

Utilization of Postnatal Care Services among Mothers Residing in Morang District, Nepal

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ABSTRACT

Introduction

Post-natal care is regarded as the care provided to the mother and the baby during first six weeks of childbirth. Large proportion of maternal and neonatal deaths occur during postnatal period. The utilization of postnatal care services helps in preventing maternal and neonatal deaths. The study aim to find out the utilization of postnatal care services among postnatal mothers residing in Morang district, Nepal.

Methods

A Cross sectional study was undertaken among 256 postnatal mothers residing in Kanepokhari rural municipality, Belbari and Sundarharaincha municipality of Morang district. Multi stage sampling method was used. Ethical approval was obtained from PUSHS- Institutional review committee (Ref no 041—078/079). Face to face interview was done using self developed semi structure questionnaire to collect the data. Descriptive statistics were performed and chi –square was done. Multivariable logistic regression was done

Results

Nearly half (47.3%) had utilized the postnatal care services. Very few (6.6%) of the respondents were aware about the importance about the PNC utilization. Most (85.2%) of the respondents were unaware about the government protocol of PNC visit. Educational level , duration of stay at hospital parity, danger sign seen in pregnancy, place of delivery and mode of delivery were associated with having utilization of postnatal services. The primi mothers (95% CI: 1.229-0.403) had higher likelihood of having postnatal care utilization.

Conclusions

Nearly half postnatal mothers have utilized the postnatal care services. Awareness programme focusing on government protocol for postnatal services should be done to improve the utilization.

Keywords: Postnatal care service; Postnatal mothers; utilization; postnatal care; Awareness; Maternal death: Noenatal death.

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INTRODUCTION

Post-natal care is regarded as the care provided to the mother and the baby during first six weeks of childbirth.¹ Postnatal services are primarily comprised of physical examination, immunization, health education, and family planning services.² The first visit as early as within 24 hours of delivery, second visit on the day third day and third visit on the day seventh after child birth are recommended by World Health Organization.³

Globally 289,000 women die due to maternal causes annually.⁴ Around 50 to 71% maternal deaths occur within the postnatal post-natal period.⁵ Likewise, 2.9 million neonatal deaths occur in the first week of life on an annual basis globally.⁶ Unfortunately, 90% of these maternal and neonatal deaths occur in low and middle income countries.⁷ The mortality can be reduced by the utilization of maternal health care services.⁸

Receiving postnatal care services fosters and maintain the wellbeing of mother and newborn by identifying and managing complications that aroused as a result of childbirth.^{1,3} Promoting mothers' health improves not only individual health care but also the health of the family, community and the nation.⁹

A study done in Chitwan Nepal showed that only 17.5% of women had attended the postnatal care services.¹⁰ Another study done in Myagdi district manifested that 18.5% of mothers attended three postnatal visits within 6 weeks after delivery.¹¹ A study done in Ramechhap revealed that utilization of postnatal care services at least one time within 42 days after delivery was 28.4% only.¹²

METHODS

The cross sectional study was undertaken from June 2021 to December 2021 among 256

postnatal mothers residing in Kanepokhari rural municipality, Belbari and Sundarharaincha municipality of Morang district. Multi stage sampling was used. Morang district consists of one metropolitan city, eight municipality and eight rural municipality. Among them two municipality and one rural municipality were selected randomly. Kanepokhari rural municipality consists 7 wards and ward no 4,6 were randomly selected and 42 samples were selected from each ward. In Belbari municipality there are 11 wards and ward no 9,11 were randomly selected and 43 samples were selected from each ward. Sundarharaincha municipality consists 12 wards and ward 6,9 were selected randomly and 43 samples were collected from each ward. Ethical clearance of the study was obtained from PUSHS- Institutional review committee (Ref no 041-078/79).

Those postnatal mothers who had children below one year of age were included in the study. Postnatal mothers could not speak, had a hearing impairment and migrants were excluded from the study. Self developed semi structure questionnaire was used to collect the data. Written consent was obtained from each respondent. Postnatal mothers were interviewed separately and allowed to withdraw whenever they want. Pre testing was done among 26 mothers of Itahari sub-metropolitan city. There were 16 items of questionnaire relating to utilization of postnatal care services. Each item was given 1 for correct response.

The median value was 23. The level of utilization was categorized as: Good utilization >23, Poor utilization ≤23. Data were analyzed separately using SPSS version 16.0. Descriptive and inferential statistics were used for analysis. In descriptive statistics frequency, percentage, mean and standard deviation were used. In inferential statistics, chi-square test was used to find out association between the level

of utilization of postnatal care services and selected variables. The variables that showed significant association at 5% level of significance were further analyzed to estimate adjusted odds ratio(aOR) using multivariate logistic regression to determine the factors associated with the utilization of postnatal care service and their strength of association.

RESULTS

The findings of the study showed that more than one third (37.1%) of the respondents were of age group (25-29) years. Nearly half (41.8%) of the respondents were from upper caste. All most all (91.4%) of the respondents followed hinduism(Table no.1).

Characteristics	Categories	n(%)
Age (in years)	<20	31(12.1)
	20-24	69(27)
	25-29	95(37.1)
	30-34	46(18)
	≥35	15(5.9)
Mean ±SD	26±4.7	
Ethnicity	Dalit	35(13.7)
	Disadvantaged Janajati	17(6.6)
	Disadvantaged Non Dalit Terai	67(26.2)
	Upper caste	107(41.8)
Religion	Hinduism	234(91.4)
	Islam	5(2)
	Buddhism	13(5.1)
	Christianity	4(1.6)

Characteristics	Categories	n(%)
Educational level	Basic schooling (upto class 8)	130(50.8)
	Higher education level(9-12 class)	102(39.8)
	University level	24(9.4)
Mothers occupation	Home maker	176(68.8)
	Farmer	34(13.3)
	Service	13(5.1)
	Business	33(12.9)
Spouse occupation	Service	29(11.3)
	Labor	49(19.1)
	Foreign employment	78(30.5)
	Farmer	35(13.7)
Ability to make decision	Yes	225(87.9)
	No	31(12.1)
Time spent in Travel and waiting	<2hours	203(79.3)
	≥ 2hours	53(20.7)
Travel cost	>100rupees	104(40.6)
	≥100 rupees	149(58.2)

Half of the respondents (50.8%) had completed basic schooling. Majority of the respondents (68.8%) of the respondents were home maker. One third of the respondents (30.5%) spouses were engaged in foreign employment. Most of the respondents (87.9%) were able to make decision going to hospital for checkup. Majority (79.3%) of the respondents spent less than 2 hours for travelling and waiting in hospital. Nearly two third (58.2%) of the respondents travel cost includes more than 100 rupees (Table no.2).

Characteristics	Categories	n(%)
Parity	One	107(41.8)
	2-3	102(39.8)
	4 or more	47(18.4)
Gender of the current child	Male	142(55.5)
	Female	114(44.5)
Place of delivery	Government health facility	158(61.7)
	Private health facility	98(38.3)
Mode of delivery	Vaginal delivery	170(66.4)
	Caesarean section delivery	86(33.6)
Duration of postpartum stay at hospital	≤2days	152(59.4)
	3-4 days after birth	75(29.3)
	5 more days	29(11.3)
Danger sign seen in pregnancy	Yes	36(14.1)
	No	220(85.9)
Danger sign seen in postnatal period	Yes	18(7)
	No	238(93)
Danger sign seen in newborn	Yes	37(14.4)
	No	219(85.6)

More than one third(41.8%) of the respondents were primi mother. More than half of respondents (55.5%) had delivered male baby.

health facility. Likewise two third(59.4%) of the respondents had stayed less than 2 days in hospital after delivery (Table no. 3).

Utilization of Postnatal services	n(%)
Good utilization(More than or equal to median value)	121(47.3)
Poor utilization(Less than median value)	134(52.3)

Median value:23

More than two third (66.4%) of the respondents had undergone vaginal delivery. Regarding the place of delivery two third(61.7%) of the respondents had delivered in government

More than half (52.3%) of the respondents had poor utilization of postnatal services(Table no.4)

Table 5. Association of utilization of postnatal care services with selected demographic variables. (n=256).

Variables	Categories	Level of utilization		p value	Odds ratio 95%CI
		Good	Poor		
Age in year	< 30	95(49)	100(51.3)	0.405	0.782 (1.397-0.438)
	≥30	35(57.4)	26(42.6)		
Ethnicity	Upper caste	60(56.1)	47(43.9)	0.541	0.543 (0.897-0.329)
	Others	88(59.1)	61(40.9)		
Educational level	Basic education	52(40)	78(60)	0.018*	1.816 (2.982-1.106)
	Higher secondary and above	69(54.8)	57(45.2)		
Spouse occupation	Foreign employment	36(46.2)	42(53.8)	0.814	1.066 (1.818-0.625)
	Others	85(47.8)	93(52.2)		
Duration of stay at hospital	≤ 2 days	55(36.2)	97(63.8)	0.000*	3.063 (5.144-1.824)
	>3days	66(63.5)	38(36.5)		
Family size	Nuclear family(4member)	74(50.7)	72(49.3)	0.207	0.726 (1.194-0.441)
	Joint family(>4member with grandparents)	47(42.7)	63(57.3)		
Ability to make decision	Yes	104(46.2)	121(53)	0.368	1.413 (3.004-0.664)
	No	17(54.8)	12(45.2)		

Chi square test,*p-value significant<0.05,CI:Confidence interval

Utilization of postnatal care services was found to be significantly associated with educational level and duration of hospital ($p<0.05$). Age group more than 30 years were 0.782 times more likely to utilize postnatal services. Postnatal mothers who had higher education and above were 1.816 times likely to utilize postnatal services. Similarly those women who had stayed more than 3 days in hospital were 3.063 higher likelihood to utilize postnatal services (Table no.5).

Parity, danger sign seen in pregnancy and mode of delivery were found to be significantly associated with the utilization of postnatal care services. Primi mothers were 0.580 times more likely to visit postnatal care services than multigravid mothers. Likewise, mothers who had developed danger sign during pregnancy were 0.112 times higher likelihood to visit for postnatal care services. Similarly mother who had delivered through caesarean section were 3.015 times more likely to visit for postnatal care services than mother who delivered through vaginal delivery (Table no.6).

Table 6. Association of utilization of postnatal care services with selected obstetric variables. (n=256).

Variables	Categories	Level of utilization		p values	Odds ratio 95%CI
		Good	Poor		
Parity	One	59 (55.1)	48(44.9)	0.032*	0.580 (0.957-0.351)
	Others	62(41.6)	87(58.4)		
Danger sign seen in pregnancy	Yes	31(86.1)	5(13.9)	0.000*	0.112 (0.298-0.042)
	No	90(40.9)	130(59.1)		
Danger sign seen postnatal	Yes	9(50)	9(50)	0.810	0.889 (2.318-0.341)
	No	112(47.1)	126(52.9)		
Danger sign seen in newborn	Yes	23(62.2)	14(37.8)	0.050	0.493 (1.009-0.241)
	No	98(44.7)	121(55.3)		
Sex of the current child	Male	59(41.5)	83(58.5)	0.041	1.677 (2.758-1.020)
	Female	62(54.4)	52(45.6)		
Place of delivery	Governmental health facility	65(41.1)	93(58.9)	0.013*	1.908 (3.178-1.145)
	Private health facility	56(57.1)	42(42.9)		
Mode of delivery	Vaginal delivery	65(38.2)	105(61.8)	0.000*	3.015 (5.178-1.756)
	Caesarean section delivery	56(65.1)	30(34.9)		

Chi square test, *p-valuesignificant<0.05,CI:Confidence level

Table 7. Binary Logistic Regression showing factors associated with utilization of postnatal care services (n=256)

Characteristics	Categories	OR	Adjusted 95% CI for OR	pValue
Parity	One	1.134	1.229-0.403	0.024
	Others			
Duration of stay at hospital	≤ 2 days	0.041	2.569-0.796	0.231
	>3days			
Danger sign seen in pregnancy	Yes	2.242	0.407-0.052	0.136
	No			
Mode of delivery	Vaginal delivery	0.290	2.372-0.756	0.318
	Caesarean section delivery			
Place of delivery	Government health facility	0.983	3.099-0.571	1.330
	Private health facility			
Educational level	Basic schooling	1.936	2.595-0.850	0.165
	Higher secondary and above			
Sex of the current child	Male	0.485	2.821-0.936	0.165
	Female			

Chi square test, *p-valuesignificant<0.05,CI:Confidence levelOR:Odds ratio

In multivariable logistic regression analysis, only parity was significantly associated with the utilization of postnatal care service utilization. The primi mothers (95% CI: 1.229-0.403) had higher likelihood of having postnatal care utilization than multi gravid mothers (Table no7).

DISCUSSION

The findings of the present study showed that nearly half (47.5%) of the respondents have good utilization of postnatal care services. The findings in this study was in greater proportion than the study conducted in chitwan ,Nepal (17.5%) (10). However lower in proportion than the study conducted in lalitpur Nepal (67.7%).¹⁴ The alteration in utilization might be due differences in geographical area, sample size and ethnic group.

The current study revealed that respondents who had completed higher secondary and above (aOR=1.816,95%CI:2.982-1.106) more likely to utilize PNC services than compared respondents who had completed basic education. The findings is supported by similar study done in India which showed women with higher education (aOR=2.426,95%CI:1.24-4.75) were more likely to utilize PNC services than basic schooling women.² The similar findings might be due to education which empowers women to gain access to health promotional activities, obtain available services.

The current study showed that respondents' who had faced danger sign during pregnancy(aOR=0.112,95%CI:0.298-0.042) were more likely to utilize the PNC services as than respondents who did not face danger sign during pregnancy. Similar study conducted in Chitwan Nepal showed that women who faced danger sign (aOR=0.51,95%CI:0.23-1.12) during pregnancy were more likely to utilize the postnatal care services.¹⁰ The findings might be similar due to frequent contact during antenatal period with health care providers positively influence the health seeking behavior of women.

Similarly, more than half (53.5%) of the respondents had utilized more than three postnatal services, one third of the respondents (32.8%) had utilized 2PNC, few of the respondents (13.7%) had utilized 1 PNC. A similar study carried out in Baglung Nepal showed that (21%) of the respondents had utilized 3 times PNC, (34%) of the respondents had utilized 2PNC, all most all (99%) of the respondents had utilized 3 times PNC.¹⁵ A study done in Ethiopia revealed that (2.2%) of the respondents had utilized 3 or more PNC, (40.4%) had utilized 2PNC, (57.4%) of the respondents had utilized 1 PNC.¹⁶ The difference in the proportion in the present and previous study might be attributed due to the study setting and study population.

The findings of the current study showed that few (14.8%) of the respondents had awareness of government protocol of PNC services. A study conducted in Lalitpur, Nepal showed that in greater proportion (81.5%) respondents had awareness of government protocol of PNC services.¹⁴ The disparities in findings may be due to awareness program held by local government focusing in PNC visit.

The findings of the study showed most of the respondents (86.3%) of the respondents had intake of iron and two- third of the respondents (64.2%) had intake of vitamin A capsule. A study conducted in India had lower in proportion (24.3%) of iron intake and (11.4%) of vitamin A .¹⁷The alterations in findings might be due to different study background and study population.

The present study showed that respondents who delivered at government facility are more likely to (aOR=1.908,95%CI:3.178-1.145) to utilize the postnatal care services to those who delivered in a private hospital. This findings is contradictory to the study conducted in Baglung Nepal showed that women giving birth at a private hospital (aOR = 11:9, 95% CI: 5.52-25.7) were more likely to have a complete PNC as compared to women delivered in a government hospital.¹⁵The

disparities in findings might be due to Nepal government maternal and child health scheme in government hospital as it provides incentives to those mothers who utilized PNC services.

CONCLUSIONS

Postnatal care services were utilized by more than half of the respondents. Educational level, duration of stay at hospital, parity, danger sign seen in pregnancy, place of delivery and mode of delivery were found to have influence the utilization. Improvement of postnatal care services should be focused on awareness programme on government protocol of PNC. Mothers who had normal delivery, and hospital stay less than two days should be emphasized for postnatal care services utilization.

RECOMMENDATION

Authors would like recommend to conduct in large scale study as a national research to find out the actual utilization.

LIMITATION OF THE STUDY

In this study mothers having children within one year of age were included so there was a possibility of recall bias as they have received postnatal care services last year. The findings may not be generalizable in all the places as the sample was collected within two municipality and one rural municipality of Morang district.

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CONFLICT OF INSTREST

The authors declare that they have no competing interests.

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