

Antenatal and Postnatal Service Utilization in Baglung Municipality, Nepal: A Descriptive Cross-sectional Study

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ABSTRACT

Introduction: Antenatal and postnatal care is two of the most important strategies for minimizing mother and newborn deaths around the world. In this scenario, proper utilization of antenatal and postnatal care is critical for lowering the maternal and infant mortality rate. This study aimed to assess the utilization rate of antenatal and postnatal services in Baglung municipality.

Methods: We conducted a cross-sectional descriptive study among 187 mothers of reproductive age who visited Dhaulagiri zonal hospital of Baglung district, over a five months period. The ethical approval for the conduction of the study was taken from Nepal Health Research Council (Ref no. 2616). A convenient sampling technique was used in the study. A semi-structured questionnaire was used opting face to face interview technique for data collection. Similarly, the collected data were entered in Microsoft Excel and analyzed using SPSS version 20.

Results: More than two third 143(76.5%) respondents visited for their ANC checkup four or more times. Majority of respondents 180(96.3%) had their PNC visit within 24 hours of delivery. On the second and third visits, however, the number declined.

Conclusions: The use of antenatal care services was quite high, with all respondents having at least one antenatal visit and more than two-thirds visiting according to protocol. Despite having a high proportion of at least one PNC, complete PNC utilization was quite low.

Keywords: ANC/ PNC; Prevalence; Utilization.

INTRODUCTION

According to the World Health Organization, problems during pregnancy and delivery are the leading causes of disability and death among women. In 2017, roughly 810 women died every day due to pregnancy and childbirth-related causes that could have been avoided. These deaths occurred mostly in low-income countries as the major proportion of total death.¹ However, Nepal

as a developing country has achieved great progress in improving access to regular maternal and newborn health (MNH) services such as prenatal care (ANC), delivery, and postnatal care (PNC) services over the last two decades.²

Nevertheless, the proportion of mothers receiving ANC and PNC services as per protocol declined in FY 2015/16, according to the Department of Health Services Nepal.³

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As a result, the purpose of this study was to determine the rate at which antenatal and postnatal services were utilized among women with one-year-old children in Baglung Municipality.

METHODS

A cross-sectional descriptive study was conducted among 187 mothers of reproductive age who visited Dhaulagiri zonal hospital of Baglung district over a five months period. The ethical approval for the conduction of the study was taken from Nepal Health Research Council (Ref no. 2616). All women in the reproductive age group (15-49 years) with children under the age of one year who were willing to participate in the study were included, while those who were not interested were excluded.

A convenience sampling was done among the mothers who visited the hospital in the 6 weeks after delivery for vaccinating their child.

Sampling

Sample size was calculated by using formula:

$$\begin{aligned} n &= z^2 pq / e^2 \\ &= (1.96)^2 * 0.25 * 0.75 / (0.1)^2 \\ &= 72 \end{aligned}$$

Where,

n= required sample size

z = 1.96 (at 95% confidence interval)

p = Total population of reproductive age group in Nepal (24.86%)⁴ i.e. 0.25

q = 1 - p = 1 - 0.25 = 0.75

e = allowable error = 10% = 0.1

Therefore, the calculated sample size was 72. However the sample size was doubled as the sampling was done according to the convenience of the researcher and further implying the non response rate of 10% the calculated sample size was 159. In the study, we recruited a total of 187 participants.

A semi-structured questionnaire was prepared through the review of different literature and finalized after the discussion with the experts.^{5,6,7} The questionnaire incorporated four components i.e. socio-demographic characteristics (age, ethnicity, religion, type of family, education of mother and source of income), respondent's profile (age at marriage, age at first pregnancy, number of pregnancy and gender of child), information related to ANC services (number of ANC visit, source of information on ANC, place of delivery and reasons for choosing health institution for delivery) and PNC services (Knowledge of postnatal care and neonatal care after delivery, source of information regarding PNC, PNC visit, time of PNC visit,

family support for PNC visit, time spend to reach health institution, mode of transportation, complication after delivery and type of complication).

Similarly, the data was collected using face to face interview technique. For reliability of data, pre-testing was conducted prior to the research for 10% of the sample size with similar characteristics. Finally, all the obtained data were entered using Microsoft Excel and statistical analysis was done using SPSS version 16. The frequency and percentage of univariate analysis were presented through tables.

RESULTS

Table 1 shows a total of 187 mothers who underwent an ANC checkup at Dhaulagiri Zonal Hospital during their last pregnancy. Around 143 (76.5%) of them had four or more ANC visits. The majority of the respondents, 135 (72.1%) received information about ANC from a health worker or hospital. In terms of delivery location, practically all of the respondents 180 (100%) had their last delivery in a health facility. Similarly, the majority of women cited safe delivery as the primary factor for choosing a health facility for delivery 142 (75.9%).

Table 1. ANC related information (n=187)

Characteristics	n(%)
Number of ANC visit	
Less than three	44(23.5)
4 and above	143(76.5)
Source of information about ANC *	
Family/Relatives/Neighbor	80(42.7)
FCHV	98(54.4)
Health worker/Hospital	135(72.1)
Radio/TV/Newspaper	123(65.7)
Place of delivery	
Home	7(3.7)
Health institution	180(96.3)
Reason for choosing health institution*	
Safe delivery	142(75.9)
Management of complication	72(38.5)
Healthy mother and baby	96(51.3)
Complication during pregnancy	25(13.3)

*multiple response

Table 3 shows that more than half of the respondents 112 (59.8%) knew about postnatal care, with health facilities and health workers being the main sources of information 49 (43.7%). A major proportion of participants received PNC service 190 (96.3%) with the majority receiving care within 24 hours of delivery 190

(96.3%). Similarly, a vast majority of families supported the mothers for their PNC check up 180 (96.3%). Almost two-thirds of respondents said it took them between 1-2 hours to reach health institutions 123(65.8%) where mothers reached health institutions via walking 130 (69.5%). Only a small proportion of respondents reported difficulties following birth 7 (3.7%), with the most common complication being bleeding 4 (57.1%).

Table 2. PNC related information (n=187)

Characteristics	n(%)
Knowledge of postnatal care and neonatal care after delivery	
Yes	112(59.8)
No	75(40.1)
Source of information regarding PNC (multiple)* (n=112)	
Family/Relatives/Neighbor	26(23.2)
FCHVs	34(30.3)
Health workers/ health facility	49(43.7)
Radio/TV	25(22.3)
PNC visit	
No	7(3.7)
Yes	180(96.3)
Time of PNC visit (n=180)*	
Within 24 hours	180(100.0)
3 days	42(23.3)
7 days	38(21.1)
Family support for PNC visit	
Yes	180(96.3)
No	7(3.7)
Time spend to reach health institution	
Less than 30 minutes	2(1.6)
30-60	32(17.1)
1-2 hour	123(65.8)
More than 2 hours	29(15.5)
Mode of transportation	
Walking	130(69.5)
Vehicle	57(30.5)
Complication after delivery	
Yes	7(3.7)
No	180(96.3)
Type of complication (n=7)	
Abdominal pain	2 (28.5)
Bleeding	4(57.1)

Characteristics	n(%)
Nipple crack	1(14.2)

*multiple response

Table 3 shows that the majority of the women, 121 (65.1 %), were in early adolescence at the time of their marriage, between the ages of 15–20 years. In terms of first pregnancy age, around 91 (48.7%) had given birth to their first child between the ages of 21- 25 years. Likewise, the majority of women were pregnant for the first time 93(49.7%) and the nearly two-third neonates were male 122(65.2%).

Table 3. Respondent's profile (n=187)

Characteristics	n(%)
Age at Marriage(in years)	
15-20	121 (65.1)
21-25	54(29.0)
26-30	9(4.8)
31-35	1(0.5)
36-40	1(0.5)
Age at first pregnancy(in years)	
15-20	63(33.7)
21-25	91(48.7)
26-30	25(13.4)
31-35	5(2.7)
36-40	2(1.0)
41-45	1(0.5)
Number of pregnancy	
First	93(49.7)
Second	76(40.6)
Third	16(8.6)
Fourth and above	2(1.1)
Gender of child	
Male	122(65.2)
Female	65(34.8)

Out of the total respondents, the majority 72 (38.5%) belonged to the age group of 21-25 years. More than half of the respondents belonged to the brahmin/chhetri ethnic group 107 (57.2%) and were the followers of hinduism 177 (94.7%). Similarly, a major proportion of mothers were literate 179 (95.7%). Nearly two-third were found to be living in the nuclear family 120 (64.2%) and had the majority of their income from non agricultural sources 134 (71.7%).

Table 4. Socio-demographic characteristics (n=187)

Characteristics	n(%)
Age(in years)	

Characteristics	n(%)
16-20	24(12.8)
21-25	72(38.5)
26-30	67(35.8)
31-35	14(7.5)
36-40	9(4.9)
41-45	1(0.5)
Ethnicity	
Dalit	34(18.2)
Janajati	40(21.4)
Madhesi	2(1.1)
Muslim	4(2.1)
Brahmin/Chhetri	107(57.2)
Religion	
Hindu	177(94.7)
Christian	7(3.7)
Muslim	3(1.6)
Type of family	
Nuclear	120(64.2)
Joint	67(35.8)
Education of mothers	
Literate	179(95.7)
Illiterate	8(4.3)
Source of income	
Agriculture	53(28.3)
Non agricultural	134(71.7)

DISCUSSION

The potential advantages of high-quality ANC and PNC extend far beyond pregnancy and childbirth.⁸ In this context, we undertook a study to determine the rate at which women use ANC and PNC services.

The Nepalese government recommends focused antenatal visits during the fourth, sixth, eighth, and ninth months of pregnancy.⁹ As a result, we discovered that more than two-thirds of respondents had their ANC visit according to protocol of the government of Nepal. This finding is similar to the study based on secondary data of Nepal Demographic and Health Survey (NDHS) 2016 and few other studies.^{10,6,7} The fact that the mothers used ANC services at such a rate could be related to the incentive they receive after completing their four ANC visits.⁷ However, findings from the study of Indonesian Demographic and Health Survey reported comparatively higher proportion of participants (90.9%) visiting four and more antenatal visits. Similarly, a study conducted in Nepal found that the vast majority of people delivered at a health facility, which is consistent with our findings.⁵

In the absence of competent care, the early postnatal period is a dangerous time for both mother and newborn, with high rates of morbidity and mortality. Postnatal care (PNC) knowledge can help to alleviate such problems.¹¹ In this context, a study conducted in Nepal revealed good understanding of postnatal care, which contradicts the result of our study.¹² In terms of information sources, we discovered that health facilities and health workers were the primary sources of knowledge about PNC, which is consistent with our findings.⁵

Like ANC visits, the Nepalese government advises three PNC visits for all women, whether they are delivered at home or in a health facility: the first within 24 hours, the second and third on the third and seventh days, respectively.⁶ We found out that almost all the participants had received their PNC services. However, a similar study conducted in other locations of Nepal reported the underutilization of PNC services.^{13,14} The referred studies were conducted in the community whereas the present study was conducted among mothers who visited the hospital in the previous five months through the review of hospital records. This might be the reason behind the huge gap in the utilization rate of PNC services by the mothers in the current and mentioned studies.

Although the utilization of PNC service was high within 24 hours of delivery, the proportion of mothers who received postnatal care in the 3rd and 7th day decreased significantly. This trend has also been observed in some other studies.^{6,13,14} Transportation and distance to the health institution may be factors in the low utilization of complete PNC, as around two-thirds of respondents reported the time of about 1-2 hours to reach the health center, which most mothers did by walking.

Similarly, this study found that only a small percentage of respondents experienced problems following delivery, which is identical to another study conducted in Nepal.¹⁵

CONCLUSIONS

The use of antenatal care services was quite high, with all respondents having at least one antenatal visit and more than two-thirds visiting according to protocol. Despite having a high proportion of at least one PNC, however, complete PNC utilization was quite low. Thus, increasing maternal awareness of the importance of full utilization of ANC and PNC services, as well as choosing an alternative method of providing services to mothers in difficult geographic areas, may be beneficial in increasing service utilization and improving maternal and child health in the long run.

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CONFLICT OF INTEREST

None

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