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Situation of Maternal and Child Health Service Utilization in Gandaki Province, Nepal

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Abstract

Introduction: Gandaki Province, Nepal, presents unique challenges for maternal health due to its rugged terrain, limited healthcare infrastructure, and socio-cultural barriers. The study examines maternal health service utilization across urban and rural settings, highlighting disparities in antenatal care (ANC), postnatal care (PNC), and delivery services.

Methodology: With a purpose to find out the Maternal and Child Health Service Utilization for improvement of mother and child health in Gandaki province of Nepal, the cross-sectional study employs secondary data obtained from the Nepal Demographic and Health Survey 2022. A multi-stage sampling method yielded a representative sample of 1401 childbearing-aged women. A weighted sample was employed and subsequently analyzed through the use of SPSS.

The study examined maternal health service utilization, including ANC visits, institutional deliveries, and PNC, using univariate and multivariable logistic regression analyses.

Findings: Results reveal significant disparities between urban and rural areas. The analysis of childbearing-aged women in Gandaki Province, Nepal, reveals that 85.8% identify as Hindu, with Janajati women being the largest ethnic group at 36.6%. Health status shows that 56.7% of women rate their health as moderate, and a significant proportion resides in urban areas (71.0%). In terms of healthcare access, while the average number of antenatal care visits is similar in urban (2.0) and rural (2.0) settings, urban women have higher rates of postnatal checkups for both mothers (81.6%) and newborns (83.2%) compared to rural women (66.5% and 71.2%, respectively). Urban women are more likely to access four or more ANC visits, institutional deliveries, and timely PNC compared to rural women. Wealthier and more educated urban women have greater access to comprehensive maternal services. Rural areas face challenges such as limited healthcare facilities, reliance on home-based deliveries, and cultural barriers that hinder service utilization.

Conclusions and Implications: The study underscores the need for targeted interventions to address disparities in maternal health service utilization. Policy measures should focus on expanding healthcare infrastructure, increasing the availability of skilled personnel, and improving transportation in rural areas.

Community-based health education and socio-economic support programs are crucial to bridging the gap in maternal health services. Implementing these strategies can lead to more equitable maternal health care and improved outcomes across different geographic and socio-economic contexts.

Keywords: Antenatal care, maternal health, Nepal, postnatal care, rural-urban disparities

Introduction

Gandaki Province of Nepal faces significant challenges in maternal health due to its diverse and difficult topography. The province's rugged terrain and remote locations create substantial transportation barriers, particularly exacerbated during the monsoon season, further impedes healthcare access (Ministry of Health, Nepal, & New Era, 2017). The 2021 National Population and Housing Census highlights that many residents live in areas with limited transportation and healthcare infrastructure, underscoring ongoing difficulties in accessing maternal health services (Central Bureau of Statistics, 2021).

Socio-cultural factors play a crucial role in shaping maternal health service utilization in this region. Traditional beliefs and practices often lead to a preference for home births attended by traditional birth attendants rather than seeking institutional care. This cultural inclination contributes to lower rates of institutional deliveries and antenatal care (Rai et al., 2022). The Nepal Demographic and Health Survey (NDHS) (2021) supports these findings, showing that despite improvements in healthcare infrastructure, cultural barriers continue to affect the uptake of formal maternal health services (Ministry of Health, Nepal, 2021).

Economic constraints further impact access to maternal health care. Many families face financial barriers that limit their ability to seek timely and adequate care, compounded by the uneven distribution of healthcare resources (Central Bureau of Statistics, 2021). Although strides have been made in improving healthcare infrastructure, the limited availability of facilities and trained personnel in remote areas continues to affect service quality and accessibility (Ministry of Health, Nepal, & New Era, 2017). Recent studies, such as Adhikari et al. (2023), highlight that economic and infrastructural constraints are critical issues affecting maternal health service utilization, emphasizing the need for targeted interventions to address these persistent challenges (Adhikari, Bhattarai, & Shrestha, 2023).

Disparities in maternal health service utilization persist, particularly between rural and urban areas. The NDHS 2016 indicated that while ANC coverage has improved, access remains significantly lower in rural regions compared to urban centers (Ministry of Health, Nepal, &

New Era, 2017). The World Health Organization (WHO) underscores that access to skilled birth attendants and emergency obstetric care is essential for reducing maternal mortality rates in high-need areas (WHO, 2019). The Nepal Health Sector Strategy 2015-2020 aims to address these disparities by enhancing maternal health services in underserved regions, including Gandaki Province (Ministry of Health, Nepal, 2015).

Globally, the WHO estimates that 515,000 women die each year from pregnancy-related causes, with almost all these deaths occurring in developing countries. In contrast, less than one percent of these deaths occur in developed countries, suggesting that many of these deaths could be prevented with better resources and services (WHO, 2023). The primary causes of maternal morbidity and mortality are inadequate ANC, PNC, and delivery services. Systematic antenatal care introduced early in the 20th century in Europe and North America, has become nearly universal in developed countries. Despite substantial efforts to improve health, population, and education sectors, approximately 600,000 women aged 15 to 49 die each year worldwide due to pregnancy complications and childbirth (Pate, Callado, & Solis, 2022). Maternal health encompasses three main aspects: antenatal, postnatal, and delivery care.

In Nepal, the maternal mortality ratio (MMR) has significantly improved, decreasing from 539 to 281 deaths per 100,000 live births between 2016 and 2022 (Ministry of Health and Population, New ERA, & Macro International Inc., 2022). Enhancements in maternal health services have been pivotal in reducing the MMR. The National Safe Motherhood Program has played a key role in developing policies, and protocols, and expanding the roles of service providers, including staff nurses and auxiliary nurse midwives. By the end of the 2016-2022 period, the Birth Preparedness Package (BPP) had been implemented across all 77 districts. Additionally, a maternity incentive scheme introduced in 2016 aimed to encourage women to use health facilities for maternity care and improve access to these services (MOHP, 2022). The quality of care during pregnancy, childbirth, and the immediate postnatal period is crucial for the survival and well-being of both mother and child.

The quality of antenatal care can be assessed through the content of health services and the information provided to mothers during their visits. Data pertain to the most recent birth among women with two or more live births within the five years preceding the survey.

According to the NDHS, in 2022, 58% of mothers received antenatal care from a skilled provider—a doctor, nurse, or midwife—for their most recent birth in the five years before the

survey. Mothers are more likely to receive care from a skilled provider for their first births (73%) than births of orders six and higher (20%). There are notable disparities between urban and rural areas: 88% of urban mothers received antenatal care from a skilled provider, while only 55% of rural mothers did. The likelihood of receiving antenatal care from a skilled provider is strongly influenced by the mother's education level, religion, caste, residence place, and mass media exposure. The proportion of women receiving antenatal care from a skilled provider has more than doubled over the past 15 years, from 24% in 1996 to 58% in 2022 (MOHP, 2022).

The rationale for this study lies in the pressing need to address the significant disparities in maternal and child health service utilization in Gandaki Province, Nepal, particularly between urban and rural areas. Given the unique challenges posed by the region's rugged terrain, limited healthcare infrastructure, and socio-cultural barriers, understanding these disparities is crucial for developing effective interventions. The significance of this study extends beyond identifying gaps; it aims to inform policy measures that can enhance access to comprehensive maternal health services. By highlighting the factors that influence service utilization and the current state of maternal health care, this research seeks to contribute to the ongoing efforts to reduce maternal and infant mortality rates and improve overall health outcomes in underserved communities.

In Gandaki Province, maternal health services such as ANC, PNC, and delivery care remain uneven and often unsatisfactory. Issues include early marriage, low educational attainment, inadequate health facilities, and prevalent ignorance and superstition regarding women's health.

This study aims to examine the background characteristics related to ANC, delivery, and PNC services among women aged 15-49 with their most recent live births in the five years preceding the survey.

Methodology

This paper presents an analysis of secondary data from the NDHS 2022. Nepal has conducted this nationally representative survey roughly every five years since 1996, with maternal and child health (MCH) issues being included for the first time in this iteration. We extracted data from households and women aged 15–49. This study analyzes data from the nationally representative Nepal Demographic and Health Survey (NDHS) conducted between June 10 and September 22, 2023.

Sampling

A two-stage stratified sampling technique was utilized. The Gandaki province was categorized into urban and rural areas, resulting in a total of 2 sampling strata. Implicit stratification with proportionate allocation was implemented at the lowest administrative levels, including various administrative units and a probability-proportional-to-size strategy during the first sampling step.The sampling frame for the 2022 NDHS was updated from the 2011 Nepal Population and Housing Census (NPHC), which included 36,020 sub-wards. Adjustments were made for updated urban-rural classifications. The 2011 NPHC listed 58 urban municipalities, which had increased to 293 by the time of the survey, accommodating approximately 65% of the population. An updated urban-rural classification system was employed in the 2022 NDHS.

A total of 76 primary sampling units (PSUs) were selected, with 48 from urban areas and 28 from rural areas. A household listing method was performed in the selected PSUs to create a sampling frame. Out of the initial sample, Successful interviews were completed with 1401 respondents, resulting in a response rate of over 99%. Eligible participants were females aged 15 to 49 who were permanent inhabitants of Gandaki Province.

Data Collection Tool

The DHS Program's model questionnaires were adapted to address Nepal's specific demographics and health issues with input from various stakeholders including government departments, agencies, NGOs, and funders. After completing the English versions, the surveys were translated into Nepali. The translated questionnaires (household woman) were integrated into tablet computers for data collection via computer-assisted personal interviews (CAPI). Data collection was conducted by the researcher himself and 10 assistants.

Dependent Variables

The study focused on maternal health service utilization, including: (i) four or more ANC visits, (ii) institutional delivery, (iii) PNC during the first two days of delivery, (iv) combined coverage of four or more ANC visits and institutional delivery, and (v) combined coverage of four or more ANC visits, institutional delivery, and PNC within the first two days of delivery.

Independent Variables

Independent variables included ecological belt (mountain and hill), setting (urban, rural), province Gandaki, age (in years), ethnicity (Brahmin/Chhetri, Dalit, Newar, Janajati), religion

(Hindu, non-Hindu), marital status (married or living together), wealth quintile (poorest, poorer, middle, richer, richest), education level (no education, basic, secondary, higher), and occupation (not working, agriculture, professional/technical/managerial, clerical, sales/service, skilled/unskilled labor, others).

Statistical Analysis

Data analysis was performed using SPSS version 25. To account for the complex survey design of the NDHS 2022, a weighted analysis approach using the "survey" package was employed. Categorical variables were reported as frequencies, percentages, and 95% confidence intervals (CI), while numerical variables were expressed as means with 95% CIs. Univariate and multivariable logistic regression analyses examined the relationship between independent variables and maternal health service utilization. Results from the logistic regression analyses are presented as crude odds ratios and adjusted odds ratios with their respective 95% confidence intervals.

Results

Maternal health service utilization analysis revealed several significant associations with the independent variables.

Background Characteristics of the Respondents

This descriptive analysis highlighted the demographic and socio-economic diversity among childbearing-aged women, with significant variation across age, health status, religious affiliation, ethnic background, residence, and educational attainment.

The age distribution of childbearing-aged women reveals that the largest groups are those aged 20–24 years and 25–29 years, accounting for 17.8% and 16.4% respectively, with a gradual decline in proportions in older age brackets, culminating in the smallest group of women aged 45–49 years at 9.0%. In terms of health status, the majority of women rate their health as moderate (56.7%), followed by good (28.1%). Fewer women report their health as bad (9.0%) or very bad (0.6%). Religious affiliation is predominantly Hindu, with 85.8% of women identifying as such, while Buddhists (6.5%), Muslims (4.6%), and Christians (3.0%) are significantly less represented. Other religions account for a minimal 0.1%. Ethnic composition shows that Janajati women are the largest group at 36.6%, followed by Brahmin/Chhetri (28.0%), Newar (15.7%), Dalit (15.1%), and others (4.6%). Most women reside in urban areas (71.0%), with a smaller proportion living in rural areas (29.0%). Regarding education, the highest proportion of women

has secondary education (39.1%), while 25.6% have no education, and only 4.3% have education beyond the secondary level. Given the large sample sizes, these proportions' 95% confidence intervals are expected to be relatively narrow, providing precise estimates for each demographic characteristic. The age distribution of women shows 17.8% each in the 15–19 and 20–24 years groups, with a narrow 95% CI indicating precise estimates. Proportions decrease with age, reaching 9.0% for those aged 45–49 years, all with tight confidence intervals ensuring reliability. Most women rate their health as moderate (56.7%) or good (28.1%), with CI confirming these estimates. Hindu women make up 85.8%, with a narrow CI for all religious groups, including Buddhists (6.5%), Muslims (4.6%), and Christians (3.0%). Ethnic distribution shows Janajati at 36.6%, Brahmin/Chhetri at 28.0%, and smaller groups with equally precise CI. Urban residents constitute 71.0%, with tight CI, while those with secondary education form 39.1% of the sample, also with narrow CI. Overall, CI are tight across all variables, reflecting high precision in these estimates. Overall, the narrow CI across all demographic variables highlights the accuracy and reliability of the reported proportions in this study.

Table 1. *Background Characteristics of Respondents in Gandaki Province (Ages 15–49), Nepal DHS 2022*

Background Characteristic	Childbearing Aged Women (n= 1401)		Urban (n= 992/71.0)		Rural (n= 409/29.0)	
	n	% (95% CI)	n	% (95% CI)	n	% (95% CI
Age Composition						
15–19	248 (17.8)	15.1, 20.5	181(18.2)	15.5-20.9	57 (13.9)	10.5-17.3
20–24	249 (17.8)	15.1, 20.5	179(18.0)	15.3-20.7	68 (16.6)	13.2-20.0
25–29	229 (16.4)	13.8, 19.0	168(16.9)	14.2-19.6	61 (14.9)	11.6-18.2
30–34	201 (14.4)	11.8, 17.0	150(15.1)	12.4- 17.8	54 (13.2)	10.1-16.3
35–39	191 (13.6)	11.2, 16.0	132(13.3)	10.6-15.9	68 (16.6)	13.2-20.2
40–44	154 (11.0)	8.9, 13.1	99 (10.0)	8.0-12.0	55 (13.4)	10.2-16.6
45–49	129 (9.0)	7.2, 11.1	83(8.4)	6.3-10.3	46 (11.2)	8.4-14.0
Health Status						
Very good	79 (5.6)	4.2, 7.0	56 (5.6)	4.1-7.1	23 (5.6)	3.4 -7.8
Good	394 (28.1)	24.6, 31.6	279 (28.1)	25.1-31.1	115 (28.1)	23.7-32.5

Moderate	794 (56.7)	53.1, 60.3	562 (56.6)	53.5-58.9	232 (56.7)	51.9 -61.7
Bad	126 (9.0)	6.9, 11.1	89 (9.0)	7.2-10.6	37 (9.0)	6.2-11.8
Very bad	8 (0.6)	0.2, 1.0	6 (0.6)	0.2-1.0	2 (0.5)	0.0-1.2
Religion						
Hindu	1,189 (85.8)	82.3, 89.3	848 (85.5)	83.3-87.7	341(83.4)	79.8-87.0
Buddhist	91 (6.5)	4.9, 8.1	64 (6.5)	4.8-8.0	27 (6.6)	4.2-8.9
Muslim	75 (4.6)	3.9, 7.0	46 (4.6)	3.3-5.9	29 (7.1)	4.6-9.6
Christian	42 (3.0)	2.0, 4.0	30 (3.0)	1.9-4.1	12 (2.9)	1.3-4.5
Other	4 (0.1)	0.0, 0.6	1 (0.1)	0.0-0.3	1 (0.2)	0.0-0.7
Ethnic Group						
Brahmin/Chhetri	393 (28.0)	24.4, 31.6	278 (28.05)	23.66- 32.44	115 (28.1)	23.4 - 32.8
Dalit	212 (15.1)	12.5, 17.7	150 (15.12)	12.24 -17.99	62 (15.2)	10.6 - 19.8
Janajati	514 (36.6)	32.9, 40.3	364 (36.67)	32.02 -41.38	150 (36.7)	31.6- 41.8
Newar	221 (15.7)	13.1, 18.3	156 (15.73)	12.79 -18.67	65 (15.9)	11.3-20.5
Others	61 (4.6)	3.3, 5.5	42 (4.24)	2.97 -5.51	19 (4.6)	2.2 - 6.0
Educational Status						
No education	357 (25.6)	21.7, 29.5	253 (25.5)	22.5 - 28.5	104 (25.4)	20.7 -30.1
Basic (1-8)	434 (30.97)	27.1, 34.7	307 (30.9)	28.0 - 33.8	127 (31.0)	26.4 -35.6
Secondary (9–12)	548 (39.1)	35.3, 42.9	388 (39.1)	36.1 - 42.1	160 (39.1)	34.2- 44.0
More than Secondary (13+)	62 (4.3)	3.3, 5.5	44 (4.4)	3.1 - 5.7	18 (4.4)	3.1- 5.7

Wealth Quantile of the Respondents

In examining wealth quintiles, urban areas show a higher concentration of income among fewer people, with the wealthiest quintile earning significantly more and comprising a larger proportion of the population compared to rural areas. Conversely, rural areas have a broader distribution of income, with a larger share of the population in the lowest quintiles, though these individuals earn more than their urban counterparts in similar quintiles. This distribution reflects that in urban areas, wealth is more concentrated among the top earners, while in rural areas, a larger segment of the population falls into lower income categories, highlighting the disparities in income distribution and standards of living between urban and rural regions. Table 2 shows details below.

Table 2. *Wealth Quantile of the Respondents' Family*

Quintile	Urban N/%	Rural N /%
Lowest	62 (6.3)	153 (37.6)
Second	116 (11.7)	106 (26.0)
Middle	193 (19.5)	80 (19.7)
Fourth	274 (27.7)	58 (14.2)
Highest	345 (34.8)	9 (2.4)
Total	992 (100.0)	409 (100.0)

Number of ANC Visits

The table from the Gandaki Province NDHS 2022 provides data on the number of ANC visits and the timing of the first visit for both urban and rural areas. It shows that in urban areas, none of the women had ANC visits, 54% had one visit, 10.9% had 2-3 visits, and 35.1% had 4-7 visits, with an average of 2.0 visits per woman. In contrast, in rural areas, 2.5% of women had no ANC visits, 48% had one visit, 8.9% had 2-3 visits, and 40.6% had 4-7 visits, also with an average of 2.0 visits per woman. Despite the similar average number of visits, rural women had a slightly higher proportion with no visits and a lower proportion with one visit compared to urban women, while a larger proportion in both areas had 4-7 visits. The data suggests that access to or utilization of ANC services is relatively similar in terms of average visits, but the distribution of visit frequencies varies slightly between urban and rural populations.

Table 3. *Antenatal Care Visit*

Area	Total number (N)	Non (%)	1time (%) Visit	2–3-time Visit (%)	4–7-time Visit (%)	ANC Visits Mean

Urban	992	0	54.0	10.9	35.1	2.0
Rural	409	2.5	48.0	8.9	40.6	2.0

Health Personnel Providing Health Services during ANC Visits (Reported Data)

The results based on the reported data illustrate the distribution of doctors and nurses providing ANC services in urban and rural areas. Those receiving health services from doctors during ANC visits in rural areas (66%) were lower than those in urban areas (81%). In contrast, 34% of health services provided during ANC visits came from rural areas, while only 19% were from urban areas. This shows that there is a higher presence of doctors providing health services during ANC visits in rural areas compared to urban areas.

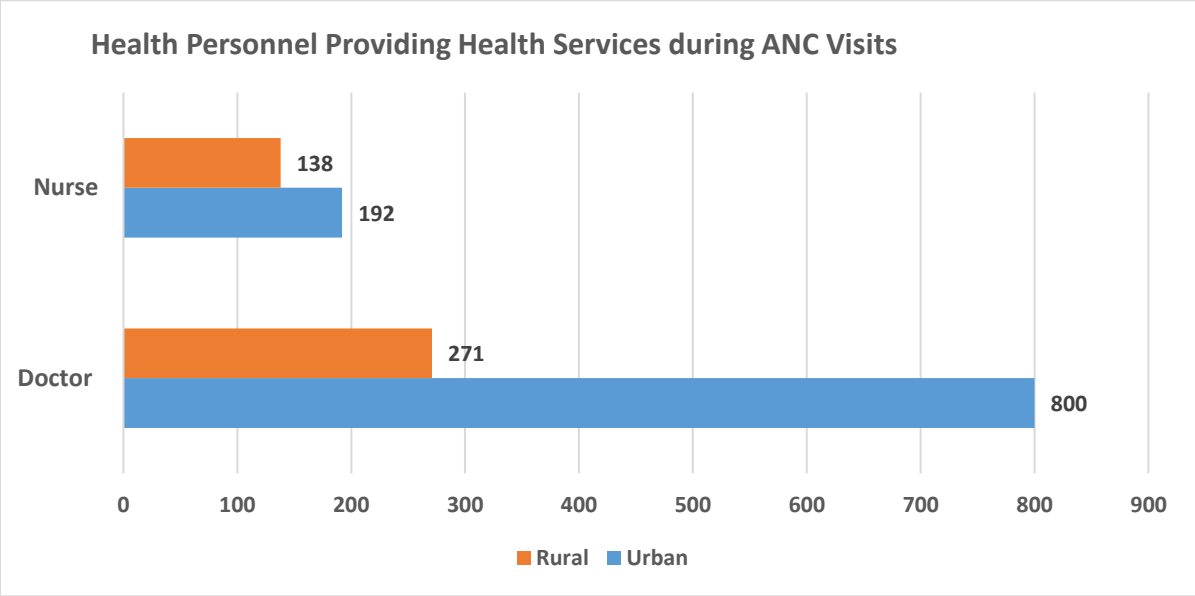

Figure 1. Health Personnel Providing Health Services During ANC Visits

Place of Delivery

A higher percentage of urban women delivered their child in public hospitals (81%) than rural areas (66%). In contrast, a higher percentage of women in rural areas delivered their child in the private medical sector (27%) than urban areas (13%). likely due to accessibility challenges. The use of private medical services remains minimal (3.9%), and other care settings make up a small portion (2.8%). This highlights a significant difference in healthcare access and utilisation between urban and rural regions.

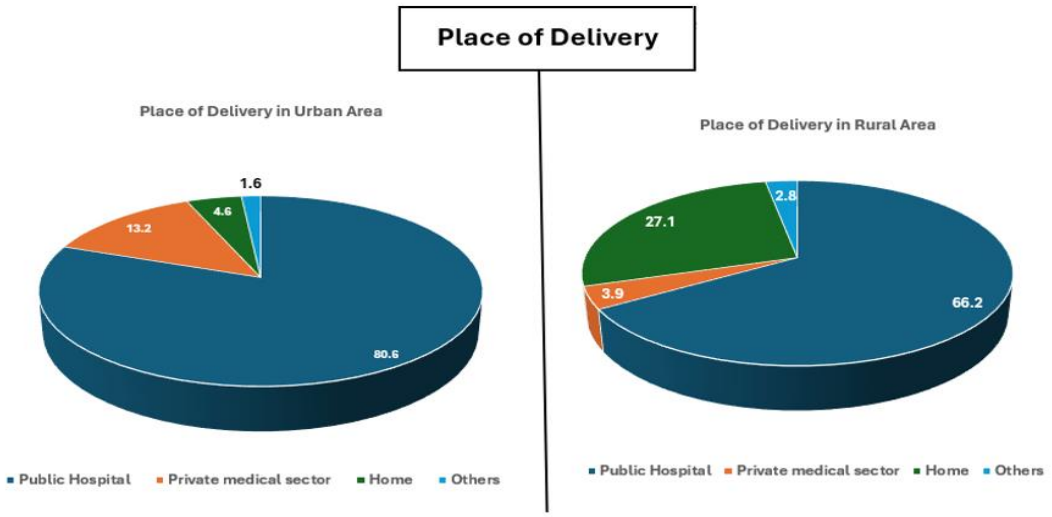

Figure 2. Place of Delivery

Postnatal Checkup of Mother and Newborn

The table provides statistics on cases related to mothers, newborns, and both mother and newborn, comparing urban and rural areas. In urban areas, 81.6% are to mothers, 83.2% to newborns, and 74.8% are involved in both mother and newborn. In contrast, rural areas show lower percentages: 66.5% for mothers, 71.2% for newborns, and 66.5% for both mother and newborn. This data indicates that urban areas have higher percentages across all categories compared to rural areas, which could suggest differences in healthcare access, services, or outcomes between the two areas.

Table 4. *Postnatal Checkup of Newborn Baby and Mother*

Area	Total number (N)	Mother	Newborn	Both mother and newborn
Urban	992	809 (81.6)	825 (83.2)	742 (74.8)
Rural	409	272 (66.5)	291 (71.2)	272 (66.5)

Discussion

This study offers a comprehensive examination of maternal health service utilization across urban and rural settings, revealing significant disparities in access and utilization of services. When comparing these findings with both national and global studies, several trends and contrasts emerge that provide a deeper understanding of the context and implications of maternal health services.

In Nepal, previous studies have consistently highlighted disparities in maternal healthcare access between urban and rural areas. For instance, the Nepal Demographic and Health Survey (NDHS) 2021 reported that urban women are more likely to receive ANC and PNC compared to their rural counterparts (Ministry of Health and Population, 2022). This aligns with our findings where urban women had higher percentages of ANC visits and greater access to comprehensive maternal health services. Specifically, our study shows that urban women had a higher percentage of ANC visits (35.1% with 4-7 visits) compared to rural women (40.6% with 4-7 visits), reflecting similar trends of better service utilization in urban settings (Gautam & Malla, 2021).

Additionally, the reliance on public hospitals in urban areas (80.6%) contrasts with the rural preference for home-based deliveries (27.1%). This aligns with findings by Acharya et al. (2021), who noted that urban centers have better access to institutional deliveries compared to rural areas, where home births are more prevalent due to accessibility issues (Acharya, A. M., Subedi, R., & Pradhan, S., 2021).

Globally, similar patterns are observed in other low- and middle-income countries. For example, a study in Kenya highlighted that women in urban areas had significantly higher rates of institutional deliveries and ANC visits compared to rural women, mirroring the disparities observed in our study (Mungai et al., 2022). The concentration of wealth and better healthcare infrastructure in urban areas often leads to improved maternal health outcomes, as evidenced by our finding that wealthier urban women were more likely to access comprehensive maternal services (Mungai, A., Mugambi, M., & Mwaura, M., 2022).

In contrast, rural areas in many developing countries, including Nepal, frequently face challenges such as limited healthcare facilities, fewer healthcare providers, and greater travel distances, which are reflected in our study's finding that rural women have lower percentages of ANC visits and are more reliant on home-based deliveries. This is consistent with global trends where rural populations often experience significant barriers to accessing maternal health services (Kruk et al., 2018).

Socio-economic factors such as wealth and education levels play a crucial role in maternal health service utilization, as noted in our study. Wealthier and more educated women are more likely to access comprehensive maternal services, which aligns with findings from studies conducted in other countries. For example, a study by Ahmed et al. (2020) found that

higher socio-economic status and educational attainment were strongly associated with increased use of ANC and institutional deliveries in Bangladesh (Ahmed, S., Li, Q., & Tsui, A., 2020).

The influence of ethnic and religious factors on service utilization, as observed in our study, is also noted in global research. For instance, ethnic minorities and non-majority religious groups often face disparities in healthcare access due to various socio-cultural barriers, as seen in studies from countries like India and Nigeria (Nair et al., 2021; Ojo et al., 2021).

The disparities in maternal health service utilization between urban and rural areas observed in this study reflect broader trends seen both nationally and globally. Urban areas generally exhibit better access to and utilization of maternal health services compared to rural areas, influenced by socio-economic, geographic, and demographic factors. These findings underscore the need for targeted interventions aimed at improving healthcare access and outcomes for underserved populations, particularly in rural settings.

Conclusion and Implications

This study underscores the persistent disparities in maternal health service utilization between urban and rural areas, reflecting broader national and global trends. Urban women in Nepal demonstrate higher rates of ANC visits, institutional deliveries, and PNC compared to their rural counterparts. These differences highlight the impact of socio-economic, geographic, and demographic factors on access to and utilization of maternal health services. Wealthier and more educated women, primarily residing in urban areas, benefit from better healthcare infrastructure and services, while rural women face significant barriers such as limited access to healthcare facilities and reliance on home-based deliveries. The findings align with previous research indicating that urban settings generally offer more comprehensive maternal health services, while rural areas lag due to infrastructural and socio-economic challenges.

Addressing these disparities requires targeted interventions to enhance maternal health service access in underserved rural areas. Policy measures should focus on expanding healthcare infrastructure, increasing the availability of skilled health personnel, and improving transportation and accessibility to reduce reliance on home-based deliveries. Additionally, community-based initiatives aimed at increasing health education and awareness, particularly in rural regions, could help bridge the gap in service utilization. Efforts to improve socio-economic conditions, such as through educational and financial support programs, are also crucial in

empowering women to seek and utilize comprehensive maternal health services. By implementing these strategies, it is possible to make significant strides towards equitable maternal health care and improved outcomes for all women, regardless of their geographic or socio-economic status.

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Authors' Contribution

TRK conceived and wrote the manuscript, and GPD assisted in the analysis and discussion part of the study. The final version of the article has the consent of both authors to be published.

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The authors state that they have no possible conflicts of interest regarding the publishing of this manuscript.

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