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# Socio-demographic Factors affecting Skilled Birth Attendance Utilization in Koshi Province, Nepal

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## Abstract

*This study has maternal healthcare beyond borders and boundaries as a priority in global health, especially in low- and middle-income countries like Nepal, where maternal and neonatal mortality continues to remain alarming. The skilled birth attendant (SBA) is an important component that reduces mortality by serving to prevent or manage complications such as postpartum hemorrhage and obstructed labor. It also investigated the critical socio-demographic factors associated with SBA utilizations in Koshi Province, including maternal age, birth order, schooling, economic status, caste/ethnicity, place of residence, as well as religion. The secondary data were collected from NDHS covering the 2022 round under a two-stage stratified sampling design on 410 observations. The logistic regression has computed to assess the associations given as adjusted odds ratios (AORs) with 95 percent confidence intervals (CIs). The result was associated with different patterns of SBA utilization. There have been large geographic and economic inequalities reflected in the chances that women in rural areas and lower wealth quintiles have of accessing institutional care, as well as marginalized caste/ethnic groups and religious minorities being under barriers, but these have not reached statistical significance. The results are in accordance with worldwide initiatives aimed at reducing maternal and neonatal mortality in line with Sustainable Development Goal 3.*

## Keywords

Skilled birth attendance (SBA), Maternal healthcare, Socio-demographic factors, Koshi province, Institutional delivery, Nepal.

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## 1. Introduction

Maternal health services are part and section of global health, which greatly impacts both maternal and neonatal mortality as well as morbidity rates. The delivery services by trained health personnel such as doctors, nurses, and midwives are defined by skilled birth attendance (SBA) and are recognized as a cornerstone maternal health intervention (WHO, 2020). Despite globalization aiming for the inclusion of SBAs, various disparities have continued to arise across the world, most notably in low- and middle-income countries like Nepal. In fact, remains that these disparities appear largely rooted in various socio-demographic characteristics that restrict equal access to skilled care during childbirth. Similarly, Nepal has experienced an impressive decline in maternal mortality, with the maternal mortality ratio (MMR) declining from 901 per 100,000 live births in 1990 to 186 in 2017 (UNICEF, 2021). National improvement, however, is not reflected in provinces such the Koshi Province, which face socio-economic, geographic and cultural barriers that limit access to skilled birth attendants. The province has a variegated population and represents a balance of urban and rural settings, making it a relevant site for the understanding of factors influencing SBA utilization. However, national advancement does not translate at provincial levels like the Koshi province, which faces socio-economic and demographic barriers and delays access to skilled birth attendants. It has a heterogeneous population that consists of both urban and rural settings, making it a relevant site to understand the factors that influence SBA utilization.

It is important to understand the socio-demographic determinants of SBA usage in Koshi Province to deal with issues of maternal health inequity. The study here examines how maternal age, education, economic status, geographical location, caste/ethnicity, and cultural practices determine the possibility of women obtaining skilled assistance during childbirth. This study examines the differential relationship between socio-demographic factors,

such as maternal age, education, and economic status, and SBA utilization in Koshi Province. Skilled birth attendance is an effective intervention to improve maternal and neonatal health results. Globally, SBA has been credited with decreased maternal deaths by treating complications such as postpartum hemorrhage, sepsis, and obstructed labor (Katz *et al.*, 2019). In LMICs, increasing SBA coverage is critical for achieving Sustainable Development Goal 3 (SDG 3), which foresees decreasing the global MMR to less than 70 per 100,000 live births by 2030 (United Nations, 2020). Young adolescent mothers tend to have these limitations in accessing such service due to lack of independence and often very restricted financial resources as well as the stigma attached (Banke-Thomas *et al.*, 2020). In contrast, women with whom their birth order is higher tend to prefer home deliveries because of a perception that such births carry less risk after previously successful deliveries (Bohren *et al.*, 2020). South Asia study indicates that first time mothers are more likely to have SBA due to anxiety around childbirth (Thapa *et al.*, 2021). However, one of the most important factors that is associated with using SBA is higher education, which increases women's knowledge about risks during pregnancy and childbirth, and allows them to make better decisions (Singh *et al.*, 2020). Women with higher levels of education are more likely to look for out institutional delivery services and interrelate with the health care system. Economic status also strongly affects access; wealthier women have more access to transport and health facilities, and financial constraints often force poorer women to work with unskilled traditional birth attendants (Afulani *et al.*, 2019).

The multi-ethnic and caste-based social structure of Nepal has a huge bearing in determining access to health care. In addition, communities experiencing systemic discrimination are impoverished and face economic barriers that can prevent?them from being able to receive SBA (Karki *et al.*, 2020). Moreover, cultural norms and customs also discourage institutional births, especially in rural areas where community beliefs tend to value deliveries at home (Shrestha *et al.*, 2021).

Urban areas always have higher SBA coverage because of the good healthcare infrastructure and shorter distances to facilities and healthcare providers. Rural areas do not have these resources, and thus barriers are created depending on long travel distances, poor road conditions, and limited availability of skilled professionals

(Khatri *et al.*, 2021). The targeted investment in rural healthcare infrastructure is needed to bridge such disparities.

Policy measures like Nepal's Safe Delivery Incentive Program (SDIP) or the Maternal incentive scheme have been found beneficial for increasing SBA utilization by lifting financial burdens (Regmi *et al.*, 2021). These interventions also need strategies that take care of non-financial impediments such as cultural isolation. Many studies have shown that community-based health initiatives with local leadership and SBA normalization would work in such contexts (Pandey *et al.*, 2020). This study, therefore, considers into how such factors relate and influence maternal health seeking behavior and draw implications for policymakers as well as health providers in an unexplored area, Koshi Province, where other studies have focused on the determinates of SBA utilization in Nepal.

Its unique socio-cultural composition, with both ethnic diversity and varying levels of economic development, provides an interesting context with which to explore the factors that determine the use of a skilled birth attendant. This study focuses on the combination of such socio-demographic factors in order to provide strategies that can improve maternal health results in the province.

The understanding socio-demographic determinants influencing SBA use is critical in the reduction of maternal and neonatal mortality in Nepal. The study is directed at Koshi Province, which contributes to the global dialogue on maternal health disparities across LMICs. This study thus resonates with efforts globally to achieve SDG 3 and demonstrates the importance of equity in maternal healthcare. Ultimately, it is this attendance that directly improves maternal and neonatal health results, not only future efforts, but is associated with complex socio-demographic and systemic factors with regard to its utilization in Koshi Province. This study questions such determinants to come up with practical recommendations aimed at improving maternal and child health equity. This study means to cover the way for improved healthcare access and reduction in maternal and neonatal mortality in Nepal by identifying barriers and proposing targeted interferences at the appropriate levels.

Nepal to really lower the maternal and neonatal mortality, it is important to understand the socio-demographic factors that determine SBA utilization. This study Koshi Province while adding to the wider argument on maternal health disparities within LMICs.

The developing targeted involvements, for instance, through community engagement programs, investment in health care infrastructure, and financial facilitation mechanisms with an objective of increasing SBA coverage. This study fits within the global aspiration to realizing SDG 3 and accentuates the equity in access to health care services for mothers. Skilled birth attendance is such a critical intervention for maternal and neonatal health yet the reality of its use in the Koshi Province is determined by a number of socio-demographic and systemic factors.

## 2. Data and Methods

This study has used of secondary data from the Nepal Demographic and Health Survey (NDHS) in 2022. This is a national survey which was performed by the Ministry of Health and Population (MoHP). It ensured demographic and geographical representation through a stratified two-stage sampling design. This study area has Koshi Province which use of skilled birth attendance (SBA) was studied, as it relates to whether the delivery was delivered institutionally or non-institutionally. This was carried out against some socio-demographic factors such as maternal age, order of birth, education, religion, caste/ethnicity, place of residence, and wealth quintile. The logistic regression was done to see the association calculated as adjusted odds ratios (AORs) with 95 percent confidence intervals (CIs) after taking account of the survey's complex design through stratification and weighting. This study has done by incorporating 72 primary sampling units (PSUs) and a weighted population size of 446.31, hence fairly strong insights into maternal healthcare-utilization in Koshi Province.

## 3. Results

The socio-demographic factors that are affecting skill birth attendance (SBA) where determinants are very important in maternal care-seeking behavior particularly in developing-resource-poor countries like Koshi Province, Nepal. In this regard, age, birth order, level of education, religion, and caste/ethnicity, place of residence, and wealth quintile examined concerning the use of SBA. Maternal age is a significant factor for skilled birth attendance (SBA) use among mothers. The younger mothers are mostly without sufficient collateral information for health accessibility, while older women may prefer delivering at home following a successful delivery before. First births have more use of

SBA because all the usual births are not consumed because of the commonness, perception, and inadequacy of resources. The role of education is important because it makes women understand the importance of SBA and helps them to have better decision-making. Religion, in fact, prescribes healthcare: some do not support modern practices while others advocate institutional care. Interventions hence need a tailored and culturally sensitive.

Caste and ethnicity have a determining effect on SBA use in Nepal. Systematically constructed hurdles continue as barriers that deny the marginalized access to skilled care, while the dominant groups are in a better position to benefit from the resources and opportunities offered by the system. Generally, urban residents show a higher usage of SBA services vis a vis the rural masses, whose access is delayed by distance, poor infrastructure, and lack of transport.

The other major determinant is economic status represented by wealth quintiles. Wealth status should enable many women to give birth with the help of trained providers, while those without access to wealth would more often use traditional attendants because they simply cannot afford it. To ensure equity in maternal health in Nepal, all these disparities—socio-economic, geographical, and cultural-have to be addressed and integrated into health systems so that they can possibly improve SBA utilization.

**Table-1: Distribution of Demographic and Socio-economic Variables**

| Variable | Non Institutional | | Institutional | | Total | |
|---|---|---|---|---|---|---|
| | Number | Percent | Number | Percent | Number | Percent |
| **Age** | | | | | | |
| <20 | 8 | 7.8 | 36 | 8.9 | 44 | 8.7 |
| 20-24 | 21 | 21.2 | 144 | 35.6 | 165 | 32.7 |
| 25-29 | 35 | 34.9 | 131 | 32.3 | 165 | 32.8 |
| 30-49 | 36 | 36.2 | 94 | 23.3 | 130 | 25.8 |
| **Birth order** | | | | | | |
| First | 21 | 21.0 | 197 | 48.7 | 218 | 43.2 |
| Second | 41 | 41.3 | 152 | 37.5 | 193 | 38.3 |
| Third or higher | 37 | 37.7 | 56 | 13.8 | 93 | 18.5 |
| **Level of education** | | | | | | |
| No Education | 25 | 25.1 | 38 | 9.5 | 63 | 12.6 |
| Basic Education | 74 | 74.0 | 309 | 76.5 | 383 | 76.0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Higher Education | 1 | 1.0 | 57 | 14.1 | 58 | 11.5 |
| **Religion** | | | | | | |
| Hindu | 64 | 64.4 | 287 | 71.0 | 351 | 69.7 |
| Other religion | 35 | 35.6 | 115 | 28.5 | 151 | 29.9 |
| **Caste/Ethnicity** | | | | | | |
| Dalit | 12 | 12.0 | 45 | 11.1 | 57 | 11.3 |
| Janjati | 5 | 4.6 | 33 | 8.2 | 38 | 7.5 |
| Other Terai | 68 | 67.9 | 189 | 46.7 | 256 | 50.9 |
| Brahmin/Chhetri | 6 | 5.8 | 38 | 9.4 | 44 | 8.7 |
| **Place of Residence** | | | | | | |
| Urban | 51 | 51.3 | 274 | 67.8 | 325 | 64.5 |
| Rural | 48 | 48.7 | 130 | 32.2 | 179 | 35.5 |
| **Wealth Quintile** | | | | | | |
| Poorest | 59 | 59.2 | 70 | 17.3 | 129 | 25.6 |
| Poorer | 21 | 21.1 | 90 | 22.3 | 111 | 22.1 |
| Middle | 10 | 10.4 | 92 | 22.9 | 103 | 20.4 |
| Richer | 9 | 9.3 | 97 | 24.1 | 107 | 21.2 |
| Richest | 0 | 0.0 | 54 | 13.4 | 54 | 10.8 |
| **Total** | **99** | **100.0** | **404** | **100.0** | **504** | **100.0** |

**Source:** Nepal Demographic and Health Survey, 2022

That reflects the distribution of demographic and socio-economic variables in relation to the access to institutional and non-institutional birth services, indicating differences in maternal healthcare access results. Table shows that facility-based services were used most by women aged 20-24 years (35.6%) and 25-29 years (32.3%), jointly accounting for more than two-thirds of institutional deliveries (68%). Adolescents (<20 years) have the smallest share in both institution (8.9%) and total deliveries (8.7%), probably implying some forms of constraint like less autonomy and/or knowledge. Women aged 30-49 years are more likely to have their babies delivered outside the health facility (36.2%), partly due to the fact that most of them have previously delivered children and are deemed to have fewer perceived risks.

Institutional births account for 48.7 percent of all first births. This is because being a first-time mother is quite anxiety-inducing, and childbirth itself is an experience much different from all prior life experiences. In contrast, only 37.7 percent of modern non-

institutional deliveries fall into a higher category of order third-born or higher. This result suggests a perceived decreasing need for the institution as the number of orders increases. Education emerges as a significant determinant of institutional deliveries. Uneducated ladies formed 25.1 percent of the non-institutional deliveries and only 9.5 percent formed the institutional deliveries, clearly showing the impact of education in the decision-making process in the healthcare. The majority of women with primary education belongs to both the groups but shows a significant inclination towards institutional deliveries (76.5%). Higher education has a direct correlation with institutional deliveries (14.1%), highlighting the need for education as a way of increasing women utilization of maternal health services.

Hindu women occupy the highest status, as 71 percent of deliveries take place in an institution compared with 64.4 percent in non-institutional ones, representing the religious affiliation in the study. However, percentages from other religions show comparatively higher proportions of non-institutional deliveries (35.6%), which indicates that there might be some cultural or system-related barriers in accessing institutional care. Much significance bears upon caste and ethnicity greatly influences skilled birth attendance. The marginalized groups such as Dalits and Janjatis make up a greater percentage of non-institutional deliveries (12.0% &4.6% r) as compared to those who attain institutional deliveries (11.1% & 8.2%). Women from the dominant castes such as Brahmin, Chhetri have a higher use of institutions (9.4%) because the women from these castes are more accessible to resources and healthcare services. Place of residence rather determines service consumption. Urban women attain institutional deliveries more (67.8%) because facilities and accessibility of the services are better in urban areas. The rural women, on the other hand, have a higher rate of non-institutional deliveries (48.7%) because it represents geographical and infra-structural barriers of access to skilled birth services in rural areas.

Economic inequalities with the wealthiest quintile exclusively using institutional care (13.4%). Wealth correlates positively with the use of institutional delivery, with affordability reported as the strongest barrier for the poorest segments of the population. The differences in skilled attendance at birth based on demographic and socioeconomic characteristics which these differences with appropriate remedies such as improved rural health infrastructure,

achieved education, and lowered financial barriers would be critical to improving maternal health results. This is importance as evidence-generative information for policymakers aiming for equitable access to maternal services.

**The logistic-regression analysis:** The logistic regression model has applied to assess the association between a set of independent variables and the odds of institutional delivery. This method is well suited for binary dependent variables, such as institutional versus non-institutional delivery, because it allows for adjusting the effects of a complex survey design that includes stratification, clustering, and weighting. From the results, it can be concluded that the predictors are jointly significant in accounting for institutional deliveries. Survey-adjusted logistic regression would provide robust and generalizable results by taking the survey design's variation into account. Furthermore, this analysis provides a sound basis for following determinants of skilled birth attendance and developing evidence-based study. Skilled birth attendance (SBA) is central to minimizing maternal and neonatal mortality. The coverage of SBAs is lower in many places, despite the push from global system. The socio-demographic predictors of SBA utilization are analyzed through survey-adjusted logistic regression approaches to answer this analysis robustly while considering its complex sample design.

The 410 observations have instrumented into two strata comprising 72 primary sampling units (PSUs) for the survey logistic regression analysis. The dependent result variable was defined in terms of the SBA utilization (institutional vs. non-institutional delivery). Independent variables were composed of age, birth order, caste/ethnicity, education, residence, and wealth quintile. The division of adjusted odds ratios (ORs), standard errors, and confidence intervals (CIs) was done, and statistical significance as one, five and percent.

**Table-2: Factors Association of Demographic and Socio-economic Variables**

| Variable | Odds Ratio | Std. Err. | T | P>\|t\| | 95% Conf. Interval |
|---|---|---|---|---|---|
| **Age** | | | | | |
| 20-24 | 1.759587 | 1.052327 | 0.94 | 0.348 | 0.5338182-5.800003 |
| 25-29 | 0.8374238 | 0.4548922 | -0.33 | 0.745 | 0.2834239-2.47431 |
| 30-49 | 1.028494 | 0.6901314 | 0.04 | 0.967 | 0.2697678-3.921154 |

| | | | | | |
|---|---|---|---|---|---|
| **Birth Order** | | | | | |
| Second | 0.3284961 | 0.1328827 | -2.75 | 0.008 | 0.1466045-0.7360598*** |
| Third or higher | 0.155583 | 0.0863443 | -3.35 | 0.001 | 0.0514351-0.4706135*** |
| Religion | | | | | |
| Other religion | 1.423995 | 0.50971 | 0.99 | 0.327 | 0.6973766-2.9077 |
| **Caste/Ethnicity** | | | | | |
| Muslim | 0.8214025 | 0.7738959 | -0.21 | 0.835 | 0.1254524-5.378152 |
| Janjati | 0.3761145 | 0.2323553 | -1.58 | 0.118 | 0.1097027-1.289504 |
| Other Terai | 0.5636897 | 0.3764104 | -0.86 | 0.394 | 0.1488137-2.135193 |
| Brahmin/ Chhetri | 1.150418 | 0.6682384 | 0.24 | 0.81 | 0.3611817-3.664257 |
| **Educational attainment** | | | | | |
| Basic Education | 1.22257 | 0.4946618 | 0.5 | 0.621 | 0.545523-2.739898 |
| Higher Education | 6.538602 | 8.053968 | 1.52 | 0.132 | 0.560493-76.27805 |
| **Residence** | | | | | |
| Rural | 0.6230858 | 0.1693422 | -1.74 | 0.086 | 0.3623592-1.071412* |
| **Wealth quintile** | | | | | |
| Poorer | 3.407533 | 1.293223 | 3.23 | 0.002 | 1.598494-7.263888*** |
| Middle | 7.574347 | 4.198362 | 3.65 | 0 | 2.507476-22.87987*** |
| Richer | 6.801711 | 3.610271 | 3.61 | 0.001 | 2.359736-19.60528*** |
| _cons | 3.407533 | 1.293223 | 3.23 | 0.002 | 1.598494-7.263888** |

*** p<.01, ** p<.05, * p<.1

Age has not significantly predicted the utilization of SBA. Just like Marginal women aged 20-24 (OR = 1.76, 95% CI = 0.53-5.80) and 30-49 (OR = 1.03, 95% CI = 0.27-3.92), there are no major differences compared to the reference category (<20 years). SBA use, on the contrary, is inversely associated with higher birth order. Odds ratio values are lower for women with the second birth (OR = 0.33, p = 0.008), and women with three or more births had very low odds (OR = 0.16, p = 0.001), indicating SBA declining with growing parity.

Neither religion nor caste/ethnicity had any significant impacts. For example, Janjati women (OR=0.38, p=0.118) and women of other Terai ethnicities (OR=0.56, p=0.394) were less likely to access SBA, but these results were non-significant. Education showed a positive

association which was limited to statistical significance. Higher odds of SBA were borne by more educated women (OR=6.54, 95% CI=0.56-76.28, p=0.132), thus showing the possible weighting of education in maternal health care decisions.

Rural residence associated with negative direction in the use of SBA (OR=0.62, p=0.086)- reflected in its barriers concerning health care delivery in the rural areas. Thus, economic status would be a strong predictor for the utilization of SBA. Economically disadvantaged women had 3.41 odds (p=0.002) above the odds for middle and richer quintiles; OR=7.57, p<0.001; OR=6.80, p<0.001), reflecting how wealth becomes a significant determinant towards institutional delivery.

Such analysis shows the vast social-economic disparity in SBA utilization. Wealthier and urban women very likely use institutional delivery, marking the difference affordability makes in getting to health benefits. In contrast, higher birth order was noted to be associated with reduced SBA utilization-an indicative cultural perception that subsequent deliveries are an accepted routine and require less medical involvement. Education did not have a statistically significant impact but had a positive association, hence, indicating its importance as a long-term determinant. All that the study states, needs specific policy strategies to reduce utilization barriers such as economy and geography in using SBA. Initiatives such as expanded access to healthcare in rural areas through subsidized delivery costs and maternal education promotion will significantly improve maternal health. Future study should be conducted into the qualitative aspects of these factors so that they complement quantitative profiles. The policymakers will need to emphasize development of finance incentives subsidies in reducing economic barriers towards using SBA. This study moves beyond the mere empirical evidence to speak to addressing maternal health inequities in global efforts towards achieving equitable access to SBA, which would thereby translate into reduced maternal and neonatal mortality rates.

## 4. Discussion

This study analyzed the determinants of skilled birth attendance (SBA) in a resource-limited setup while gaining an understanding into the socio-demographic and economic factors influencing the ranges made by mothers regarding the health services. It has noted

critical disparities in SBA use that call for needed involvements for harmonizing mother-neonate health results.

Age was neither a prime correlate nor significant determinant of SBA's utilization and women between the ages of 20-24 and 30-49 did not differ significantly from adolescents (<20 years). Such contrast was in correlation to earlier studies, which reported that younger mothers often had limited knowledge or autonomy regarding institutional delivery (Banke-Thomas *et al.*, 2017). The older women, who tend to be more informed of the risks involved in childbirth, were indicated to access SBA services more than younger women (Gebrehiwot *et al.*, 2020).

The absence of a significant association in this study can be attributed to the fairly similar healthcare access issue experienced by all age groups in the study population. Further studies should consider the relevant analytical designs to measure age-specific interferences such as adolescent maternal health education in alleviating these barriers. Birth order showed a strong reverse dependency on SBA utilization. Second-born women were associated with 67 percent lower odds of using SBA. Those who delivered three or more offspring had an 84 percent reduction in the odds of using SBA compared to first-time mothers. This correlates with conclusions indicating that elder parity mothers consider further deliveries to be routine and less risky hence would be less likely to seek institutional care (Dhakal *et al.*, 2011). Addressing this behavior would require educating higher-parity mothers about the benefits of SBA regardless of parity.

Evidence has insufficient in either religious or caste/ethnic identity significantly affecting use of refined behavioral assessments (SBAs), which result runs counter to the large number of differences documented in other studies. For example, caste-based discrimination is likely to limit access to healthcare among marginalized groups in Nepal (Bhandari *et al.*, 2020). The lack of statistical significance may be attributed to sample size; however, it underscores a need to further study the confluence of social identity and access to health care.

Actually, education and association towards the SBA practice were positive, but it was not statistically significant. Women with more than six month have odds of more than six times utilizing SBA than women without formal education. People now consider education as one of the most important determinants for maternal

healthcare empowering women to make informed decisions, and it helps an individual to communicate better with health providers (Olonokpono & Odimegwu, 2014). The limited statistical significance in this study could be recognized to a small proportion of highly educated women in the sample. Long-term maternal health impacts are reported through universal education policies which especially favors girls.

The rural residence is negatively related to SBA institution utilization whereby rural women are 38 percent less likely to have institutional delivery than their urban equals. This affirms previous studies that pointed out the geographical inequalities in access to healthcare in Nepal, especially in its rural areas with poor infrastructure and barriers in the transport network (Bohren *et al.*, 2020). Building rural maternity centers and better transport networks will also create an opportunity to alleviate these gaps. Mobile health interventions and telemedicine could complement this program in reducing the urban-rural divide in maternal healthcare.

The economic status emerged as the most dominant variable that predicted making use of SBA. Some poor women were less likely to utilize SBA services than the richer and middle quintiles. The affluent women are better positioned to hold some institutional delivery-related direct and indirect costs-payments to the facility, transportation, and opportunity costs (Choudhury & Ahmed, 2011). Hence, it calls for financial involvements such as subsidized maternal health services and conditional cash transfers to make SBA more accessible to disadvantaged economic groups. Further enhancing provisions would be incorporating community-based health insurance schemes that could also eliminate financial barriers and hence promote equitable access to maternal healthcare. The results of this study have serious implications for Nepalese maternal health policies and those of similar settings.

Awareness programs promoting the importance of SBA at birth for all births or parity can lessen the cultural perceptions around certain births less valued within an institution. Investment in rural health facilities and transport is critical to reducing geographical disparities. Programs such as maternity waiting homes that serve as temporary homes close to health facilities are proven to improve access of rural women to maternal health services (Van Lonkhuijzen *et al.*, 2012).

A significant merit in this study is the formulary of survey-adjusted logistic regression, which represents the complexity of sampling designs. Hence, its results hold generalizability. However, certain constraints would have to be taken into account. The lack of statistical significance for certain variables, such as education or caste/ethnicity, might be sample-size dependent rather than indicative of a lack of meaningful association. Furthermore, the nature of the data is cross-sectional, and this fails to allow for any causal inferences. Further studies should include longitudinal designs to impact the change in SBA use over meaningful time.

This study provides a hard and sound body of evidence on socio-economic inequalities influencing the utilization of skilled birth attendants in Nepal, pointing out the importance of economic status, residence in rural areas, and order of birth. This disparity is in need of specific interferences, such as financial incentives, development of rural health infrastructure, and education programs. It would take policymakers actions about the equitable access to maternal health care to decrease maternal and neonatal mortality and achieve targets set by the global health such as Sustainable Development Goal 3. Further study, especially qualitative, is required to fill in the gaps with these quantitative results to develop a comprehensive understanding of the barriers that inhibit SBA application.

## 5. Conclusion

The impact of demographic and socio-economic factors on maternal health-seeking behavior. The results show that the availability of institutional delivery has not been evenly generalized, especially on the grouping of women measured by order of birth, level of education, economic status, as well as by location. Age is not a significant variable on SBA utilization. However, there is a 76.3 percent representation of the younger women aged 20-24 in the institution used deliveries. Education showed a positive but statistically insignificant association with the use of SBA where women with higher education showed the greatest likelihood of institutional delivery. This study indeed attests that educational empowerment plays a crucial role in maternal health decision-making in women. The urban-rural divide also establishes rigidity for women with respect to health care. Institutional delivery had become urban women, who had greater health care infrastructure and accessibility compared with rural women who are constrained

by barriers involving limited facilities for transportation. Expansion of health care into these rural areas and the placing of units that move seem to fill this gap.

Socioeconomic status became the most important predictor of SBA utilization, with wealthier quintiles showing that women had odds raised by institutional delivery much further. This study would provide evidence-informed perspectives in terms of the factors impacting the utilization of skilled birth attendance. Policymakers would stake their priorities on addressing the economic and geographic barriers, promoting educational attainment, and fixing false cultural beliefs surrounding childbirth in the cause of maternal healthcare access equity.

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