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Factors Associated with Utilization of Postnatal Care Services among Mothers in Remote Villages of Nepal

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ABSTRACT

Background and Objective: The postnatal period, which includes the days and weeks immediately following childbirth, is an important time in the lives of new mothers and their newborns. During this period, there are significant changes affecting mothers' and newborns' health. About 70% of women in developing countries do not receive postnatal care and between 60 and 80% of maternal deaths take place during this period. Thus this study aims to find out the utilization status of PNC services and factors associated with utilization of PNC services. **Materials and Methods:** This study was a community-based cross-sectional study carried out among 280 married women of reproductive age who had delivered babies recently and were between the seventh to one year of the delivery date. The data were collected through structured, pretested questionnaires through the adoption of face-to-face interview techniques. The collected data were entered in Epi-data 3.1 and analysis was done in IBM SPSS 20. Binary logistic regression and multivariate regression analysis were used to observe the association of key factors with PNC service utilization. **Results:** The proportion of women who had received postnatal care service after delivery was 38.9%. The education of the respondent's husband (AOR = 8.259, CI: 1.472-46.338), the respondent's occupation (AOR = 12.847, CI: 1.079-152.924), the distance from the health facility (AOR = 7.273, CI: 2.598-20.358), number of ANC visits (AOR = 6.830, CI: 2.450-19.040) and health problems during the postpartum period (AOR = 6.908, CI: 1.946-24.525) were strongly associated with the PNC service utilization. **Conclusion:** This study concluded that almost one-third of the women only had PNC services utilized. There is an urgent need for comprehensive maternal health care services that aim at accessible PNC services for the needy population. The outreach PNC services should be provided at the doorstep to reduce the distance to the health facilities and increase access.

KEYWORDS

Health facilities, childbirth, education, postnatal care, maternal health, PNC service coverage, determinants

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INTRODUCTION

Postnatal care (PNC) is one of the most important maternal healthcare services for not only the prevention of impairment and disabilities but also the reduction of maternal mortality[1]. The postpartum period is particularly important for women, as during this period they may develop serious, life-threatening complications after delivery[2]. In developing nations, nearly two-thirds of women do not receive postpartum care and between 60 and 80% of maternal deaths take place during this phase[3]. The National protocol of MOHP, Nepal recommends for at least 4 antenatal care (ANC) visits and three PNC visits by health workers whether a pregnant woman is delivered at home or a health facility. The first PNC visit should take place within 24 hrs, the 2nd and 3rd visits should take place on the 3rd and 7th days, respectively[4]. Childbirth is not an illness, yet, it has an impact on women's subsequent health[5]. Every woman passes through the critical phases of pregnancy, delivery and the postnatal period. However, of all the components of maternal and child care delivery, postnatal care and early newborn care are most neglected. Danger signs of the mother during the postnatal period are heavy vaginal bleeding, convulsions/loss of consciousness, severe headache/blurred vision, foul-smelling discharge from the vagina with or without fever, hematoma formation, swelling and pain in the perineum[6]. The majority (60%) of mother fatalities happen during the first few weeks after giving birth, with around 24% occurring in the antepartum and 15.5% occurring in the intrapartum period[2]. Despite the increased likelihood of complications and risk, women in developing countries are least likely to receive health care services during the postpartum period[7,8]. In developing countries, there are significant variations in the percentage of women who receive antenatal care (65%) and postnatal care (30%). Even for women who give birth in a healthcare facility, postpartum care is often lacking. These statistics contrast with developed countries' high postnatal care coverage rates[9,10]. In Nepal, 48% of women had PNC exams within 7 days following their delivery in 2016[11]. There remain data discrepancies on PNC and its determinants in rural areas of Nepal. This study thus aims to identify the PNC service coverage and its associated factors.

MATERIALS AND METHODS

This was a cross-sectional, non-experimental study conducted in the former five VDCs of Salyan District, one of the 77 districts of Nepal. Married women of reproductive age (15-49 years) who had recently delivered and are between 7 to 365 days were included in the study. The sample size of the study was identified as 280 study samples using the proportion of PNC services utilization as 45%. The finite population correction was done as the number of children less than 1 year was only 789 as per District Health Office Salyan. Non-response rate of 10% was considered for sample size calculation. Multistage sampling was used for the selection of study sites and samples. The 5 study sites were identified using Probability Proportionate to Size (PPS) sampling method. In the second stage, the sampling frame was made by listing the number of women who is between 7 and 365 days of the post-partum period from each ward with the help of Female Community Health Volunteers (FCHVs). The study was carried out from April to September, 2018. The data were collected through face-to-face interviews with the help of a semi-structured questionnaire.

Statistical analysis: The collected data were edited manually to check completeness and accuracy and entered in Epi data 3.1. Data analysis was done in IBM SPSS 20. A descriptive analysis was performed. Multinomial logistic regression was done to test the association between variables. Bivariate analysis and multivariate analysis were done to see the association between outcome variables.

Ethical consideration: The ethical clearance for the study was taken from the Institutional Review Committee of Chitwan Medical College, Nepal. The approval to conduct the study was taken from the

concerned authorities in the field. Written informed consent was taken from all study subjects. The anonymity of the respondents and the confidentiality of their data were maintained strictly.

RESULTS

General characteristics of respondents: The mean age of the respondents was 22.9 years. The majority of the respondents were from the 20-24 years age group below, 30% were 25 years and above while 16% were below 20 years. The mean age at marriage of the respondents was 17.9 years (Table 1).

Out of the total respondents, 38.9% of the respondents had utilized postnatal care services (at least once) within 7 days of delivery (CI: 0.332-0.446).

Factors associated with PNC service utilization: The odds of PNC service utilization were higher among respondents' husbands those who had higher education as compared to primary level education (AOR = 8.259, CI: 1.472-46.338). Similarly, the respondents who had engaged in paid work were more likely to utilize PNC service (AOR = 12.847, CI: 1.079-152.924) as compared to those engaged in unpaid work. However, the education of the respondents, the occupation of husbands, information on danger signs and satisfaction with ANC service were not significantly associated with the utilization of PNC services.

The health service-related variables, number of ANC (AOR = 6.830, CI: 2.450-19.040), the distance of health facility (AOR = 7.273, CI: 2.598-20.358), health problems during the postpartum period (AOR = 6.908, CI: 1.946-24.525) found to be the statistically significant factors for PNC service utilization among respondents Table 2.

Table 1: General characteristics of respondents

Variables	Frequency	Percentage
Age (in years)		
<20	44	15.7
20-24	152	54.3
≥25	84	30
Age at Marriage (in years)		
<20	221	79.0
20-24	55	19.6
≥25	4	1.4
Age at first childbirth (in years)		
<20	155	55.4
20-24	113	40.4
≥25	12	4.2
Parity		
One	117	41.8
Two	89	31.8
Three or more	74	26.4
Ethnicity		
Upper caste group	170	60.7
Advantaged Janajati	53	19.0
Dalit	51	18.2
Disadvantaged Janajati	6	2.1
Wealth status		
Poorest	56	20.0
Poorer	62	22.1
Middle	51	18.2
Richer	55	19.7
Richest	56	20.0

Table 2: Factors associated with PNC service utilization

Characteristics	Unadjusted OR	Adjusted OR
Marriage age (in years)		
<20	1	1
20-24	0.96 (0.48-1.91)	0.72 (0.23-2.24)
≥25	0.80 (0.38-1.69)	0.95 (.06-15.13)
Parity		
≥3	1	1
1	3.00 (1.54-5.82)	0.71 (0.19-2.58)
2	2.95 (1.47-5.92)	1.381 (0.33-5.62)
Education of mother		
Illiterate	1	1
Primary	0.38 (0.14-1.07)	0.23 (0.04-1.36)
Secondary and above	9.53 (3.74-24.26)	2.82 (0.41-19.11)
Education of husband		
Primary	1	1
Secondary	7.28 (3.55-14.96)	3.23 (0.93-11.13)
Higher	56.00 (20.35-154.08)*	8.25 (1.47-46.33)*
Mother's occupation		
Unpaid working	1	1
Working (paid)	3.52 (1.18-10.47)*	12.84 (1.07-152.92)*
Agriculture	0.30 (0.16- 0.54)	1.50 (0.39-5.71)
Husband's occupation		
Agriculture	1	1
Formal sector	8.78 (4.04-19.08)	1.30 (0.30-5.70)
Other jobs	2.11 (1.20- 3.69)	1.63 (0.57-4.68)
Number of ANC		
≤3	1	1
≥4	10.78 (5.65-20.54)*	6.83 (2.45-19.04)*
Satisfaction with ANC service		
Fair	1	1
Satisfied	1.61 (0.93-2.79)	0.85 (0.31-2.30)
Information on Postpartum danger signs		
No	1	1
Yes	7.83 (4.33-14.14)	2.06 (0.74-5.70)
Information on going to a health facility during danger signs		
No	1	1
Yes	3.10 (1.31-7.33)	0.60 (0.12-2.85)
Distance of health facility (min)		
≥60	1	1
<60	11.79 (6.50-21.39)*	7.27 (2.59-20.35)*
Health problems experienced during the postpartum period		
No	1	1
Yes	2.22 (1.25-3.92)*	6.90 (1.94-24.52)*

*p-value<0.05

DISCUSSION

The findings of the study showed that 38.9% of the respondents had utilized postnatal care services. Similar findings (34%) were found in a 2007 research in two remote VDCs in the Kathmandu Valley in Nepal[1], while a 2012 study in Nigeria found that 32% of women received postnatal care[12]. In India, research revealed that 37.4% of women received PNC within 2 weeks of the delivery[13]. A study conducted in Nepal showed 57% of women receive PNC within 48 hrs after child births[11]. But in Bangladesh, only 21% of mothers received postnatal care from a trained provider within 6 weeks after birth[14]. Another study conducted in Nepal showed that only 26.5% of new mothers received postnatal care services[15].

This study showed a significant association between PNC service utilization and the distance of health facilities. It was similar to the findings from the study in Uganda which indicates a statistically significant

association between distance from the hospital and attendance of postnatal services[16]. This study showed that the husband who had higher education was 8 times more likely to utilize PNC services and this is similar to the findings from other studies done in Nepal[1,15]. This result disagrees with previous studies in Nepal[15] and India[17] which revealed that a husband with higher education does not affect PNC utilization. Other studies done in rural India[17], Pakistan[18] and Ethiopia[19] also showed that the education of women was significantly associated with the use of PNC services, however, this study didn't show a significant association with respondents' education. This study showed respondents' occupation is also associated with PNC utilization in which those respondents who were engaged in working (paid) were 12 times more likely to use PNC service as compared to unpaid-worker. This might to attributable to independent decision-making and the level of empowerment women gains working outside. This finding was similar to the study conducted in Uganda[16]. Respondents who had ANC visits were not found significantly associated with the utilization of PNC. This result is consistent with other studies[18,20]. The respondents who had danger signs during postpartum were seven times more likely to use postnatal care. This might be because of fear and anxiety after experiencing danger signs at home. A similar finding was observed in another study done in Nepal[1] and Palestine[21]. The respondents who had information on going to health facilities at the time of danger signs were not associated with the utilization of PNC service. This finding was similar to the study conducted in Ethiopia[22].

There are several strengths of this study. This study is carried out in a remote village in Nepal through a rigorous methodology. The evidence obtained from this research provides valuable insights for policymakers and healthcare providers to extend quality maternal healthcare packages in the study area. However, the present study has some limitations. The study was conducted using a cross-sectional study design. Because of the cross-sectional study design, this study had a limited extrapolative value. This study was conducted among women in a rural area, therefore it cannot be applied to communities in urban settings. Additionally, it cannot be applied at the national level. There might be a possibility of recall bias, as participants were providing their information on past experiences. Nevertheless, a one-year recall period has reduced the possibility of recall bias to some extent.

CONCLUSION

This study illustrated the poor utilization of postnatal care services among mothers. The 1-3 of respondents had received postnatal care within 7 days of delivery. The factors that were significantly associated with postnatal care services were the education of the husband, occupation of women, number of ANC visits, the distance of health facility and danger signs during the postpartum period among respondents. Comprehensive maternal health programs should be emphasized in the study area so that PNC services will be easily accessible to women. Similarly, adequate outreach to PNC service clinics should be established so that the distance to health services would not be a barrier to PNC services utilization.

SIGNIFICANCE STATEMENT

According to the World Health Organization (WHO), postnatal care (PNC) is care that is given to the mother and her newborn child in the hours and days following birth and for the first 6 weeks after birth. Most mother and newborn fatalities occur during childbirth and the postpartum period. The best method of lowering maternal and neonatal mortality is to scale up maternal and newborn health through proper postnatal care services. The majority of mother and child morbidity and death are largely avoided through postpartum care. This study provides evidence for policymakers to strengthen maternal and health services.

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