Factors Associated with Delivery Assistance: Does Differentials Exist between Rural and Urban Areas in Bangladesh?

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Citation

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Abstract

This paper investigates rural-urban differentials of the utilization of delivery assistance in Bangladesh using data from the BDHS 2004. Findings reveal that there exist strong urban-rural differentials of receiving delivery assistance. About 75%and 93% of deliveries still occur at home in the urban and rural area respectively. Non-medically trained providers play a major role in the delivery assistance. Educated husbands in the urban area are more careful about delivery assistance of their wives than their rural counterparts. Urban mothers who receive ANC from medically trained providers out of them 41% mothers are assisted during delivery by medically trained providers and the corresponding figure for rural mothers is only 17.8%. Logistic regression analysis shows that mother's education, children ever born, wealth index, telling about pregnancy complications, permission to go to hospital/health center, religion, type of toilet facility and type of antenatal care providers are the significant determinants of receiving delivery assistance.

INTRODUCTION

An important component of efforts to reduce the health risks for mothers and children is to increase the proportion of babies who are delivered by skilled providers with adequate medical supervision[1]. Proper medical attention and hygienic conditions during delivery can reduce the risk of infection and increase the timeless of effective intervention in the event of obstetric emergencies, both of which can lead to serious illness or death to the mother or the newborn. One of the underlying factors leading to poor maternal situation in Bangladesh is that a very low percentage of women actually seek professional medical assistance for pregnancy related care, deliveries and complications. Only 7.9 percent deliveries take place in the health facilities and only 5 percent of the expected complications seek services of static health facilities[2].

Bangladesh is a developing country and maternity hospitals are quite inadequate. Most of our pregnant mothers are mainly accustomed to deliver births traditionally taking help from traditional qualified or unqualified birth attendant (TBA) or their relatives or neighbors. Bangladesh Maternal Health Services and Maternal Mortality Survey-2001 have reported that only 12 percent of births are associated by trained medical professional and overall three-fourths of births are associated by TBA. The high perinatal mortality and maternal mortality in Bangladesh may be attributed to the low prevalence of delivery care and assistance. Again there are significant rural urban differences, as professionally trained personnel attend 33 percent of births in urban areas, compared to only 8 percent in rural areas[3]. The Bangladesh Maternal Health Strategy encourages women to deliver under the care of medically trained birth attendants.

It is therefore, widely agreed that one of the most important health interventions useful in reducing maternal mortality is to have mother's delivery with a skilled birth attendant[4]. In this paper a limited attempt has been made to investigate the characteristics of delivery care and to identify the factors that have influence on receiving delivery assistance.

MATERIALS AND METHODS

This study utilizes the data extracted from 2004 Bangladesh Demographic and Health Survey (BDHS), which were conducted under the authority of the National Institute of Population Research and Training (NIPORT) of the Ministry of Health and Family Welfare. The BDHS 2004 is a nationally representative survey from 11,440 ever married women of age 10-49 and 4297 men age 15-54 from 10,500

households covering 361 sample points (clusters) throughout Bangladesh, 122 urban areas and 239 in the rural areas. Out of 11,440 ever-married samples, 2586 women and 8854 women are taken from urban and rural areas respectively. The data has collected from six administrative divisions of the country- Barisal, Chittagong, Dhaka, Khulna, Rajshahi and Sylhet. Data collection took place over a five-month period from 1 January to 25 May 2004. The study considered only the case for their last child. Bivariate analysis was performed to determine the differentials of modes of delivery assistance by explanatory variables. Pearson's Chi-square test of independence was performed to test the existence of significant association between categories of delivery assistance and selected risk factors. Considering the fact that among multivariate techniques the Cox's linear logistic regression model is algebraically simple, computationally straightforward and efficient with acceptable degree of precision for a binary dependent variable, this study applied Cox's linear logistic regression model$_5$ for multivariate analysis.

FINDINGS

DELIVERY CARE AND PLACE OF DELIVERY

The objective of providing safe delivery services is to protect the life and health of the mother and her child by ensuring safe delivery. In the 2004 BDHS, women were asked to provide information on the place and type of assistance during delivery for all children born in the five years preceding the survey. Table 1 presents that 75 percent and 93 percent of deliveries still universally occur at home in the urban and rural area respectively. A small proportion of mothers receive health facilities during delivery i.e. only 10.5 percent and 9.7 percent of births occur at government hospital/health center and private hospital/clinic respectively in the urban area. Again only 7 percent of births occur at a health facility in rural Bangladesh.

Figure 1

Table 1: Percentage distribution of mothers according to place of delivery and type of assistance during delivery for the most recent birth

	Urban		Rural		All	
Characteristics	Number of women	Percentage	Number of women	Percentage	Number of women	Percentage
Place of delivery						
Respondents home	651	58.0	2928	68.2	3579	66.1
Other home	189	16.8	1058	24.7	1247	23.0
Govt. hospital	98	8.8	99	2.3	197	3.6
Govt. health center	20	1.7	73	1.7	93	1.7
Maternal and child welfare center	41	3.7	23	.5	65	1.2
Private hosp/clinic	109	9.7	86	2.0	195	3.6
NGO static clinic	14	1.3	15	.4	29	.5
OTHER	0	.0	11	.3	11	.2
Total	1123	100.0	4293	100.0	5416	100.0
Receiving delivery assistance from						
Medically trained provider	354	31.5	426	9.9	780	14.4
Non-medically trained provider	756	67.3	3826	89.1	4582	84.6
None	13	1.2	41	1.0	54	1.0
Total	1123	100.0	4292	100.0	5415	100.0

Note: If more than one source of delivery assistance was mentioned, only the provider with the highest qualifications is considered in this tabulation.

Medically trained provider: doctor, nurse / midwife, FWV, MA / SACMO, HA, and FWA.

Non-medically trained provider: TBA, untrained TBA, unqualified doctor, relatives, friends, and other

FWV= family welfare visitor; MA = medical assistant; SACMO = sub-assistant community medical officer;

HA = health assistant; FWA = family welfare assistant; TBA= traditional birth attendant

A major proportion of mothers (84.6 percent) are assisted by non-medically trained providers and only 14.4 percent mothers are assisted by medically trained providers in Bangladesh.

EXPERIENCE AND TREATMENT OF COMPLICATIONS DURING DELIVERY

Women who had a live birth in the five years preceding the survey were asked whether they had experienced any of the following potentially life-threatening conditions around delivery: prolonged labor of over 12 hours; excessive bleeding; high fever with foul discharge; baby's hands or feet came first; and convulsions. The following table presents information on the percentage of live births for which mothers experienced maternal complications around the time of delivery and the type of assistance sought for those complications.

Figure 2

Table 2: Percentage distribution of mothers who have experienced complications around delivery, according to the type of complications and type of assistance sought for the complications.

	Urban (N=1123)	Rural (N=4292)	All (N=5415)
Complications during delivery			
Prolonged labor	18.4	16.7	17.0
Excessive bleeding	10.2	11.0	10.8
Foul smelling discharge with fever	4.4	4.7	4.6
Convulsions	3.0	3.4	3.3
Baby's hands/feet came first	1.4	1.2	1.2
Assistance sought for the complications from			
Medically trained provider	46.5	25.7	30.1
Non-medically trained provider	24.9	33.5	31.6
None	28.5	40.9	38.3

Note: If more than one source of assistance was mentioned, only the provider with the highest qualifications is considered in this tabulation.

Medically trained provider: doctor, nurse / midwife, FWV, MA / SACMO, HA, and FWA.

Non-medically trained provider: TBA, untrained TBA, unqualified doctor, relatives, friends, and other

FWV= family welfare visitor; MA = medical assistant; SACMO = sub-assistant community medical officer;

HA = health assistant; FWA = family welfare assistant; TBA= traditional birth attendant.

N is the number of women.

Table 2 reveals that the most common complication during delivery is prolonged labor of over 12 hours which is associated with 18.4 percent of live births, 10.2 percent of mothers experience excessive bleeding, and 3 percent mothers have convulsions in the urban area. The corresponding figures for the rural mothers are 16.7 percent, 11 percent, and 3.4 percent respectively. The distribution of health resources should focus not only on the size of the population but also on the burden of diseases (Streatfield, P. K., and Al-Sabir, Ahmed, 2003). 46.5 percent and 25 percent among the urban mothers are assisted by medically and non-medically trained providers respectively for maternal complication. The corresponding figures for the rural mothers are 25.7 percent and 33.5 percent respectively. 38.3 percent mothers still so not receive any assistance for maternal complication all over the country.

URBAN - RURAL DIFFERENTIALS IN RECEIVING DELIVERY ASSISTANCE

Assistance by medically trained providers (e.g., doctors, trained nurses or midwives, or family welfare visitors, health assistant and family welfare assistant) during delivery is considered to be effective in the reduction of maternal and neonatal mortality. Proper health facilities and adequate medical supervision along with safe, hygienic condition during delivery can reduce significantly the risk of infections and facilities management of delivery related complications that may lead to maternal and neonatal morbidity and / or mortality. Women who had a live birth in the five years preceding the survey were asked who assisted with the delivery. Interviewers recorded multiple responses if more than one person assisted during delivery; however, for the purpose of this tabulation, only the most qualified attendant was considered if there was more than one in attendance.

Table 3 depicts that although there are substantial differences in delivery assistance by background characteristics, and some subgroups of women have noticeably higher levels than others, the use of a medically trained provider for delivery is generally low for all women. Non-medically trained providers continue to play a major role in the delivery assistance all over the country. The findings elucidate that 30 percent of Muslim mothers and 48 percent of non-muslim mothers receive delivery assistance from medically trained providers in the urban area of Bangladesh. But a very condition is observed in the rural area because only 9 percent of Muslim women and

Figure 3

Table 3: Percentage distribution of mothers by type of delivery assistance for the most recent birth according to some background characteristics

	Delivery Assistance								
	Urban			Rural			All		
Characteristics	Medically trained provider	Non-medically trained provider	None	Medically trained provider	Non-medically trained provider	None	Medically trained provider	Non-medically trained provider	None
Religion		**			***			***	
Muslim	30.1	68.6	1.3	9.1	89.9	1.0	13.5	85.5	1.0
Non Muslim	48.3	51.7		18.9	80.2	.8	24.8	74.5	.7
Mother's education		***			***			***	
Illiterate	11.0	86.9	2.1	3.4	95.5	1.1	4.6	94.1	1.3
Primary	19.7	79.1	1.3	8.0	90.7	1.3	10.3	88.4	1.3
Secondary	41.9	57.5	.6	17.3	82.5	.3	22.9	76.7	.3
Higher	83.6	16.4		42.3	56.4	1.3	61.2	38.1	.7
Husband's education		***			***			***	
Illiterate	10.0	88.1	1.9	5.2	93.9	.8	6.0	93.0	1.0
Primary	19.0	79.9	1.1	7.2	91.3	1.4	9.3	89.3	1.4
Secondary	37.3	61.8	.9	14.3	85.2	.5	20.2	79.2	.6
Higher	72.0	27.5	.5	32.8	65.9	1.2	48.1	51.1	.8
Mother's occupation		***			***			***	
did not work	34.6	64.4	1.0	10.4	89.0	.6	15.3	84.0	.7
work	19.8	78.4	1.7	7.6	90.0	2.5	10.4	87.3	2.3
Husband's occupation		***			***			***	
manual	22.1	76.3	1.6	8.3	90.7	1.0	10.8	88.1	1.1
non manual	47.9	51.6	.5	14.3	85.0	.7	24.2	75.2	.7
did not work	33.3	66.7		29.1	70.9		29.9	70.1	
Region		-			***			***	
Barisal	34.1	65.9		9.9	88.7	1.4	12.9	85.9	1.2
Chittagong	24.7	73.7	1.6	8.8	90.5	.7	12.4	86.7	.9
Dhaka	33.4	65.4	1.2	9.3	90.0	.8	16.3	82.8	.9
Khulna	42.0	56.3	1.7	17.6	81.6	.8	22.4	76.7	.8
Rajshahi	29.5	69.2	1.3	8.4	90.3	1.3	10.9	87.8	1.3
Sylhet	28.6	71.4		8.9	90.2	.9	12.0	87.3	.8
Reading newspaper		***			***			***	
No	20.6	77.9	1.6	7.5	91.5	1.0	9.8	89.1	1.1
Yes	61.3	38.4	.3	25.9	73.2	.9	38.2	61.1	.7
Watching TV		***			***			***	
No	9.6	88.1	2.3	6.5	92.3	1.2	6.8	91.9	1.3
Yes	36.8	62.3	.9	13.8	85.5	.7	20.9	78.3	.8
Wealth index		***			***			***	
Poor	6.6	91.3	2.2	3.7	95.2	1.1	4.0	94.8	1.2
Middle	15.8	82.9	1.4	10.4	88.7	1.0	11.1	87.9	1.0
Rich	42.3	56.9	0.8	21.0	78.4	0.6	29.2	70.1	0.7
Mother's age at last birth		**			***			***	
<20	27.8	72.0	.3	11.8	87.6	.5	15.0	84.5	.5
20-34	34.3	64.4	1.3	9.5	89.3	1.2	14.9	83.9	1.2
35-49	24.2	71.0	4.8	3.8	94.9	1.3	7.2	90.9	1.9
Children ever born		***			***			***	
1-2	38.1	61.3	.6	14.7	84.7	.6	20.0	79.4	.6
3-4	23.8	74.4	1.9	6.0	93.1	.9	9.5	89.4	1.1
5+	19.3	78.7	2.0	2.9	95.1	2.1	5.4	92.5	2.1
Fertility preference		*			***			***	
Wants	36.6	62.7	.7	14.4	85.1	.5	19.1	80.4	.5
Undecided	39.4	60.6	0.0	11.1	88.9	0.0	17.0	83.0	
Doesn't want	27.7	70.8	1.5	6.8	91.9	1.3	11.0	87.7	1.3
Not currently married	24.2	72.7	3.0	9.1	89.9	1.0	12.9	85.6	1.5
Receiving ANC from		***			***			***	
Medically trained provider	41.2	58.1	0.7	17.8	81.4	0.8	24.6	74.6	0.8
Non-medically trained provider	0.0	100.0	0.0	1.7	97.8	0.6	1.5	98.0	0.5
None	6.0	91.5	2.5	3.1	95.8	1.1	3.4	95.3	1.3
Told about pregnancy complications		***			***			***	
Yes	46.8	52.3	.8	20.2	79.3	.5	27.8	71.5	0.7
No	20.3	78.3	1.4	6.1	92.8	1.1	8.5	90.3	1.1

Note: If more than one source of delivery assistance was mentioned, only the provider with the highest qualifications is considered in this tabulation.

Medically trained provider: doctor, nurse / midwife, FWV, MA / SACMO, HA, and FWA.

Non-medically trained provider: TBA, untrained TBA, unqualified doctor, relatives, friends, and other

FWV= family welfare visitor; MA = medical assistant; SACMO = sub-assistant community medical officer;

HA = health assistant; FWA = family welfare assistant; TBA= traditional birth attendant.

Significant level: ***, ** and * indicate $p<0.001$, $p<0.01$ and $p<0.05$ respectively

19 percent of non-muslim women receive delivery assistance from medically trained providers in rural Bangladesh. It is clear from this study that receiving delivery assistance from medically trained provider increases as the education level of women increases both in the urban and rural area of Bangladesh. We also observe from the study that in each education level of women, urban women are more likely to receive delivery assistance from medically trained providers than their rural counterparts.

Table 3 also shows that receiving delivery assistance from non-medically trained provider decreases as the education level of husband increases all over the country. 72 percent and 37 percent mothers receive delivery assistance from medically trained providers whose husbands have higher and secondary level of education respectively. In the rural area the rate is low where 33 percent and 14 percent mothers receive assistance from medically trained providers during delivery. So it is obvious from the study that educated husbands in the urban area are more careful about delivery assistance of their wives than their rural counterparts. 34.6 percent and 10.4 percent mothers, who do not work for cash, take delivery assistance from medically trained providers in the urban and rural area respectively.

Mothers who work for cash are less likely to receive delivery assistance than their congruent parts both in the urban and rural area of Bangladesh. 22 percent and 48 percent mothers whose husbands work manually and non-manually respectively take delivery assistance from medically trained providers in the urban area, whereas, the corresponding figures for rural mothers are only 8 percent and 14 percent respectively.

Table 3 also depicts that in the urban area receiving delivery assistance from medically trained providers is higher in Khulna (42 percent) division and receiving delivery assistance from non-medically trained providers is higher in Chittagong (73.7 percent) division. At around 88.5 percent mothers receive delivery assistance from non-medically trained providers in each division in the rural area. An unacceptably large proportion of births are delivered without assistance from medically trained providers. The findings also indicate that a higher proportion of births to women who read newspaper and watch television are assisted more by medically trained providers (38.2 percent and 21 percent respectively) than their counterparts who never access to mass media all over the country.

Table 3 also shows that urban mothers, who read newspaper and watch television, take more delivery assistance (61.3 percent and 36.8 percent respectively) from medically trained providers as compared to their rural counterparts (25.9 percent and 13.8 percent respectively). Among the rich mothers only 29.2 percent births are delivered with the assistance from medically trained providers and in case of middle class and poor mothers the corresponding figures drop to 11 percent and 4 5 respectively all over the country. The result also represents that as the wealth index becomes high, attendance during delivery by medically trained providers is also increased both in the urban and rural area. Urban mothers receive more delivery assistance from medically trained providers as against their rural counterparts.

The results indicate that there exists significant relationship between mother's age at child birth and the type of delivery assistance. Table 3 reveals that a small proportion of births to women area assisted by medically trained providers. Mothers of age 20-34 years are more likely to receive (34.3 percent) such services to other counterparts (27.8 percent and 24.2 percent) in the urban area. Especially rural women are in vulnerable situation because a very few proportion of mothers are assisted by the medically trained providers.

There exist differentials in the type of assistance at delivery by children ever born. The result explains that delivery assistance from medically trained providers is negatively associated with children ever born both in the urban and rural area and is very low in Bangladesh. A higher proportion of births to women who are undecided about

fertility preference are assisted during delivery by medically trained providers compared to their counterparts in the urban area. On the other hand women who want more children receive more delivery assistance (14.4 percent) from medically trained providers than others among the rural women.

Urban mothers who receive ANC from medically trained providers out of them 41 percent mothers are assisted during delivery by medically trained providers. On the other hand the corresponding figure for rural mothers is only 17.8 percent. Urban mothers, who take ANC from non-medically trained providers, cent percent among them are assisted during delivery by non-medically trained providers. Urban and rural mothers who can tell about their pregnancy complications among them 46.8 percent and 20.2 percent mothers respectively are assisted by medically trained providers during delivery.

DETERMINANTS OF RECEIVING ASSISTANCE DURING DELIVERY

The fitted model considers the assistance during delivery as dependent variable and it is coded as 1 if the mothers receive delivery assistance from medically trained providers, otherwise it is 0. The corresponding results are presented in the Table 4.

Table 4 shows that the net effect of mother's education on the assistance at delivery emerged as an important significant indicator when controlling for the effects of other variables in both the models of urban and rural areas. Urban mothers with higher education are 3.444 times more likely to have their deliveries conducted by medically trained providers as against their illiterate counterparts. In another model, rural mothers with secondary and higher education receive 1.5777 and 2.234 times respectively more delivery assistance from medically trained providers than their illiterate counterparts in the reference category.

The multivariate analysis suggests that husband's education makes a statistically significant effect with the acceptance of the delivery assistance. Urban mothers of those children whose fathers have secondary and higher education are 2.027 times and 3.06 times respectively more likely to conduct deliveries by medically trained providers than the mothers of those children whose fathers are illiterate. But in case of rural mothers, their husbands' education has no significant effect on receiving delivery assistance from medically trained providers.

We observe from Table 4 that, urban mothers, whose husbands are non-manual workers, are 1.506 times more likely to conduct deliveries by medically trained providers than those mothers, whose husbands are manual workers. Rural mothers with 3-4 children and 5 or more children are 45 percent and 58 percent less likely to have their deliveries conducted by medically trained providers than their counterparts in the reference category. Muslim mothers receive delivery assistance from medically trained providers 0.451 and 0.554 times less as compared to their non-muslim

Figure 4

Table 4: Logistic regression results for receiving delivery assistance

	Urban		Rural		All	
Characteristics	Coefficientof β	Odds Ratio	Coefficientof β	Odds Ratio	Coefficient of β	Odds Ratio
Mother's education						
Illiterate (Ref)	-	1.000	-	1.000	-	1.000
Primary	0.214	1.239	0.385	1.470*	0.310	1.364*
Secondary	0.192	1.211	0.456	1.577*	0.334	1.397*
Higher	1.237	3.444**	0.804	2.234**	0.955	2.599***
Husband's education						
Illiterate (Ref)	-	1.000	-	1.000	-	1.000
Primary	0.250	1.285	-0.273	0.761	-0.121	0.886
Secondary	0.707	2.027**	-0.065	0.937	0.138	1.148
Higher	1.118	3.060***	0.367	1.444	0.546	1.726**
Husband's occupation						
Manual (Ref)	-	1.000	-	1.000	-	1.000
non manual	0.410	1.506*	0.087	1.091	0.254	1.289*
did not work	-0.793	0.452	1.200	3.319***	0.713	2.041*
Children ever born						
1-2 (Ref)	-	1.000	-	1.000	-	1.000
3-4	-0.329	0.719	-0.594	0.552***	-0.484	0.616***
5+	0.235	1.265	-0.878	0.416***	-0.433	0.649*
Religion						
Non Muslim (Ref)	-	1.000	-	1.000	-	1.000
Muslim	-0.796	0.451**	-0.591	0.554***	-0.647	0.524***
Sources of drinking water						
Piped water (Ref)	-	1.000	-	1.000		
Tube well water	0.096	1.100	-0.283	0.753	-0.331	0.718*
Other	-0.427	0.652	0.128	1.136	-0.165	0.848
Type of toilet facilities						
Modern toilet (Ref)	-	1.000	-	1.000	-	1.000
Traditional toilet	-0.528	0.590**	-0.123	0.884	-0.550	.577***
No facility	0.075	1.078	-0.088	0.916	-0.462	0.630
Reading newspaper						
No (Ref)	-	1.000	-	1.000	-	1.000
Yes	0.371	1.449	0.302	1.353*	0.321	1.378**
Told about pregnancy complications						
Yes (Ref)	-	1.000	-	1.000	-	1.000
No	-0.354	0.702*	-0.565	0.568***	-0.501	0.606***
Receiving ANC from						
Medically trained providers (Ref)	-	1.000	-	1.000	-	1.000
Non- Medically trained providers	-3.439	0.032	-2.174	0.114***	-2.445	0.087***
No one	-1.361	0.256***	-1.062	0.346***	-1.201	0.301***
Wealth index						
Poor (Ref)	-	1.000	-	1.000	-	1.000
Middle	0.691	1.995	0.589	1.803**	0.568	1.764***
Rich	1.103	3.014***	1.033	2.810***	1.086	2.963***
Constant	-1.301	0.272*	-1.290	0.275*	-0.841	0.431**

Note: Ref = Reference Category and ***, ** and * indicate p<0.001, p<0.01 and p<0.05 respectively.

counterparts in the urban and rural area respectively. Type of toilet facilities of mothers has a significant effect on

receiving delivery assistance from medically trained providers in the urban area. Mothers who are using traditional toilet report 41 percent less receiving assistance from medically trained providers during delivery as compared to their counterparts in the reference category.

Reading newspaper also shows significant effect on receiving assistance from medically trained providers during delivery in the rural area. Rural mothers who read newspaper are 1.353 times more likely to receive delivery assistance from medically trained providers than those mothers who never read newspaper. Urban and rural mothers who can not tell about their pregnancy complications receive 30 percent and 43 percent respectively less delivery assistance than those mothers in the reference category.

Sources of receiving ANC also come out to be a significant predictor of receiving delivery assistance. Urban mothers who receive ANC from no one are 74 percent less likely to take delivery assistance than those mothers who receive ANC from medically trained providers. The corresponding figure for the rural mothers is 65 percent. Urban rich mothers receive delivery assistance from medically trained providers 3 times more than their poor counterparts. The multivariate analysis also suggests that rural in the rural area middle class and rich mothers receive delivery assistance from medically trained providers 1.803 and 2.810 times respectively more as against their poor counterparts in the reference category.

DISCUSSIONS

Although place of delivery is an important factor for health of the mother and the newborn, our study reveals that a small proportion of mothers receive health care facilities during delivery. 75 percent and 93 percent of deliveries still occur at home in the urban and rural area respectively.

Though historical and more recent evidence from both developed and developing countries has suggested that professionalisation of delivery care provides the key to reduction of maternal mortality[6] our study shows that non-medically trained providers continue to play a major role in the delivery assistance both in the urban and rural area. There are notable urban-rural differentials of receiving delivery assistance from medically trained providers. We also observe from the study that in each education level of women, urban women are more likely to receive delivery assistance from medically trained providers than their rural counterparts. Educated husbands in the urban area are more careful about delivery assistance of their wives than their rural counterparts. 30 percent of Muslim mothers and 48 percent of non-muslim mothers receive delivery assistance from medically trained providers in the urban area of Bangladesh. But a very condition is observed in the rural area because only 9 percent of Muslim women and 19 percent of non-muslim women receive delivery assistance from medically trained providers in rural Bangladesh. The study explains that delivery assistance from medically trained providers is negatively associated with children ever born both in the urban and rural area. Urban mothers who receive ANC from medically trained providers out of them 41 percent mothers are assisted during delivery by medically trained providers. On the other hand the corresponding figure for rural mothers is only 17.8 percent. It is obvious from our study that as the wealth index becomes high, attendance during delivery by medically trained providers is also increased both in the urban and rural area. Even in urban and better-served rural areas, the poor-rich inequality has continued to exist because health services were not designed for the poor[7].

In multivariate analysis, it is explored that mother's age, husband's education and occupation, children ever born, religion, type of toilet facility, sources of ANC, reading newspaper, telling about pregnancy complications and wealth index are the significant determinants of receiving delivery assistance. Apart from household wealth status, educational levels of individual women, religion, and caste have been shown to affect the uptake of maternal health and delivery services.

RECOMMENDATIONS

Create awareness regarding appropriate behaviors during pregnancy, delivery and the post-partum period, and generate demand for use of maternal health services. Orient health service providers to be responsive and respectful to the clients.

Government should ensure available maternal health care center for providing ANC especially in the rural area. Number of visits by FWV/FWA to rural women during pregnancy should be increased. Expand and improve the quality of post natal care. Upazila health complexes, MCWCs and district hospitals should be upgraded with basic and comprehensive post natal care.

Expand and improve the quality of normal delivery at home by trained providers and introduce post-partum visits.

Selected non-medically trained providers, who provide outreach services to all women of reproductive age, should receive basic mid-wifery training.

References

1. Graham, W.J., JS. Bell and C.H.W. Bullough. Can Skilled Attendance at Delivery Reduce Maternal Mortality In Developing Countries? In Studies in Health Services Organization and Policy, 2001; 97-129
2. Ahmed, S., Sobhan, F. and Islam, A. Neonatal Morbidity and Care-Seeking Behaviour in Rural Areas in Bangladesh. Operational Research Project- Health and Population Extension Division. Working Paper No. 148, 1998. Dhaka: International Center for Diarrhoeal Diseases Research, Bangladesh.
3. National Institute of Population Research and Training (NIPORT). Bangladesh Maternal Health Services and Maternal Mortality Survey. Final Report. Calverton, Md.: ORC Macro Calverton, 2001
4. Safe Motherhood. What is Safe Motherhood? Safe Motherhood Website, Accessed 1/10/2001. From www.safemotherhood.com
5. Cox, D. R. The Analysis of Binary Data. London: Methuen, 1970.
6. Dubourg, D.;De Brouwere, V.;Van Lerberghe, W.;Richard, F.;Litt, V.; Derveeuw, M. The Unmet Obstetric Needs Network. Final Report. Part I Synthesis. Antwerp, ITGPress; 2002.
7. Hadi, A., Nath S. R. and Chowdhury, A. M. R. The Effect of Micro-credit Programmes on the Reproductive Behaviour of Women in Rural Areas of Bangladesh. In Z. Sathar and J. F. Philips (eds). Fertility Transition in South Asia. Oxford University Press: New York, 2001

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