternal health related complication is one of the most prime women's health problems of the world's public health and its consequences are still the leading causes of death, disease and disability among women of reproductive age in developing countries. It is more serious in the case of developing countries like Bangladesh. This unacceptably low status of maternal health directly contributes to the high perinatal (newborn) mortality rate in the country. The high rate of maternal mortality continues to be a challenge for the Bangladesh. In order to improve utilization of antenatal care services, efforts to relieve poverty and empower women economically are needed. Any programs must take into consideration the specific socio-cultural context of the population.

Key words: Maternal health, antenatal care, delivery care, partnership ratio, indicator, Bangladesh

INTRODUCTION

The progress of maternal health care services is needed to reduce the high maternal mortality. The progress means the activities that constitute maternal health care including antenatal care, delivery care and postnatal care. To evaluate the progress the maternal health care services, various indicators are available. The indicators are helpful to follow the coverage of obstetric care and to identify problems within the health care system. The World Health Organization has recommended a number of process indicators to monitor the effect of health care programs on maternal mortality. It is clear that a number of important social and health system issues underlie the poor maternal health situation in Bangladesh. Common causes of maternal deaths include postpartum hemorrhage, eclampsia and complications of abortion; obstructed labor and postpartum sepsis (Ahmed *et al.*, 1995). The low status of the girls and women, poverty, women's limited access to education, poor nutrition, lack of access of good quality health service and lack of financial means to pay for the health services, are some of the contributing to high levels of maternal mortality and morbidity (Maimbolwa, 2004). Yet among the social factors underlying mortality, injuries from pregnancy related complication have been identified as one of the major causes of mortality.

The problems associated with measuring maternal health outcomes have led to an increasing reliance on process indicators; these measure the levels and changes in processes that are believed to influence the outcome of interest (Wardlaw and Maine, 1999). Process indicators are being recommended for the measurement of levels and

changes in the activities of a program to monitor progress towards the reduction of maternal mortality. Another benefit is that process indicators provide information on the deficits in a service, allowing policy makers to target interventions to reduce maternal mortality more effectively.

These indicators can measure the provision of services, e.g., the number of essential obstetric care facilities per 500,000 population or the percentage of hospitals with caesarean section facilities or service utilization such as the proportion of births attended by a health professional (Rose *et al.*, 2001). Such coverage statistics require population-based data sources, but even with these it is difficult to establish a correlation between the indicator and maternal health outcomes. Some information on the content of maternal health care is now available from Bangladesh Maternal Health Services and Maternal Mortality Survey (BMMS, 2001), which included questions about antenatal care, delivery care and postnatal care. But, to make better maternal health care indicators, that data does not sufficiently. Bearing in mind these limitations, this study is an attempt to describe the antenatal care indicators, delivery care indicators and consistency of maternal health care services.

MATERIALS AND METHODS

This study is based on secondary data from the BDHS (1994, 1997, 2001, 2004). The study also used data from the BMMS (2001). We have performed bivariate classification analysis i.e., cross-tabulation to investigate the socio-demographic correlates of maternal health care indicators.

RESULTS AND DISCUSSION

Antenatal care indicators: Antenatal care is an important indicator to evaluate and to measure the present situation of maternal health care services in any country. It will be enabling to us to understand the lack of present plan and policy on maternal health and also help to provide a better picture on the overall maternal health care situation. Indicators on use of antenatal care services provide no information on the content or quality of the services. Despite the broad consensus on what the content and quality should be, it is generally recognized that the antenatal care services currently provided in many parts of the world fail to meet the standards recommended by World Health Organization. On the basis of number of ANC visit, time of first ANC visit and source of ANC visits during pregnancy, we make a composite index of antenatal care (adequate who received at least three antenatal visits during the first trimester from medically trained persons, inadequate who received anyone antenatal care except adequate and none who didn't received antenatal care).

Table 1 shows the factors responsible of antenatal care indicator. The age of mothers clearly stands out to be one of the most important factors both in the utilization of antenatal care and choice of the ANC provider. Middle age of mothers (20-34) show higher prevalence of receiving adequate ANC compared to adolescence (<20) and upper age (34+) of mothers. But in case of receiving any one antenatal care, adolescence mothers are more aggressive than that of others mothers and upper age of mother are less likely to receive any one ANC. About 49.1% adolescence receive any one ANC whereas, 46.6% middle age of mother and 34.4% of upper age of mothers receive any one antenatal care. Inadequate ANC shows declining trend with the age limit. Preceding birth interval, number of total family member and surviving status of previous child are insignificantly associated with ANC received. Mother's education is highly positively associated both adequate and inadequate ANC. About 17.9% of secondary and higher educated mother received adequate ANC, whereas it is only 2.5% for the illiterate mothers. About 70.5% of mothers with at least secondary education received inadequate ANC and 31.9% of illiterate mother received inadequate ANC. The bivariate analysis depicts a significant variation in the use of adequate and inadequate ANC by residence. Mothers from urban area are more likely to receive both adequate and inadequate ANC from rural mothers. About 9.8% of urban mothers received adequate ANC and 53.8% received inadequate ANC. Utilization of antenatal care in rural area is lowest. Childhood place of residence is also positively associated

Table 1: Percentage distribution of antenatal care indicators by demographic and socio-economic characteristics

Background characteristics	Received ANC indicator			Total No.
	Adequate ^a	Inadequate ^b	No ^c	
Mother's age at birth***				
<20	4.9	44.2	50.9	12901.0
20-33	5.4	41.1	53.4	25545.0
34+	3.1	31.2	65.6	3103.0
Preceding birth interval (months)*				
<24	3.9	37.8	58.3	4368.0
24+	4.4	38.3	57.3	126522.0
No. of family member**				
1-4	5.4	43.3	51.3	12355.0
5-7	4.6	39.5	55.9	18963.0
8+	5.6	42.4	52.0	10224.0
Surviving status of previous child**				
No	3.8	37.9	58.3	3367.0
Yes	4.4	38.3	57.3	27526.0
Mother's education**				
No education	2.5	31.9	65.6	19662.0
Primary	6.0	47.0	46.9	19297.0
Secondary +	17.9	70.5	11.6	2590.0
Place of residence***				
Rural	4.2	39.1	56.7	35144.0
Urban	9.8	53.8	36.4	6405.0
Childhood place***				
Village	4.4	39.7	55.8	38200.0
Town	12.8	59.6	27.6	3349.0
Division***				
Barisal	4.0	27.0	69.0	4108.0
Chittagong	5.1	35.6	59.3	8380.0
Dhaka	6.0	45.3	48.7	10859.0
Khulna	4.9	51.3	43.8	5765.0
Rajshahi	4.0	38.5	57.5	7239.0
Sylhet	5.7	46.6	47.7	5198.0
Access to NGO**				
No	5.3	40.2	54.5	31215.0
Yes	4.5	44.8	50.7	10329.0
Listen to radio***				
No	3.9	36.4	59.7	26388.0
Yes	7.1	49.9	43.0	15161.0
Watched TV***				
No	3.0	33.9	63.0	27201.0
Yes	9.0	55.4	35.6	14336.0
Wealth quintile***				
Poorest	1.9	28.8	69.3	10766.0
Poor	3.0	35.6	61.4	9247.0
Middle	3.8	40.2	56.0	7865.0
Rich	6.3	48.4	45.3	7222.0
Richest	13.5	64.1	22.4	6442.0
Received antenatal care in previous birth***				
No	1.7	21.5	76.8	4966.0
Yes	8.3	70.0	21.7	2617.0

Level of Significance: ***: p<0.001; **: p<0.01; *: p<0.05; ^a Received at least three antenatal visits during the first 3 months pregnancy from medically trained persons; ^bReceived antenatal care except category; ^cDidn't received antenatal care

with the adequate and inadequate ANC. About 12.8% of mother who lived in urban area in their childhood received adequate ANC, whereas it is only 4.4% for those mothers who past their childhood in rural. There are some regional variations in ANC received. Overall, Khulna division shows higher prevalence of ANC received followed by Sylhet, Dhaka, Rajshahi, Chittagong and Barisal division show lowest performance of ANC received. However,

adequate ANC shows highest prevalence in Dhaka division followed by Sylhet, Chittagong, Khulna, Rajshahi and Barisal. Table 1 shows that access to NGO is negatively associated with adequate ANC and positively associated with inadequate and any one ANC, but both association are statistically significant. About 5.3% of mothers who did not access to NGO received adequate ANC and 4.5% accessed to NGO, but 40.2% of women who did not access to NGO received inadequate ANC and 44.8% accessed to NGO ANC. Access to mass media has a great affect on the utilization of maternal health cared service. About 7.1% of mothers who listened to radio received adequate ANC, whereas only 3.9% of mothers who did not listen to radio received adequate ANC. The same pattern of receiving adequate and inadequate ANC are shown for those mothers who watched TV. Both adequate and inadequate ANC show positive relationship with wealth index. It shows a increasing trend with wealth index. About 1.9% of mothers with lowest quintile received adequate ANC while, it is 3.0% for the mothers of second wealth quintile and the percentage of receiving adequate ANC is increasing over wealth quintile. Adequate, inadequate and anyone ANC are strongly related receiving ANC during previous pregnancy. About 8.3% of mothers who received any ANC during their previous pregnancy received adequate ANC and it is only 1.7% for those mothers who did not receive any ANC during their previous pregnancy.

Delivery care indicators: Providing skilled attendants for delivery care, along with the equipment, drugs and supplies necessary for effective management of obstetric complications is now being advocated as the single most important factor in preventing maternal deaths (WHO, 1999). For this reason, the benchmark indicator percentage of births attended by a skilled attendant is currently used to monitor progress towards international goals for maternal mortality reduction. The advantage of this indicator is that it is widely available for many developing countries. However, several aspects of its measurement have been challenged. The definition of a skilled attendant is not always clear. Until recently the term trained attendant has been used and grouped both professional and non-professional health workers together. In 1999, the WHO/UNFPA/UNICEF/World bank statement recognized the skilled attendant as a health professional with midwifery or obstetric skills who can manage complications of delivery as well as normal deliveries. Health professionals include nurses, midwives, physicians and other medical personnel (WHO, 1999).

Partnership Ratio (PR): The partnership ratio, composite indicator used in this analysis, provides approach to examining delivery care data. It is a good visual aid and is easier to interpret than tables of figures, while providing a perspective on skilled attendance related to the type of delivery attendant. Furthermore, it is a good advocacy tool for reinforcing the sense of partnership between doctors and nurses or midwives. It does not generate new information, but presents what we already have in a different way. The partnership ratio also incorporates a widely used statistic that 15% of deliveries can be expected to require medical attention, although the evidence for this appears to be based on a limited number of sources. Information from Table 2 for the five surveys indicates partnership ratio. Bangladesh stands out as very low. In contrast, the percentage of deliveries with doctors exceeds the better point in Khulna division compared others divisions and Barisal division shows the lowest point. In 1993, partnership ratio was (4.2, 5.3) and in 2004 it is (7.5, 5.7). Table 2 shows an increasing trend of partnership ratio.

Table 2: Delivery care indicator: partnership ratio by national level and regional levels

Region	Years	Partnership ratio	
		Doctor	Nurse/midwife
Bangladesh	1993	4.2	5.3
	1996	5.1	2.8
	1999	7.1	5.0
	2001	6.1	4.2
	2004	7.5	5.7
Barisal	1993	2.7	4.5
	1996	5.7	2.8
	1999	5.2	5.3
	2001	3.6	3.6
	2004	4.4	6.7
Chittagong	1993	2.3	5.9
	1996	2.9	4.9
	1999	5.8	6.0
	2001	6.3	4.3
	2004	6.4	5.1
Dhaka	1993	6.4	6.7
	1996	7.2	1.9
	1999	8.1	4.2
	2001	7.4	4.1
	2004	9.4	5.3
Khulna	1993	4.3	7.5
	1996	10.2	4.0
	1999	11.3	7.9
	2001	7.4	6.4
	2004	12.1	8.4
Rajshahi	1993	4.2	1.8
	1996	3.2	1.7
	1999	5.7	4.6
	2001	4.5	4.1
	2004	5.4	5.2
Sylhet	1993	-	-
	1996	3.6	1.6
	1999	6.5	2.8
	2001	4.8	2.9
	2004	5.4	5.7

If the respondent mentioned >1 person attending the delivery period, only the most qualified person is considered

Factors responsible for delivery care indicators: Delivery care is very important to measure the maternal health care services. Table 3 represents factor responsible of delivery care indicators. Like antenatal care, we also classify three types of delivery care such as modern delivery care who delivered their baby at hospital or clinic and received assistance from health professional person; satisfactory delivery care who delivered their baby at hospital or clinic and received assistance from non health professional person or who delivered their baby at home and received assistance from both health professional and non health professional person and Traditional delivery care who delivered their baby at home and received assistance from non health professional person.

The over all picture of delivery care in Bangladesh is very poor. The age of mothers is an important predictor to use of delivery care. Middle age of mothers (20-34) show higher prevalence of receiving modern delivery care compared to adolescence (<20) and upper age (34+) of mothers. But in case of satisfactory delivery care, adolescence mothers are more aggressive than that of others mothers. Only 6.9% adolescence receives modern delivery care and 3.6% receives satisfactory delivery care. About 8.1% middle age of mother and 4.1% of upper age of mothers receive modern delivery care. Preceding birth interval shows significant result to use of delivery care. Mothers with lower birth interval (<24 months) are more likely to receive modern delivery care than mothers with higher birth interval (at least 24 months). Surviving status of previous child does not exhibit any significant impact on the use of delivery care. Number of total family member is another important and significant predictor of delivery care utilization. Mother's education is highly and positively associated both modern and satisfactory delivery care. About 41.1% mother having at least secondary education received modern delivery care, whereas, it is only 2.4% for mothers having no education. About 10.2% of mothers with at least secondary education received satisfactory delivery care and 1.6% of illiterate mother received satisfactory delivery care. The bivariate analysis depicts a significant variation in the use of both modern and satisfactory delivery care by residence. Mothers from urban area are more likely to receive both modern and satisfactory delivery care than rural mothers. About 5.3% of urban mothers received modern delivery care and 6.4% received satisfactory delivery care. Utilization of delivery care in rural area is very lower compared urban area. In rural area only 5.3% of mothers received modern delivery care and 2.6% satisfactory delivery care. Like place of residence, childhood place is also positively associated with the modern and satisfactory delivery care. About 26.7% of mother who lived in urban area in their childhood

Table 3: Percentage distribution of delivery care indicators by demographic and socio-economic characteristics

Background characteristics	Delivery care indicator			Total No.
	Modern ^a	Satisfactory ^b	Traditional ^c	
Mother's age at birth***				
<20	6.9	3.6	89.5	12901
20-33	8.1	3.1	88.7	25545
34+	4.1	2.4	93.6	3103
Preceding birth interval (months)***				
<24	3.9	2.2	93.8	4368
24+	5.4	2.6	91.9	126522
No. of family member***				
1-4	8.2	3.5	88.3	12355
5-7	6.1	2.7	91.2	18963
8+	9.0	3.9	87.2	10224
Surviving status of previous child*				
No	5.1	1.9	92.9	3367
Yes	5.2	2.6	92.1	27526
Mother's education***				
No education	2.4	1.6	96.0	19662
Primary	8.1	3.9	88.0	19297
Secondary +	41.1	10.2	48.6	2590
Place of residence***				
Rural	5.3	2.6	92.1	35144
Urban	19.3	6.4	74.3	6405
Childhood place***				
Village	5.8	2.8	91.4	38200
Town	26.7	7.7	65.6	3349
Division***				
Barisal	4.3	3.0	92.7	4108
Chittagong	7.2	3.7	89.2	8380
Dhaka	9.1	3.2	87.7	10859
Khulna	10.2	4.1	85.7	5765
Rajshahi	6.8	2.2	91.0	7239
Sylhet	4.7	3.2	92.1	5198
Access to NGO***				
No	8.1	3.3	88.6	31215
Yes	5.4	2.9	91.7	10329
Listen to radio***				
No	5.8	2.5	91.7	26388
Yes	10.3	4.5	85.1	15161
Watched TV***				
No	3.4	2.0	94.7	27201
Yes	15.2	5.6	79.2	14336
Wealth quintile***				
Poorest	1.8	1.3	96.9	10766
Poor	3.2	1.8	95.0	9247
Middle	4.1	2.6	93.3	7865
Rich	7.3	4.2	88.5	7222
Richest	27.3	8.1	64.7	6442
Received antenatal care***				
Adequate	25.8	7.9	66.3	2117
Inadequate	12.7	5.1	82.2	17173
None	1.6	1.3	97.0	22259

Level of Significance: ***, p<0.001; **, p<0.01; *, p<0.05; ^aWho delivered their baby at hospital or clinic and received assistance from health professional person; ^bWho delivered their baby at hospital or clinic and received assistance from non health professional person or who delivered their baby at home and received assistance from both health professional and non health professional person; ^cWHO delivered their baby at home and received assistance from non health professional person

received modern delivery care, whereas it is only 5.8% for those mothers who past their childhood in rural. There are some regional variations in delivery care received. Overall, Khulna division shows higher prevalence of modern delivery care received followed by Dhaka, Citation,

Rajshahi, Sylhet and Barisal division show lowest performance of delivery care received. And satisfactory delivery care shows highest prevalence in Khulna division followed by Chittagong, Dhaka, Rajshahi, Sylhet and Barisal. Table 3 shows that access to NGO is negatively and significantly associated with both modern and satisfactory delivery care. About 8.1% of mothers who did not access to NGO received modern delivery care and 5.4% accessed to NGO. Access to mass media has a great affect on the utilization of delivery care. About 10.3% of mothers who listened to radio received modern delivery cre, whereas only 5.8% of mothers who did not listen to radio received modern delivery care. The same pattern of receiving modern satisfactory delivery care is shown for those mothers who watched TV. Both modern and satisfactory delivery care show positive relationship with wealth index. It shows an increasing trend with wealth index. About 1.8% poorest mothers received modern delivery care while it is 3.2% for poor mothers and the percentage of receiving modern delivery care is increasing over wealth quintile. Adequate, inadequate and any one ANC are strongly related to receive both modern and satisfactory delivery care during pregnancy. About 25.8% of mothers who received adequate ANC received take modern delivery care and it is only 1.6% for those mothers who did not receive any ANC.

Consistency of maternal health care services: Another aspect of maternal health care that is of particular interest is the extent to which women repeat the same antenatal care, delivery care or postnatal care across different pregnancies. For example, do women who choose to have a health professional deliver their first child continue to use delivery care for subsequent births, or do they stop using delivery care for later births as their familiarity and confidence in the birthing process increases. Literature from other areas of health behavior research suggests that past behavior is a very strong predictor of subsequent behavior (Nuwaha *et al.*, 2001). So, they would expect a strong co-relationship among the use of health professionals during pregnancy for births to the same woman.

For Bangladesh context, to examine this issue in this study, we begin by summarizing the maternity care behavior of women who had >1 birth in the 3 years preceding each survey and interrelationship among antenatal care, delivery care and postnatal care.

Note that this analysis based on women with at least one and >1 birth in the reference period, we use only this survey that collected information on maternity care for the three calendar years before the survey. However, even with the longer reference period there are relatively few

women with multiple live births in the reference period and it is important to remember that this group of women is a relatively select group because it represents women who tend to have higher fertility and shorter birth intervals. These women are typically of lower socio-economic status and as noted earlier, are less likely to use delivery care. In addition, given the short reference period, most women with multiple pregnancies have only two deliveries in the period. This feature of the sample means we will underestimate the percentage of women who change their maternity care behavior over their lifetime because we are only observing a limited part of their reproductive experience.

In Table 4 women with multiple births are classified according to whether they reported BMMS (2001) for all, or same or none of their pregnancies. Among women who had a live birth during the 3 years preceding the BMMS, (2001) 8% had more than one birth event during this period. For these women, it is possible to examine the consistency of individual women in seeking antenatal care for their two most recent pregnancies. The results indicate that more than half (52%) did not receive any antenatal care for either pregnancy; an additional 21% received care for one but not both pregnancies. Only 27% of women reported having one or more antenatal visits for both recent pregnancies. The likelihood of consistent antenatal care is highest for women in urban areas, more educated women and women in wealthier households.

Also Table 5 shows eight combinations of antenatal care, delivery care and postnatal care for live births and stillbirths in the 3 years preceding the survey, by background characteristics. The column headings separate maternity care received from a doctor, nurse, or midwife into 8 categories: antenatal care only; delivery care only; postnatal care only; antenatal and delivery care; antenatal and postnatal care; delivery care and postnatal care; all three types of maternity care and neither antenatal care nor delivery care nor postnatal care from a trained provider. From Table 5, we observed that only 4.8% of mother received all type of maternal health service, 5.3% of mother received only ANC and DC, 3.9% of mother received only ANC and PNC and only 0.5% of mother received DC and PNC during their last birth. Background characteristics show essentially the same differences seen separately for the three indicators that is, births to less educated women, rural women and poorer mother are less likely to receive maternity care than urban women, more educated women and richest women. About 14% mother having at least secondary education received all maternity care during their pregnancy period, whereas it is only 1.0% for uneducated mother and 1.6% for primary educated mother. About 19% richest mother

Table 4: Consistency of use of antenatal care among multiple births women by demographic and socio-economic characteristics

Background characteristics	ANC for both birth	ANC for first birth	ANC for last birth	No ANC for both birth
Mother's education***				
No education	17.7	7.5	13.3	61.4
Primary	32.1	8.1	14.5	45.2
Secondary+	48.9	8.2	12.6	30.3
Residence***				
Rural	24.8	7.8	13.5	53.8
Urban	39.9	7.9	13.0	39.2
Division**				
Barisal	13.8	6.1	13.0	67.0
Chittagong	25.1	4.8	14.1	56.0
Dhaka	28.1	8.0	13.4	50.5
Khulna	35.1	9.1	16.1	39.8
Rajshahi	25.2	10.4	13.1	51.3
Sylhet	31.3	9.0	11.5	48.2
Wealth quintile***				
Poorest	16.3	7.2	11.2	65.3
Poor	19.5	8.3	15.5	56.8
Middle	26.7	8.5	12.8	52.0
Rich	36.2	8.0	17.1	38.8
Richest	57.8	7.0	11.1	24.0
Total	27.3	7.8	13.5	51.4

Table 5: Consistency of antenatal, delivery and postnatal care by demographic and socio-economic characteristics

Background characteristics	ANC only	DC only	PNC only	ANC and DC	ANC and PNC	DC and PNC	ANC, DC and PNC	No ANC, DC and PNC
Mother's age at birth***								
<20	33.6	1.8	1.5	5.20	4.0	0.6	3.90	49.5
20-34	29.8	1.3	1.8	5.70	3.7	0.4	5.50	51.4
34+	23.0	1.5	2.4	2.80	3.1	0.9	2.50	63.8
No. of pregnancies in the last 3 years***								
1	31.1	1.5	1.7	5.70	3.9	0.5	5.20	50.4
2	27.7	1.5	2.0	3.50	3.8	0.7	2.60	58.2
3	22.0	6.9	3.2	4.90	4.7	0.0	6.40	51.9
Mother's education***								
No education	25.7	1.3	2.0	1.80	2.3	0.5	1.00	65.4
Primary	31.7	1.8	1.8	3.80	3.9	0.6	1.60	54.9
Secondary+	36.3	1.5	1.2	12.70	6.2	0.6	14.10	27.5
Residence***								
Rural	30.2	1.8	1.4	11.80	5.3	0.7	12.90	33.9
Urban	32.3	1.8	1.4	11.80	5.3	0.7	12.90	33.9
Division**								
Barisal	22.2	1.5	1.6	5.20	2.3	0.2	1.80	65.1
Chittagong	28.1	1.6	1.1	6.20	2.7	0.3	3.70	56.4
Dhaka	31.8	1.1	2.5	4.60	4.5	0.7	6.70	48.1
Khulna	34.9	1.8	2.2	6.70	5.0	1.0	7.30	41.1
Rajshahi	31.9	1.9	0.5	6.30	2.3	0.3	2.30	54.6
Sylhet	29.9	1.1	3.8	2.30	8.5	5.1	0.40	48.9
Wealth quintile***								
Poorest	23.8	1.2	1.6	1.50	2.0	0.5	0.50	68.9
Poor	28.1	1.7	1.9	2.50	2.8	0.4	1.00	61.8
Middle	32.8	1.3	2.0	3.80	3.6	0.6	2.10	53.8
Rich	37.7	1.8	2.1	6.00	5.0	0.6	4.60	42.2
Richest	34.0	1.5	1.3	16.10	7.2	0.6	19.60	19.7
Number of months pregnant at the time of the first visit***								
No ANC	0.0	2.6	3.1	0.00	0.0	0.9	0.00	93.4
<4	52.6	0.2	0.5	12.70	9.8	0.1	17.80	6.3
4-6	68.0	0.2	0.3	11.00	7.9	0.1	7.80	4.8
6+	72.0	0.2	0.4	9.70	6.6	0.1	4.60	6.4
Total	30.6	1.5	1.8	5.36	3.9	0.5	4.80	51.6

Level of Significance: ***: p<0.001; **: p<0.01; *: p<0.05

experienced antenatal care, delivery care and postnatal care. Dhaka division exhibits more consistence and Sylhet division less consistence result to receive all maternity care than other division.

CONCLUSION

A systematic identification of the critical individual factors, which may facilitate or impede the effective use of

maternal health care services may help us to identify those who may be particularly disadvantaged and hence provide information that policymakers can use to target services to those in greatest need. This will also enable health educators to design better intervention programs to ensure that the momentum that has been generated in improving maternal will not only be sustained for the long-term success of these strategies, but will also provide the basis for a more comprehensive primary health care system in the future. Above discussion provides us a delicate picture of maternal health care services in Bangladesh. Antenatal care indicator surveys that only one in twenty five mothers receives adequate antenatal care which is so far from any international and national standard. In case of delivery care, this picture is more pathetic than antenatal care. Partnership ratio is very low (6.1, 4.2), where the optimum level is (15, 85). Consistency of maternal health care services is not better in Bangladesh. Only one of 3 mothers received antenatal care in both birth and more than half of mothers did not receive any antenatal care for any birth. One of twenty five mothers received all maternal health care services and 51.6% did not receive any maternity care during their pregnancy period. The study shows that the use of ANC is strongly associated with rural urban differential; level of maternal education and house hold economic condition (it is considered that the woman of urban area is more educated than that of rural area and they are economic alley better than of woman of rural area). It is hoped that the result of this study will improve policymakers' understanding of the determinants of maternal mortality and morbidity in the country and serve as an important tool for any possible intervention aimed at improving the low utilization of maternity care services in Bangladesh.

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