



## Impact of Sociodemographic Factors in the Access to Early Postnatal Care Service Among Women of Urban Slum in Bangladesh

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### Abstract

**Background:** Postnatal care (PNC) is defined as care given to the mother along with her newborn baby immediately after the birth of the placenta and for the first six weeks of life. This (PNC) covers general care of both the mother and the baby as well as danger signs in the postnatal period. The postnatal period is considered very critical to the health for survival and is the most vulnerable time for a mother and newborn. The majority of maternal death occurs after delivery but the postnatal period is the most ignored time for the establishment of quality services yet now in Bangladesh.

**Aim of the Study:** This study aimed to assess the impact of sociodemographic factors on the access to early postnatal care services among women of urban slums in Bangladesh.

**Methods:** This was a community-based cross-sectional descriptive quantitative study conducted among the women of reproductive age who gave birth in the last year before the study period in different slums of Dhaka South City Corporation, Dhaka, Bangladesh during the period from September to October 2016. A stratified sampling method was followed to select a total of 382 study participants for this study. Data were collected using a pretested structured interviewer-administered questionnaire. Chi-square and binary logistic regression analysis were carried out by using SPSS version 21.

**Results:** The socio-demographic factors including women's education, household income, residence, husband's education and occupation, and physical violence from husbands against women, significantly affected the access of the participants to postnatal care service utilization. Besides these, the knowledge of the respondents in PNC service regarding physical examination, BP checking, family planning, breastfeeding counseling and baby immunization also affected their access to PNC significantly. In assessing all those factors, the p-values were found as <0.001 except for baby immunization where the p-value was 0.003.

**Conclusion:** Year after year, several sociodemographic factors have been affecting the access of women in urban slums to early postnatal care services in Bangladesh. In this country, there is a crucial need for public health interventions to increase the access rate to early postnatal care services that should target women who need this service at the appropriate time.

**Keywords:** Impact; Sociodemographic Factors; Access; Postnatal Care; Women; Urban Slum

## Introduction

Early Postnatal care means care of the mothers and newborns in the health care facility within the first 24 hours to 72 hours (3 days) after birth and the postnatal period includes the first six weeks after birth [1]. Postnatal care is a part of maternity care (Care during pregnancy, childbirth and the postpartum period) that is concerned with the care for mother and child in the days and weeks following birth [2]. The postnatal period is considered very critical to the health for survival and is the most vulnerable time for a mother and newborn. Worldwide, each year, an estimated 289 000 women and 2.9 million neonates die from complications related to pregnancy, childbirth, or the postnatal period and up to two-thirds of such maternal deaths occur after delivery. Among these 99% of maternal and neonatal deaths occur in low- and middle-income countries [3]. Postnatal care should be focused in the direction of prevention, early detection and treatment of complications and diseases. Moreover, PNC should take into account counseling, advice, and services on breastfeeding, family planning, immunization, and maternal nutrition (USAID, 2002). In developing countries, the postnatal period is generally most neglected and the need for care and support after birth is less well recognized till now. Also, skilled care is lower after childbirth than during pregnancy or childbirth (WHO, 2005). A study found PNC utilization rate is only 16% in India and rural women are not aware of the significance of PNC utilization [5]. In Nepal, the PNC uptake is 34% and is often uncommon, inadequate and the quality is poor [6]. Early PNC utilization and prioritization are poor (15.4%) in Uganda and its use is delayed by prolonged hospitalization, care provision at public facilities, maternal unemployment or self-employment and lack of information [7]. PNC utilization is 20.2% in Ethiopia and the service proportion of postnatal care is very low [1]. PNC utilization rate is 44.3% in Sudan and advice on family planning, breastfeeding and birth control is given to women but women often use harmful practices like sitting on the water and drinking herbal material to induce lochia and uterine involution in the postnatal period [8]. A study conducted in two phases in Bangladesh showed that only 25.1% (2008) and 20.3% (2010) of respondents utilize PNC services and maternal mortality is more prevalent among the poor whereas access to maternal health services is concentrated among the rich and there are substantial inequities exist in the use of facility-based basic obstetric care [9]. The objective of this current study was to assess the impact of sociodemographic factors

on access to early postnatal care services among women of urban slums in Bangladesh.

## Methodology

This was a community-based cross-sectional descriptive quantitative study conducted among women of reproductive age who gave birth in the last year before the study period in different slums of Dhaka South City Corporation, Dhaka, Bangladesh during the period from September to October 2016. A stratified sampling method was followed to select a total of 382 study participants for this study. The ethical approval of our research proposal was obtained from Institutional Review Board (IRB) on Human Subjects Research and Ethics Committee of Hanyang University, Seoul, Korea. Letters of permission to survey the study area were obtained from the local councilor office, Dhaka south city corporation of the Ministry of Local Government in Bangladesh which is authorized to permit health-related matters in the urban area. Properly written consent was taken from all the participants before data collection. The whole intervention was conducted following the principles of human research specified in the Helsinki Declaration and executed in compliance with currently applicable regulations and the provisions of the General Data Protection Regulation (GDPR) [10]. As per the inclusion criteria of this study, women of the reproductive age group (18- 49 years) who gave live births within one year before the study resided in the study area were included. On the other hand, according to the exclusion criteria of this study, women who hadn't met the inclusion criteria and women who hadn't been found mentally and physically capable of being interviewed were excluded. Data analysis was done by using the Statistical Program for Social Sciences (SPSS) version 21.0. A chi-square test was done to examine the association between the background characteristics of the women and PNC utilization. Binary logistic regression was used to determine independent predictors for PNC utilization. The association between the independent variable and dependent variable has considered significant if the 'p-value' was less than 0.05. Odds ratios (OR) have been reported together with their 95% confidence intervals (CI). Finally, data has displayed by tables and graphs as necessary.

## Result

In this study, the respondent's ages ranged from 18 to 45 years with a mean of  $27.15 \pm 5.862$ . More than half of the respondents

196(51.3%) who gave birth within the last year were aged between 25 and 34 years. In total 289(75.7%) of the women attended primary and above level education, while 93(24.3%) respondents never went to school, 369(96.6%) were married, and 363(95.0%) reported they live in a temporary house. In total 176(46.1%) respondents were house maid while 71(18.6%) were housewives and unemployed. On the other hand, 176(46.1%) respondents reported their monthly household income was <5000 BDT and the rest 206 (53.9%) reported >5000 BDT. In total 204(53.4%) of the husbands of the respondents had primary and above level education, 60 (15.7%) husbands of the respondents were employed, 322 (84.3%) were unemployed and reported to involve in informal occupations like manual labor; 259(67.8%) respondents reported that they had the experience of physical violence (PV) from their husband, while 123(32.2%) had not. In assessing the knowledge of the respondent on PNC we observed that 156(40.8%) respondents reported PNC service is important. The most frequent responses given by the respondents about components of PNC services were baby immunization 337 (88.2%), breastfeeding counseling 270(70.7%), family planning 195(51.0%), physical examination 100(26.2%), BP check 67(17.5%), and others 1(0.3%). On the other hand, when women were asked about their perception of danger signs in the postnatal period the frequency of responses were severe bleeding 268 (70.2%), severe abdominal pain 182 (47.6%), convulsion 175(45.8%), high fever 125(32.7%), raised blood pressure 59(15.4%) and others 1(0.3%). Regarding the source of information about PNC service respondents reported from friends/ relatives/ neighbors 310(81.2%), from health professionals 147(38.5%), from radio/television 67(17.5%) and others 2(0.5%). In assessing the association of socio-demographic characteristics of women with postnatal care service utilization we observed that women's education, type of residence, monthly household income, husband's education and occupation and women's experience of physical violence from their husbands were found to be significantly associated with PNC utilization ( $p < 0.001$ ). Women with above primary level education 106(93.0%), having a permanent house for residence 15(13.2%), household income more than 5000 BDT 101 (88.6%), husbands with above primary level education 95(83.3%), Women without experience of physical violence from their husband 81(71.1%) used more PNC services comparatively. On the other hand, socio-demographic

characteristics like the age of the respondents, and marital status showed no significant association with PNC utilization. Besides these, in assessing the knowledge of the respondent and Utilization of PNC we observed that, the importance of PNC checkups was found to be significantly associated with PNC utilization ( $p < 0.001$ ). Of women who mentioned PNC checkup is important, 103(92.8%) utilized more PNC services than those 8(7.2%) who didn't mention it as important. Knowledge of the components of PNC service showed a significant relationship with PNC utilization ( $p < 0.001$ ). Women who were aware of PNC components utilized PNC service more, like Physical examination- used 74 (66.7%), not used 25 (9.2%); BP check- used 48(43.2%), not used 25(9.2%); family planning- used 91(80.0%), not used 103(38.1%); breastfeeding counseling-used 93(83.8%), not used 177(65.3%); baby immunization- used 106(95.5%), not used 229 (84.5%); utilized more PNC services than those who were not aware of components. Similarly, women's perception of danger signs in the postnatal period was found significant with PNC utilization ( $p < 0.001$ ). Women who had a perception of at least one danger sign in the postnatal period utilized PNC services more than those who had no perception of danger signs, like severe bleeding- used 94(84.7%), not used 174(64.2%); raised blood pressure- used 37(33.3%), not used 22 (8.1%); Convulsion- used 83(74.8%), not used 92(33.9%); High fever- used 61(55.0%), not used 64(23.6%); severe abdominal pain-used 86(77.5%), not used 95(35.1%). The source of information about PNC service also showed a significantly associated with PNC utilization ( $p < 0.001$ ). Respondents who get information about PNC services from health professionals 96(86.5%) and from radio/television 50(45.0%) used more PNC services than those who get information from friends/relatives/ neighbors.

## Discussion

This study aimed to assess the impact of sociodemographic factors on access to early postnatal care services among women of urban slums in Bangladesh. Each year, millions of women and neonates die from complications related to pregnancy or childbirth

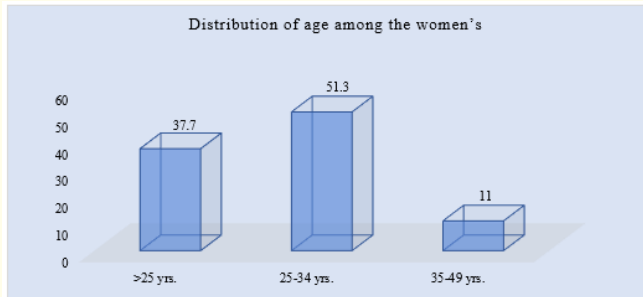


Figure 1: Column chart showed age wise respondents distribution (N = 382).

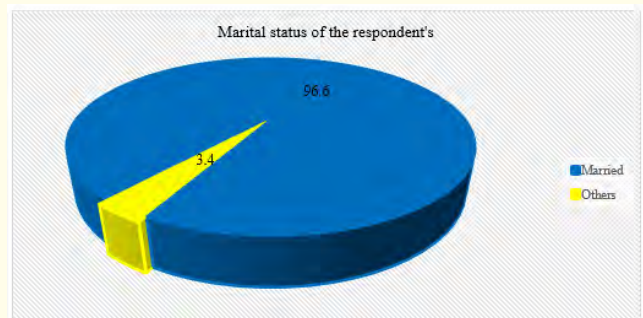


Figure 2: Pie chart showed marital status wise respondent's (N = 382).

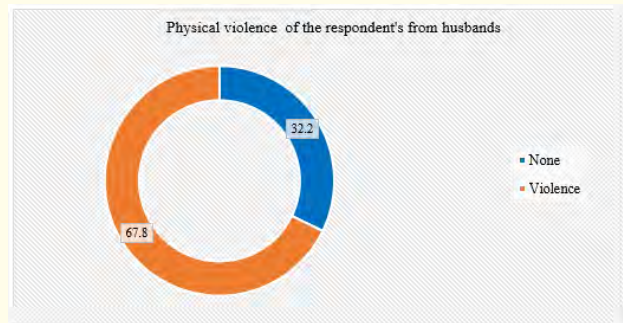


Figure 3: Ring chart showed physical violence from husbands among the respondent's (N = 382).

Variables	n	%
Women's Age		
<25 yrs.	144	37.7
25-34 yrs.	196	51.3
35-49 yrs.	42	11
Women's education		
Illiterate	93	24.3
Educated	289	75.7
Marital status		
Married	369	96.6
Others	13	3.4
Residence type		
Permanent house	19	5
Others	363	95
Women's occupation		
Employed	135	35.3
Not Employed	247	64.7
Monthly household income (in BDT)		
<5000 BDT	176	46.1
>5000 BDT	206	53.9
Husband's education		
Illiterate	178	46.6
Educated	204	53.4
Husband's occupation		
Employed	60	15.7
Not Employed	322	84.3
Physical violence from husbands		
None	123	32.2
Violence	259	67.8

Table 1: Respondent's socio-demographic characteristics (N = 382).

Variables	Utilization of PNC		P Value
	Yes	No	
	n (%)	n (%)	
Woman's age in years			
>25 yrs.	45(39.5)	99(36.9)	0.815
25-34 yrs.	58(50.9)	138(51.5)	
35-49 yrs.	11(9.6)	31(11.6)	
Women's education			
Illiterate	8(7.0)	85(31.7)	0.000
Educated	106(93.0)	183(68.3)	
Marital status			
Married	110(96.5)	259(96.6)	0.941
Others	4(3.5)	9(3.4)	
Residence type			
Permanent house	15(13.2)	4(1.5)	0.000
Others	99(86.8)	264(98.5)	
Women's occupation			
Employed	68(59.6)	179(66.8)	0.182
Not employed	46(40.4)	89(33.2)	
Monthly household income (in BDT)			
<5000 BDT	13(11.4)	163(60.8)	0.000
>5000 BDT	101(88.6)	105(39.2)	
Husband's education			
Illiterate	19(16.7)	159(59.3)	0.000
Educated	95(83.3)	109(40.7)	
Husband's occupation			
Employed	77(67.5)	245(91.4)	0.000
Not employed	37(32.5)	23(8.6)	
Physical violence from husbands			
None	81(71.1)	42(15.7)	0.000
Violence	33(28.9)	226(84.3)	

**Table 2:** Socio-demographic factors and utilization of PNC (N = 382).

Variables	Utilization of PNC				P Value
	Yes		No		
	n (%)	n (%)	n (%)	n (%)	
Whether PNC service is important or not					
Yes	103(92.8)		53(19.6)		0.000
No	8(7.2)		218(80.4)		
Knowledge of the components of PNC service					
Physical examination	Y	74(66.7)	Y	37(33.3)	0.000
	N	25(9.2)	N	246(90.8)	
BP check	Y	48(43.2)	Y	63(56.8)	0.000
	N	19(7.0)	N	252(93.0)	
Family planning	Y	91(82.0)	Y	20(18.0)	0.000
	N	103(38.1)	N	167(61.9)	
Breastfeeding counseling	Y	93(83.8)	Y	18(16.2)	0.000
	N	177(65.3)	N	94(34.7)	
Baby immunization	Y	106(95.5)	Y	5(4.5)	0.003
	N	229(84.5)	N	42(15.5)	
Others	Y	0(0.0)	Y	111(100.)	0.522
	N	1(.4)	N	270(99.6)	
Perception of danger signs in the postnatal period					
Severe bleeding	Y	94(84.7)	Y	17(15.3)	0.000
	N	174(64.2)	N	97(35.8)	
Raised blood pressure	Y	37(33.3)	Y	74(66.7)	0.000
	N	22(8.1)	N	249(91.9)	
Convulsion	Y	83(74.8)	Y	28(25.2)	0.000
	N	92(33.9)	N	179(66.1)	
High fever	Y	61(55.0)	Y	50(45.0)	0.000
	N	64(23.6)	N	207(76.4)	
Severe abdominal pain	Y	86(77.5)	Y	25(22.5)	0.000
	N	95(35.1)	N	176(64.9)	
Others	Y	1(0.9)	Y	110(99.1)	0.118
	N	0(0.0)	N	271(100.0)	
Source of information about PNC service					
From health professional	Y	96(86.5)	Y	15(13.5)	0.000
	N	51(18.8)	N	220(81.2)	
From friends/ relatives	Y	92(82.9)	Y	19(17.1)	0.58
	N	218(80.4)	N	53(19.6)	
From radio/television	Y	50(45.0)	Y	61(55.0)	0.000
	N	17(6.3)	N	254(93.7)	
Others	Y	1(0.9)	Y	110(99.1)	0.513
	N	1(0.4)	N	270(99.6)	

**Table 3:** Knowledge of the respondent and Utilization of PNC (N = 382).



and 99% of these deaths occur in low- and middle-income countries (LMICs) [11]. Another study revealed that only one-third of young mothers received PNC. 25.5% of them seek PNC by medically trained personnel and 16.6% within 48 hours of delivery. Among them, only one-fifth to one-half reported a complication [12]. In developed countries, nearly all women and their infants receive PNC services. A study in the Netherlands showed PNC utilization rate is >90% and services provided by MCAs (maternity care assistants) include detecting possible health problems, instructing, observing, and supporting the parents in establishing a new routine in their family life and helping them to become confident in their parenting [2]. A study in Brazil found 77% of pregnant women have access to PNC utilization and the care is less among women who relied upon the public sector than among private patients and this difference was explained by maternal characteristics or by healthcare utilization patterns [13]. A study in Australia showed 99% of women use PNC services and pharmacy-based clinics appear to be a high level of demand for their services and also provide higher levels of access to PNC services [14]. In this study, the findings of this study are lower than those of the Bangladesh demographic and health survey (2014) 36.1% and 36% for mother and baby respectively (BDHS, 2014) but higher than several previous studies conducted in Bangladesh where PNC utilization rates were-, 25% [12], and 27% [15]. However, the observation in the present study was much less than in another study [16]. This study showed that women's education status is an important predictor of PNC utilization. Educated women were more likely to use PNC services when compared to those who were illiterate. This finding is consistent with a study conducted in Bangladesh [12]. We found that women who live in permanent houses used the PNC service more than those who live in temporary houses. This finding supports the previous study finding that poor living condition in the residence negatively affects PNC utilization, conducted in Bangladesh [17]. Although the previous study found that women's age is important in PNC utilization and younger age group utilize the service more and women's occupation also was found significant with PNC utilization with the assumption that employed women can spend traveling and other costs in health centers [18]. In this study, we found coverage of PNC is extremely unequal where the women with higher household income have better access than the lower income group. This finding is consistent with studies conducted in Bangladesh [12], and India [16]. In this study, the

level of the husband's educational and employment status also emerged as significant predictors in PNC utilization. These results were consistent with some previous studies [6,12]. In the present study, women who delivered at health facilities (HF) and received advice during discharge from HF for PNC visits had higher rates of PNC utilization than women who delivered at home. The present finding supported the previous studies conducted in Bangladesh [19] and Ethiopia [1]. In this study, we found that women's level of knowledge of PNC components emerged as a strong predictor for PNC service utilization. Women who are knowledgeable about PNC components provided by the health facility were more likely to use PNC service than women who had not adequate knowledge of it. This finding supports the previous study conducted in India [5] and Nepal [6] that showed lack of knowledge negatively affects the utilization of PNC services. This study finding also showed that women who had an adequate perception of danger signs in the postnatal period utilized PNC services more than those whose perception level was poor. This finding is consistent with a previous study conducted in Bangladesh [17]. All the findings of this current study may be helpful in further similar studies.

### Limitation of the Study

Some limitations are intrinsic to the cross-sectional nature of this study that includes reporting of past behaviors and therefore likely chance of recall bias. Therefore, a 1-year recall period was chosen to minimize recall bias. The sample size of the study was small and the study area was also limited. Moreover, the findings of this study were based on self-reported outcomes so there may be a difference from actual behavior. Lastly, the educational status may have been associated with the accuracy of women's reporting as the less educated respondents are more likely to report medical events less accurately than their more educated counterparts.

### Conclusion and Recommendation

As per the findings of this current study, we can conclude that this present study has provided a better understanding that, despite the increase of maternal healthcare services in Bangladesh, less than one-third of women have access to the utilization of early postnatal care services in urban slums in the appropriate time. The women-with low education levels, and low household income, who had temporary houses, and whose husbands were low illiterate and unemployed, have inadequate access for utilization of early

postnatal care services. Significantly, domestic physical violence against women and health insurance emerged as strong predictors for the utilization of early postnatal care services in this study. Specific policy interventions like health promotional programs and program for knowledge campaigns are also needed to reinforce the postnatal care component in the maternal health care system.

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