

Utilization of Antenatal Care Service in Tamang Community, Nepal

Nava Raj Aryal (Principal Author)
Teaching Assistant, Department of Health and Population Education
Tribhuvan University, Sanothimi Campus, Sanothimi, Bhaktapur
aryalnavaraj48@gmail.com
ORCID iD: <https://orcid.org/0009-0000-3494-2168>

Suresh Timalsina (Corresponding Author)
Assistant Professor, Department of Health and Population Education
Tribhuvan University, Bhaktapur Multiple Campus, Bhaktapur
suresh.timalsina07@gmail.com

Abstract

This study investigates the utilization of antenatal care (ANC) services among Tamang women in Helambu Rural Municipality, Sindhupalchok District, Nepal. Using a descriptive and quantitative research design, data were collected from 168 married women aged 15–49 years who had at least one child under five years of age through structured interviews. Main purpose of this study is to identify the antenatal care situation as well as to examine the relationship between educational status and antenatal care services of Tamang women. Findings revealed that 85.1% of respondents received ANC services during pregnancy, while 14.9% did not. The majority (53.8%) obtained services from government hospitals, and 68.5% were assisted by doctors or nurses. However, only 16.1% of women met the World Health Organization's recommended four or more ANC visits. Educational status of both women and their husbands significantly influenced ANC utilization, with higher education levels associated with greater use of antenatal care services. Economic hardship (48%) and lack of awareness (40%) were major barriers to service uptake. The study concludes that enhancing health education, addressing socio-economic barriers, and improving accessibility to maternal care facilities are vital to increase ANC utilization among the Tamang community.

Keywords: Antenatal care, maternal health, Tamang education, utilization

Introduction

Reproductive rights were first recognized as human rights in 1968, and the strategy of Health for All through Primary Health Care was launched with the Declaration of the Alma-Ata International Conference on Health (1998), emphasizing primary health care as the key to achieving global health equity (WHO, 2010). Reproductive rights were later strengthened at the International Conference on Population and Development (ICPD, 1994), which declared that all individuals have the right to decide freely and responsibly on the number and spacing of their children and to have access to the information, education, and means necessary to achieve that right (UN, 2015).

Complications related to pregnancy and childbirth remain leading causes of mortality among women of reproductive age in developing countries. The lifetime risk of dying from pregnancy-related causes is 1 in 20 in developing regions compared to 1 in 1,000 in developed nations (ICPD, 1994). Factors such as early marriage, low education, poverty, and limited access to health care contribute significantly to maternal morbidity and mortality. Safer motherhood has thus been recognized globally as an essential strategy to reduce maternal deaths (UNFPA, 2017). Antenatal care (ANC) is a key component of maternal and newborn health services, designed to monitor pregnancy, prevent complications, and promote healthy outcomes for mothers and infants (WHO, 2016). Globally, access to ANC has improved, yet significant disparities persist across regions, socioeconomic groups, and marginalized populations (UNICEF, 2023). Ensuring equitable utilization of ANC services is therefore essential to reduce maternal and neonatal morbidity and mortality and support progress toward international health targets, including the Sustainable Development Goals (WHO, 2022).

Nepal is suffering from various reproductive health complications or problems, low level of practice of antenatal care is the major problem of maternal morbidity and mortality. The major responsible cause for such problems is lack of education, poor access of health services, water sanitation facilities, low per capita income and gender discrimination. The level of contraceptive prevalence is 57 percent only and the unmet need is about 21 percent (NDHS, 2022). Poor maternal care during pregnancy and delivery are responsible for high maternal mortality. Data revealed that 94 percent of women received ANC from a skilled provider for the most recent live birth or stillbirth in the 2 years preceding the survey, while 3% did not receive any ANC services (NDHS, 2022).

In its (2025) report improving education outcomes for girls and young women, the world Bank outlines its commitment to improving learning outcomes for girls and young women globally - a context that underlines the Bank's view that female education is a building block for broader empowerment and maternal health service utilization (World Bank, 2025). Studies in South Asia show that higher education among women is associated with delayed marriage, fewer children, and increased utilization of maternal health services (MoHP, 2023/2024). In Nepal, adult female literacy remains low compared to neighboring countries, influencing women's reproductive health-seeking behavior (World Bank, 2018). The maternal health care services that a mother receives during her pregnancy and at the time of delivery are important for the wellbeing of the mother and the child. Overall, 94% of women received ANC from a skilled provider for their most recent birth. Doctors were the primary service providers (55%), followed by nurses/auxiliary nurse midwives (39%) (NDHS, 2022). A study conducted in indigenous Chepang community showed that the utilization of ANC services was 76.9 percent, indicating that at least one visit was made. However, the utilization for those who attended complete set of four or more visits was 43 percent. More than a half didn't know about the government schemes of ANC services and around 13 percent were never respected on their decision by their husband to seek health care (Bartaula et. al, 2025). Among women who did not receive any ANC, 71% mentioned that they did not feel the need to go for ANC services. Women under age 35 (95%) are slightly more likely to receive ANC from a skilled provider than those age 35-49 (91%). The proportion of women receiving ANC from a skilled provider increased from 86% in 2016 to 94% in 2022 (NDHS, 2022).

Empirical research highlights the success of maternal health initiatives like Nepal's Aama and Newborn Programme, which integrates safe motherhood education, incentives for ANC visits,

and institutional deliveries (Karki, 2017). Despite these improvements, cultural norms and economic constraints continue to limit service utilization among indigenous and rural populations.

This study focuses on the Tamang community in Helambu Rural Municipality of Sindhupalchok District, where socio-economic challenges, low literacy rates, and limited access to health services persist. Published ethnographic and community studies of Helambu (Hyolmo/Tamang) communities show that women generally have knowledge and positive perceptions toward antenatal and maternal health services and utilization is lower or fewer than recommended visits because this community is socially indigenous and has low socio-economic status. The main aim of this study is to identify the level of knowledge and utilization of antenatal care practices and to examine the relationship between educational status and antenatal care services of Tamang women in Helambu rural municipality of Sindhupalchok district. This study is limited to child bearing married women aged 15-49 years having at least one child under five years of age. The findings are expected to provide evidence for local and national health policymakers to improve maternal health programs in marginalized communities. Historically in Nepal, maternal and child health was regarded primarily as a medical issue, and as a result, it was addressed almost entirely within the mandate of the Ministry of Health. Most of the women do not have knowledge about what it means and why they should adopt these services. In that community there is insufficient research about the situation of antenatal care services and practices.

Methods

The study was based on descriptive and quantitative research design. The study was carried out method of quantitative in nature. The qualitative technique also used for interpretation. This study was conducted in Helambu rural municipality ward no. 4 of Sindhupalchok district. This ward number consists Majority of Tamang caste. Out of the total number of 419 households of this ward, there are 362 Tamang houses, which have been selected. The study had been conducted with the Tamang women ranging from 15-49 years of age and who have at least one child under 5 years of age. I had chosen this district and Helambu - 4 as purposively by non-probability sampling procedure. There were 672 total number of married women at the age group (15-49) having at least a child of under 5 years of age in that ward. Among the total married women in the study area, only 168 married women were selected by simple random sampling process using lottery method for sample size.

The source of data for this study is based on the primary data and this was obtained by using direct interview among married women of reproductive age having at least one child below five years of age in the above-mentioned community. For the purpose of research, interview schedule was constructed as the major tools of data collection. The interview schedule was administered for pre testing among the married women at Temal of Kavrepalanchowk district having Tamang community. To make schedule simple, reliable, socially acceptable, pretest was maintained among only 17 married women of total sample size. After that the interview schedule was modified and finalized as per required.

Data analysis focused on descriptive statistics such as frequencies, percentages, and cross-tabulations to identify relationships between ANC utilization and socio-demographic variables.

Ethical considerations were maintained throughout the study. Respondents were informed about the purpose of the research, participation was voluntary, and confidentiality of personal information was ensured.

Results and Discussion

Age of Respondent First Pregnancy Aged

Conception before age of 20 is risky to both women and infant. Various studies also prove that first conception after age of 35 is also risky to both mother and her infant. Table 1 shows the distribution of respondents by age at their first conception in the concerned field.

Table 1: Percentage Distribution of Respondents by Age at First Conception

Age	Number	Percent
15-19	33	19.6
20-24	84	50.0
25-29	47	28.0
30-34	04	02.4
35 & above	00	00.0
Total	168	100.0

Source: Field Survey, 2025

Above table shows that the highest percent of respondents (50 %) reported that they had their first conception at the age group 20-24 years. Others 28 percent respondents reported that they had first conception at the age group 25-29. Similarly, there were 19.6 percent respondents who had first conception's age of 15-19 which is low. Some respondents as 2.4 percent had their first conception at age group 30-34 years respectively.

Utilization of Antenatal Care Services

In this survey, 168 married women in age group 15-49 who had at least one child were eligible respondents and individual questionnaire was asked about the utilization of antenatal care services.

Table 2: Percentage Distribution of Respondents by Utilization of Antenatal Care Services

Antenatal Care	Number	Percent
Yes	143	85.1
No	25	14.9
Total	168	100.0

Source: Field Survey, 2025

The table 2 presents that 85.1 percent respondents had received antenatal service during their pregnancy period. Similarly, 14.9 percent had not received antenatal care during their pregnancy period at all.

Utilization of Antenatal Care (ANC) by Age of Respondents

The utilization of ANC by age of respondents tabulated in Table 3 shows that the highest 38.1 percent respondents who received anti- natal care are of age group 30-34 years, 23.2 percent who received anti-natal care are of age group 20-24, 22.6 percent who received

anti-natal care are of age group 35 and above, 11.3 percent who received this service are of age group 25-29 years and only 4.8 percent who received anti-natal service are of age group 15-19 years respectively.

Table 3: *Percentage Distribution of Respondents According to Utilization of ANC by Age*

Age group	Utilization of ANC				Total	
	Yes		No		Number	Percent
	Number	Percent	Number	Percent	Number	Percent
15-19	8	100.0	0	0.0	8	4.8
20-24	34	87.2	5	12.8	39	23.2
25-29	17	89.5	2	10.5	19	11.3
30-34	53	82.8	11	17.2	64	38.1
35& above	31	81.6	7	18.4	38	22.6
Total	143	85.1	25	14.9	168	100

Mostly younger respondents were associated with better antenatal checkup. This study shows that 100 percent of respondents for the age group 15-19 had utilization of ANC service. Mostly respondents as 89.5 percent of age group 25-29 and 87.2 percent of age group 20-24 years had utilized the ANC services. Similarly, the highest 18.4 percent respondents who did not received anti natal service are of age group 35 and above years, followed by 17.2 percent of age group 30-34 years, 12.8 percent of age group 20-24 years and 10.5 percent of respondents had not received anti-natal care are of age group 25-29 years respectively.

ANC Service Provider

According to the respondents, 68.5 percent respondents got ANC service from doctor and nurse whereas 31.5 percent got the services from H.A., AHW and MCHW.

Table 4: *Percentage Distribution of Respondents by ANC Service Providers*

Service Provider	Number	Percent
Doctor and Nurse	98	68.5
H.A., AHW and MCHW	45	31.5
Total	143	100.0

Source: Field Survey, 2025

Frequencies of ANC Visit

According to world health organization's standard, a mother should visit health center for health checkup at least four times per birth. Frequency of antenatal visit often shows the carefulness of mother towards her reproductive health. Table 6 shows the frequency of ANC visit of respondents in the study area.

Table 5: Percentage Distribution of Respondents by Frequency of ANC Visit for Last Birth Preceding the Survey

Frequency of ANC Visit	Number	Percent
One	51	35.7
Two	41	28.7
Three	28	19.5
Four and above	23	16.1
Total	143	100.0

Source: Field Survey, 2025

According to the table 5, the utilization of ANC among Tamang community, the highest 35.7 percent respondents had visited ANC 1 time, 28.7 percent had visited 2 times, 19.5 percent had visited 3 times and 16.1 percent had visited 4 times and above during the pregnancy period.

Reasons for Not Taking ANC

The main reasons for not taking ANC services were poor economic condition, lack of knowledge about the services and others which is presented in the following table 6 as follows;

Table 6: Percentage Distribution of Respondents by Causes of not Taking ANC Service

Causes	Number	Percent
Poor economic condition	12	48.0
Lack of Knowledge	10	40.0
Not stated	3	12.0
Total	25	100.0

Source: Field Survey, 2025

The table 6 presents that 48.0 percent respondents did not receive ANC service because of poor economic condition, 40 percent respondents did not receive any ANC service because of lack of knowledge about ANC service in the case of 12.0 percent respondents, they did not have ANC services not stated of the Tamang Community.

Utilization of Antenatal Care by Education

Education is an important factor which motivates people in several ways. Study has shown the positive relationship between education and utilization of ANC. It has found that, with the increased of level of education, the level of utilization of antenatal services goes up. It can be easily understood from the Table 7 as follows.

Table 7: Percentage Distribution of Respondents on Utilization of ANC by Education

Education	Utilization of ANC					
	Yes		No		Total	
	Number	Percent	Number	Percent	Number	Percent
Literate	101	87.1	15	12.9	116	100
Illiterate	42	80.7	10	19.3	52	100
Level of education						
Basic	76	85.4	13	14.6	89	100
Secondary/ SLC	21	91.3	2	8.7	23	100
Intermediate	4	100	0	0	4	100
Total	101	87.1	15	12.9	116	100

Source: Field Survey, 2025

Table 7 shows that among the total literates, 87.1 percent respondents had utilized antenatal service and only 12.9 percent literate had not utilized anti-natal services, 80.7 percent illiterate had utilized anti-natal care services and 19.3 percent had not utilized this service.

Above data also shows the utilization of ANC care by level of education. It gave the result that 100 percent respondents with intermediate level of education had used of ANC care facilities. Similarly, 91.3 percent women with secondary and SLC level of education and 85.4 percent women with basic education had utilized the ANC services.

Table 8: Percentage Distribution of Respondents on Utilization of ANC by Husband's Education

Husband's Education	Utilization of ANC					
	Yes		No		Total	
	Number	Percent	Number	Percent	Number	Percent
Literate	119	90.2	13	9.8	132	100
Illiterate	29	80.5	7	19.5	36	100
Level of Education						
Basic	82	89.1	10	10.9	92	100
Secondary / SLC	21	91.3	2	8.7	23	100
Intermediate	9	90	1	10.0	10	100
Bachelor and above	7	100	0	0.0	7	100
Total	119	90.2	13	9.8	132	100

Source: Field Survey, 2025

According to Table 8, the hundred (100) percent respondents utilized ANC services whose husbands had bachelor or above level of education. The coverage of ANC services was 91.3 percent, 90.0 percent, and 89.1 percent to the respondents whose husbands had education of secondary, intermediate, and basic level respectively. It is concluded that higher the education level of respondents and their husbands higher the utilization of ANC services.

Discussion

The study indicates that while a majority of women (85.1%) accessed antenatal care (ANC) Services during pregnancy, a notable minority (14.9%) did not, reflecting persistent gaps in service uptake. Among those who sought care, most relied on government facilities - 53.8% used government hospitals and 42.7% visited health posts - demonstrating the central role of the public health system in rural maternal care. However, only 16.1% of all respondents completed the WHO-recommended four or more ANC visits, highlighting insufficient continuity of care despite initial service contact.

Education emerged as a significant determinant of ANC utilization. Literate women (87.1%) were more likely to seek ANC services than illiterate women (80.7%), suggesting that education enhances health knowledge, autonomy, and care-seeking behavior. Being a male dominant society, it was found that the husband's education had also some effects on women's utilization of these facilities. The data indicated that wives of educated husbands had utilized better coverage of ANC services than wives of uneducated husbands.

The education of husbands also showed significant influence, with 100% of women whose husbands had bachelor's degrees or higher utilizing ANC services. Economic constraints (48%) and lack of knowledge (40%) were the primary reasons for non-utilization, consistent with previous findings from UNFPA (2017) and MoHP (2023/24). Younger women (15–19 years) exhibited full participation in ANC visits, while older women (35 years and above) demonstrated lower engagement, suggesting a generational improvement in awareness.

These findings are consistent with national trends from NDHS (2022), which show higher ANC Utilization among women with greater education, better economic status, and improved geographic access. Nevertheless, within the Tamang community, deep-rooted social norms, limited resources, and cultural barriers continue to restrict optimal ANC use. To address these gaps, public health initiatives must prioritize community based, culturally sensitive strategies that incorporate local belief, engage men and elders, and strengthen awareness and affordability of maternal health services.

Conclusion

This study concludes that while a majority of Tamang women in Helambu Rural Municipality utilize ANC services, the frequency and adequacy of utilization remain insufficient. Educational attainment of both women and their husbands significantly affect ANC utilization, confirming education as a fundamental driver of health behavior and maternal well-being. Economic hardship and lack of awareness remain critical barriers. To address these issues, policymakers should focus on women's education, male engagement in maternal health, and expanding accessible health services in rural and indigenous areas. It would help the researcher, policy makers and programme planner, NGOs, and government in developing appropriate policy and programme.

References

Bartaula M, Bartaula M, Devkota N. (2025). *Use of antenatal care services among extremely marginalized indigenous population (Chepang Community) of Nepal*. PLOS Glob Public

Health. doi: 10.1371/journal.pgph.0004080. PMID: 40080746; PMCID: PMC11906166.

International Conference on Population and Development. (1994). *Programme of action of the International Conference on Population and Development, Cairo, 5–13 September 1994*. United Nations Population Fund. <https://www.unfpa.org/publications/international-conference-population-and-development-programme-action>

Karki, S. (2017). *Aama and Newborn Programme: A milestone in safe motherhood in Nepal*. Ministry of Health and Population.

Ministry of Health and Population. (2023/24). *Annual report 2023/24*. Department of Health Services, Government of Nepal.

Ministry of Health, Nepal, New ERA, & ICF. (2022). *Nepal Demographic and Health Survey 2022*. Ministry of Health and Population.

<https://dhsprogram.com/pubs/pdf/FR378/FR378.pdf>

Safe Motherhood Network Federation Nepal. (2015). *Maternal mortality and safe motherhood: Annual report 2015*. SMNF.

UNICEF. (2023). *Antenatal care*. UNICEF Data. <https://data.unicef.org>

United Nations Population Fund. (2017). *State of world population 2017: Worlds apart—Reproductive health and rights in an age of inequality*. <https://www.unfpa.org/swop-2017>

United Nations. (2015). *Transforming our world: The 2030 agenda for sustainable development*. <https://sdgs.un.org/2030agenda>

World Bank. (2025). *World development indicators: Education and gender statistics*. <https://data.worldbank.org/indicator/SE.ADT.LITR.FE.ZS>

World Health Organization. (2010). *World health statistics 2010*. WHO Press. <https://www.who.int/publications/i/item/9789241563987>

World Health Organization. (2016). *WHO recommendations on antenatal care for a positive pregnancy experience*. WHO Press.

World Health Organization. (2022). *Trends in maternal mortality: 2000 to 2020*. WHO Press.