

## Postnatal care services and factors affecting its utilization in slum areas of Dhaka city

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### Abstract

**Background and objectives:** Maternal as well as infant mortality is high in Bangladesh. Utilization of post natal care (PNC) services is important to reduce maternal and infant mortality. Considering this matter, this study attempted to find out the level of PNC utilization by women living in slum areas of Dhaka city as well as to identify the factors associated with the utilization of PNC services.

**Methods:** This study was conducted in Khilgaon and Rampura slums of Dhaka city. In each slum, women aged between 15-49 years who had given birth to at least one child were enrolled in the study by random sampling technique. Participants were interviewed with a semi-structured questionnaire which included information on socio-economic, demographic, cultural status as well as information on PNC service utilization.

**Results:** Out of total 360 enrolled women in both slums, 58.6% utilized PNC services. The rate of utilization of PNC services was 55% and 62.2% in Khilgaon and Rampura slum respectively. Compared to 40-49 years age group, significantly ( $p < 0.01$ ) higher percentage of women aged <20, 20-29 and 30-39 years utilized PNC services (69.6%, 67.0% and 56.4% respectively). The significant associates of receiver of PNC were respondent's education, number of antenatal care (ANC) received, level of tetanus vaccination, place of delivery, distance between home and clinic, mass media exposure, male participation and autonomy.

**Conclusion:** Local socioeconomic and cultural aspects should be considered while planning intervention program to improve the utilization of PNC service.

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### Introduction

Bangladesh is one of the developing countries of the world, with a maternal mortality rate of 320/100,000 live births [1] while the estimated lifetime risk of dying from pregnancy and childbirth related causes is 1 in 21, compared to 1 in over 4,000 in 6 industrialized countries. Moreover, of the total maternal deaths, 69% are due to direct obstetric causes, 14% are due to injury and violence, leaving 17% due to indirect causes [2]. High rates of child mortality continue to be an important challenge for Bangladesh health systems

as three million mothers become pregnant each year in Bangladesh where 600,000 are expected to develop complications. It has been also reported that about nine million women suffer from lasting complications such as fistulae, prolapsed uterus, urinary incontinence, or painful intercourse [3].

Postnatal checkups provide an opportunity to assess and treat delivery complications and to counsel mothers on how to care for themselves and their children. However, despite the necessity of post natal care (PNC) uptake in order to reduce the mortality and morbidity of both mother and

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children, the proportion of mothers seeking PNC from professionally trained personnel is very low, both in rural and urban areas of Bangladesh [4]. Most recent data has revealed that only 21.3% mothers receive PNC. More specifically, 19.5%, 0.6% and 1.2% of mothers receive PNC within 2 days, 3-6 days and 1-6 weeks after child birth respectively [5]. However, such utilization might be lower in areas with low socio-economic condition. Therefore, an attempt has been made in this study to find out the extent of PNC utilization and identify the factors associated with its utilization among the slum population of Dhaka city.

### Materials and Methods

**Study place and population:** This study was a primary data based cross sectional survey. Two slum areas of Dhaka city namely Khilgaon and Rampura were selected. The study participants were women of reproductive age (15-49 years) living in two slums, had given birth to at least one child before March, 2008 and either received or not received PNC checkup within the 42 days of the last delivery. Simple random sampling technique was employed to enroll the women in the study. Prior to enrollment, informed consent was obtained from all study participants after fully explaining the purpose and nature of the study.

**Interview:** Eligible women were successfully interviewed with a semi-structured questionnaire which included socio-economic, demographic and

cultural information as well as information on PNC service utilization and maternal health care services. Respondent's knowledge on maternal health care services, male participation, women's autonomy and attitude towards maternal health care services were measured respectively by asking yes/no type of questions. Mass media exposure was measured by frequency of listening to radio, watching television and reading newspaper per month. Some variables were measured as composite indices. All the score of the indicators of specific composite index was later converted into scale score by arithmetic transformation.

**Analysis:** Chi-square test was applied in order to find the association between dependent and specific independent variable while cross tabulation was applied in order to provide the detail picture of association.

### Results

Total 180 eligible women from each slum were enrolled in the study. Therefore, out of total 360 enrolled women in both slums, 58.6% utilized PNC services. Age specific utilization of PNC services is shown in Table-1. The rate of utilization of PNC services among the women aged 15-49 years was 55% and 62.2% in Khilgaon and Rampura slum respectively (Table-1). Compared to 40-49 years age group, significantly ( $p < 0.01$ ) higher percentage of women aged <20 (69.6%), 20-29 (67.0%) and 30-39 (56.4%) years utilized PNC services.

**Table-1:** Age specific distribution of women who received PNC services in Khilgaon and Rampura slums

Age group (years)	Khilgaon slum		Rampura slum		Khilgoan+Rampura	
	Respondent N	Received PNC N (%)	Respondent N	Received PNC N (%)	Total Respondent	Total Received PNC N (%)
<20	10	6 (60)	13	10 (76.9)	23	16 (69.6)
20-29	87	58 (66.7)	92	62 (67.4)	179	120 (67.0)
30-39	49	24 (48.9)	45	29 (64.4)	94	53 (56.4)
40-49	34	11 (32.4)	30	11 (36.7)	64	22 (34.4)
Total	180	99 (55)	180	112 (62.2)	360	211 (58.6)

Note: a. Age group: <20 vs. 40-49 yrs:  $p < 0.01$ ,  $Z = 2.9$ ; b. Age group 20-29 vs. 30-39 yrs:  $p > 0.05$ ,  $Z = 1.74$ ; c. Age group 20-29 vs. 40-49 yrs:  $p < 0.0001$ ,  $Z = 4.55$ ; d. Age group 30-39 vs. 40-49 yrs:  $p < 0.006$ ,  $Z = 2.71$ . Compared by Z test of total PNC receiver in both slums.

**Table-2:** *Correlates of receiver of PNC in Khilgaon and Rampura slums*

Variables	Categories	Khilgaon				Rampura			
		N	Received PNC		p value (Chi-Square)	N	Received PNC		p value (Chi-Square)
			No (%)	Yes (%)			No (%)	Yes (%)	
Respondents	No	105	52.4	47.6		64	48.4	51.6	
Education	Primary	52	44.2	55.8	<0.01	87	36.8	63.2	<0.05
	Primary+	23	13.0	87.0		29	17.2	82.8	
Husband's Monthly Income	<3000	113	49.6	50.4	>0.05	91	48.4	51.6	<0.01
	3001-6000	55	40.0	60.0		68	23.5	76.5	
	>6000	12	25.0	75.0		21	38.1	61.9	
Childhood Residence	Rural	164	45.7	54.3	>0.05	149	40.9	59.1	>0.05
	Urban	16	37.5	62.5		31	22.6	77.4	
Number of ANC Uptake	No	69	92.8	7.2	<0.001	60	81.7	18.3	<0.001
	1-2	29	10.3	89.7		27	11.1	88.9	
	3+	82	17.1	82.9		93	17.2	82.8	
Receive of anti-tetanus vaccine	No	31	90.3	9.7	<0.001	42	73.8	26.2	<0.001
	Yes	149	35.6	64.4		138	26.8	73.2	
Delivery Assistant	TBA	134	50.0	50.0	<0.05	109	43.1	56.9	>0.05
	Health Professional	46	30.4	69.6		71	29.6	70.4	
Place of Delivery	Home	163	49.1	50.9	<0.01	149	43.6	56.4	<0.001
	Institute	17	5.9	94.1		31	9.7	90.3	
Distance from Home to Clinic	1 Km	132	40.2	59.8	<0.05	117	35.0	65.0	<0.001
	2 Km	33	51.5	48.5		37	15.6	84.4	
	>2 Km	15	73.3	26.7		10	71.0	29.0	
Knowledge on MHCS	Low	4	66.7	33.3	>0.05	44	59.1	40.9	<0.01
	Medium	118	45.1	54.9		128	32.8	67.2	
	High	58	41.7	58.3		8		100.0	
Male Participation in Maternity Care	No	13	85.6	14.4	<0.05	7	57.1	42.9	<0.01
	Low	47	87.5	12.5		44	56.8	43.2	
	Medium	81	49.4	50.6		79	36.7	63.3	
	High	39`	37.4	62.6		50	20.0	80.0	
Mass Media Exposure	No	109	52.3	47.7	<0.01	81	49.4	50.6	<0.05
	Low	39	48.7	51.3		47	31.9	68.1	
	Medium	18	16.7	83.3		43	27.9	72.1	
	High	14	14.3	85.7		9	11.1	88.9	
Women's Autonomy	No/Low	99	53.5	46.5	<0.05	90	53.3	46.7	<0.001
	High	6	34.6	65.4		90	22.2	77.8	
Attitude towards MHCS	Negative	129	48.8	51.2	>0.05	42	57.1	42.9	<0.01
	Positive	51	35.3	64.7		138	31.9	68.1	

Note: ANC=antenatal care; MHCS=Maternal Health Care Services; p value determined by Chi square test

Different background characteristics of study population were found to have association with the use of PNC service in Khilgaon and Rampura slums. Detail correlates of receiver of PNC in Khilgaon and Rampura slums are shown in Table-2. In Khilgaon and Rampura slums, PNC service was received respectively by 47.6% and 51.6% of women with no education; however, it was 87% and 82.8% respectively in women who had post primary education in both slums. This suggests that women with higher level of education were more likely to receive PNC than those with no education ( $p < 0.05$ ). In Rampura slum, 51.6% of women received PNC services whose husband's monthly income was less than Taka 3000 compared to 76.5% and 61.9% having monthly income of Tk. 3000-6000 and  $>$ Tk 6000 respectively ( $p < 0.05$ ). However, women's childhood residence was not found to be significantly associated with the uptake of PNC service neither in Khilgaon nor in Rampura.

Women who had higher number of antenatal care (ANC) visits, received tetanus vaccination during pregnancy and were delivered by health professional were significantly more likely to receive PNC in both areas except health professional assisted delivery in Rampura slum (Table-2). Among women who did not receive any ANC, only 7.2% of them reported to receive PNC service while it was more than 80% among women who received 1-2 and  $>$ 3 ANC visits during their last pregnancy in Khilgaon slum ( $p < 0.001$ ). Almost similar result was observed in Rampura slum. Thus, it indicates that women receiving ANC services are more likely to receive PNC services. In both areas, women who did not receive tetanus vaccination during their last pregnancy received less PNC service (9.7% in Khilgaon and 26.2% in Rampura slum) compared to those who received vaccination (64.4% in Khilgaon and 73.2% in Rampura;  $p < 0.001$ ). Similarly in both slums, significantly higher number of women ( $p < 0.001$ ) utilized PNC services who delivered at institutions compared to those who had their delivery at home (94.1% vs 5.9% in Khilgaon, 90.3% vs 9.7% in Rampura). In both areas, significantly higher number of women utilized PNC service when their delivery was conducted by qualified health professionals

than by traditional birth attendants (69.6% vs. 50% in Khilgaon; 70.4% vs. 56.9% in Rampura).

The rate of utilization of PNC service was 59.8% and 26.7% in Khilgaon and 65% and 29% in Rampura when the distance of clinic from home was within 1 km and more than 2 Km respectively. The uptake of PNC was 100% in Rampura slum when knowledge regarding maternal health care services (MCHS) was high compared to 58.3% among women in Khilgaon slum.

Among cultural characteristics, male participation, respondent's autonomy and attitude towards maternal health care services were considered in this study. Women with no/low male participation received less PNC services compared to women with medium and high level male participation. Among women with high level of male participation, 62.6% and 80% women received PNC in Khilgaon and Rampura slum respectively while the rates were 12.5% and 43.2% when male participation was low. Almost similar observation was found with regard to woman's autonomy. Among women with autonomy, 65.4% and 77.8% received PNC in Khilgaon and Rampura slum respectively while the rates were 46.5% and 46.7% among women with no autonomy. Among women with positive attitude towards MCHS, 64.7% and 68.1% reported to receive PNC in Khilgaon and Rampura slum respectively;

## Discussion

In this study, an attempt has been made to find out the rate as well as the associated factors regarding the use of PNC services among the women living in two slum areas of Dhaka city. In general, majority of women in study areas used PNC services. The proportion of women receiving of PNC in both study areas was higher compared to that of national statistics. In our study, more than 50% of women were found to receive PNC services in both slums. On the contrary, nationally, only 21% of women reported to uptake PNC service [5]. This may be due to availability and easy accessibility to service centers in urban areas and awareness among the women about the necessity of such services. We found that, greater number of younger women in both areas utilized PNC services.

Women having primary and post primary education were more likely to uptake PNC service in both the slums. Women education enlighten them to accept new ideas, which in turn modifies women's beliefs about disease, its cause and cure and thus influences both domestic child care practices and the use of modern health-care services [6,7]. Also, it strengthens women's opinion about health necessity and position within the family. Similar to other studies, increased income of husband has been found to have significant association with higher use of maternal health care services [8,9].

We found that women who had frequent ANC visits during their last pregnancy, received tetanus vaccination and delivered at institute were more likely to uptake PNC service compared to those who did not. It was assumed that women who received such care became aware of their rights and health need during and after the pregnancy. Exposure to mass media was also found to be associated with utilization of PNC in both the slum areas. This is because mass media are effective in information dissemination, which in turn increases awareness about social rights, knowledge about availability of health facilities and enhances behavioral changes for the adoption of new/different ideas [10]. Generally, women whose households are at more distance are less likely to receive health care services compared to women with household near to the clinic or hospitals. In consistent with this general argument, in both the slum areas we found lower rate of utilization of PNC services by women who lived at a greater distance from the clinic/hospital.

Autonomy of respondents and male participation also had significant association with use of PNC in both areas. Women with autonomy have freedom to buy drugs and to go to the clinic alone when necessary while supportive participation of male in this regard further facilitates the women to take decision on their health issues. Therefore, empowerment of women through education and employment are important to improve the maternal health particularly during and after the pregnancy.

The study revealed that further intervention program is necessary to improve the utilization of

PNC services among the women living in poor and difficult socioeconomic conditions. Women's social condition namely family environment, education, economic empowerment and accessibility to health care facilities should be considered during the planning of an intervention program to improve the utilization of PNC services in any area.

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