

# Postpartum Care Services during the Fourth Stage of Labour in Bharatpur Hospital of Nepal

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## ABSTRACT



**Background:** Postnatal care is an important part of maternal care, as serious and life-threatening complications can occur in the postpartum period. So, this study was conducted to assess the quality of postpartum care services during the fourth stage of labour in the maternity ward of Bharatpur hospital in Chitwan district of Nepal.

**Methods:** Cross-sectional hospital-based study was done among 218 women admitted in the maternity ward for vaginal delivery in Bhartapur hospital in Chitwan. A set of data collection tool was developed, pretested and finalized and face-to face interview was conducted. Part-1 of the tool was related to socio-demographic characteristics of respondents, Part-2 and 3 of the tools was used as a checklist to assess institutional characteristics and quality of postpartum care services respectively. The structured checklist had twenty-two items including twelve critical steps. The purpose of the study was explained to the respondents, verbal informed consent was obtained from respondents and ethical approval was obtained from the Institutional Review Committee of Chitwan Medical College.

**Results:** The median age of the respondents was 23 years with minimum age 16 years and maximum 40 years. The significant association observed between postpartum care during the fourth stage of labour and residence of mothers ( $p=0.021$ ).

**Conclusions:** Based on the findings of this study, it can be recommended that Postpartum care in Bharatpur hospital needs to be improved and it would be better if plans and programs implemented with priority to enhance the capacity of staffs and health institutions to provide postpartum care services according to the WHO recommendation guideline.

**Keywords:** Postpartum care services, Fourth stage Labour, Hospital

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## INTRODUCTION

The postpartum period is the period that begins immediately after the birth of the child and the terms Post Natal Period (PNP) or immediate postpartum period is commonly used to refer to the first six weeks following childbirth as the mother's body, including hormone levels and uterus size, returns to a non-pregnant state.<sup>1</sup> Potential complication during the fourth stage of labor includes Postpartum Hemorrhage (PPH), hypovolemic shock, perineal hematoma formation, urinary retention and infection. PPH is the major cause of maternal mortality which accounts 35 percent of all maternal deaths and about 14 million women of the world suffer from PPH every year and 26 women every minute.<sup>2</sup>

Therefore, postpartum care encompasses the management of the mother, newborn, and infant during the postpartum period. Timely, high-quality postnatal care is central to protect maternal and newborn health. Postpartum care should become an ongoing process based on the needs of each woman and it is essential to improve the health status of infants and women.<sup>3</sup> The postnatal period is a critical phase in the lives of newborn babies and mothers. It is a well-known fact that most maternal and infant deaths occur during this time. But, it is the most neglected period for the provision of quality care. Almost half of the postnatal maternal deaths occur within the first 24 hours.<sup>4</sup> About 57 per cent of Nepali women receive some form of postnatal care (PNC) in the first two days after delivery; this care is most often provided by a nurse or midwife. The strongest predictor of receiving a postnatal check-up is having delivered in a health facility.<sup>5</sup> so, this non-interventional cross-sectional hospital-based study was conducted to assess the postpartum care services among mothers within 2 hours of the fourth stage of labour in the maternity ward of Bharatpur hospital in the Chitwan district of Nepal.

## MATERIALS AND METHODS

It is a cross-sectional hospital-based study. All women who were admitted for vaginal delivery in

the maternity ward of Bharatpur hospital were the study population, so women admitted in the maternity ward for vaginal delivery and willing to participate were included in the study and others were excluded. A total Sample size 148 was derived by using the formula derived by Yamane<sup>6</sup> i.e.,  $n = N / \{1 + N (e^2)\}$ ; where, n = required sample size, N= population size (N=234), e = level of precision (e=0.05 at 95% confidence level). A set of data collection tool was developed, pretested and finalized. Part-1 of the tool was related to socio-demographic features of the women so used for face-to-face interview with women who had vaginal delivery or her caretakers. Part-2 and 3 of the tools were used as a checklist to assess institutional characteristics and level of postpartum care services respectively. The structured checklist had twenty-two items including twelve critical steps. The purpose of the study was explained to the research participants before data collection; verbal informed consent was obtained from the research participants and ethical approval from the Institutional Review Committee of Chitwan Medical College. Data were analyzed in the Statistical Package for Social Sciences (SPSS) version 20. Frequency distribution table for univariate analysis and chi square test for association between two variables were applied.

## RESULTS

### Socio-demographic characteristics of women

Table 1 shows that less than half (42.5%) of the women were from 21-30 years, followed by equal or less than 20 years (39.9%) and 17.6% were more than 30 years. The age distribution is non-symmetrical, so the average value of age is 23 taken from the median where the minimum age of respondents was 16 years and the maximum age was 40 years. Majorities (40.5%) of women were Brahmin and the least numbers were Dalit (12.2%). Significant proportions (82.4%) of the women were Hindu and majorities were residing in the municipality (67.6%) and joint family (76.4%). More than half (56.8%) of the women have completed secondary level education and less than half (41.2%) of the women were house-workers.

**Table 1: Socio-demographic characteristics of women**

Variables	Frequency (f)	Percentage (%)
<b>Age (in completed years)</b>		
≤20	59	39.9
21-30	63	42.5
>30	26	17.6
Median=23 IQR= Q3 – Q1= 28-20; Min=16, Max=40		
<b>Ethnicity</b>		
Brahmin	60	40.5
Chhetri	27	18.2
Janajati	43	29.1
Dalit	18	12.2
<b>Religion</b>		
Hinduism	122	82.4
Non-Hinduism (Buddhist, Christian, Islam)	26	17.6
<b>Residence</b>		
Rural	48	32.4
Urban	100	67.6
<b>Type of family</b>		
Nuclear	35	23.6
Joint	113	76.4
<b>Educational Status</b>		
Primary	38	25.7
Secondary	84	56.7
Bachelors and above	26	17.6
<b>Occupation</b>		
Self-employed	58	39.2
Service	39	19.6
Homemakers	61	41.2

Source: Field study, 2019

Observed postpartum care services provided to women within 2 hours of the fourth stage of labour Table 2 reveals that among critical steps of care almost all of the women (96.60%) were encouraged to breast feed their baby, while the perineal condition was assessed for more than half of the women (52.70%). It was observed that women received vaginal bleeding (78.40%) care, a

rapid assessment for emergency management (57.40%) and vital signs (58.80%). Among general care almost (98.60%) women received prescribed medication and health education about the importance of postpartum care while nearly half (45.30%) of mothers were known about their findings of the postpartum condition.

**Table 2: Postpartum care services within 2 hours of the fourth stage of labour (n= 148)**

Variables related to steps of care	Mothers received	
	Complete Care No. (%)	Partial Care No. (%)
<b>Critical steps of care</b>		
1) Rapid assessment for emergency management	85 (57.40)	63 (42.60)
2) Palpate fundus	108 (73.00)	40 (27.00)

3) Massage the uterus	115 (77.70)	33 (22.30)
4) Assessed perineal condition	78 (52.70)	70 (47.30)
5) Encouraged for urine voiding	126 (85.10)	22 (14.90)
6) Encouraged mother for breastfeeding	143 (96.60)	5 (3.40)
<b>General steps of care</b>		
1) Encouraged the mother to eat and drink	138 (93.20)	10 (6.80)
2) Administered prescribed medication to mother	146 (98.60)	2 (1.40)
3) Provided health education to mother	146 (98.60)	2 (1.40)
4) Encouraged mother for ambulation	79 (53.40)	69 (46.60)
5) Communication of all findings	67 (45.30)	81 (54.70)
6) Documentation of all findings, treatment and procedures	104 (70.30)	44 (29.70)

Source: Field study, 2019

#### Factors associated with postpartum care service within 2 hours of the fourth stage of labour

Association between the dependent and independent variables has been measured by using the Chi-square test. Table 3 shows that the level of postpartum care services is statistically significant with residence ( $p=0.021$ ). However, ethnicity

( $p=0.249$ ) and educational status ( $p=0.080$ ) of the women were not significant with the level of postpartum care services, since the  $p$ -value is higher than 0.05. This concludes that place of residence i.e. rural and urban setting is important factor for accessibility and seeking health care services among postnatal mothers.

**Table 3: Factors associated with postpartum care services and selected variables (n=148)**

Variables	Level of Postpartum Care Services		$\chi^2$	$p$ -value
	Good No. (%)	Poor No. (%)		
<b>Ethnicity</b>				
Brahmin	21 (35.0)	39 (65.00)	4.114	0.249
Chhetri	13 (48.10)	14 (51.90)		
Dalit	5 (27.80)	13 (72.20)		
Janajati	11 (25.60)	32 (74.40)		
<b>Residence</b>				
Rural Municipality	10 (20.80)	38 (79.20)	5.326	<b>0.021*</b>
Urban Municipality	40 (40.00)	60 (60.00)		
<b>Educational Status</b>				
Basic	17 (44.70)	21 (55.30)	5.047	0.080
Secondary	22 (26.20)	62 (73.80)		
Bachelor and above	11 (42.30)	15 (57.70)		

\*Statistically significance

## DISCUSSION

The postpartum period may be a time of transition for a female and her new family when adjustments must be made on physical, psychological and social levels. Appropriate care during the postnatal period is significant in preventing complications and deaths that occur during or immediately after

childbirth. The findings of the present study revealed that two-thirds (66.2%) of the women received poor postpartum care services and only one third (33.8 %) of the respondents received good postpartum care services during the fourth stage of labour. These results are similar to the findings of Tanzania in Mbalizi Hospital, in which

41.95% of the mothers had received some form of postpartum care services.<sup>6</sup> Another study from Nepal reported that 57 of women received a checkup in the first 2 days after childbirth and 42 of women did not receive even any single form of postnatal checkups.<sup>5</sup> This implies that the quality of PNC services offered to mothers were below the standard of WHO practice guidelines. This result confirms the problem we posed at the beginning of the study, about the low use of post-natal care and the existence of barriers that hinder these medical services.

The current study had also revealed that during the two hours of the fourth stage of labour; more than half (52.70%) of women received perineal care and 96.60% of mothers were encouraged to feed their baby. Among general care, less than half (45.30%) were known about their findings of the postpartum condition and 98.60 per cent of mother received prescribed medication and health education about the importance of postpartum care. This results of the current study is similar with a study done in Egypt<sup>7</sup> that had shown that majority of the midwives didn't monitor the mother after delivery, as the postpartum examination of mothers in vital signs, breast, uterus, lochia, vulva and perianal examinations were done for 61.5%, 25%, 22.1%, 34.6% and 25% for mothers respectively.

A study done in Nepal<sup>8</sup> disclosed that most of the health institutions do not have standard hospital protocol regarding postpartum care services and only 7 per cent of health facilities had national medical guidelines. Furthermore, health facilities did not have adequate postnatal care monitoring equipment like sphygmomanometer, thermometers, I/V stand and peri light in their maternity departments in terms of the number of the delivered mother which findings tune with the study done in Nepal.<sup>8</sup>

In this study, the association of level postpartum care services among mothers during the fourth stage of labour with different selected variables was assessed. The significant association between postpartum care services during the fourth stage of labour and residence of mothers had been revealed

( $p=.021$ ). As expected, living in municipality areas is an increased likelihood of receiving postpartum care services from health institution. This is particularly true for women delivering in an postpartum care was 11.07 ( $p=.000$ ) times greater among women who delivered at a hospital than women who delivered at home.<sup>9</sup> A systemic review suggested that female living in rural settings, the pooled odds ratio for the use of postnatal care by women living in urban settings was 1.36 (95% CI: 1.01–1.81) (women living in rural settings, the pooled odds ratio for the employment of postnatal care by women living in urban settings was 1.36 (95% CI: 1.01–1.81)).<sup>10</sup> Study tired in rural China states that the distance from the nearest hospital (OR = 1.49, 95% CI: 1.07–2.07) and) had a significant relationship with postpartum care utilization. This study has also suggested that the distance from the nearest hospital (OR = 1.73, 95% CI: 1.26–2.36) and level of delivery institution (OR = 1.57, 95% CI: 1.14–2.17) were significantly associated with postpartum care.<sup>11</sup> Long distance with primary health institutions has reduced the likelihood of nonuse or deficient use of postpartum services in rural areas of China<sup>11</sup> and a cross-sectional study done in Nepal disclosed that the longer spending time for travel and waiting for postnatal care (Adj OR=8.48, 95% CI=3.66-19.68) were significantly associated with postnatal care services uptake.<sup>12</sup> However, the findings of this study were not comparable with some of the previous studies because of differences in study design, sampling process and sample size.

Finally, this is a cross-sectional hospital-based study done in the Chitwan district. Percent comparisons are carried out as descriptive analysis and the Chi-square test has been also used to measure the association between dependent and independent variables. Therefore, causality can not be established regarding the chance factors through this study design. Future research might apply to different study design (i.e., interventional, longitudinal designs) to identify the contributing factors of postpartum care service during the fourth stage of labour.

## CONCLUSION

The findings of the study concludes that the level of knowledge on Postnatal Care services is good among women from urban setting than rural setting. So, there is an insistent need to develop policies, plans and programs to mitigate barrier related to the distance of the mother's residence and health facilities to improve the level of postpartum care services delivered within 2 hours of the fourth stage of labour.

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appreciate respondents for their valuable time and kind cooperation.

**List of abbreviations:**

IMPAC: Integrated Management of Pregnancy and Childbirth,

IV: Intra-venous,

PNC: Postnatal care,

PNP: Postnatal period,

PPH: Postpartum haemorrhage,

SPSS: Statistical Package for Social Sciences

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