The determinants of use of postnatal care services for Mothers: does differential exists between urban and rural areas in Bangladesh?

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Citation

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Abstract

A crucial component of safe motherhood is postnatal care. Postnatal care is important for mothers for treatment of complications arising from delivery, especially for births that occur at home. The study utilizes Bangladesh Demographic and Health Survey (BDHS), 2004 data to identify the more important factors affecting postnatal care of mothers in the urban and rural areas. Descriptive and multivariate logistic regression methods were employed in analyzing data. Findings reveal that there exist strong urban-rural differentials in receiving postnatal care (PNC) from medically trained providers among urban and rural mothers. We found that urban illiterate mothers receive two times more postnatal care from medically trained providers than rural illiterate mothers. But receiving PNC from medically trained providers among highly educated mothers is almost same both in the urban and rural area. Receiving PNC from medically trained providers increases with improving the economic condition of mothers both in the urban and rural area. Urban mothers receive more PNC (77 per cent) from medically trained providers as against their rural counterparts (58.6 per cent) who can tell about their pregnancy complications. Regarding knowledge of potentially life-threatening conditions during or after delivery is found very low among the rural women. Finally in the logistic regression analysis we have found receiving ANC and delivery assistance from medically trained providers, type of toilet facilities and told about pregnancy complications have net significant effect on receiving PNC from medically trained providers.

INTRODUCTION

The postnatal period (the time just after delivery and through the first six weeks of life) is especially critical for newborns and mothers. Both mothers and their newborns are vulnerable during the postnatal period, especially during the first 24 hours following the birth (Joy E. Lawn analysis based on 38 DHS datasets, 2006). Approximately two-thirds of all maternal deaths occur in the developing countries during the postnatal period (Carine Ronsman, Wendy J. Graham, on behalf of the Lancet, 2006)

Despite the significant improvement in the child health and safe motherhood interventions, maternal mortality (320 per 1,000 live births), perinatal mortality (65 per 1,000 pregnancies), and neonatal mortality (41 per Postnatal care for mothers and newborns 1,000 live births) still remain a challenge in achieving the Millennium Development Goals in Bangladesh. In Bangladesh the majority of maternal deaths occur between the third trimester and the end of the first week after pregnancy (Mitra et al., 1997).

Mother posses high risk —on the day of delivery and over the next few days after delivery. Women may experience a number of problems as- sociated with childbirth in the postpartum period, i.e. Six weeks following delivery. Nationally, only eighteen of the mothers received a postnatal check-up from a trained health service provider within 42 days of delivery, and most (14.5%) check-ups were received within the first two days (NIPORT, 2005). Of mothers who did not deliver at a facility, only 8% received postnatal care from medically-trained provider in 2002 (Peter Winch et al., 2005). It is also encouraging to note that knowledge of the mothers on at least two postnatal danger signs in- creased by 17.2%, i.e. from 47.1% in 2002 to 64.3% in 2004 (NIPORT,2005). Although in Bangladesh significant improvement were achieved in most targeted areas in the field of reproductive health, however further efforts are needed to increase post natal care of the mothers.

DATA SOURCES AND METHODOLOGY

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. To meet the objectives this study considers bivariate analysis. Chi-square test is performed among the variables to identify interrelationship between the variables. Binary logistic regression model is used to examine the effects of demographic and socio-economic characteristics on the dependent variable.

RESULTS

KNOWLEDGE OF LIFE-THREATENING POSTNATAL MATERNAL DANGER SIGNS

Awareness of potentially life-threatening conditions during or after delivery is low especially among the rural Bangladeshi women (Table-1). Awareness is highest for tetanus and prolonged/obstructed labor (57 and 52 percent of the women, respectively). Four in ten women mentioned retained placenta, and one in three women identified malpresentation of the baby to be life-threatening conditions.

Figure 1

Table-1 Percentage of ever-married women who are aware of specific postnatal maternal conditions during delivery, or after delivery that could be life-threatening for the mother, Bangladesh 2004

Complications	Residence		Total
	Urban	Rural	
Preeclampsia or any symptoms of preeclampsia (severe headache/ blurry vision/high blood pressure	16.1	11.6	12.6
Convulsions/eclampsia	31.9	27.3	28.4
Excessive bleeding	26.3	20.4	21.7
Tetanus	58.0	56.3	56.7
Malpresentation	36.0	32.2	33.1
Prolonged/obstructed labor	47.8	53.5	52.2
Foul-smelling discharge with fever	0.9	0.6	0.7
Other	15.2	14.1	14.3
Don't know	2.4	3.3	3.1
Number of ever-married women	2586	8854	11440

Although convulsions/eclampsia and excessive bleeding account for most of the maternal deaths in Bangladesh (as shown in the 2001 Bangladesh Maternal Health Services and Maternal Mortality Survey (BMMS) (NIPORT et al., 2003)), very few women (28 and 22 percent, respectively) mentioned these conditions as life-threatening complications.

URBAN - RURAL DIFFERENTIALS IN RECEIVING POSTNATAL CARE

Table 2 explains that urban illiterate mothers receive two times more postnatal care (PNC) from medically trained providers than rural illiterate mothers. But receiving PNC from medically trained providers among highly educated mothers is almost same both in the urban (69.2 per cent) and rural (68.4 per cent) area. Urban mothers, who have primary and secondary level educational qualification, receive more PNC from medically trained providers as compared to their rural counterparts. We also observe from the result that as the education level of mother increases conducting PNC by medically trained providers also increases. This result is also true for the education level of husband. Urban mothers who do not work for cash receive more PNC (69.5 per cent) from medically trained providers than those mothers who work for cash. But in the rural area almost the same percentage of receiving PNC from medically trained providers is found for both occupational categories of mothers.

Figure 2

Table 2: Percentage distribution of mothers by receiving postnatal care according to some background characteristics

	Postnatal Care					
	Urban		Rural		Overall	
Characteristics	Medically trained provider	Non-medically trained provider	Medically trained provider	Non-medically trained provider	Medically trained provider	Non-medically trained provider
Mother's education	-		***		***	
Illiterate	63.2	36.8	31.5	68.5	36.0	64.0
Primary	56.9	43.1	40.5	59.5	43.5	56.5
Secondary	78.8	21.2	51.2	48.8	56.7	43.3
Higher	69.2	30.8	68.4	31.6	68.6	31.4
Husband's education	-		-		***	
Illiterate	62.5	37.5	37.5	62.5	40.8	59.2
Primary	54.8	45.2	44.9	55.1	46.6	53.4
Secondary	75.9	24.1	43.0	57.0	50.0	50.0
Higher	80.0	20.0	55.3	44.7	62.3	37.7
Mother's occupation	-		-		-	
did not work	69.5	30.5	43.4	56.6	48.2	51.8
work	57.1	42.9	41.2	58.8	44.5	55.5
Husband's occupation	-		**		**	
manual	63.5	36.5	41.6	58.4	45.0	55.0
non manual	72.6	27.4	44.9	55.1	52.3	47.7
did not work	100.0	0.0	90.0	10.0	91.7	8.3
Religion	-		**		*	
Muslim	68.4	31.6	41.3	58.7	46.4	53.6
Non Muslim	57.1	42.9	59.4	40.6	59.0	41.0
Region	-		***		***	
Barisal	75.0	25.0	50.9	49.1	54.0	46.0
Chittagong	65.6	34.4	40.1	59.9	46.8	53.2
Dhaka	66.7	33.3	35.3	64.7	43.3	56.7
Khulna	61.1	38.9	43.8	56.3	46.2	53.8
Rajshahi	75.0	25.0	36.8	63.2	40.7	59.3
Sylhet	72.7	27.3	70.7	29.3	71.3	28.7
Type of toilet facility	-		***		***	
Modern toilet	79.5	20.5	79.1	20.9	79.1	20.9
Traditional toilet	63.6	36.4	42.4	57.6	45.9	54.1
No facility	66.7	33.3	32.4	67.6	33.9	66.1
Mass media exposure	-		***		***	
No	71.4	28.6	33.8	66.2	37.6	62.4
Yes	66.7	33.3	46.4	53.6	51.0	49.0
Wealth index	-		***		***	
Poor	57.7	42.3	29.4	70.6	31.6	68.4
Middle	61.9	38.1	46.9	53.1	49.1	50.9
Rich	69.7	30.3	56.9	43.1	60.8	39.2
Mother's age	-		-		-	
<20	60.0	40.0	46.1	53.9	48.1	51.9
20-34	68.1	31.9	43.9	56.1	48.8	51.2
35-49	78.6	21.4	32.6	67.4	39.4	60.6
Children ever born	-		***		**	
1-2	63.3	36.7	47.8	52.2	50.8	49.2
3-4	70.8	29.2	44.0	56.0	49.2	50.8
5+	77.3	22.7	23.7	76.3	32.4	67.6
Told about pregnancy complications	**		***		***	
Yes	77.0	23.0	58.6	41.4	63.0	37.0
No	56.8	43.2	33.6	66.4	37.2	62.8
Sources of ANC	-		***		***	
Medically trained provider	68.9	31.1	56.4	43.6	59.4	40.6
Non-medically trained provider	60.0	40.0	13.5	86.5	19.0	81.0
None	60.0	40.0	26.7	73.3	30.2	69.8
Sources of delivery assistance	**		***		***	
Medically trained provider	92.1	7.9	91.7	8.3	91.7	8.3
Non-medically trained provider	60.5	39.5	37.7	62.3	41.4	58.6
None	50.0	50.0	50.0	50.0	60.0	40.0

Figure 3

Note: If more than one source of postnatal care 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, 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 $p<0.05$

We also observe from table 2 that the women, whose husbands are non-manual workers, receive more PNC from medically trained providers than their counterparts whose husbands are manual workers both in the urban and rural area. The study also explains that Muslim mothers receive (68.4 per cent) more postnatal care (PNC) from medically

trained providers than their non-muslim counterparts in the urban area. On the other hand Muslim mothers receive (41.3 per cent) less PNC from medically trained providers than their non-muslim counterparts in the rural area. Urban mothers receive more PNC from medically trained providers than their rural counterparts in each division. But only in the Sylhet division receiving PNC from medically trained providers is approximately same in the urban and rural area. Urban mothers receive two times more PNC from medically trained providers than their rural counterparts in Rajshahi division. Wealth index plays an important role for receiving PNC from medically trained providers all over the country. Receiving PNC from medically trained providers increases with improving the economic condition of mothers both in the urban and rural area. Table 2 reveals that as the age of mother increases, receiving PNC from medically trained providers is also increased in the urban area but decreased in the rural area. The result depicts that receiving PNC from medically trained providers and children ever born is positively associated in the urban area and negatively associated in the rural area. Urban mothers receive more PNC (77 per cent) from medically trained providers as against their rural counterparts (58.6 per cent) who can tell about their pregnancy complications. The findings also elucidate that 69 per cent and 56.4 per cent mothers who receive antenatal care from medically trained providers are assisted by the medically trained provider after delivery in the urban and rural area respectively. The same proportion of mothers (92 per cent) receives PNC from medically trained providers among those mothers who are assisted by medically trained providers during delivery in the urban and rural areas of Bangladesh.

DETERMINANTS OF RECEIVING POSTNATAL CARE

The fitted model considers receiving postnatal care as dependent variable and it is coded as 1 if the mother receives postnatal care from medically trained providers, otherwise it is 0. The corresponding results are presented in the Table 3.

Figure 4

Table 3: Logistic regression results for receiving postnatal care

	Urban		Rural		All	
Characteristics	Coefficient of β	Odds Ratio	Coefficient of β	Odds Ratio	Coefficient of β	Odds Ratio
Mother's education						
Illiterate (Ref)	-	1.000	-	1.000	-	1.000
Primary	-0.360	0.698	0.158	1.172	0.024	1.025
Secondary	0.683	1.980	0.066	1.068	0.112	1.119
Higher	0.449	1.638	0.237	1.267	-0.003	0.997
Receiving ANC from						
Medically trained providers (Ref)	-	1.000	-	1.000	-	1.000
Non- Medically trained providers	-0.945	.813**	-1.682	0.186***	-1.369	0.254***
No one	-0.340	.405*	-0.754	0.470***	-0.639	0.528**
Receiving delivery assistance from						
Medically trained providers (Ref)	-	1.000	-	1.000	-	1.000
Non- Medically trained providers	-1.963	.140**	-2.538	0.079***	-2.372	0.093***
No one	-2.434	0.088*	-1.578	0.206	-1.900	0.150*
Type of toilet facilities						
Modern toilet (Ref)	-	1.000	-	1.000	-	1.000
Traditional toilet	-0.819	0.441**	-1.156	0.315**	-1.023	0.360**
No facility	-0.623	0.536*	-1.023	0.359*	-1.002	0.367**
Told about pregnancy complications						
Yes (Ref)	-	1.000	-	1.000	-	1.000
No	-0.835	.304**	-0.560	.751**	0.558	1.747**
Wealth index						
Poor (Ref)	-	1.000	-	1.000	-	1.000
Middle	0.139	1.870	0.463	1.588	0.424	1.528
Rich	0.287	1.751	0.644	1.904	0.559	1.748
Constant	2.678	14.551**	2.854	17.350***	2.681	14.595***

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

Joy E. Lawn analysis based on 38 DHS datasets (2000 to 2004)

with 9,022 neonatal deaths, using MEASURE DHS STATcompiler

(www.measuredhs.com). Used in: Save the Children-U.S., State of

the World's Mothers 2006 (Washington, DC: Save the Children-U.S, 2006

Table 3 reveals that mother's education has no significant effect on receiving PNC. Rural mothers, who receive ANC from non-medically trained providers, are 0.18 times less likely to receive PNC from medically trained providers and the urban mothers who receive ANC from non-medically trained providers are 0.81 times less likely to receive PNC from medically trained providers. Urban and rural mothers, who receive delivery assistance from non- medically trained providers, are 0.14 and 0.079 times respectively less likely to receive PNC from medically trained providers. Rural

mothers, who use traditional toilet, are 0.315 times less likely to receive PNC from medically trained providers. Again urban and rural women who did not told about their pregnancy complications were .304 and .751 times less likely to receive postnatal care from medically trained providers than who told about their pregnancy complications. We have also noticed that the magnitude of odds ratios is not much wider between the poor and the middle and rich women in Table 3.

DISCUSSIONS

We have observed from our study that there exist differentials in receiving postnatal care (PNC) from medically trained providers among urban and rural mothers. We found from this study that urban illiterate mothers receive two times more postnatal care from medically trained providers than rural illiterate mothers. But receiving PNC from medically trained providers among highly educated mothers is almost same both in the urban and rural area. Urban mothers, who have primary and secondary level educational qualification, receive more PNC from medically trained providers as compared to their rural counterparts. Wealth index plays an important role for receiving PNC from medically trained providers. Receiving PNC from medically trained providers increases with improving the economic condition of mothers both in the urban and rural area. Urban mothers receive more PNC (77 per cent) from medically trained providers as against their rural counterparts (58.6 per cent) who can tell about their pregnancy complications. The findings also elucidate that 69 per cent and 56.4 per cent mothers who receive antenatal care from medically trained providers are assisted by the medically trained provider after delivery in the urban and rural area respectively. The same proportion of mothers receives PNC from medically trained providers among those mothers who are assisted by medically trained providers during delivery in the urban and rural areas of Bangladesh (Table 2). Regarding knowledge of potentially life-threatening conditions during or after delivery is found very low among the rural women. Awareness is highest for tetanus and prolonged/obstructed labor (57 and 52 percent of the women, respectively). Finally in the logistic regression analysis we have found receiving ANC and delivery assistance from medically trained providers, type of toilet facilities and told about pregnancy complications have net significant effect on receiving PNC from medically trained providers. In the light of the above discussions the following recommendations should be made:

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 PNC 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 PNC. Upazila health complexes, MCWCs and district hospitals should be upgraded with basic and comprehensive post natal care.

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