

## Access and Utilization of Maternal Health Care Services among Rural Mothers in Sahid Lakhan Rural Municipality, Gorkha, Nepal

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### Abstract

The use of the maternal health services is a significant national health issue in rural Nepal, which faces a significant number of inadequate infrastructures, and social-economic factors. Despite the improvement of maternal health indicators at the national health level, large disparities continue to remain in the remote districts like Sahid Lakhan Rural Municipality of Gorkha District. This study to evaluate the use of prenatal, birth, and postnatal care services. This study involved 160 households in the Ward No. 4 that analysis descriptive statistics and tests of chi-square were used. The results showed that 86 percent of mothers had four or more visits to the antenatal care, with 89.3 percent as large percentage said that they took iron pills throughout at least 100 days (85.4%), had two doses of tetanus toxoid vaccination (73.6%), and took anti-worming medication (88.2%). Sixty-nine point one percent of the respondents reported institutional delivery, whereas 30.9 percent delivered at home primarily because of distance and cost of transport; skilled attendance at birth had been experienced in 73 percent. The use of post-partum care was low and only 59 percent of had at least one post-partum care visit, although colostrum feeding and vitamin A were highly practiced (94.4% and 83.1 %). The use of maternal health services was also found to be strongly linked with the level of education of women, the number of children, and the distance to health facilities, indicating that the gaps in post-partum and safe delivery care.

**Keywords:** Maternal health, antenatal care, institutional delivery, postpartum care, Nepal

### Introduction

Nepal and South Asia have examined the trends in the use of maternal health services, most of these have focused on national trends or general urban-rural analyses that do not reveal much detail on the problems faced by geographically remote and socio-economically disadvantaged municipalities like Sahid Lakhan in Gorkha. A lot of the available evidence emphasizes the industry proven predictors such as women education, economic status, caste/ethnicity, and household resources as possible predictors of maternal health-seeking behavior (Karkee & Lee, 2016; Paudel et al., 2020; Devkota, 2024). Admittedly critical, they cannot be fully used in describing the stratified structural/contextual obstacles that women in remote hill areas experience. Investigated the relationship between geographical remoteness, low road accessibility, endemic transportation deficit, environmental exposure, and the overall limitations of rural health systems to achieve the uptake of maternal health services (Khatri et al., 2020; Simkhada et al., 2018). These limitations are particularly strong in the municipalities where the rough topography, settlement dispersal, and disruptions of seasonal weather still adds to barriers of accessing antenatal, delivery and postnatal services in time.

Moreover, even though Nepal has recorded improvement in maternal health indicators, there is no previous study that has offered a continuum-of-care evaluation; that is, antenatal care (ANC), delivery practices, skilled attendance at birth, postnatal care (PNC), newborn feeding

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practices, and postpartum contraception. The omission is excellent considering that the municipality has a very varied ethnic structure, an agricultural economy, a high reliance on wage labor, and a high level of vulnerability after an earthquake that took place in 2015 affecting the reproductive behavior of all the population groups and care-seeking patterns of the community. Nepal Demographic and Health Survey (NDHS) have the tendency of generalizing smaller and marginalized groups of people into larger groups, concealing a lot of intraregional diversity. Consequently, the use of maternal health services by the community is not well known manifesting in local disparities in maternal health services, thus limiting the implementation of provincial or country-wide level health interventions.

The present study fills these gaps, as it creates local, community oriented evidence, which is specific to the social, cultural and geographical setting. This specific objective is necessary since maternal health results in rural Nepal remain to be determined not only by the personal and household factors but also by larger systems of accessibility, social norms, and resource allocation. This study offers a deeper insight into how mothers access ANC, skilled delivery care, and postpartum services, as well as how the socio-demographic and structural factors that affect such practices, by documenting mothers use, and differentiate the setting in terms of its overall status in scholarly literature and policy.

The social implications of the study are high as the results can be used to enhance the welfare of women and children in the rural hill communities. It has been found that increased use of maternal health services decreases preventable maternal and neonatal morbidity and mortality, early detection and control of complications in pregnancy, and long-term child health results. The knowledge acquired in the current study would be useful in a municipality, where the physical distance, low income, and inadequate infrastructure still delay women access to timely care, to reinforce community awareness, promote gender-balanced decision-making, and informed reproductive choice among households. The comparable rural contexts suggest that the increased use of maternal health services helps women to be empowered in terms of their autonomy, increased knowledge, and interaction with local health systems (Joshi et al., 2021; Rajbanshi et al., 2021).

Policy-wise, the study is in line with the policy of the federal government of Nepal to promote decentralized health planning, the goals of the Sustainable Development Goals (SDGs), SDG 3 (Good Health and Wellbeing) and SDG 5 (Gender Equality). The study provides evidence that can inform the planning of more specific, contextually sensitive interventions in the design of greater service gaps by identifying the determinants of care utilization and determining the main gaps in service provision in the municipality.

Lastly, the study is different compared to other studies since it focuses on prenatal, intrapartum and postpartum service use simultaneously; integrates elaborate sociodemographic data and offers information customized to a rural municipality in the mid-hill region. Thereby, it provides discrete evidence that cannot be seen through national-level surveys, which makes this study an essential addition to the comprehension to the understanding of maternal health disparities in Nepal.

### **Methods and materials**

The research was performed in Sahid Lakhan Rural Municipality of Gorkha District where the heterogeneity is indicated by the presence of different caste groups with different demographic representations. Primary data has been taken as the primary source of analysis. The research design was descriptive and explanatory in nature to respond to the objective of the study that is to measure the utilization of maternal health care. The descriptive element was employed to describe existing information and practice, and the analytical element was applied to analyze the relationships between the socio-demographic variables and the use of maternal health services. Purposive sampling, 160 households were identified in ward No. 4 based on field 2025. Out of these domestications 160 ever-married in the reproductive age were

found and this interview group of 68 men (15-44 years) and 92 women (15-49 years) was obtained. The primary data were gathered using the face to face interview with field observation. The contextual knowledge was supported with secondary data in terms of municipal records. The received data were edited, coded and entered in a statistical analysis. The interpret findings, descriptive statistics, frequency distributions, percentages and cross-tabulations were used.

### Results

Table 1 indicate that relatively high degree of access to the required services of maternal care. The number of women who attended four or more antenatal care (ANC) visits was very high (86%), so they are very much on the right track as recommended standards of ANC. The majority of women (89.3%) also obtained ANC services in government health facilities, which indicates the use of maternity services provided by the government. Iron supplementation had been applied properly as 85.4 percent of the respondents had taken iron tablets at least 100-days, and 14.6 percent said they did not take it adequately. It was also high on TT immunization coverage with close to three-quarters (73.6%) getting the two recommended doses in the course of pregnancy. The practice of deworming was also common, and 88.2 percent of mothers took deworming medication, which is an indication of a high level of compliance with regular antenatal practices. All in all, demonstrates likely results of women using maternal health services in this region, but the lower percentage of the higher-coverage categories show that more work should be done in the specified areas.

**Table 1**

*Distribution of maternal health services during pregnancy*

Characteristics	Number	Percent
ANC visit (last pregnancy )		
1-3 times	19	14.0
≥4 times	120	86.0
Place of ANC visit		
Government	124	89.3
Private	15	10.7
Duration of iron intake		
<100d	20	14.6
≥100d	119	85.4
TT immunization		
One dose	37	26.4
Two dose	102	73.6
Intake of deworming durg		
Yes	123	88.2
No	16	11.8

*Source: Field Survey, 2025*

Table 2 shows how the use of maternal health services during childbirth is distributed women. This study indicates that most of the mothers though institutional delivery predominant (69.1% of mothers giving birth in a health facility), a significant number (30.9%) of the mothers gave birth at home. Majority of the deliveries (84.8%) were normal births via vagina whereas 15.2 percent were through caesarean delivery. The trained presence at birth was noted on 73 percent of births, and 27 percent of births were attended by untrained individuals, still indicating the continued lack of safe delivery methods. Out of 47 home deliveries, the umbilical cord was cut with new razor blades in 74.5 percent and traditional equipment like knives or sickles in 25.5 percent cases, which may introduce the risk of neonatal infection. Inadequate transport (47.3%),

the distance between the health facilities and the home (45.5%), and the belief that they did not get any complications during labor (40%), were the major reasons cited as a reason why home delivery was done. There is huge improvement in institutional delivery and skilled birth attendance, but it is also indicative of structural and logistical obstacles that still impact home delivery practices in the study area.

**Table 2***Distribution of maternal health services*

Characteristics	Number	Percent
Places of delivery (last childbirth)		
Health facilities institution	96	69.1
Home delivery	43	30.9
Types of delivery		
Normal delivery	118	84.8
Caesarean delivery	21	15.2
During delivery attendance of manpower		
Health worker	101	73.0
Unskilled worker	38	27.0
Tools used for cutting the umbilical cord at home births (47)		
New blade	35	74.5
Knife/Sickle	12	25.5
Home delivery (reasons) (47)*		
Lack of transportation availability	22	47.3
Health facilities are located far away	21	45.5
No complications were developed	19	40.0

*Source: Field Survey, 2025*

Table 3 shows the postpartum maternal health service utilization distribution of the mothers. The results indicate that 59 percent of women attended at least one postpartum visit whereas 41 percent of women did not attend postnatal services at all, which implies that there are significant gaps in services delivery. Out of the proportion of those accessing care, 59 percent of those individuals accessed care within 24 hours of giving birth and 28 percent reached care within three days, which implies that there is partial compliance with suggested postnatal check-up schedules. The use of postpartum nutrition was positive with 83.1 percent of the mothers taking vitamin A. There was also good compliance with the recommended new-born feeding since 59.6 percent of the mothers started breastfeeding early and almost all the mothers (94.4%) started colostrum feeding. It was found that 56.2 percent of women were using modern contraceptives in the postpartum period with Depo-Provera being the most widely used measuring 86 percent, IUCDs, implants, and sterilization. Although the trends in breastfeeding, colostrum feeding, and vitamin A intake are positive, the rather high percentage of mothers who do not receive postnatal care indicates that there are still issues regarding the accessibility and awareness of the services. The positive aspects of maternal care and new-born care and the aspects in which specific interventions might greatly enhance the results of postpartum health.

**Table 3***Distribution of maternal health service utilization by postpartum mothers*

Characteristics	Number	Percent
Postpartum check-up		
Yes	82	59.0
No	57	41.0
Timing of postnatal care visits* (n=83)		
Within 24 hours after delivery	49	59.0
Within 3 days of delivery	23	28.0
Within 7 days of delivery	8	10.0
Consumption of vitamin A after delivery		
Yes	116	83.1
No	23	16.9
Onset of breastfeeding after delivery		
Within one hour of birth	83	59.6
After one hour of birth	56	40.4
Provision of colostrum to the newborn		
Yes	131	94.4
No	8	5.6
Use of modern family planning methods		
Yes	78	56.2
No	61	43.8
Contraceptive methods used (78)		
Depo-Provera injection	67	86.0
Intrauterine contraceptive device (IUCD)	4	5.0
Subdermal implant	3	4.0
Male sterilization (vasectomy)	2	3.0
Permanent female contraception	2	2.0

*Source: Field Survey, 2025*

Table 4 shows the correlation between the most important socio-demographics and the use of the services of the maternal health among mothers. The results indicate that three variables, namely, educational status, number of children, and distance to a health facility show substantial relationships. The education level levels above elementary showed a considerable improvement in maternal services use relative to mothers with education level of lower levels ( $\chi^2 = 10.092$ ,  $p = 0.001$ ), and this proves the positive impact of education on the health-seeking behavior of mothers. Similarly, women who had fewer (12) children had significantly more service utilization when compared to those who had three or more children ( $\chi^2 = 4.540$ ,  $p = 0.033$ ), which may indicate that greater parity can decrease motivation to use or ability of care access. The distance to a health facility was also strongly linked with the use of service ( $\chi^2 = 13.571$ ,  $p = 0.000$ ), and women living within one hour of a health centre had higher chances of using maternal services. Conversely, other variables (age at first pregnancy, occupational status, ethnicity, and family type) were not statistically significantly related to the use of maternal health services, and may therefore not have as strong a role in the present scenario. On the whole, the table highlights education, family size, and geographic accessibility as determinants that play an important role in the study area with regards to maternal health service utilization.

**Table 4***Distribution of the association in maternal health service utilization*

Demographic variables	Utilization of Maternal Services		Total	Chi square	p-value
	Poor utilization	Good utilization			
Level of education					
Up to elementary level of education	49	43	92	10.092	0.001*
Above elementary level of education	13	34	47		
Age when first conceived					
<20	18	16	34	1.269	0.260
≥20	45	60	105		
Employment status					
Agricultural occupation	47	58	115	0.001	0.979
Non-agricultural occupation	11	13	24		
Caste/Ethnicity					
Brahmin/Chhetri	36	49	85	0.854	0.355
Other ethnic groups	27	27	54		
Total children ever born					
1-2	52	71	123	4.540	0.033*
≥3	11	5	16		
Family structure					
Nuclear family	17	26	43	0.786	0.375
Joint family	45	51	96		
Distance to the nearest health facility					
Up to 1 h	35	63	98	13.571	0.000*
≥1 h	27	14	41		

Note \*=  $p \leq 0.05$ : Significant at 95% Confidence Interval

Source: Field Survey, 2025

### Discussion

This study the general trend of the maternal health service use can be described as rather promising, but there are still a number of gaps that should be considered through the prism of policies. The percentage of women who have completed 4 or more ANC visits is (86) higher than the national average reported by Nepal Demographic and Health Survey (NDHS) which reported 70 percent of women who had made 4 or more ANC visits (MoHP et al., 2022). This implies that the area of study is doing well compared to most rural regions of Nepal, maybe through better outreach, involvement of community health workers as well as awareness. Other rural settings in Nepal and South Asia have also reported similar results of positive ANC utilization (Paudel & Budhathoki, 2020; Sharma et al., 2022). The fact that the government health institutions are the primary ANC service providers is consistent with the national trends, which proves consumer confidence in government health services over time (Karkee & Lee, 2016).

ANC regular elements reported high uptake too. Good adherence to WHO-recommended antenatal interventions can be observed in terms of iron supplementation ( $\geq 100$  days, 85.4%), and TT immunization (73.6%), which is also similar to the results of works conducted in Kaski, Rupandehi, and other mountainous districts (Joshi et al., 2020; Adhikari et al., 2021). The high adherence is also evidenced by the prevalence of deworming tablet (88.2%), which also reflects high adherence in other rural Nepal populations (Chhetri & Singh, 2021).

These findings indicate that even the simplest maternal health services are available and acceptable in the community.

Childbirth indicators despite the improvement, depict the structural issues that remain to be a challenge. Despite the fact that 69.1 percent of women gave birth in the health facilities, 30.9 percent of them gave birth at home, which is much higher than the national home delivery rate of 18 in Nepal (MoHP et al., 2022). This finding as challenging topography and inconvenient transportation restrict the ability to obtain skilled care on time (Simkhada et al., 2018; Khatri et al., 2020). Lack of transportation (47.3%), distance to health facilities (45.5%) were regarded in this study as leading factors behind home delivery, an event that demonstrates the impact of geographic and infrastructural factors. The use of unskilled personnel (27 %) and unprotected cutting cord materials, including knives and sickles, means that there is still a threat of maternal and neonatal complications, which are in line with the results of rural Pakistan, India, and Nepal (Khanal et al., 2014; Ahmed & Hossain, 2021).

The use of postnatal care (PNC) was relatively lower and 41 percent of the women did not receive any postpartum check-up. This is a national trend because PNC is one of the least utilized maternal services in Nepal (MoHP et al., 2022; Rajbanshi et al., 2021). Nonetheless, there are some encouraging results in the early uptake of PNC; 59% in 24 hours, which may indicate the community-level awareness campaign. High compliance with the latest practices in newborn care, including the high rates of breastfeeding initiation (59.6% and almost 100% of successfully conducted colostrum feeding, respectively) corresponds with the results of other rural studies that show the long-term cultural focus on breastfeeding (Rai et al., 2019; Tamang et al., 2020). The consumption of vitamin A (83.13%) in the postpartum period is also above the national averages, which suggests that the supplementation programs are effective.

Moderate improvements in birth spacing as indicated by the use of modern contraception by 56.2 percent of postpartum women is below the desired level of birth spacing to achieve optimal maternal and child health (WHO, 2018). Domination of Depo-Provera reflects the national patterns according to which injectable birth controls are the most popular with Nepali women (Pradhan et al., 2020).

The strong relationship observed between maternal service use and education, children count, and proximity to health facilities is congruent with the evidence in the global and South Asia. Mother health service uptake is always predicted by education, which enhances knowledge, autonomy, and decision-making (Tsawe, 2014). Equally, women that bear less children tend to have more time, resources, and interest to pursue care (Ahmed et al., 2019). Distance has continued to be among the best predictors of bad utilization particularly in rural and mountainous areas (Karkee et al., 2013).

In general, the results outline the advancement and existing gaps. ANC use and newborn care are found to be good but home delivery and deficient PNC uptake are areas of serious concern. Transportation barriers, enhancing community based outreach and increasing female education are important measures to correct maternal health results in the municipality.

### **Conclusion**

This study brings out a promising trend as well as areas of continual disparities in maternal health service use. There was also a good level of coverage of the antenatal care as most women attended the four visits advised and got the necessary interventions which indicates an effective outreach and a functioning primary health services. Utilization however decreased along the continuum of care. A high percentage of women continued giving birth at home because of distance and barriers to transport and perceived risks, which means that better access to skilled delivery services and emergency referral systems should be sought. The component received least attention was the postpartum care where most women did not at all get any postnatal check-ups even though newborn care practices were favourable. Education

and parity as well as proximity to health facilities were socio-demographic variables that had a significant effect on service use. This results highlight the importance of specific policies that target female education, access to the physical amenities, and community awareness as a whole in order to guarantee the continuity of the maternal care such as delivery and the postnatal phase. As the findings at this study indicate, enhancement of transportation infrastructure, outreach services, and educational disparities are the areas that will be essential in enhancing the maternal health results of the municipality.

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