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Original Research Article

Utilization of maternal health services among mothers with children under two years in Arjundhara municipality, Jhapa, Nepal

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ABSTRACT

Background: The government of Nepal has prioritized the National Safe Motherhood Program to improve maternal and neonatal health. Pregnant women who access quality maternal health services, such as focused prenatal care, delivery care, and early postpartum support, can prevent most maternal deaths and complications. This study aimed to evaluate the use of maternal health services among mothers with children under two years in Arjundhara Municipality, Jhapa, Nepal.
Methods: An analytical cross-sectional study was conducted among mothers of children below two years using systematic random sampling. Verbal informed consent was obtained, and the Little Buddha College of Health Science granted ethical approval. Data analysis included bivariate analysis to identify factors associated with maternal health service utilization.
Results: Most women (87.8%) received antenatal care (ANC) services according to protocol, but less than a quarter (21.5%) received postnatal care (PNC) checkups as recommended. The findings showed positive links between PNC and certain socio-demographic factors. Similarly, mothers who were employed or involved in business were more likely to receive PNC than housewives. Additionally, families with a monthly income between NPR 50,000 and 150,000 were more likely to follow the recommended PNC practices compared to those earning less than NPR 50,000.
Conclusions: Findings showed that while ANC services were well-utilized, PNC services were underutilized. The cost was identified as a barrier, and suggestions were made to improve service availability and incentivize utilization. Overall, respondents expressed high satisfaction with the services received, despite facing challenges such as inadequate facilities and transportation.

Keywords: Maternal health service utilization, ANC, PNC, Nepal

INTRODUCTION

The Government of Nepal prioritizes maternal and neonatal health through the National Safe Motherhood Program. Key initiatives include the National Neonatal Health Strategy (2004) for neonatal care, the Skilled Birth Attendant (SBA) policy (2006) to ensure skilled personnel at births, and the Birth Preparedness Package (2008-2009) for timely delivery care. The Maternity Incentive Scheme (2005) encourages facility-based maternity care. In 2016, Nepal endorsed the Every Newborn Action Plan, aiming to eliminate preventable newborn and stillbirth deaths while ensuring the well-being of mothers and children.[1] While incentives like Nepal's maternity allowance

program aim to improve service utilization, challenges remain in reaching marginalized groups.[2] Maternal health services, including antenatal care (ANC), delivery, and postnatal care (PNC), are essential for preventing maternal deaths and complications.[3] Despite global efforts, maternal mortality remains high, particularly in low- and middle-income countries, where access to quality healthcare can significantly reduce risks.[4]

The World Health Organization (WHO) recommends at least four ANC visits to detect and manage pregnancy-related complications.[5] However, disparities in healthcare access contribute to high maternal mortality, especially in sub-Saharan Africa, where MMR is 15 times higher than in developed regions.[6] Understanding individual and contextual factors influencing health-seeking behavior is crucial for improving maternal health outcomes4. Addressing barriers through evidence-based interventions and strengthening health systems can enhance maternal healthcare services and reduce mortality.[7] Each year, about 16 million adolescent women (15-19 years) give birth, with nearly 95% of these pregnancies occurring in low- and middle-income countries. Adolescent pregnancy poses serious health risks, including preterm birth, delivery complications, unsafe abortion, and obstetric fistula.[8] Globally, around 800 women die daily from preventable pregnancy and childbirth-related causes, with 287,000 maternal deaths recorded in 2010.[6] Access to quality maternal health services, including prenatal, delivery, and postpartum care, can prevent most maternal deaths.[2]

The WHO reports 400 maternal deaths per 100,000 live births, while natural mortality without interventions is estimated between 1,000 and 1,500 per 100,000. Global health initiatives have significantly reduced maternal mortality to a quarter of natural levels.[9] In Nepal, the 2016 NDHS reported a maternal mortality rate of 239 per 100,000, with 83.6% of pregnant women receiving skilled prenatal care. Koshi province had high service utilization, with 82.7% receiving prenatal care and 62.2% institutional deliveries.[1]

The 2019 NMICS showed that 94.3% of pregnant women in Nepal received at least one ANC visit, with 77.8% attending four visits. Postnatal care was received three times as per government policy by 69.4% of women, with 76.6% in Koshi province.[10] The 2022 NDHS reported that 94% of women received ANC from skilled providers, and 81% attended at least four ANC visits. Additionally, 96% took iron supplements during pregnancy.[11] Ensuring access to skilled maternal healthcare remains crucial in reducing maternal morbidity and mortality.

METHODS

Study method

A quantitative cross-sectional research method was chosen, and numerical data were collected through structured surveys and observations. This approach enabled the analysis of relationships between variables and provided insights into population characteristics based on sample data.

Study design

An analytical cross-sectional study design was employed to assess the association between an exposure variable and an outcome at a single point in time.

Study area

The study was conducted in Arjundhara Municipality, Jhapa, Koshi Province, Nepal.

Study duration

The study was conducted from January 2023 to July 2023.

Study population

The study population was mothers with children under two years old.

Inclusion criteria

Mothers of children under two, residing in Arjundhara Municipality were included.

Exclusion criteria

Mothers unable or unwilling to respond or mentally unfit for participation were excluded.

Sample size

A sample size of 237 was calculated using standard formulas, considering a prevalence rate of 78.8% and an error margin of 5%.

Sampling frame and technique

The sampling frame was obtained from local sources, including birthing centers and health volunteers. A Simple Random Sampling method ensured equal selection probability for all participants.

Study variables

Dependent variable was maternal health care services utilization (ANC and PNC). Independent variables were age, education, family income, occupation, healthcare access, and provider behavior.

Data collection

Data was collected via a semi-structured questionnaire through face-to-face interviews, utilizing Kobo software after obtaining informed consent.

Data processing and analysis

Data was processed manually and with statistical package for the social sciences (SPSS) 23, ensuring accuracy through coding, cleaning, and tabulation for statistical analysis.

Quality control

Quality assurance included pre-testing tools on a similar population, orienting enumerators, and routine consultations with supervisors to maintain data reliability and validity.

Validity and reliability

The research emphasized validity through a comprehensive literature review, a standardized questionnaire, and rigorous tool testing. Consistent supervision, pre-testing, and translation for accuracy enhanced reliability.

RESULTS

Socio-demographic characteristics of the respondents

Table 1 shows the socio-demographic characteristics of respondents show that out of 237 total participants, more than three-fourths (78.5%) had been married for over 20 years. The average age of respondents with a current child was 28.62 years, and the child's average age was 10.62 months. Nearly all respondents were married (97%). Nearly half (46.4%) identified as Brahmin/Chettri, while 2.5% were Muslim. The majority (80.6%) of respondents identified as Hindus, followed by 0.4% who practiced Kirat. Two-thirds (67.9%) of respondents lived in nuclear families, and 76.4% had family sizes of fewer than five members. Most (86.1%) of the respondents had fewer than two children. Almost half (46.8%) of participants made the decision to seek maternal health services independently. More than half (56.5%) of the household heads were husbands.

Socio-economic characteristics of the respondents

Table 2 represent the socioeconomic status of the 237 respondents is described. Nearly half (44.3%) of the respondent husbands had completed their +2 level, followed by 1.7% who had completed primary education. Similarly, less than half (42.6%) of mothers had completed their +2 level, with 2.1% having no formal education.

More than half (55.2%) of respondent husbands are employed, followed by 5.2% who work in agriculture as a primary occupation. Likewise, nearly half (42.6%) of mothers are housewives, with 4.6% engaged in agriculture. Nearly half (46.0%) of family monthly incomes fall between 10000-44999, followed by 10.1% between 90000-150000.

Table 1: Socio-demographics status.

Characteristics (n=237)	Frequency	Percentage
Marriage age (mean=22.17, SD=2.85)		
<20	51	21.5
>20	186	78.5
Age of current child born (years) (mean=28.62, SD=4.42)		
10-30	166	70
31-41	71	30
Age of children in months (mean=10.62, SD=6.55)		
1-6	79	33.3
7-12	80	33.8
13-23	78	32.9
Marital status		
Married	230	97
Divorced	1	0.4
Widow	6	2.5
Ethnicity		
Brahmin/Chettri	110	46.4
Dalit	30	12.7
Janajati	33	13.9
Madhesi	58	24.5
Muslim	6	2.5
Religion		
Hindu	191	80.6
Buddhist	30	12.7
Christian	9	3.8
Muslim	6	2.5
Kirat	1	0.4
Family type		
Nuclear	161	67.9
Joint	54	22.8
Extended	22	9.3
Family size (members) (mean=4.70, SD=1.54)		
<5	181	76.4
>5	56	23.6
Total childbirth (children) (mean= 1.78, SD=0.75)		
<2	204	86.1
>2	33	13.9
Decision-making to seek maternal health services		
Self	111	46.8
Husband	40	16.8
Family member	86	36.3
Head of house		
Self	25	10.5
Husband	134	56.5
Father-in-law	58	24.5
Mother-in-law	20	8.4

Maternal health services utilization of the respondents

Table 3 data illustrate respondents' use of maternal health services. Almost all participants utilized these services during antenatal and postnatal periods. The majority (87.8%) received ANC services as recommended, with

nearly three-fourths (70.9%) attending more than four ANC visits, while 12.2% attended fewer than four. About 62.9% preferred government health facilities for ANC checkups, compared to 37.1% who chose private hospitals.

Table 2: Socio-economic status.

Characteristics (n=237)	Frequency	Percentage
Father's education status (n=230)		
Primary level	4	1.7
Secondary level	24	10.4
+2 level	102	44.3
Bachelor or above	100	43.5
Mother education status		
No formal education	5	2.1
Primary level	11	4.6
Secondary level	74	31.2
+2 level	101	42.6
Bachelor or above	46	19.4
Father occupation (n=230)		
Agriculture	12	5.2
Business	59	25.7
Labor	17	7.4
Jobholder	127	55.2
Foreign employee	15	6.5
Mother occupation		
Agriculture	11	4.6
Business	81	34.2
Housewife	101	42.6
Labor	13	5.5
Jobholder	31	13.1
Monthly income (mean=50270, SD=24780)		
10000-44999	109	46.0
45000-89999	104	43.9
90000-150000	24	10.1

For delivery, approximately two-thirds (66.7%) visited private hospitals, and 1.7% delivered at home. Less than a quarter (21.5%) completed all PNC checkups as per protocol; the majority (78.5%) visited fewer than three times, with 99.6% only completing the first PNC visit, and 36.7% attending the 7-day checkup. Over half (57.8%) conducted PNC at private hospitals, followed by 41.7% at government facilities. Family support influenced 97% of respondents to use maternal health services, and 60.8% cited positive prior experiences.

About 75.5% faced challenges, mainly inadequate health facilities (78.8%) and transportation issues (46.9%). To enhance service quality, 35% suggested increasing service availability, and 17.7% recommended mobilizing FCHV. Most (89%) felt cost was a barrier.

To improve utilization, 93.7% advocated for better access, and 29.1% suggested providing incentives. Around 66.2% felt highly satisfied with the services received, while 1.3% found them ineffective. Nearly all (98.7%) had access to health facilities within 30 minutes.

Relationship between ANC services utilization and socio-demographic variables

Table 4 shows no statistically significant association between ANC services received as per protocol and socio-demographic factors such as age at marriage or childbirth, child's age, marital status, ethnicity, religion, parents' education or occupation, income, family type or size, decision-making, and household head. Most mothers were married, Hindu, from both Brahmin/Chettri and indigenous groups, and lived in nuclear families with male heads of household. Parents generally had an education below secondary level, and occupations varied between business, job-holding, and housework.

Relationship between PNC services utilization and socio-demographic variables

Table 5 indicates that most socio-demographic characteristics, including age at marriage or childbirth, marital status, ethnicity, religion, parents' education, occupation, family type, family size, total childbirths, decision-making, and household head, were not significantly associated with receiving PNC services as per protocol. However, household income showed a significant association, with a higher proportion of mothers receiving protocol-based PNC services in families earning between 50,000–150,000 NPR compared to those earning less. Most participants were married, Hindu, from both Brahmin/Chettri and indigenous groups, and lived in nuclear families with male heads of household.

Relationship between ANC and maternal health service utilization

Table 6 shows no statistically significant association between receiving ANC services as per protocol and type of health facility visited, challenges faced, suggestions for improvement, measures taken to increase utilization, service quality, accessibility, incentives, or perceived effectiveness. Most women visited government facilities, faced some challenges (mainly transportation issues and long waiting times), and suggested service extension, FCHV mobilization, better availability, and awareness programs. The majority perceived the services as effective, accessible, and of good quality, with awareness programs being the most common measure to improve utilization.

Relationship between PNC and maternal health service utilization

Table 7 shows that there is no significant link between receiving PNC services as per protocol and factors like the type of health facility, challenges encountered, cost barriers, suggestions for improvement, awareness activities, service quality, accessibility, incentives, or perceived effectiveness. Most mothers used private facilities, faced challenges mainly related to transportation and long waiting times, and recommended extending services, mobilizing FCHVs, enhancing availability, and

raising awareness. Most respondents considered the services effective, accessible, and of good quality, with awareness programs being the most common recommendation for improvement.

Table 3: Utilization of maternal health services.

Characteristics (n=237)	Frequency	Percentage
Types of maternal health service utilization*		
ANC	237	100
Institutional delivery	233	98.3
PNC	236	99.6
ANC as per protocol		
Yes	208	87.8
No	29	12.2
Times to receive ANC services		
Less than 4	29	12.2
4	40	16.6
More than 4	169	70.9
Months for ANC check-up *		
1st	182	76.8
4th	223	94.1
6th	226	95.4
8th	225	94.9
9th	237	100
ANC visit to health facility		
Government health facility	149	62.9
Private hospital	88	37.1
Place of delivery		
At home	4	1.7
At health center	8	3.4
At government hospital	67	28.3
At private hospital	158	66.7
PNC as per protocol		
Yes	51	21.5
No	186	78.5
Times to receive PNC services		
Less than 3	186	78.5
3	49	20.7
More than 3	2	0.8
Schedule of PNC check-up *		
24 hours	236	99.6
3 days	141	59.5
7 days	87	36.7
Health facility for visit PNC		
Government health facility	100	42.2
Private hospital	137	57.8
Influence decision to utilize MHS *		
Family support	230	97
Positive previous exposure	144	60.8
Quality of services	213	89.9
Proximity of healthcare facility	208	87.8
Availability of healthcare facility	228	96.2
Good quality of services	203	85.7
Faced challenges while utilizing services		
No	58	24.5
Yes	179	75.5
If yes, challenges are (n=179)		
Lack of transportation	84	46.9

Continued.

Characteristics (n=237)	Frequency	Percentage
Long waiting time	135	75.4
Lack of trained healthcare person	117	65.4
Suggestion to improve services		
Extend services	53	22.4
Mobilize FCHV	42	17.7
Availability of services	83	35
Conduct awareness program	59	24.9
Cost barrier to utilize maternal health services		
Yes	211	89
No	26	11
Measure taken to increase utilization of maternal health services		
Increase awareness about the services	195	82.3
Improve the quality of services	205	86.5
Increase accessibility of health facilities	222	93.7
Provide incentives to encourage	69	29.1
Effectiveness of services		
Very effective	157	66.2
Somewhat effective	77	32.5
Not effective	3	1.3
Time taken to reach the health center (minutes)		
<30	234	98.7
>30	3	1.3

*Multiple responses

Table 4: Relationship with ANC and socio-demographic variables.

Characteristics (n=237)	ANC services as per protocol		P value
	No	Yes	
Age at marriage in years			
Less than 20	7 (24.1)	44 (21.2)	
More than 20	22 (75.9)	164 (78.8)	0.714
Age at current childbirth in years			
16-30	21 (72.4)	145 (69.7)	
31-41	8 (27.6)	63 (30.3)	0.766
Child age in months			
1-6	9 (31.0)	70(33.7)	
7-12	7 (24.1)	73 (35.1)	2.383
13-23	13 (44.8)	65 (31.3)	
Marital status*			
Married	27 (93.1)	203 (97.6)	0.206
Divorce/widow	2 (6.9)	5 (2.4)	
Ethnicity			
Brahmin/Chettri	15 (51.7)	97 (45.7)	
Indigenous group	14 (48.3)	113 (54.3)	0.541
Religion			
Hindu	24 (82.8)	167 (80.3)	
Non-Hindu	5 (17.2)	41 (19.7)	0.753
Father education			
Below secondary level	14 (51.9)	116 (57.1)	0.603
Bachelor level	13 (48.1)	87 (42.9)	
Mother education			
Below secondary level	24 (82.8)	167 (80.3)	
Bachelor level	5 (17.2)	41 (19.7)	0.753
Father occupation			
Business	16 (59.3)	87 (42.9)	2.593
Job holder	11 (40.7)	116 (57.1)	

Continued.

Characteristics (n=237)	ANC services as per protocol		P value
	No	Yes	
Mother occupation			
Housewife	15 (51.7)	110 (52.9)	1.889
Business	8 (27.6)	73 (35.1)	
Job holder	6 (20.7)	25 (12.0)	
Income			
Up to 50000	14 (48.3)	105 (50.5)	0.824
50000-150000	15 (51.7)	103 (49.5)	
Family type			
Nuclear	18 (62.1)	143 (68.8)	0.471
Joint	11 (37.9)	65 (31.3)	
Family size			
Less than 5	20 (69.0)	161 (77.4)	0.319
>5	9 (31)	47 (22.6)	
Decision maker			
Self	12 (41.4)	99 (47.6)	0.53
Family member	17 (58.6)	109 (52.4)	
Head of house			
Male	22 (75.9)	170 (81.7)	0.452
Female	7 (24.1)	38 (18.3)	

*Fisher's exact test

Table 5: Relationship between PNC and socio-demographic variables.

Characteristics (n=237)	PNC services as per protocol		P value
	No	Yes	
Age at marriage in years			
<20	44 (23.7)	7 (13.7)	
>20	142 (76.2)	44 (86.3)	0.131
Age at current childbirth in years			
16-30	135 (72.6)	31 (60.8)	
31-41	51 (27.4)	20 (39.2)	0.105
Child age in months			
1-6	59 (31.7)	20 (39.2)	
7-12	65 (34.9)	15 (29.4)	1.085
13-23	62 (33.3)	16 (31.4)	
Marital status*			
Married	181 (97.3)	49 (96.1)	
Divorce/widow	5 (2.7)	2 (3.9)	0.645
Ethnicity			
Brahmin/Chettri	86 (46.2)	24 (47.1)	
Indigenous group	100 (53.8)	27 (52.9)	0.917
Religion			
Hindu	153 (82.3)	38 (74.5)	
Non-Hindu	33 (17.7)	13 (25.5)	0.218
Father education			
Below secondary level	105 (58.0)	25 (51.0)	
Bachelor level	76 (42.0)	24 (49.0)	0.382
Mother education			
Below secondary level	152 (81.7)	39 (76.5)	
Bachelor level	34 (18.3)	12 (23.5)	0.402
Father occupation			
Business	86 47.5)	17 (34.7)	
Job holder	95 (52.5)	32 (65.3)	0.112
Mother occupation			
Housewife	110 (58.1)	15 (29.4)	

Continued.

Characteristics (n=237)	PNC services as per protocol		P value
	No	Yes	
Business	56 (30.1)	25 (49.0)	14.475
Job holder	20 (10.8)	11 (21.6)	
Income			
Up to 49999	100 (53.8)	19 (37.3)	
50000-150000	86 (46.2)	32 (62.7)	0.039
Family type			
Nuclear	131 (70.4)	30 (58.8)	
Joint	55 (29.6)	21 (41.2)	0.118
Family size			
<5	146 (78.5)	35 (68.6)	0.144
>5	40 (21.5)	16 (31.4)	
Total child birth			
<2	157 (84.4)	47 (92.2)	0.165
>2	29 (15.6)	16 (31.4)	
Decision maker			
Self	88 (47.3)	23 (45.1)	
Family member	98 (52.7)	28 (54.9)	0.779
Head of house			
Male	154 (82.8)	38 (74.5)	
Female	32 (17.2)	13 (25.5)	0.184

*Fisher's exact test

Table 6: Relationship between ANC and maternal health service utilization.

Characteristics (n=237)	ANC as per protocol		P value
	No	Yes	
Health facility visits for ANC check-up			
Government health facility	16 (55.2)	133 (63.9)	0.362
Private hospital	13 (44.8)	75 (36.1)	
Challenges faced while utilizing ANC services			
Not faced	6 (20.7)	52 (25.0)	0.614
Faced	23 (79.3)	156 (75.0)	
If faced,			
Lack of transportation (n=179)			
No	9 (39.1)	86 (55.1)	0.156
Yes	14 (60.9)	70 (44.9)	
Long waiting time (n=179) *			
No	4 (17.4)	40 (25.6)	0.604
Yes	19 (82.6)	116 (74.4)	
Inadequate facility (n=179)			
No	6 (26.1)	32 (20.5)	0.543
Yes	17 (73.9)	126 (79.5)	
Lack of trained healthcare staff (n=179)			
No	6 (26.1)	56 (35.9)	0.359
Yes	17 (73.9)	100 (64.1)	
Suggestions to improve services			
Extend services	7 (24.1)	46 (22.1)	
Mobilize FCHV	5 (17.2)	37 (17.8)	1.073
Services availability	8 (27.6)	75 (36.1)	
Awareness program	9 (31.0)	50 (24.0)	
Measure taken to increase utilization of maternal health services			
Increased awareness program			
No	5 (17.2)	37 (17.8)	0.942
Yes	24 (82.8)	171 (82.2)	

Continued.

Characteristics (n=237)	ANC as per protocol		P value
	No	Yes	
Quality of maternal health services*			
No	3 (10.3)	29 (13.9)	0.776
Yes	26 (89.7)	179 (86.1)	
Accessibility of services*			
No	3 (10.3)	12 (5.8)	
Yes	26 (89.7)	196 (94.2)	0.405
Provide incentive			
No	21 (72.4)	147 (70.7)	
Yes	8 (27.6)	61 (29.3)	0.847
Effectiveness of services			
Very effective	16 (55.2)	141 (67.8)	0.182
Somewhat effective	13 (44.8)	67 (32.2)	

*Fisher's exact test

Table 7: Relationship between PNC with maternal health service utilization.

Characteristics (n=237)	PNC services as per protocol		P value
	No	Yes	
Health facility visits for PNC check-up			
Government health facility	80 (43.0)	20 (39.2)	
Private hospital	106 (57.0)	31 (60.8)	0.627
Challenges faced while utilizing PNC services			
Not faced	48 (25.8)	10 (19.6)	
Faced	138 (74.2)	41 (80.4)	0.363
Lack of transportation (n=179)			
No	68 (49.3)	27 (65.9)	0.064
Yes	70 (50.7)	14 (34.1)	
Long waiting time (n=179)			
No	37 (26.8)	7 (17.1)	
Yes	101 (73.2)	34 (82.9)	0.208
Inadequate facility (n=179)			
No	32 (23.2)	6 (14.6)	
Yes	106 (76.8)	35 (85.4)	0.244
Lack of trained healthcare staff (n=179)			
No	50 (36.2)	12 (29.3)	
Yes	88 (63.8)	29 (70.7)	0.412
Suggestions to improve services			
Extend services	45 (24.2)	8 (15.7)	
Mobilize FCHV	29 (15.6)	13 (25.5)	4.564
Services availability	63 (33.9)	20 (39.2)	
Awareness program	49 (26.3)	10 (19.6)	
Cost barrier while utilizing PNC services			
No	19 (10.2)	7 (13.7)	0.479
Yes	167 (89.8)	44 (86.2)	
Measure taken to increase utilization of maternal health services			
Increased awareness program			
No	31 (16.7)	11 (21.6)	0.418
Yes	155 (83.3)	40 (78.4)	
Quality of maternal health services			
No	26 (14.0)	6 (11.8)	
Yes	160 (86.0)	45 (88.2)	0.682
Accessibility of services*			
No	11 (5.9)	4 (7.8)	0.745
Yes	175 (94.1)	47 (92.2)	

Continued.

Characteristics (n=237)	PNC services as per protocol		P value
	No	Yes	
Provide incentive			
No	135 (72.6)	33 (64.7)	0.274
Yes	51 (27.4)	18 (35.3)	
Effectiveness of services			
Very effective	127 (68.3)	30 (58.8)	
Somewhat effective	59 (31.7)	21 (41.2)	0.207

*Fisher's exact test

DISCUSSION

The study explores factors influencing the use and satisfaction levels of maternal healthcare services among mothers of children under two years in Arjundhara Municipality, Jhapa. An analytical cross-sectional study was conducted with 237 respondents from diverse backgrounds, including age, education, occupation, religion, and ethnicity. All 237 respondents (100%) had at least one ANC visit, with 87.8% completing ANC as per protocol. Among them, 70.9% had more than four visits, while 12.2% had fewer than four. More than one-third (62.9%) received ANC at government health facilities. The study found a higher ANC compliance rate than the national average (81%) and Province 1 (78.8%) as reported by NDHS 2022.[11]

A study in Eastern Nepal reported that 69% had ANC visits, while 13% had none.[2] In Ethiopia, 57% had no ANC visits, while 19.1% had four or more visits.[6] Bivariate analysis showed no significant association between ANC utilization and factors like maternal age, marital status, ethnicity, education, occupation, and family income. Institutional delivery was reported by 98.3% of respondents, exceeding the national average (79%) and Province 1 (81.5%) according to New ERA 2022.[11] Postnatal care (PNC) was received by 99.6% at least once, but compliance with all recommended PNC visits was low. The first PNC visit within 24 hours was completed by 99.6%, the second (at 3 days) by 59.5%, and the third (at 7 days) by 36.7%. The decline in PNC visits aligns with findings from NDHS 2022, where national (70.2%) and Province 1 (77.3%) rates were higher.[11] Similarly, in Ethiopia, PNC utilization was higher among urban women (33.5%) compared to rural women (5%).[6] Maternal health is a government priority, with incentives for ANC visits, institutional deliveries, and transportation costs (NPR 1,000 for Terai, 2,000 for Hills, and 3,000 for Mountains). An additional NPR 800 is provided for completing four ANC visits.

The government also trains ANMs, staff nurses, and medical officers to ensure skilled birth attendance and emergency obstetric care. Infrastructure development, referral systems, and public awareness campaigns further strengthen maternal health services. These efforts aim to improve maternal health outcomes and reduce maternal mortality in Nepal.[12]

CONCLUSION

The study provides valuable insights into the socio-demographic and economic factors affecting maternal health service use among 237 respondents. Most respondents were in long-term marriages, with an average maternal age of 28.62 years. Brahmin/Chettri (46.4%) was the predominant ethnicity, and the majority (80.6%) identified as Hindus. Nuclear families were common (67.9%), and most had fewer than five members (76.4%). Education levels varied, with 42.6% of mothers and 44.3% of their husbands completing their +2 level. Employment was higher among husbands (55.2%), while 42.6% of mothers were housewives. Family income varied widely, with 46.0% earning between 10,000–44,999 NPR per month.

Maternal health service utilization was high, with 87.8% receiving ANC as per protocol, though only 21.5% completed postnatal care (PNC) checkups. Government health facilities were preferred for ANC (62.9%), while private hospitals were favored for deliveries (66.7%) and PNC (57.8%). Family support (97%) and prior positive experiences (60.8%) were key factors influencing service use. Challenges included inadequate health facilities (78.8%) and transportation barriers (46.9%). Cost was a major concern (89%), leading some to delay care (57%) or borrow money (69.9%). Despite these barriers, 66.2% found services highly effective, and 98.7% had a health facility within 30 minutes. Suggestions to improve service utilization included enhancing accessibility (93.7%) and providing incentives (29.1%).

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