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Levels and Differentials of Maternal Health Care Utilization in Bangladesh

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Abstract: Maternal health situation appears to be very poor in Bangladesh. Utilization of basic health services in Bangladesh has remained poor even though, there has been increasing public and private expenditure on the provision of advanced health care. The low utilization seems to be due to low levels of household income, high illiteracy and ignorance and a host of traditional factors. On the other hand, despite substantial public investments in health infrastructure the supply of such services continues to be inadequate and of poor quality. Over the last several decades maternal health care in Bangladesh has improved, but that condition is not satisfactory stage considerably compared to many other developing nations. However, for cultural and economic reasons, puerperal maternal health care has not received much attention when compared to the care provided during pregnancy. This may be attributed to the fact that although, the pregnant female is cared for, the attention is focused on the child, which the mother carries, rather than the mother. Although, the overall situations of maternal health care services in Bangladesh are increased after independent, but these are not better picture to reduce maternal mortality to reach the target of millennium development goal.

Key words: Maternal health, antenatal care, delivery care, postnatal care, health professional, Bangladesh

INTRODUCTION

At present, there has been growing concern that Bangladesh is facing persistent health crisis and the government, NGOs and international communities to improve the poor health particularly maternal and child health condition of the people are giving considerable efforts. Though, the mortality rates have declined in Bangladesh, the levels are still very high as compared to any standard. Most of people of Bangladesh cannot think proper health care service because they do not get proper food for their life leading. Therefore, majority of mothers of the country do not get enough opportunity to take antenatal and postnatal care during their pregnancy period.

As a result, every year 320 women died per 100000 due to pregnancy related complication (NIPORT, 2003). Utilization of health services is a complex phenomenon, which is affected by factors such as availability, distance and cost, quality of care, social structure and health beliefs (Becker *et al*., 1993). Approximately 75% women die from a pregnancy related complication at home without any professional assistance (Rahman *et al*., 1991). Akther (1993) found that 14.8% respondents never had antenatal care during their last pregnancy. Only 9% deliveries are conducted by trained personals (BIRPERHT, 1994). The feelings of the majority of the women have been reflected by these words we always try to deliver at home and it is better to be at home because, I can supervise the housework. Besides at the hospital, I need to spend money (Juncker and Khanum, 1997). Poor service delivery systems in the health care facilities also feared women to receive it. Sometimes maternal deaths are due to inadequate care on arrival in hospital (Okojie, 1994). Complaints about poor quality of care can be visualized through the comment of a woman with obstetric complication.

There wasn't anyone to take care of me. Ayahs (helpers) do most of the work. I thought that if I gave money to the nurses, then they would assist and When you call them (the nurses and helpers), they ignore you. The doctors are good. The others are most uncooperative (Juncker and Khanum, 1997). It is generally agreed that to provide skilled attendance the attendant alone is not enough and that an enabling environment is necessary. Various demographic and socio-economic factors are responsible for utilization of maternal health care services. In this study, an attempt is made to investigate the differentials of maternal health care utilization that have been provided a strong picture of maternity care, which enable us to understand, which factors are more responsible to use of antenatal care, delivery care and postnatal care.

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MATERIALS AND METHODS

This study is based on secondary data from the Bangladesh Maternal Mortality Survey (BMMS). We have performed univariate classification analysis in order to find the percentage of occurrence of the respondents. Finally, a bivariate analysis, i.e., cross-tabulation analysis is employed for studying the relationship between explanatory and outcomes variables. Moreover, chi-square (χ^2) statistics are used to test whether the difference in dependent variables are significant for different categories of explanatory variables.

RESULTS AND DISCUSSION

Utilization of antenatal care: Antenatal care is recognized as a major component of comprehensive maternal health care. It should include services that monitor the progress of the pregnancy to assess fetal and maternal health, provide preventive treatment such as immunization against tetanus or iron for anemia and advise women on a range of important health issues such as recognition of warning signs in pregnancy and when and where to seek care.

Table 1 shows the percent distribution of mothers in the 3 years preceding the survey by the source of ANC received during pregnancy along with number of visits and timing of the visits by rural, urban and all over the country according to the Bangladesh maternal health services and maternal mortality survey. A woman may have received >1 antenatal care provider, but in this analysis, we have considered only the most qualified one. The result shows that more than half (53.6%) of the women do not receive antenatal care. About 46.4% of the women received some ANC, among those, majority of them (29.1%) received care from the health professional such as doctor (23.9%), nurse or trained midwife (5.2%) and the rest of 17.4% received ANC from the non-health professional (Trained Traditional Birth Attendant (TTBA), Untrained Traditional Birth Attendance (TBA), family welfare visitor, health assistants, unqualified doctors and others). It has been observed that rural area is provided low utilization of antenatal care. For birth that occurred in rural area, nearly three fifth (56.7%) of mothers received no antenatal care during pregnancy. Those who do receive care tend to receive it from doctors (20.6%); nurse or midwife (4.8%) and rest of them take ANC from unqualified health personnel. In urban areas, the picture of receiving ANC is better than compare that of rural area. Here, 36.4% of the pregnant women did not receive ANC during pregnancy period. In urban area, the primary source of ANC is doctors (42.0%), nurse or midwife (7.3%) and rest of 14.2% received ANC from TTBA, TBA and other health workers.

Mothers, who received any ANC, received highest ANC (>3) is low. About 26% of pregnant women received low ANC (only 1-2 times) during their pregnancy period. In rural area 3 of 5 mothers received low ANC, 1 of 5 mother received median ANC (3 times) and rest of them received highest (>3 times) ANC. But in urban area, 2 of 5 mothers received highest ANC. The world health

Table 1: Percentage distribution of mothers according to the utilization of antenatal care

	Rural		Urban		Total	
Characteristics	N	%	N	%	N	%
Source of antenatal care						
Doctors	7243	20.6	2688	42.0	9931	23.9
Nurse/midwife	1674	4.8	470	7.3	2144	5.2
TTBA	81	0.2	9	0.1	90	0.3
Other HW	6218	17.7	906	14.1	7125	17.1
No one	19927	56.7	2332	36.4	22259	53.6
Number of visit						
Low (1-2)	9148	26.0	1644	25.7	10792	26.0
Middle (3)	3127	8.9	791	12.3	3918	9.4
Highest (3+)	2941	8.4	1638	25.6	4579	11.0
None	19927	56.7	2332	36.4	22259	53.6
Median number	2.73	-	2.96	-	2.92	-
Time of pregnant at 1st visit						
Early[1]	4490	12.8	1656	25.9	6146	14.8
Middle[2]	5082	14.5	1306	20.4	6388	15.4
Late[3]	5636	16.0	1108	17.3	6744	16.2
Median number	2.07	-	1.86	-	2.02	-
Antenatal care received						
Adequate[a]	1488	4.2	629	9.8	2117	5.1
Inadequate[b]	13728	39.1	3444	53.8	17173	41.3
No one[c]	19927	56.7	2332	36.4	22259	53.6
Median number	0.82	-	1.17	-	0.88	-

[1]Received ANC in 1st trimester; [2]Received ANC in 2nd trimester; [3]Received ANC in last trimester; [a]Received at least three antenatal visits during the first 3 months pregnancy from medically trained persons; [b]Received antenatal care except category; [a, c]Didn't received antenatal care

organization and the government of Bangladesh recommend a minimum of three antenatal care visits with one visit-taking place in each pregnancy trimester (NIPORT, 2003). For an effective antenatal care, in addition to a visit to a medically trained person (doctors, nurse, midwife) and the initial time of visits are most important to measure maternal health care service, we have classified the women who received ANC into two categories; adequate and inadequate. If the woman received ANC from a medically trained person in the first trimester and had 3 or more visits we turned it adequate care and in any other cases we turned it inadequate care. Thus, among the woman who received ANC, only 5.1% cases it was adequate and ANC 41.3% received in adequate care and 53.6% received no ANC. In urban area, 9.8% of mother received adequate ANC, but in rural area it is less than half of urban area, that means, only 4.2% of ever-married woman received adequate ANC during their pregnancy period.

Utilization of delivery care: Delivery care should involve delivery with a skilled attendant, a person who can provide normal delivery care, recognize and manage pregnancy complications when they occur. Emergency care should include services to provide for the most common obstetric emergencies such as sepsis, hemorrhage, eclampsia and retained placenta, as well as neonatal care and surgery. The high perinatal mortality and maternal mortality in Bangladesh may be attributed to the low prevalence of delivery care.

Percent distributions of births in the 3 years preceding the survey by place of residence type of during delivery, according to the place of residence represented in Table 2. If the mother was assisted by >1 type of provider, most qualified person considered in our analysis Result that almost all birth (92.1%) took place at home. Only 7.9% occurred at health facilities (4.9% in Govt. hospital and 3% in private hospital or clinic). Use of health facilities for delivery is much higher in urban area (20.1%) than in rural area (5.6%). It has been observed from Table 2 that >3 of 4 (76.7%) births are assisted by traditional birth attendant (dai) 12.9% births are attended by relatives others. Medically trained personnel provided by government facilities of which 6.1% utilized doctors and 4.2% utilized nurse or midwife assist only 16.3% of births. All these figures indicate a very poor rate of utilization of government health care facility at the time of delivery health. Births in urban area (7.6) are more likely to be assisted by medical personnel (doctors, nurse/midwife) than urban births (25.1%). On the other hand, the rural mothers utilize more traditional birth attendant, relatives and other than their urban counter parts.

Utilization of postnatal care: The postnatal period is defined as the time between delivery of the placenta and 42 days (6 weeks) following delivery. The timing of postnatal care is important. The first 2 days after delivery are critical, since most maternal and neonatal deaths occur during this period.

Table 3 shows the percentage of distribution of mother received postnatal care after delivery in the 3 years preceding the survey. We observed that only 16.5% mothers received postnatal care after delivery, among them 8.8% from qualified doctors, 0.8% from nurse or midwife and rest of 6.9% mothers received postnatal care from non health professional persons. Urban mothers are more likely to receive postnatal care than rural mothers. About 23.6% urban mothers received postnatal care (17.7% from doctors, 1.2% from nurse or midwife and 4.7% from non health professional person) whereas, it is only 15.2% (7.2% from doctors, 0.7% from nurse or midwife and 7.3% from non health professional person) for rural mothers.

Differentials of antenatal care sources: Source of antenatal care is an important factor to measure the maternal health care services. Table 4 shows the percentage of source of antenatal care by health professional person during pregnancy of their last birth 3 years preceding the survey by selected socio-economic characteristics. The age of mothers is one of the most important factors, which is closely related to the source

Table 2: Percentage distribution of mothers according to utilization of delivery care

	Rural		Urban		Total	
Characteristics	N	%	N	%	N	%
Assistance during delivery						
Doctors	1491	4.2	1042	16.3	2533	6.1
Nurse/midwife	1202	3.4	563	8.8	1765	4.2
TTBA[1]	4124	11.7	758	11.8	4882	11.7
TBA[2]	23482	66.8	3519	54.9	27001	65.0
Other HW[3]	4844	13.8	523	8.2	5368	12.9
Place of delivery						
Home	33163	94.4	5116	79.9	38279	92.1
Public sector	1341	3.8	695	10.9	2036	4.9
Private sector	484	1.4	534	8.3	1018	2.5
NGO and other	155	0.4	60	0.9	216	0.5

[1]Trained Traditional Birth Attendants; [2]Traditional Birth Attendants; [3]Health Workers

Table 3: Percentage distribution of mothers according to the utilization of postnatal care

	Rural		Urban		Total	
Characteristics	N	%	N	%	N	%
Source of postnatal care						
Doctors	2518	7.2	1131	17.7	3649	8.8
Nurse/midwife	259	0.7	78	1.2	337	0.8
Non health profession	2568	7.3	304	4.7	2872	6.9
No one	29797	84.8	4892	76.4	34691	83.5

Table 4: Percentage distribution of mothers according to the differentials of antenatal care

	Source of antenatal care					
	Health Professional (HP)		Non-Health Professional (NHP)			
Background characteristics	Doctor	Nurse/midwife	Trained (TBA)	TBA	Other HW	Total number
Mother's age at birth* **						
<20	47.8	12.7	33.6	0.2	5.7	6328
20-33	52.7	10.5	30.5	0.2	6.1	11885
34+	45.3	8.6	35.6	0.1	10.4	1066
Preceding birth interval (month)*						
<24	47.9	9.4	35.0	0.2	7.6	1819
24+	48.1	11.1	33.7	0.2	6.9	11321
No. of family member**						
1-4	47.2	13.4	33.6	0.2	5.7	6008
5-7	48.5	10.6	34.0	0.2	6.7	8367
8+	58.7	9.2	25.9	0.1	6.1	4901
Surviving status of previous child**						
No	46.2	10.3	36.3	0.1	7.1	1404
Yes	48.3	10.9	33.6	0.2	7.0	11737
Mother's education* **						
No education	34.7	11.9	43.3	0.2	9.9	5759
Primary	54.5	11.5	29.0	0.2	4.9	10235
Secondary +	81.0	7.1	10.8		1.1	2285
Place of residence***						
Rural	46.7	11.0	34.9	0.2	7.2	15209
Urban	65.7	11.5	20.2	0.1	2.5	4070
Childhood place of residence***						
Village	47.8	11.4	33.8	0.2	6.8	16837
Town/city	71.3	9.3	17.5	0.1	1.7	2419
Division***						
Barisal	58.1	13.2	25.4		3.4	1272
Chittagong	60.7	13.3	23.2	0.5	2.3	3407
Dhaka	49.7	8.2	34.1	0.1	7.8	5562
Khulna	47.4	7.6	38.7	0.1	6.2	3241
Rajshahi	40.9	22.0	34.1	0.0	3.0	3077
Sylhet	51.5	5.2	30.2	0.3	12.9	2717
Access to NGO***						
No	53.0	10.4	30.3	0.2	6.1	14187
Yes	44.2	13.2	36.1	0.1	6.4	5090
Listen to radio***						
No	46.4	11.3	34.7	0.2	7.4	10635
Yes	56.0	10.9	28.3	0.2	4.7	8639
Watched TV***						
No	42.2	11.3	37.4	0.2	8.9	10048
Yes	59.9	10.9	25.8	0.1	3.3	9229
Wealth quintile***						
Poorest	29.1	12.4	46.8	0.2	11.6	3305
Poor	36.7	14.0	40.4	0.3	8.6	3569
Middle	44.9	12.6	35.9	0.3	6.2	3456
Rich	54.8	11.0	28.9	0.1	5.1	3946
Richest	75.7	7.3	15.2	0.0	1.8	5000

Level of Significance: ***: p<0.001; **: p<0.01; *: p<0.05; TBA: Traditional Birth Attendants; HW: Health Workers

of antenatal care. Middle age of mothers (20-34) are more likely to receive ANC from health professional compared to adolescence (<20) and upper age (35+) of mothers. About 63% of middle age mothers received ANC from health professional persons (52.7% from doctors and 10.5% from nurse or midwife). Older mothers are less likely to receive ANC (53.9%) from medically trained persons. Preceding birth interval and survival status of previous child are insignificantly associated with ANC received. Number of total family member shows an increasing trend with received ANC from heath professional persons. Mother's education is positively and significantly associated with received ANC from heath professional persons; 88.1% of mother with at least secondary education received ANC from heath professional persons, whereas it is only 45.8% (which is almost half of higher educated mother) for these mothers having no education. But maternal education shows a declining trend corresponding to receive ANC from non-from heath professional persons. About 21.8% of mothers with at least secondary education received ANC from non-heath professional persons and 53.4% of illiterate mother

received ANC from non-heath professional persons. It may be result of increasing health professional person to receive ANC in educated women. Table 4 shows a significant variation in the use of ANC from heath professional persons by residence. Urban mothers are more likely to receive ANC from heath professional persons than rural mothers. About 77.2% of urban mothers received ANC from heath professional persons and 22.8% from non-heath professional persons. Receives ANC from heath professional persons in rural area is lower than in urban area. In rural area, only 57.7% of mothers received ANC from heath professional persons and 42.3% received from non-heath professional persons. Childhood place of residence is also positively associated with the received ANC from heath professional persons. About 80.6% of mother, who past their childhood in urban area received ANC from heath professional persons, whereas it is 59.2% for those mothers who past their childhood in rural. There are some regional variations in received ANC from heath professional persons. Chittagong division shows higher prevalence of ANC received from heath professional persons followed by Barisal, Sylhet, Rajshahi, Dhaka and Khulna division show lowest performance of ANC received from heath professional persons. Table 4 shows that access to NGO is negatively, but significantly associated with received ANC from heath professional persons and positively associated with received ANC from non-heath professional persons. About 63% of mothers who did not access to NGO received ANC from heath professional persons and it is 57.4%for those who accessed to NGO, but 36.5% of women who did not access to NGO and 42.6% accessed to NGO received ANC from heath professional persons. Access to mass media has a great affect on source of ANC. About 66.9% of mothers who listened to radio received ANC from health professional persons, whereas only 56.7% of mothers who did not listen to radio. The same pattern received of ANC from health professional persons is shown for those mothers who watched TV. ANC from health professional persons shows positive relationship and from non-health professional persons shows negative relationship with wealth index. It shows a increasing trend with wealth index. About 29.1% poorest mothers (1st quintile) received ANC from health professional persons while it is 36.7% for the poor mothers (2nd wealth quintile) and the percentage of receiving ANC from health professional persons is increasing over wealth quintile.

Differentials of health facility during delivery period: Skilled medical assistance during childbirth, whether at home or in a medical facility, can save women's lives. Untreated or improperly treated complications of pregnancy, delivery and the postpartum period are a leading cause of death for women in developing countries. To prevent maternal complications, skilled attendants are needed to provide assistance with delivery and monitoring of the postpartum period (Stewart *et al*., 1997). Skilled attendants include doctors, nurses and midwives trained to manage normal deliveries and who can diagnose and refer or else manage obstetric complications. An overwhelming majority of births (92.1%) in the 3 years before the survey were delivered at home (Table 2). With regard to deliveries at home, the proportions of deliveries at increases and the proportion of delivery with health facility decreases with age and birth order. It has been found from Table 5 that 91.5% adolescent mothers did not use health facility and (5.1% in government hospital and 3.4% in private hospital or clinic) percent used health facility during delivery. Preceding birth interval previous child is alive are not significantly associated with the use of health facility during delivery. Mothers with 5-7 family members are more likely to receive health facility during delivery compared others groups. There is also a strong association between the level of education of mothers and the place of delivery. Mother's education is negatively associated with deliveries at home. More than 2 of 5 mothers used health facility during delivery, while it is only >1 of 30 for illiterate mothers and 1 of 12th for those mothers with primary education. Children born in urban areas (20.1%) are 5 times more likely to be delivered in a health facility than children born in rural areas (5.2%). The proportion of births delivered in a health facility is very low or those mothers who past their childhood place in village (6.1%) compared those mothers who past their childhood place in town (27.4%). Some regional variations are also observed to use health facility during delivery. The proportion of births delivered in a health facility is lowest in Barisal division (4.5%) and highest in Khulna division (10.7%). Mothers who accessed NGO are less likely to use health facility during delivery. About 5.9% mothers who accessed NGO received health facility during delivery, while it is 8.5% for those mothers who did not access to NGO. Mothers who listened to radio and watched TV are more likely to use health facility during delivery. About 10.9% mothers who listened radio and 15.9% of mothers who watched TV used health facility during delivery, whereas it is only 6.1% for those mothers who did not listen to radio and 3.6% for those who did not watched TV. Economic standard of living is positively associated with deliveries with heath facility. Only 2.0% of poorest mothers used health facility during delivery, while it is 28.1% for richest mothers.

Differential of postnatal care: A large proportion of maternal and neonatal deaths occur during the first 48 h after delivery. A number of problems that women and child experience surrounding childbirth occur during the postpartum period. Thus, postnatal care and cheek up are recognized as an integral component of the comprehensive maternity and delivery care (NIPORT, 2001). Safe motherhood programs have recently increased their emphasis on the importance of postnatal care, recommending that all women receive a health checkup within 2 days of delivery. The health of a mother and her newborn child depends not only on the health care she receives during her pregnancy and delivery, but also on the care she and the infant receive during the first few weeks after delivery. Recognizing the importance of postpartum check-ups, the reproductive and child health program recommends three postpartum visits (Ministry of Health and Family Welfare, 1998).

Table 6 showed the source of postnatal checkups for the most recent birth preceding the 3 years survey. Postnatal Care (PNC) is uncommon in Bangladesh. Women's age is associated with the likelihood of receiving postnatal care; middle age of women is slightly more likely to have a checkup after giving birth than older

Table 5: Percentage distribution of mothers by differentials of health facility during delivery period

	Place of delivery			
Background characteristics	Home	Govt. Hospital	Private hospital	Total No.
Mother's age at birth* **				
<20	91.5	5.1	3.4	12901
20-33	92.5	5.0	2.4	25545
34+	95.6	3.1	1.4	3103
Preceding birth interval*				
<24 months	95.7	2.8	1.4	4368
24+ months	94.2	3.6	2.2	26523
No. of family member**				
1-4	91.2	5.9	2.8	12357
5-7	93.5	3.8	2.6	18966
8+	90.6	5.6	3.7	10226
Surviving status of previous child**				
No	94.7	3.7	1.6	3367
Yes	94.7	3.7	1.5	27526
Mother's education* **				
No education	97.3	2.1	0.6	19662
Primary	91.4	5.7	3.0	19297
Secondary +	58.2	20.6	21.2	2590
Place of residence* **				
Rural	94.4	3.8	1.8	35144
Urban	79.9	10.9	9.2	6405
Childhood place* **				
Village	93.8	4.1	2.0	38200
Town	72.5	14.1	13.3	3349
Division* **				
Barisal	95.4	3.4	1.1	4108
Chittagong	92.5	5.1	2.4	8380
Dhaka	90.4	5.3	4.3	10859
Khulna	89.3	5.8	4.9	5765
Rajshahi	92.6	5.5	2.0	7239
Sylhet	95.2	3.2	1.7	5198
Access to NGO* **				
No	91.5	5.2	3.3	31215
Yes	94.2	4.0	1.9	10329
Listen to radio* **				
No	93.9	3.9	2.2	26388
Yes	89.1	6.6	4.3	15161
Watched TV* **				
No	96.3	2.6	1.0	27201
Yes	84.1	9.2	6.7	14336
Wealth quintile* **				
Poorest	98.0	1.6	0.4	10766
Poor	96.5	2.7	0.8	9247
Middle	95.4	3.3	1.2	7865
Rich	92.2	5.7	2.1	7222
Richest	72.0	14.6	13.5	6442

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

Table 6: Percent distribution of mothers by the type of postnatal care

	Source of postnatal care				
Background characteristics	No	Doctor	Nurse/ midwife	Non HP	Total No.
Mother's age at birth* **					
<20	84.6	7.8	0.8	6.8	12901
20-34	82.9	9.5	0.8	6.8	25545
34+	84.2	7.2	0.6	8.1	3103
Preceding birth interval					
<24 months	84.5	7.7	0.7	7.1	4368
24+ months	84.9	7.3	0.7	7.1	26523
No. of family member**					
1-4	83.6	8.6	0.8	6.9	12357
5-7	84.3	7.9	0.8	7.0	18966
8+	81.9	10.7	0.7	6.7	10226
Surviving status of previous child					
No	84.3	7.3	0.7	7.7	3367
Yes	84.9	7.4	0.7	7.0	27526
Mother's education* **					
No education	83.5	8.8	0.8	6.9	19662
Primary	82.2	9.8	0.9	7.2	19297
Secondary+	59.7	34.1	2.0	4.2	2590
Place of residence* **					
Rural	84.8	7.2	0.7	7.3	35144
Urban	76.4	17.7	1.2	4.7	6405
Childhood place of residence* **					
Village	84.7	7.5	0.8	7.1	38200
Town/city	70.3	23.9	1.5	4.3	3349
Division* **					
Barisal	93.0	3.8	0.6	2.7	4108
Chittagong	91.1	6.1	0.6	2.3	8380
Dhaka	78.1	11.9	0.8	9.2	10859
Khulna	73.3	12.1	0.8	13.8	5765
Rajshahi	94.0	3.2	1.0	1.8	7239
Sylhet	71.7	14.8	1.1	12.5	5198
Access to NGO* **					
No	83.3	9.2	0.7	6.7	31215
Yes	84.0	7.4	1.0	7.6	10329
Listen to radio* **					
No	85.7	7.0	0.7	6.6	26388
Yes	79.6	11.9	1.1	7.4	15161
Watched to TV* **					
No	87.0	5.4	0.6	7.0	27201
Yes	76.9	15.2	1.3	6.7	14336
Wealth quintile* **					
Poorest	89.0	3.3	0.5	7.2	10766
Poor	86.6	5.2	0.6	7.6	9247
Middle	85.7	6.5	0.6	7.2	7865
Rich	83.1	9.3	1.1	6.5	7222
Richest	83.5	8.8	0.8	6.9	6442

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

and younger women. Only 17.1% of middle age mothers received postnatal cheek up, among them 10.3% received PNC from medically trained persons. Preceding birth interval and previous child is alive or not are insignificantly associated with received postnatal care. Postnatal care utilization varies by maternal education. Mother with at least secondary education are more likely to receive post natal care from medically trained persons. Only 16.5 women having no education received postnatal care (9.6% from health professional and rest of 6.9% from non-health professional), whereas 40.3% higher educated mother received PNC (36.1% from health professional and 4.2% non-health professional). Postnatal care utilization varies by place of residence. Rural women are slightly more likely to receive postnatal care within 2 days of delivery, compared with urban women (25.6 and 15.2%, respectively). Women from the Sylhet division are more likely to receive postnatal care compared women from others divisions and Rajshahi division are less likely to receive postnatal care after delivery. Mothers who accessed to NGO are less likely to receive postnatal care after delivery. About 20.7% mothers who listened to radio received postnatal care, among then 13% from medically trained persons and 7.4% from non-medically trained person. Watched TV is strongly associated to receive postnatal care. Only 13% (5.4% from medically trained person and 7% from non-medically trained person) mothers received postnatal care, whereas it is 23.1% (16.5% from medically trained person and 6.7% from non-medically trained person) for those mothers who watched TV. Poorest mothers are lees likely to receive postnatal care. Only 11% poorest mothers received postnatal care, among them 5.8% from medically trained person and 7.6% from non-medically trained person.

CONCLUSION

Maternal health issues in general and needs in particular is foremost among the nation's public health priorities. Meeting the health care needs of women requires a comprehensive understanding of several interrelated issues, including: the social, cultural, economic and physical environments of women; financial access to health care services; provider awareness of the need for women's health services and the content, quality and outcomes of health services provided to women. In this study, we analyzed the utilization, differentials and reasons for not using of maternal health care services in Bangladesh. More than half of mother did not receive antenatal care during their pregnancy, only one of ten mothers received assistance from health professional person during delivery period and only 1 of 12 mothers delivered their baby with health facility and 1 of 16 received postnatal care after delivery. In bivariate analysis, it was showed that maternal education, wealth quintile, mother's age at birth, access to NGO and mass media, place of residence, childhood place and region are most responsible and statistically significant to use of health facility before, during and after delivery period than others selected explanatory variables. More than half of mother did not receive maternal health facility due to lack of knowledge. Also customary, transportation, cost and quality of care are also responsible to reduce the utilization of maternal health care services. The overall findings seem to suggest close relationship of the levels and differentials of maternal health care utilization with socio-demographic backgrounds and this piece of information needs to be scientifically utilized in developing suitable programs addressing this issue of developing countries like Bangladesh.

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