

# Assessment of utilization of postnatal care services in urban slums of Jorhat town

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## ABSTRACT

**Background:** Postnatal period is the most vulnerable time, because the majority of neonatal and maternal death deaths occur during this period, especially within the first month after birth. In spite of its importance, this period is generally neglected. **Objectives:** To estimate utilization of postnatal care services and to study the factors associated with utilization of postnatal care among the postnatal mothers of urban slums of Jorhat town. **Methods:** Community based cross-sectional study was carried out in urban slums of Jorhat town. 94 postnatal mothers, who delivered during the time period of 16<sup>th</sup> October, 2018 to 15<sup>th</sup> October, 2019 were included from two randomly selected urban slums. Collected data were analysed using SPSS16. **Results:** Out of 94 mothers, 24.5% were illiterate, 26.6% were educated up to high school standard and only 6.4% of subjects were graduate. We observed 91.5% of the study subjects availed postnatal check-up (PNC), whereas only 23.4% had complete PNC ( $\geq 3$  PNC) and 8.5% did not have any PNC. Multivariate analysis showed education as a strong predictor (AOR: 1.463, CI: 1.054-2.030) of utilization of postnatal care services. **Conclusion:** Education was found to be strong predictor in complete utilization of postnatal check-up. Other factors affecting the utilization of complete PNC were adequate birth spacing, primigravida and age at marriage above eighteen years.

**Keywords:** Postnatal care, utilization, health facility, education, urban slum.

Postnatal care is one of the key strategies for attaining at the targeted maternal mortality ratio of 70/lakh live birth under the objective 3.1 of the Sustainable Development Goal (SDG) by the year 2030<sup>1</sup>. Evidence from a previous study reveals that postnatal mortalities accounts for more than 60% of maternal death in developing countries and the United Nation<sup>2</sup>. Medical care during the postnatal period is of utmost important for the survival of both mother and her newborn baby.

World Health Organization defines the postnatal period as ‘immediately after birth of the baby and extends up to six weeks (42 days) after birth’<sup>3</sup>. Majority of neonatal and maternal death can be prevented by meticulous monitoring and timely appropriate medical interventions.

The postpartum care should include a physical examination of both mother and baby for timely detection

and treatment of complications and diseases, maintaining warm chain, advice about colostrums and exclusive breast feeding, family planning, immunization and maternal nutrition<sup>4</sup>.

World Health Organization technical guidelines of 2013 recommend minimum of three additional postnatal check-ups for all mothers and newborns, on day 3 (48–72 hours), between days 7–14 after birth, and six weeks after birth for hospital delivery.<sup>5</sup> Although the emphasis is placed by the government for thorough improvement of maternal health care under the concept of “continuum of care” which include adolescence, pre-pregnancy, childbirth and postnatal period, childhood,<sup>6</sup> a varying degree of reluctances are seen in availing the recommended three post natal care services. The report of NFHS 5 reveals the proportion of mothers receiving postnatal check-up within two days of delivery as

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78 percent,<sup>7</sup> but the proportion of mothers receiving complete postnatal check-up (three check-up) is not reported till date.

Although data on utilization of postnatal care in India as well as Assam are available, these data are only about receiving postnatal check-up within 48 hours of delivery. Neither the data about complete postnatal check-up (minimum of three postnatal check-up) nor the utilization rate of postnatal care amongst the mother residing in an urban slum is available in existing studies. Considering the gap in information, the present study was undertaken to estimate utilization of postnatal care services and to study the factors associated with the utilization of postnatal care among the postnatal mothers residing in urban slums of Jorhat town.

**Materials and methods**

Jorhat town has five registered slum areas catering 3784 households. Out of these five urban slums two urban slums namely Dhakaipatty and Pujadubi were selected randomly using a random number table.

Sample size: Considering the 62.4% rate of postnatal check-up (NFHS-4)<sup>8</sup> as an anticipated proportion at confidence interval of 95% with absolute precision of 10%, the sample size was calculated to be 94.

This community based cross-sectional study was carried out during December, 2019 to February, 2020. Equal number of study subjects from Pujadubi & Dhakaipatty urban slums (47 from each area) were interviewed to attain at the required sample size. Search was done from one end of the slum and the households were selected using systematic random sampling. The mothers who delivered during the time period of 16<sup>th</sup> October, 2018 to 15<sup>th</sup> October, 2019 were included in the study. The mothers who were guest or mother who stayed in hospital for one week or more following delivery were excluded. If there was no eligible study subject in the visited household or the respondent found non co-operative then immediate next household was visited. The process was continued till the desired sample size was obtained. The mother who has undergone minimum three postnatal check up by health provider was considered as complete postnatal check-up<sup>5</sup>. Tool of study was a pre-designed, pre-tested proforma. Data was entered in MS Excel spreadsheet version 2016 and analysed by SPSS 16 version.

Ethical approval was obtained from the Institutional Ethics Committee of Jorhat Medical College and Hospital. Before collection of data informed consent was taken. The subjects were assured that information obtained from them will be kept confidential.

**Results**

Among the 94 mothers of both the slums, majority (44.7%) were in age group of 25-30 years, followed by 19-25 years (38.3%), above 30 years (14.9%) and less than 19 years (2.1%). Majority of study participants (74.5%) were married at the age of 18-25 years and a notable proportion (20.2%) of mother were married before the legal age of marriage. Majority (26.6%) of study subject were educated up to high school standard and only 6.4% subjects were graduate. On the other hand a notable portions (24.5%) of subjects were found to be illiterate (table 1).

**Table 1: Socio-demographic profile of postnatal women**

Socio-demographic profile	Frequency (N = 94)	Percent (%)
<b>Age distribution</b>		
< 19	2	2.1
19 – 25	36	38.3
25 – 30	42	44.7
> 30	14	14.9
<b>Age at marriage</b>		
14 – 17	19	20.2
18 – 25	70	74.5
26 – 30	5	5.3
<b>Education status</b>		
Illiterate	23	24.5
Below primary	19	20.2
Primary school passed	9	9.6
Middle school passed	12	12.8
High school passed	25	26.6
Graduate	6	6.4
<b>Occupation status</b>		
Housewife	71	75.5
Unskilled worker	13	13.9
Skilled worker	3	3.2
Business	6	6.5
Service	1	1.1
<b>Religion</b>		
Hindu	79	84.0
Islam	15	16.0

**Table 2: Obstetrics history**

Obstetrics history	Frequency (N = 94)	Percent (%)
<b>Gravida of study subjects</b>		
Multi gravida	62	66.0
Primi gravida	32	34.0
<b>Parity</b>		
1	25	40.4
2	20	33.0
3	13	21.3
4	3	5.3
<b>Gap of last two pregnancy (in years)</b>		
> 3	41	66
< 3	16	26
No response	5	8

As shown in table 2, the majority of mothers (66%) were multigravida and majority of study participants (70.2%) were delivered by normal delivery. Adequate birth spacing were

seen in 66% of multigravida mothers whereas 26% had spacing less than 3 years and 8% did not responded to the question.

**Table 3: Utilization of health services**

Utilization of health services	Frequency (N = 94)	Percent (%)
<b>Antenatal check-up</b>		
1	5	5.3
2	13	13.8
3	34	36.2
4	42	44.7
<b>Mode of delivery</b>		
Caesarean section	28	29.8
Normal delivery	66	70.2
<b>Postnatal check-up</b>		
0	8	8.5
1	45	47.8
2	19	20.2
≥ 3	22	23.4

**Table 4: Reasons for not availing postnatal check-up**

Reasons	Frequency	Percent (%)
Baby was sick	4	5.5
Cannot miss work	9	12.5
Forgot	17	23.6
Not interested	3	4.2
Unawareness	39	54.2
Total	72	100

Majority of study participants (44.7%) underwent four or more antenatal check-up (ANC) and 36.2% had three ANC.

**Table 5: Factors determining complete postnatal care**

Variables	Crude Odd Ratio	Confidence Interval		Adjusted Odd Ratio	Confidence Interval	
		Lower	Upper		Lower	Upper
Birth spacing	1.09	0.41	2.88	1.4441	0.466	4.456
Gravida	0.66	0.23	1.9	1.351	0.338	4.707
Place of delivery	2.26	0.26	19.46	0.266	0.026	2.707
Education	3.39	0.72	15.89	1.463	1.054	2.030
Adequacy of antenatal check up	1.91	0.72	5.04	0.333	0.107	1.040
Age at marriage	1.14	0.41	3.16	1.214	0.998	1.478

Although 91.5% of the study subjects had undergone postnatal check-up (PNC), the proportion of complete PNC (≥ 3 PNC) was only 23.4% and 8.5% did not have any PNC as shown in table 3. Out of 72 participants who did not avail complete PNC majority (54.8%) were unaware of timing and numbers of PNC, 23.6% forgot about it and 12.5% did not avail as they cannot miss work as shown in table 4.

Logistic regression models were built for the primary outcome of availing adequate postnatal check-up or not. We added an interaction term between the place of delivery, education, adequacy of ANC, adequacy of birth spacing and age at marriage. Multivariate analysis of these found education to be strong predictor (AOR: 1.463, CI: 1.054-2.030) of utilization of postnatal care services. On the other hand utilization of PNC was found to be more among the

mothers who followed birth spacing more than 3 years. Further, better utilization of postnatal care was found in primigravida and women who got married after age of eighteen years as shown in table 5.

**Discussion**

Postnatal care is one of the important strategies for identification and management of maternal as well as neonatal complication following birth. The present study revealed that the proportion of mothers utilizing complete postnatal services was only 23.4% which is comparable to the findings of the study done in rural Punjab (25.9%) by Mahajan N et al<sup>9</sup>. However present study revealed the proportion of mothers utilizing atleast one PNC within 48 hours to be 47.8% which corroborated with the study findings (52.5%) of Upadhyai N et al<sup>10</sup> done in urban slum of Uttarkhand,

Limited utilization of PNC was found mainly due to unawareness (54.2%) about the time and number of PNC. This finding is supported by findings of studies done in rural Punjab and western Rajasthan<sup>9, 11</sup>. Another important reasons for not availing postnatal services were found to be forgetfulness (23.6%) followed by inability of missing their

work (12.5%) due to fear of losing their daily wages. There is a scope of improving the provision of a home visit by

skilled birth attendant for health check up and counselling of mother as well as newborn as per government guidance. On analysis of the variables of multiple logistic regressions we observed that education act as a strong predictor in complete utilization of PNC. Which indicate that utilization of PNC is better amongst mothers having education from middle school and above. Our study finding is in consonance with the findings of study done in Uttarakhand by Upadhyai N et al<sup>10</sup> and study done in tribal area of Madhya Pradesh by Sharma A et al<sup>12</sup>. Contrary to present study, Mahajan N et al<sup>11</sup> reported effect of education of mother in utilization of PNC to be inconclusive. This could be due to difference in socio-demographic characteristics of sampled population and accessibility to the health care delivery services.

The regression model of present study further revealed that women with adequate birth spacing, primigravida and who married after legal age of marriage utilized PNC better. Chopra et al<sup>13</sup> in a study at urban slums of Lucknow and Pal R et al<sup>14</sup> in Delhi reported similar observation of better utilization of postnatal care among primigravida. Paul P et al<sup>15</sup> in a cross-sectional national survey found that women who married during childhood are less likely to receive PNC service compared to those who married as adults.

### Conclusion

The present study found that the proportion of mother utilizing complete PNC services was very small. Results of multivariate analysis revealed education of mothers to be a significant factor affecting the utilization of complete PNC. Other factors affecting complete utilization of PNC were adequate birth spacing, primigravida and age at marriage above eighteen years. The major cause of incomplete utilization of PNC was unawareness about number and time of PNC.

**Conflict of interest:** None. **Disclaimer:** Nil.

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