

Factors Associated with Skilled Birth Attendance in Slum Areas of Kathmandu Valley, Nepal

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ABSTRACT

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Skilled birth attendance (SBA) is propitiatory to reducing maternal and neonatal mortality, promoting safe deliveries, and preventing delivery complications. However, despite the efforts to improve institutional delivery services, a significant number of women in Kathmandu Valley slums continue to give birth at home, barring any professional medical assistance. This study purposes to examine the socio-demographic, economic, and geographical determinants affecting SBA utilization in these marginalized communities.

A cross-sectional study design with cluster sampling in two stages was used in which 283 married women of reproductive age from the slums of Kathmandu, Lalitpur, and Bhaktapur districts were surveyed. Data was analyzed using mean and frequency distributions, chi-square tests, and logistic regression models to assess determinants of SBA utilization. The study indicates that age plays a significant role in use of the skilled birth attendant; comparatively high SBA uptakes were found for women in the younger age group (15-24 yrs; 81.2 %) while older women at ages 35-49 utilized SBAs poorly (54.2 %) ($p = 0.000$). Caste/ethnicity significantly affects SBA utilization such that the respondents from the Dalit caste indicated significantly lower SBA utilization (50.9 %) as go compared to Brahmins/Chhetris (95.6 %) ($p = 0.000$). Home ownership is another important factor, with property owners (86.5 %) being more likely to use the SBA than those who do not (71.6 %) ($p = 0.004$). Geographically, women in Kathmandu (82.6%) utilized SBA far better than those in Bhaktapur (66.7%) and Lalitpur (70.4%) ($p = 0.017$). However, education and religion were not statistically significant predictors of SBA utilization ($p > 0.05$). The study further suggests significant disparities regarding SBA utilization based on age, caste, and economic status. Improving health-care accessibility, adopting strategies for increasing financial support, and resolving cultural barriers are some significant.

Keywords: Skilled birth attendance, maternal health, slum areas, socio-economic determinants, Nepal, Kathmandu Valley.

INTRODUCTION

The skilled provider associated with the birth (such as doctors, nurses, or midwives) plays an important role in a quality pregnancy and safe childbirth that thereby contributes to diminished maternal and perinatal valleys (World Health Organization [WHO], 2021). The presence of a skilled provider during labor considerably minimizes high-risk problems like hemorrhage, obstructed labor, and infections, being the foremost factors that are responsible for maternal deaths in developing countries (Koblinsky et al., 2019).

Despite Nepal's promotion of institutional delivery and skilled birth attendants, a significant number of women- especially urban slum dwellers- give birth without any skilled assistance (MoHP, 2020:2). Socio-economic inequalities, cultural practices, and health system barriers account for the low utilization of skilled assisted birth in

these disregarded communities. Understanding the determinants that influence the uptake of skilled birth attendance services could pave the way for the design of interventions geared towards improving the health of pregnant women in general in Nepal.

Nepal has made substantial achievements toward maternal health as evidenced by reducing maternal mortality from 539 deaths per 100,000 live births in 1996 to 239 deaths per 100,000 live births in 2016 (MoHP, 2020). Nevertheless, maternal deaths still stand as a significant health issue, particularly among women living in the slum areas of the Kathmandu Valley. Slum settlements, which are characterized by poor living conditions, limited access to health care, and high levels of poverty, add to the difficulties faced by pregnant women in seeking out skilled birth attendance (Adhikari et al., 2020).

The factors like low levels of education, poverty, social norms, and poor infrastructures as leading contributors-decreasing uptake of skilled birth attendance (Shrestha & Gurung, 2019). In addition, settlement disparities and the near absence of basic health infrastructure further drive that rural-urban disparity in maternal health services (Baral et al., 2019). Thus calls for immediate intervention on a broader spectrum by identifying the determinants affecting skilled birth attendance in the slum areas in Kathmandu Valley.

Data on maternal healthcare utilization exists in the dominion of studies in the case of Nepal, but those studies have not interrogated significant indicators of the utilization of SBA services in urban slums. Once examined, these examples could consider their SBA utilization at a national, regional, or global level, wherein the socio-economic and cultural obstacles faced by women in poor settlements become the last research questions (Acharya et al., 2021). Lack of disintegrated data in understanding how these factors such as education, religion, ethnicity, and home ownership might play in skilled birth attendance in slum settings form the immediate strategies that need to be addressed in health programs.

Access to healthcare and cost barriers in maternal service use in relation to slum areas have received wide mention have been able to connect insights from a three-regulator system of cultural beliefs, women's decision-making autonomy, and awareness levels (Khanal et al., 2020). Therefore, the objectives of this study are to address social, demographic, and structural determinants that affect the utilization of skilled birth attendants in the slum areas of the Kathmandu Valley. Primary research aim is Socio-demographic determinants (age, education, religion, ethnicities, and homeownership) on skilled birth attendance service utilization with respect to economic and healthcare access in slum pockets of Kathmandu Valley.

Skilled birth attendance (SBA) is a one of the indicator of maternal and newborn health, and several socio-economic factors and healthcare-related barriers can influence its utilization (WHO,2021). United Nations Population Fund (UNFPA) (2020), increasing coverage of SBA is a key prerequisite to achieving Sustainable Developmental Goal (SDG) 3, which addresses the issue of good health and well-being for all.

Sharma et al. (2019) found that in Nepal, higher levels of maternal education were associated with greater likelihood of using skilled birth care compared to those with no formal education while women from the higher economic sections were more likely to deliver in a health facility than those who belonged to a lower level of economic sections. In doing so, they pinpoint the grinding inequity regarding economic and educational inequalities regarding access to maternal healthcare.

Maternal age, education, religion, caste/ethnicity, and home ownership significantly affect the utilization of SBA. Age; adolescent mothers are less likely to seek SBA due to fear, disgrace, and lack of awareness compared to older women (Thapa et al., 2021). Education; higher educational attainment among women is associated with increased awareness and utilization of maternal health services (Acharya et al., 2021). Religion and caste/ethnicity; Certain religions and ethnicities in Nepal still follow indigenous birthing practices, averting hospital deliveries (Khanal et al., 2020). Home ownership; women live in rented places under incredible financial security in slum areas, any following increases in mobility implicate any possibility of utilizing available health services (Baral et al., 2019).

Inaccessible health facilities are travelling, saying, prevent some women from using SBA services (MoHP, 2022). Relatively higher costs of transportation expenses (medicines and informal charges) deter women from seeking the

assistance of skilled health attendants, which further emphasizes loss of daily wages (Adhikari et al., 2020). Urban slums lack an appropriate healthcare system with a limited number of skilled birth attendants and emergency obstetric care services (Shrestha & Gurung, 2021).

Cultural norms and gender roles decide the choice of care for maternal health (Acharya et al., 2021). The majority rely on family elders and traditional birth attendants (TBAs) for delivery support due to strongly ingrained beliefs that childbirth is a blessed act of nature (Koblinsky et al., 2019). Besides, male dominance in decision-making restricts the autonomy that women should be able to enjoy in choosing institutional delivery (Sharma et al., 2019).

Safe Motherhood is a program where financial incentives are provided to pregnant women for organizing home delivery as well as for free maternity services (MoHP, 2022). But there is still a challenge to penetrate down to the marginalized populations, especially slum dwellers, thus necessitating some sort of special intervention. (Thapa et al., 2021)

The determinants for utilizing SBA in slum areas of the Kathmandu Valley involve a combination of socio-political, economic, cultural, and accessibility-related factors for the consideration of any policy-making mechanism. The study variables are education, financial assistance, improvement in healthcare infrastructure, and culturally sensitive awareness-raising programs. This is to identify the barriers and facilitating factors in utilizing SBAs that could provide evidence-based recommendations to the policymakers for better maternal health care in urban slums of Nepal.

DATA AND METHODS

Research method: This study first targeted slum areas of the Kathmandu Valley for its female respondents of reproductive age (15-49), given that they had given birth. The two-stage cluster sampling design was, therefore, employed to ensure representativeness. This stage of greatest significance would limit sampling error and thus support the statistics. Hence, probability functions would be equally placed among households for proper generalization of findings onto slum populations in urban Nepal.

Research design: An explanatory cross-sectional design was applied for identifying factors affecting the use of maternal health-care facilities in slum settlements in the Kathmandu Valley. The study population was composed of married women of reproductive age (15-49) who had given birth. The two-stage cluster sampling method helped to some extent in achieving adequate representation; that is, 29 wards were selected using probability proportional to size (PPS) based on household counts, then 20 households per ward were subjected to systematic random sampling.

Sample selection: The sample size determination was made using the following formula:

The sample size is determined by,

$$n \geq \frac{z^2_{\alpha/2} p(1-p)}{d^2}$$

Where, $Z_{\alpha/2}$ is the standard normal variate

p is the proportion of the event in the population

d is the desired level of precision

where is the standard normal variate, is the proportion of the event in the population, and signifies the desired level of precision.

Taking into explanation the 95 percent confidence interval ($Z_{\alpha/2} = 1.96$), a population proportion (p) of 0.5 and standard of error (d) 0.05, minimum sampling adequacy settles at 580 households. A further increase in sample size was made to account for non-sampling errors as well as to assurance at least a 90 percent response rate. From the PPS, 29 settlements were selected by systematic sampling, ending in the total of 580 households. The unit of analysis was married women of reproductive age (MWRA) in order to assurance the representation of data for maternal health care practices of a particular community (Andersen & Newman, 2002).

Data analysis: Descriptive and inferential statistics were conducted to analyze data collected with regard to this study. First descriptive analyses were carried out to summarize demographic and socioeconomic characteristics of respondents. Thereafter, logistic regression was carried out to investigate the association between independent variables (age, education, caste/ethnicity, home ownership, and location) and dependent variables based on health facility childbirth Hosmer & Lemeshow, 2000). Logistic regression modeling is primarily used where the results variable is binary and is used in population health studies to identify predictors of interest that are statistically significant. This approach to the analysis was helpful in identifying the barriers and enablers to maternal health care utilization in slum settings.

Ethical approval: This study obtained ethical approval from the Ethical Review Board (ERB) at Tribhuvan University, Nepal. Informed consent and confidentiality of participants' data were ensured, and participation was voluntary. Respondents were informed about the objectives of the research and their rights, which included the right to refuse participation in the study at any time. Public identifiers were not utilized during the analysis or report writing; this ensured the privacy of the participants and their data were protected according to the institutional and national research ethics guidelines.

RESULTS

Skill birth attendance delivery: This study explores several social, economic, and demographic determinants of skilled birth attendants (SBAs) utilized during childbirth. The focus of the study is directed toward women of reproductive age range, which is considered from 15 - 49 years, with varying degrees in terms of educational illiterate to higher secondary and above). This study considers the religious diversity of Hinduism, Buddhism, Islam, and Christianity as well as encompassing caste and ethnic diversity that includes Bramin/Chettry, Janajati, Dalit, and other marginalized peoples. Housing status in association with socio-economic opportunities has also been planned to assess how it may influence sitting on the barrier. The study covers slum areas in the three districts of the Kathmandu Valley: Kathmandu, Lalitpur, and Bhaktapur focusing on the manner in which these factors impact access to and use of skilled birth attendance services.

Table 1: Distribution respondents of SBA delivery

Variable	No		Yes		Total	
	Number	Percent	Number	Percent	Number	Percent
Age						
15-24	13	18.8	56	81.2	69	100.0
25-34	28	16.9	138	83.1	166	100.0
35-49	22	45.8	26	54.2	48	100.0
Pearson chi2(2) =18.6687, p=0.000						
Level of education						
No education	18	32.1	38	67.9	56	100.0
Basic education	24	26.1	68	73.9	92	100.0
Lower Secondary	7	15.2	39	84.8	46	100.0
Secondary	9	17.7	42	82.4	51	100.0
Higher	5	13.2	33	86.8	38	100.0
Pearson chi2(4)= 7.7038, p=0.103						

Variable	No		Yes		Total	
	Number	Percent	Number	Percent	Number	Percent
Religion						
Hindu	48	25.1	143	74.9	191	100.0
Buddhist	13	20.3	51	79.7	64	100.0
Other	2	7.1	26	92.9	28	100.0
Pearson chi2(2)= 4.7474, p=00.093						
Caste/Ethnicity						
Brahmin Chhetri	2	4.4	43	95.6	45	100.0
Janjati	29	19.5	120	80.5	149	100.0
Dalit	29	49.2	30	50.9	59	100.0
Madhesi	2	8.3	22	91.7	24	100.0
Muslim	1	16.7	5	83.3	6	100.0
Pearson chi2(4)= 36.3811, p=0.000						
Own House						
No	46	28.4	116	71.6	162	100.0
Yes	17	14.1	104	86.0	121	100.0
Pearson chi2(1)= 8.2367, p=0.004						
District						
Bhaktapur	22	33.3	44	66.7	66	100.0
Kathmandu	33	17.4	157	82.6	190	100.0
Lalitpur	8	29.6	19	70.4	27	100.0
Total	63	22.3	220	77.7	283	100.0
Pearson chi2(2)= 8.1507 , p=0.017						

Source: Field Survey, 2024

The distribution of respondents for skilled birth attendance (SBA) delivery exhibits a marked difference across demographic, socioeconomic, and geographic factors. Age is one substantive determinant of the likelihood of SBA delivery, where younger women (15-24 years) are noted to have the highest skilled birth attendance of (81.2%). The least likely age group are the women who come between the range of 35 and 49 years and have 54.2 percent skilled birth attendance. There is a strong association between age and utilization of SBA, as the chi-square test result is 0.000.

Women with no education have lower SBA delivery (67.9%) than did women with the highest education levels (86.8%). The chi-square test of the model for association between education and SBA delivery ($p=0.103$) is not significant. On the other hand, religious differences exist in relation to the use of SBAs, with the "other" category

showing the most, followed by Hinduism (74.9%) and Buddhism (79.7%). But the chi-square test ($p=0.093$) did not suggest that religion was an excessive determinant of SBA utilization.

Brahmin/Chhetri women show the highest rate of SBA delivery (95.6%), while Dalit women show the lowest rate (50.9%), reflecting massive disparities. The chi-square test ($p=0.000$) also convinces a significant association between castes and utilization of SBA. House possession seems to be a considerable predictor of SBA delivery, with its impact characterized by a greater rate of skilled birth attendance among women who own houses (86.0%) compared to those who do not (71.6%) a statistically significant difference ($p=0.004$).

Kathmandu is the most prominent in SBA use of 82.6%, among the two districts, mostly to Lalitpur (70.4%) and Bhaktapur (66.7%), showing a significant association ($p=0.017$). The SBA access among elder women, disadvantaged caste groups, and economically poor populations should be targeted for enhancement, mainly in rural and semi-urban regions.

The logistic regression analysis was to identify the variables affecting skilled birth professional authorization delivery among the respondents. The model is significant in displaying the attained sample size that contributes not only to the chi-square (likelihood ratio) value but also to the p-value of 0.0000. This means that factors independent of the different parameters involved are able to predict the use of SBA with relative certainty. A log-likelihood of -109.59219 have ruled under the model, and so was the pseudo R-squared value of 0.2696, explaining almost 26.96 percent of the variability in SBA users by means of predictors included in the model. Explaining is somewhat moderate, and whatever other factors unperceived could, determine SBA in some other proportion. Moreover, the evidence here is for an impact on variable SBA that involves demographic socio-economic and geographical factors. Further following directed upon separate predictors like age, education, caste/ethnicity, and economic situation would design interventions to enhance maternal health-care access and specialized assistance during childbirth expertly.

Factors associated with SBA delivery during child birth:

Table 2: Distribution of factors associated with SBA delivery during child birth

Variable	Odds Ratio	Std. Err.	Z	P> z	[95% Conf. Interval]	Sig
Age						
25-34	1.05786	0.463788	0.13	0.898	0.4479649 - 2.498116	
35-49	0.161025	0.090691	-3.24	0.001	0.0533933 - 0.4856243	***
Level education						
Basic education	1.035677	0.505309	0.07	0.943	0.3980353 - 2.694803	
Lower Secondary	1.551064	0.9573	0.71	0.477	0.4626768 - 5.199744	
Secondary	2.343703	1.436684	1.39	0.165	0.7048851 - 7.79268	
Higher	2.135192	1.420463	1.14	0.254	0.5796481 - 7.865192	
Religion						
Buddhist	0.90539	0.444396	-0.2	0.84	0.3459686 - 2.369379	
Other	3.449076	3.055066	1.4	0.162	0.6077703 - 19.57339	
Caste/Ethnicity						
Janjati	0.174497	0.14755	-2.06	0.039	0.0332688 - 0.9152491	**
Dalit	0.034679	0.02933	-3.97	0	0.0066093 - 0.1819592	***
Madhesi	0.43399	0.490619	-0.74	0.46	0.0473382 - 3.97877	

Variable	Odds Ratio	Std. Err.	Z	P> z	[95% Conf. Interval]	Sig
Muslim	0.474998	0.796027	-0.44	0.657	0.0177911 - 12.6818	
Ownership of house						
Own	3.075848	1.255476	2.75	0.006	1.382063 - 6.845448	***
District						
Kathmandu	2.936297	1.301535	2.43	0.015	1.231682 - 7.000053	**
Lalitpur	0.809361	0.496558	-0.34	0.73	0.2431725 - 2.693832	
_cons	9.041897	9.053812	2.2	0.028	1.270388 - 64.35507	**

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

The logistic regression in Table 2 shows that variates associated with skilled birth attendance (SBA) during childbirth parturition, particularly broader demographic, socio-economic, and geographic ecosystem.

The variable "age" proves crucial in determining SBA usage. It can be observed, with women between the age of 35 and 49 years having significantly lower likelihoods of skilled attendance for delivery (OR = 0.161, p = 0.001), establishing a general preference for home births among elderly women or the obstacles to accessing SBAs. Such insignificance is contingent on countless reasons, such as generational differences in maternal healthcare awareness, greater knowledge or awareness of cultural beliefs, or previous childbirth experiences.

Increase in educational attainment does not significantly show how it affects the selected result. Although there is a marginal improvement in the odds ratio for more highly educated women, it does suggest an increased likelihood that women with higher education will deliver with SBAs (OR = 2.135); this was proved not to be converged due to a very close p-value (0.254). The interpretation of education as a concept for dignity, other associated socio-economic factors, can play in some way with conditioning the educational variable on SBA use. It is suggested that school does not necessarily ensure healthcare utilization in an institution. About the economic variables, assessed through this study on the impact of education on skilled attendance, calls for further study.

The population with respect to caste and ethnicity has a great influence on SBA delivery. Dalit women are more than 50 times less likely to receive skilled birth attendance (OR = 0.034, p < 0.001), a disparity that requires pressing attention to neutralize downward bias. Women belonging to Janjatis, another deferred group, have similarly decreased odds of SBA delivery (OR = 0.174, p = 0.039), suggesting how much caste dominated social pyramids still denounce and create preventions in of maternal care. The above-proposed ethnic disregard could be indigenously addressed namely if promote policy interventions were to be extended to generate awareness of healthcare-seeking behaviors and made trust among marginalized communities.

House ownership may be an instrumental determinant in the SBA to home birth continuum. House owner women are more than three times as likely as their non-house owner peers to access health care with SBAs (OR = 3.075, p = 0.006). Economic stability paves the way for professional health care trust not to be compromised.

The question of geography is whether women in Kathmandu have a statistically higher chance to use SBAs (OR = 2.936, p = 0.015) in comparison to those in Bhaktapur. Lalitpur's variation in SBA utilization is, however, not statistically significant, signifying an advantage of some urban context over health service access; this also implies a need for improvement in rural healthcare infrastructure to bridge the healthcare access gap.

The old age, being low-caste, and not having a house are the primary factors acting as the barriers to skilled birth attendance, while being economically stable or an urban resident significantly enhances SBA utilization, hence setting an agenda for practicing holistic inclusion programs in maternal health to address socio-economic differences and promote equalized healthcare access.

DISCUSSION

The utilization of skilled birth attendance (SBA) during childbirth is a critical determinant of maternal and neonatal health results. The analysis of SBA delivery among respondents in the slum areas of Kathmandu Valley reveals significant variations influenced by demographic, socio-economic, and geographic factors. This discussion develops into these determinants, supported by relevant literature, the underlying causes of disparities in SBA utilization.

The data indicates a notable decline in SBA utilization among older women (35-49), with only 54.2 percent opting for skilled birth services, compared to 83.1 percent among women aged 25-34 years. The logistic regression analysis further finding, showing that women aged 35-49 are significantly less likely to utilize SBA services (OR = 0.161, $p = 0.001$). This trend may be attributed to generational differences in health-seeking behavior, where older women, having experienced previous births without complications, may perceive less need for professional assistance. Additionally, entrenched cultural beliefs and limited exposure to maternal health education during their reproductive years could contribute to this disparity. Similar patterns have been observed in other contexts, where older age groups exhibit lower utilization of maternal health services (Yaya et al., 2017).

While an increasing trend in SBA utilization is observed with higher educational levels 67.9 percent among women with no education to 86.8 percent among those with higher education the association is not statistically significant ($p = 0.103$). Education is often linked to better health literacy, enabling women to understand the importance of skilled care during childbirth. However, in this context, the lack of statistical significance suggests that other factors, such as socio-economic status or accessibility issues, the influence of education alone. This aligns with findings from studies in similar settings, where education alone did not significantly predict SBA utilization when controlling for other variables (Fekadu & Regassa, 2014).

SBA utilization across religious groups, with the highest rates among women in the "Other" religious category (92.9%), followed by Buddhists (79.7%) and Hindus (74.9%). However, the association between religion and SBA utilization is not statistically significant ($p = 0.093$). Religious beliefs can influence health-seeking behaviors, but in this case, the lack of significance suggests that cultural practices related to childbirth may be more closely tied to ethnic or community norms than to religious doctrines. This is consistent with research indicating that cultural norms and community practices often play a more essential role in maternal health behaviors than religious affiliation per se (Gabrysch & Campbell, 2009).

Caste and ethnicity emerge as significant determinants of SBA utilization. Brahmin/Chhetri women have the highest SBA utilization rate (95.6%), while Dalit women have the lowest (50.9%), with the chi-square test confirming a strong association ($p = 0.000$). Logistic regression analysis further indicates that Dalit women are significantly less likely to utilize SBA services (OR = 0.034, $p < 0.001$), highlighting profound disparities. These findings reflect marginalized groups like the Dalits face systemic discrimination, limited access to resources, and reduced healthcare utilization (Bhandari et al., 2014). Addressing these disparities necessitates targeted interventions that consider the socio-cultural and economic barriers faced by these communities.

Economic stability, as indicated by house ownership, significantly influences SBA utilization. Women who own a house are more likely to use SBA services (86.0%) compared to those without property (71.6%), with the association being statistically significant ($p = 0.004$). House ownership often correlates with financial stability, which can facilitate access to healthcare services by justifying costs related to transportation, service fees, and associated expenses. This finding supports with studies representing that economic empowerment enhances women's ability to seek and utilize maternal health services (Ononokpono & Odimegwu, 2014).

Geographic location significantly affects SBA utilization rates. Women from Kathmandu have the highest utilization rate (82.6%), followed by Lalitpur (70.4%) and Bhaktapur (66.7%), with the association being statistically significant ($p = 0.017$). The logistic regression analysis further indicates that women residing in Kathmandu are more likely to utilize SBA services (OR = 2.936, $p = 0.015$) compared to those in Bhaktapur. This disparity can be attributed to better healthcare infrastructure, availability of services, and awareness programs in urban centers like Kathmandu. Conversely, peripheral areas may lack adequate healthcare facilities, trained personnel, and face logistical challenges, hindering access to SBA services (Shrestha et al., 2012).

The utilization of skilled birth attendance in the slum areas of Kathmandu Valley is influenced by a composite relationship of demographic, socio-economic, and geographic factors. Addressing the disparities requires targeted, culturally sensitive, and economically empowering interventions to ensure that all women, regardless of age, education, caste, economic status, or location, have access to skilled care during childbirth.

CONCLUSION

The primary purpose of this study was to bring forward the involved associations among demographic, economic, cultural, and geographical parameters in relation to the utilization of SBA services in the slum communities within Kathmandu Valley. The disparities in SBA utilization persisting amidst all efforts taken to expand the coverage of maternal health delivery services are mainly due to the limits further drawn by marginal communities. In view of the findings, it was apparent that women inhabiting older age groups, from economically weaker backgrounds, and of marginalized caste/ethnic groups faced significantly high odds on access to SBA services as opposed to younger ones, educated women, and people of financially stable household backgrounds.

The influencing SBA utilization is age, as the highest SBA delivery rates were observed among younger women with the appalling percentage of SBA utilized by older women. Differences might have much to do with generational differences in health awareness, cultural norms favoring home births, and actual birth experiences for these women. There is this weak association between SBA utilization and education. But it does not hold up as a significant variable, suggesting that perhaps the language and education issuance increase, varying literacy in health, but the existence of other socio-economic a is not a factor sufficient to determine eventual health results.

Caste or ethnicity factors correlated with SBA use. Brahmin/Chhetri women have the highest rates of SBA use and Dalit women have the lowest. This is a result of deeply fixed social hierarchy and discrimination that restrict the access of marginalized communities to quality maternal health services. Economic determinants, particularly the ownership of a house, significantly affect SBA use because the house owners are more likely to purpose of maternity healthcare from skilled personnel in childbirth, as compared to their equals in borrowed or informal housing.

Different geographic locations also appear to influence SBA utilization in the favor of women in Kathmandu owing to better health infrastructure, accessibility, and awareness generation activities. Conversely, the women of Bhaktapur and Lalitpur, given the lack of healthcare facilities, face barriers to obtaining SBA services. Consequently, greater advocacy is needed to improve infrastructures and to provide transportation services and awareness programs.

The bridging disparities need to be complicated, focusing on policy reforms, economic empowerment, health-system infrastructure development, and culturally sensitive awareness programs. The revision of maternal health policies, increased social support for the disadvantaged, and development healthcare provider competencies with a culturally satisfying embellishment are perceived as the necessary gaps to be filled. Complementarily, societies, together with their traditional leaders, TBA's, and community members can significantly improve the health status of the institutionally-oriented delivery of SBA. Skilled birth attendance in the context of the slum areas of Kathmandu Valley needs a comprehensive approach to put together socio-economic, regional, and cultural factors.

Author Contributions:

Bijaya Mani Devkota contributed to the study's conception, data extraction, data analysis, and drafted the manuscript. Tantrika Raj Khanal and Bhakti Prasad Subedi supported the preparation of the manuscript. The manuscript was critically revised by Indira Pant to ensure its quality and accuracy. All authors agreed to submit the article in its current form.

Conflict of Interest:

The authors declare no potential conflict of interest with respect to the research, authorship, and/or publication of this article.

Ethics Statement:

The research titled "Utilization of Maternal Health Care Services in Slum Areas of Kathmandu Valley, Nepal" under grant number TU-NPAR-079/80-EFRG-07 was submitted to the Ethical Review Board of Tribhuvan University (ERB-TU) for ethical clearance and was assigned the decision number ERBTU-080-021. The study was thoroughly reviewed and approved by the ERB-TU, with all ethical norms strictly adhered to during and after the research.

Data Availability Statement:

The data utilized in this study has been duly authorized by the TU Research Coordination and Development Council (RCDC). The dataset will be accessible upon request through the Office of the Rector, Tribhuvan University, following the publication of the report.

Conflict of Interest:

The authors declare no conflict of interest related to this study.

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