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# Determinants of Timely Postnatal Care Utilization in Bagmati Province, Nepal: Evidence from NDHS 2022

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**Abstract**

Postnatal care (PNC) provided soon after childbirth is vital for preventing illness and death among mothers and newborns. However, the use of PNC services in Nepal remains inadequate and unevenly distributed across different socio-demographic groups. This study sought to assess the extent of timely PNC utilization and to identify its key socio-demographic determinants among women in Bagmati Province, Nepal. The study analyzed secondary data from the 2022 Nepal Demographic and Health Survey (NDHS), including 468 women who had experienced a recent live birth. Patterns of PNC use were examined using descriptive statistics, while multivariate logistic regression analysis was applied to explore associations between timely PNC uptake and factors such as maternal age, birth order, educational attainment, household wealth, caste/ethnicity, religion, and place of residence.

The findings reveal that maternal age, economic status, and birth order play a significant role in determining timely PNC utilization. Women aged 30 years and older were considerably more likely to receive postnatal care compared with younger women, hereas women with three or more children showed lower levels of PNC use. Household wealth emerged as the most influential factor, with women from the richest households demonstrating markedly higher utilization than those from poorer backgrounds. Substantial inequalities were also evident across caste and ethnic groups, particularly among Terai caste/ethnic women, who had the lowest likelihood of accessing PNC services.

Overall, the study highlights that economic disadvantage, caste and ethnic marginalization, and higher parity remain critical obstacles to equitable postnatal care utilization in Nepal. Addressing these challenges requires targeted policy actions, culturally responsive interventions, financial assistance for disadvantaged households, and stronger involvement of rural institutions and community leaders to ensure timely and equitable access to PNC services.

***Keywords:*** Bagmati Province, Healthcare Disparities, NDHS 2022, Postnatal Care Utilization, Socio-Demographic Determinants, Timely Postnatal Care, Wealth Inequality

## Introduction

Postnatal care (PNC) is an essential element of maternal and neonatal care and services, which is crucial that reduces complications and mortality and enhancing health outcomes. In Nepal, a region that features the Kathmandu Valley (Bagmati Province), the drivers of PNC use are determined by an interaction of both socio-demographic, economic, and cultural factors. The topic of this discussion is these determinants along with the differences and trends peculiar to the province.

The determinant plays an important role in the use of PNC in Bagmati Province old age. There is a higher probability of women aged 20-29 years seeking PNC services as compared to under-age (<20) or over-age (>30) mothers. It can be explained by greater health awareness and literacy rates in this age bracket (Pandey et al., 2022). Restrictions include stigma and a lack of control of the decision-making process in teenage mothers and the shift of prioritizing care in older mothers because of their past experiences in childbirth (Ghimire et al., 2024).

Bagmati Province has a strong relation to education and PNC use. There are more chances that women can enjoy healthcare services in cases when their level of education (secondary and higher) gives them much knowledge concerning maternal health and allows them to navigate healthcare systems (Acharya et al., 2023). But there is also high disparity, especially in the rural parts of the province where access to education is scarce. Improved female education which is special programs may help a lot in improving PNC utilization rates.

Economic status is a key predictor of postnatal care (PNC) utilisation in Bagmati Province, where wealth-based disparities are evident. Households in higher wealth quintiles in Bagmati Province have substantially higher PNC coverage, largely because they can better afford medical expenses, transport costs, and the indirect costs of seeking facility-based care and also have better physical access to health facilities (Koirala et al., 2023). By contrast, women in the poorest quintile in Bagmati Province remain disproportionately disadvantaged, often relying on under-resourced public health facilities or traditional postnatal practices due to financial constraints. These persistent socioeconomic inequalities in PNC utilization underscore the urgent need for targeted, pro-poor policy interventions in Bagmati Province, including subsidized maternity and postnatal services, transport incentives, and strengthened public healthcare financing to ensure equitable access to postnatal care across all economic groups.

The province of Bagmati with its diverse population registers massive disparity in access to healthcare based on caste and ethnicity. Janjatis and Dalits experience prejudice in the system and have a low rate of receiving high-quality healthcare compared to Brahmins and Chhetri's (Ghimire et al., 2023). The existence of cultural stigmas and socio-economic differences increases marginalization to these groups creating a need to implement inclusive policies and community-based interventions that are developed to eliminate these gaps.

A stark urban-rural gap exists in Bagmati Province. The urban women, especially in Kathmandu Valley enjoy a better healthcare system in terms of developed infrastructure, increased

literacy levels as well as health awareness. In contrast, rural females are challenged by the distance to the facilities and healthcare condition of roads and the necessity of sufficient healthcare staff (Sharma et al., 2022). Such a gap highlights the significance of bringing healthcare and health services to the countryside by way of mobile clinics and telemedicine.

Religion is also another implication of PNC utilization in Bagmati Province. Cultural practices before and after child delivery are influenced by Hinduism since it is the predominant religion. Nevertheless, Muslim and Buddhist communities have a tendency to adhere to traditional ways of doing things implying the fact it may be unfavorable toward formal healthcare use (Tamrakar et al., 2023). These barriers can be overcome by involvement of religious leaders and other community influencers in health promotion campaigns.

The birth order significantly contributes to PNC utilization in Bagmati Province. PNC services will be more prevalent in first-time mothers than in women with bigger birth orders due to the particular attention and care that the former receives (Regmi et al., 2022). The need to manage the limited resources available and the duty to care for the number of infants in the big family usually prompts disparity in attention to maternal health during the next pregnancy.

The employment status also determined PNC use in Bagmati Province, with women in formal employment having higher chances of receiving healthcare services because of the financial stability and the existence of maternity benefits provided by the employer (Basnet et al., 2022). Unlike in formal labor, women in informal labor have a harder time balancing between work and healthcare, and supportive labor policies should be enacted.

Cultural beliefs and practices still affect health-seeking behavior of Bagmati Province. Other rituals like diet, use of traditional healers, and postpartum confinement tend to interfere with access to formal PNC services by women (Adhikari et al., 2023). The implementation model of culturally sensitive health education programs is necessary to eliminate false notions and raise awareness of the advantages of postnatal care with professionals.

The predictors of the PNC utilization in Bagmati Province are an indication of the interrelationship between socio-economic, demographic, and cultural factors. Education and wealth become important determinants, whereas caste, ethnicity, and household location show that inequality remains constant. The challenges dictate a multifaceted approach to being achieved by combining education, economic support, the development of healthcare infrastructure, and culturally conscious interventions. Focusing on equity and inclusiveness of maternal health policies, Bagmati Province will be able to increase PNC utilization rates and strengthen maternal and neonatal health outcomes.

## Research Methodology

Forty-eight hours critical care in form of postnatal care (PNC) is essential in eliminating maternal and neonatal deaths. Nevertheless, the availability and use of PNC services tend to differ in relation to socio-demographic and economic factors. The study uses data collected on 468 respondents to provide evidence-based policy recommendations on determinants of PNC utilization within two days and gives suggestions on how to improve the service delivery environment in a resource-limited system. A sample of 468 respondents was used in the collection of data based on key variables of age, birth order, education, religion, caste/ethnicity, place of residency and wealth

quintile. Calculation of percentage values was computed by utilizing the descriptive statistics and associations between variables and PNC utilization carried out using cross-tabulations. Patterns were identified on the basis of which the insights were made. First 48 hours maternal and neonatal health outcomes are strongly dependent on postnatal care (PNC), but disparity over its use is still high. The paper is based on logistic regression analysis of factors that determine timely PNC using 468 participants. The most important are age, birth order, caste / ethnicity, education level, residence and quintiles of wealth. The data has 468 respondents which are grouped by means of variables like age, order of birth, religion, caste/ethnicity, education, residence, and wealth quintile. The odds ratios (OR), standard errors (SE), t-values, p-values as well as 95 percent confidence intervals (CI) were calculated using multivariate logistic regression. Statistical significance was determined at ***($p < 0.01$), **($p < 0.05$), and *($p < 0.1$) levels.

## Results

Existence of the human being is influenced by a complex latticework of socio-demographic factors. The most powerful factors that determine how individuals and groups relate with the world include age, birth order, level of education, religion, caste/ethnicity, place of residence, and wealth quintile among others. Individual attributes and dynamics about each variable play distinctive roles in the shaping of patterns and inequalities, as well as opportunities in society. This adventure peeps into such variables in order to illuminate how they influence human lives.

Age is a timely measure that characterizes the phases of life. It affects roles, duties, and expectations of the people in society, especially in infancy to old age. Childhood is a period of learning and growth, whereas adolescence is usually a period of self-exploration and preparation for adulthood. When one is an adult, he or she takes over economic, familial, and social responsibilities. Old age, on the other hand is accompanied by wisdom and experience; however, it may also be accompanied by physical and economic dependency. Policies that are associated with age, such as access to a universal education to children or age-based retirement policies show the desire to have a society that provides services according to the age group needs. Significant life events, such as starting school, marriage or retirement are commonly defined by certain age; however, local customs can affect the timing of these. Eventually, the collective development of societies is based on the notion of age as it functions as a universal blueprint.

Birth order within a family Formation, that is the order that children are born, has long been a subject of discussion when it comes to the individual personality traits and how well one is to live out life. First-borns are also considered to be natural leaders, where they enjoy more parental investment as well as expectations. Middle children can acquire negotiating skills which are ideal in striking a balance between relationships between older and younger siblings. The last one, usually the child in which the whole family takes him as its baby, can be spoiled and have less want to be responsible. Studies indicate that the birth order may have an influence on academic and career performance but this may be mediated by such issues as family size, socio-economic levels and cultural expectations. Although not deterministic, birth order provides an extra dimension to genetics and the study of family life and individual development.

Education will form one of the pillars of the development of the individual and of society. It gives individuals special skills, knowledge and critical thinking capabilities to enable personal

development as well as economic productivity. Education about the level of basic literacy to the acquisition of advanced degrees represents an investment by a given society in its human capital. Better education is associated with the greater potential of employment, higher income, and the spur of a better life. The education opportunity is however, not uniform. Influence of wealth differences due to poverty, gender inequality, and location of people are some factors that have great influence on accessing good education. As an example, the rural regions could have no infrastructure, and the marginalized groups are affected by the systemic limitations. The way forward would be to close these disparities by introducing specific policies and investments on how education can be the avenue to equity.

The importance of religion in human life is so personal and collective in terms of creating beliefs, values and traditions. It gives it not only moral direction, but also a sense of community and purpose. Religious institutions also assume great roles in education, medical care and social welfare. Religion may also be regarded as a divisive factor where at times the minorities may be discriminated against or marginalized. Relation between religion and society is complex. Whereas in some religious cultures charity and social unity are promoted, others can strengthen hierarchies. In ever more heterogeneous communities, interfaith dialogue and religious pluralism need to be encouraged so as to facilitate social peace and integration.

Caste and ethnicity are rooted into both cultural and historical contexts, affecting the way an individual informs his identity, his access to resources, and his relations with others. In some parts of the globe such as South Asia the roles, occupations and hierarchies have been determined by caste systems. The castes that have been marginalized are usually systematically targeted with fewer opportunities to move up socially and economically. In the same manner, ethnicity is a sense of belonging, which also manifests through common language, culture, and heritage, yet gives a feeling of belonging and exclusion in multi-ethnic societies. The role of affirmative action, anti-discrimination legislations, and broad-based policies cannot be underestimated in combating caste- and ethnicity-related iniquities, the path to increased social justice.

The location of residence (urban, rural, and suburban areas) defines their access to resources, opportunities and their quality of life. The city is a centre of economic activities, which provides improved accessibility to health, education, and jobs. They are, however, normally fraught with problems such as overcrowding, pollution and socio-economic differences. Although rural regions create a sense of strong community and a traditional lifestyle, they are often underdeveloped in terms of resources, including quality education or medical institutions. Regional inequality is also significant hence the need to focus on regional developments in developing opportunities to connect the rural-urban divide.

Wealth quintile is a tool of partitioning populations, in terms of income or assets, depicting stern economic disparities. People in the upper quintile have such advantages as access to enhanced healthcare, good education, and high-quality housing, which tend to be perpetuated in the generation cycles. On the other hand, the individuals in the lowest quintile have a lot of problems such as lack of access to essential services, bad living, and exposure to financial shocks. Inequality in wealth also causes social disturbances and slows trade. These gaps need to be addressed through incentives such as progressive taxation, social nets, and public service investments. The evenness in the spread of the wealth is the first step towards a more inclusive society.

**Table 1**
Distribution of PNC Care

| Variable | No | | Yes | | Total | |
|---|---|---|---|---|---|---|
| | Number | Percent | Number | Percent | Number | Percent |
| **Age** | | | | | | |
| <20 | 12 | 9.3 | 8 | 2.3 | 20 | 4.2 |
| 20-24 | 39 | 30.0 | 84 | 25.0 | 123 | 26.4 |
| 25-29 | 51 | 39.7 | 99 | 29.4 | 151 | 32.2 |
| 30-49 | 27 | 21.0 | 147 | 43.4 | 174 | 37.2 |
| **Birth order** | | | | | | |
| First | 46 | 35.3 | 168 | 49.6 | 213 | 45.6 |
| Second | 49 | 37.9 | 133 | 39.4 | 182 | 39.0 |
| Third or higher | 35 | 26.8 | 37 | 11.0 | 72 | 15.4 |
| **Level of education** | | | | | | |
| No Education | 23 | 17.7 | 27 | 8.0 | 50 | 10.7 |
| Basic Education | 98 | 75.5 | 169 | 49.8 | 266 | 56.9 |
| Higher Education | 9 | 6.8 | 143 | 42.2 | 152 | 32.4 |
| **Religion** | | | | | | |
| Hindu | 85 | 66.0 | 266 | 78.5 | 351 | 75.0 |
| Other religion | 44 | 34.0 | 73 | 21.5 | 117 | 25.0 |
| **Caste/Ethnicity** | | | | | | |
| Dalit | 13 | 9.8 | 26 | 7.7 | 39 | 8.3 |
| Janjati | 77 | 59.6 | 184 | 54.4 | 261 | 55.9 |
| Other Terai | 7 | 5.2 | 4 | 1.2 | 11 | 2.3 |
| Brahmin/Chhetri | 33 | 25.4 | 124 | 36.7 | 157 | 33.6 |
| **Place of Residence** | | | | | | |
| Urban | 70 | 54.2 | 275 | 81.4 | 346 | 73.9 |
| Rural | 59 | 45.9 | 63 | 18.6 | 122 | 26.1 |
| **Wealth quintile** | | | | | | |
| Poorest | 41 | 32.0 | 24 | 7.1 | 65 | 14.0 |
| Poorer | 28 | 21.8 | 40 | 11.8 | 68 | 14.6 |
| Middle | 30 | 23.4 | 52 | 15.3 | 82 | 17.5 |
| Richer | 18 | 14.1 | 64 | 19.0 | 83 | 17.6 |
| Richest | 11 | 8.8 | 158 | 46.8 | 170 | 36.3 |
| Total | 130 | 100.0 | 338 | 100.0 | 468 | 100.0 |

*Source:* Nepal Demographic and Health Survey, 2022

Age: Respondents of 30-49 years old had the highest utilization of PNC (43.4%), whereas the smallest number of utilization of PNC was among the respondents less than 20 years old

(2.3%).The group of younger respondents was significantly underrepresented in the timely uptake of PNC, which points to possible unmet demand factors caused by a lack of awareness or access.

There was a larger use of PNC services by the mothers without a previous child (49.6%) and fewer by mothers with three of more children (11.0%). The trends are representative of limitations in resources and lower demand of larger families in seeking care.

The chances that higher educated respondents received timely PNC were 42.2 percent, representing basic education (49.8 percent), and no education (8.0 percent). Education is one of the major components of healthcare awareness and access. Close correlation between education and PNC usage supports the necessity of educational programs to promote the awareness of maternal healthcare.

Religion: They found 78.5 percent of Hindu respondents and 21.5 percent of other religions using PNC as compared to their utilization. Healthcare-seeking behavior may be affected by cultural and religious aspects.

Janjati respondents showed the greatest PNC usage (54.4%) whereas Other Terai indicated the lowest utilization (1.2%). Caste/ethnicity-based systemic disparities are still there.

Urban dwellers had a high probability of using PNC services (81.4%) than the rural communities (18.6%). The demographic set-up between urban and rural emphasizes the infrastructural and resource gap. Rural settings need to improve on their healthcare facilities, outreach drives and transportation systems to increase access to PNC.

Wealth Quintile: Responders in the wealthiest quintile were the highest utilizer of the PNC (46.8%), whereas those in the poorest quintile were the least user (7.1%). Financial disparities are also the main obstacle to health access. The gradient of wealth in PNC use shows the necessity of subsidies and free health services to maternal healthcare facilities to the economically deprived population.

**Table 2**

Factors association of post-natal Care

| Variable | Odds Ratio | Std. Err. | T | P>\|t\| | 95% Conf. Interval | Sig |
|---|---|---|---|---|---|---|
| **Age** | | | | | | |
| 20-24 | 2.683696 | 2.218437 | 1.19 | 0.236 | 0.516703-13.9388 | |
| 25-29 | 2.008646 | 1.489091 | 0.94 | 0.35 | 0.4583924-8.801755 | |
| 30-49 | 6.084897 | 4.565684 | 2.41 | 0.019 | 1.363975-27.14564 | ** |
| **Birth order** | | | | | | |
| Second | 0.6030657 | 0.2009214 | -1.52 | 0.133 | 0.310451-1.171484 | |
| Third or higher | 0.2868791 | 0.1322262 | -2.71 | 0.008 | 0.1144872-0.718854 | *** |
| **Religion** | | | | | | |
| Other religion | 0.8376136 | 0.282065 | -0.53 | 0.6 | 0.4281264-1.63876 | |
| **Caste/Ethnicity** | | | | | | |
| Janjati | 0.9451692 | 0.4621753 | -0.12 | 0.909 | 0.3566713-2.504673 | |
| Other Terai | 0.0732462 | 0.0631203 | -3.03 | 0.003 | 0.0131491-0.4080142 | *** |

| | | | | | | |
|---|---|---|---|---|---|---|
| Brahmin/Chhetri | 0.697263 | 0.4358638 | -0.58 | 0.566 | 0.2006027-2.423574 | |
| **Educational attainment** | | | | | | |
| Basic Education | 0.7532392 | 0.4037724 | -0.53 | 0.599 | 0.2587961-2.192341 | |
| Higher Education | 3.077729 | 2.182176 | 1.59 | 0.117 | 0.749098-12.6451 | |
| Residence | | | | | | |
| Rural | 0.7565172 | 0.3038584 | -0.69 | 0.489 | 0.3397565-1.684495 | |
| **Wealth quintile** | | | | | | |
| Poorer | 2.431712 | 1.417036 | 1.52 | 0.132 | 0.7612544-7.767734 | |
| Middle | 2.670173 | 1.217731 | 2.15 | 0.035 | 1.075987-6.626312 | ** |
| Richer | 6.330332 | 3.841076 | 3.04 | 0.003 | 1.889014-21.21376 | *** |
| Richest | 9.098719 | 4.766316 | 4.22 | 0 | 3.203079-25.84597 | *** |
| **_cons** | 0.5546392 | 0.5135141 | -0.64 | 0.526 | 0.0876276-3.51059 | |

Multivariable logistic regression using socio-demographic characteristics as independent variables to determine the effect they have on utilization of [insert outcome variable, e.g., the use of postnatal care (PNC)] can be found in Table X. It was found that there were a few statistically sound associations.

Mother age was strongly positively correlated with the result in aged 30-49 years (OR = 6.08, p = 0.019), which means that this group used the service more than six times more often than other reference group 15-19 years. This observation underlines the higher health seeking behaviour or perceived need by the older mothers. But the age groups 20 to 24 and the age groups 25 to 29 did not indicate any statistically significant differences.

The outcome had a negative relation with birth position. Thirdly or greater birth order women were also far less likely to use the service when compared to first time mothers (OR = 0.29, p = 0.008), which indicates possible complacency or obstacles built in with multiparous women. The second group of the birth order also demonstrated a smaller possibility but not statistically important.

The uptake of service was greatly affected by caste and ethnicity. The Other Terai caste group of women had the lowest likelihood of using the service (OR = 0.07, p = 0.003) in comparison with the reference group (Dalit) due to the continued caste-based disparities in utilization of maternal healthcare.

The educational attainment demonstrated a positive albeit insignificant correlation. Higher educated women were more likely (OR = 3.08, p = 0.117) to use the service than those educated and thus, although it was not statistically significant in this survey group, education had an enabling effect.

The strong determinant was the position of wealth status. The likelihoods of using the service rose progressively as wealth quintile rose. The richest women had nine times more chance of using the service as compared to the other groups (richer, middle, poorer) of women (OR = 9.10, p < 0.001), and the richer, and the middle women had six, and two times more chance respectively (OR

= 6.33, p = 0.003, OR = 2.67, p = 0.035). A gradient, in this case, emphasizes the importance of economic status with regard to access to healthcare.

The aspects of residence and religion proved not to influence the outcome of this model. Likewise, the constant term also did not appear to be statistically significant meaning that the odds of the outcome at the baseline lacking all predictor effects could not be distinguished to be other than an act of chance.

These findings support the fact that the definition of the multifaceted socio-economic and demographic factors affecting the behavior of maternal health is a complex process. Special policy focus should be on resolving the disparities experienced by low-income, low-educated, and disadvantaged ethnicities so they can have equal access to the necessary maternal health services.

## Discussion

Postnatal care (PNC) within 48 hours of childbirth is a critical component of the maternal and newborn health continuum, significantly reducing preventable morbidity and mortality. This study examined socio-economic and demographic determinants of early PNC utilization in Bagmati Province, revealing persistent inequalities shaped by age, birth order, education, caste/ethnicity, residence, and wealth status. These findings both align with and diverge from existing national and international evidence, highlighting province-specific dynamics that merit targeted policy responses.

Maternal age emerged as a significant predictor of PNC utilization in Bagmati Province, with women aged 30–49 years demonstrating substantially higher odds of accessing PNC services within two days of delivery. This finding is consistent with national evidence from the Nepal Demographic and Health Survey (NDHS) 2022, which reports higher postnatal service use among older mothers compared to adolescents (Ministry of Health and Population [MoHP], 2023). Similar patterns have been documented in studies from Ethiopia and India, where older women tend to possess greater health literacy, decision-making autonomy, and prior exposure to maternal health services (Tiruneh et al., 2022; Singh et al., 2021).

In contrast, adolescent mothers in Bagmati Province were markedly underrepresented in timely PNC uptake, reflecting broader structural challenges such as early marriage, limited autonomy, stigma, and inadequate access to youth-friendly services. This mirrors findings from Khadka et al. (2023), who observed delayed postnatal service utilization among teenage mothers in central Nepal. Compared to urban Kathmandu Valley studies, where adolescent PNC coverage is relatively higher due to better service availability, rural and peri-urban pockets of Bagmati appear particularly disadvantaged. These findings underscore the need for age-specific and adolescent-responsive postnatal interventions.

Birth order significantly influenced PNC utilization, with first-time mothers exhibiting the highest uptake. This aligns with evidence from Nepal and other South Asian countries showing that primiparous women receive greater familial attention, counseling from health workers, and facility-based follow-up (Acharya et al., 2023; Singh et al., 2020). Conversely, women with three or more children in Bagmati Province were significantly less likely to seek PNC, reflecting competing childcare responsibilities, financial strain, and perceived reduced need for care.

This pattern is consistent with NDHS 2022 findings and studies from Bangladesh and Pakistan, which report declining maternal health service utilization with increasing parity (National Institute of Population Research and Training [NIPORT], 2022; Agha & Carton, 2019). The Bagmati-specific evidence highlights the importance of family-centred postnatal counseling, particularly targeting high-parity women who may underestimate postpartum risks.

Educational attainment showed a positive association with PNC utilization, particularly among women with secondary or higher education. This finding corroborates extensive literature demonstrating that education enhances women's health literacy, negotiation power within households, and ability to navigate healthcare systems (Shrestha et al., 2023; Victora et al., 2012). Although higher education did not reach statistical significance in the adjusted model, the observed trend aligns with national-level analyses showing that educated women in Bagmati Province consistently outperform their less-educated counterparts in maternal service utilization (MoHP, 2023).

In contrast, women with no formal education who constituted a non-negligible proportion of the sample remained significantly disadvantaged. Similar disparities have been reported among marginalized communities in Madhesh and Lumbini provinces, suggesting that educational inequities remain a structural barrier nationwide (Poudel et al., 2023). These findings reinforce the role of female education as a long-term investment in improving maternal health outcomes.

Caste and ethnicity were strongly associated with PNC utilization in Bagmati Province. Women from marginalized Terai caste groups demonstrated significantly lower odds of accessing timely PNC, consistent with prior research highlighting entrenched social exclusion and discrimination in Nepal's health system (Bista et al., 2023; Bennett et al., 2013). In contrast, relatively higher PNC uptake among Janjati women may reflect improved outreach through community-based programs and urban proximity within Bagmati Province.

Comparable patterns have been observed in India, where socially disadvantaged caste groups experience delayed or inadequate postnatal care despite geographic proximity to services (Joe et al., 2019). These findings emphasize that physical availability of services alone is insufficient without addressing social inclusion, trust, and culturally appropriate service delivery.

The urban–rural divide in PNC utilization was pronounced in Bagmati Province, with urban women exhibiting substantially higher coverage. This finding mirrors national data showing that urban PNC utilization in Nepal exceeds rural coverage by more than 20 percentage points (MoHP, 2023). Similar disparities have been documented in other low- and middle-income countries, where rural women face compounded barriers including distance, transportation costs, and shortages of skilled health personnel (WHO, 2022).

Despite Bagmati Province's relatively advanced infrastructure compared to other provinces, rural municipalities remain underserved. This suggests that provincial development alone does not guarantee equitable access and highlights the need for decentralized and mobile postnatal care strategies.

Religion did not emerge as a statistically significant determinant of PNC utilization; however, cultural norms associated with religious practices may indirectly influence care-seeking behaviors. Studies from Nepal and India indicate that postpartum confinement practices and reliance on traditional healers can delay formal postnatal care, particularly among Hindu communities (Sharma

et al., 2023; Baru et al., 2018). Engaging religious and community leaders in health promotion initiatives has shown promise in overcoming such barriers and may be particularly effective in culturally diverse provinces like Bagmati.

Wealth status was the strongest predictor of PNC utilization in Bagmati Province, with women from the richest households exhibiting markedly higher odds of receiving timely care. This finding is consistent with NDHS 2022 and global evidence demonstrating that economic capacity influences healthcare access through affordability of transportation, private services, and opportunity costs (Acharya et al., 2023; Boerma et al., 2018).

The disproportionately low PNC uptake among the poorest quintile underscores persistent financial barriers despite Nepal's free maternal health policies. Similar gaps have been documented in Bangladesh and Ethiopia, where indirect costs remain a major deterrent (Agha & Carton, 2019; Tiruneh et al., 2022). These findings support the expansion of targeted subsidies, transportation incentives, and social protection schemes to enhance equity in postnatal care utilization.

**Conclusion and Recommendations**

It is understood that the use of postnatal care (PNC) during the initial two days in Bagmati Province, Nepal, is subject to a complex collection of socio-demographic, economic and cultural factors. Though the awareness regarding the significance of timely PNC increases, unleveled usage can be observed throughout subpopulations. Age played a very significant role and a woman between 30 and 49 years was more likely to receive PNC services indicating that women become more willing to consult healthcare when they are experienced and enlightened. Service uptake was negatively associated with birth order, with expectant mothers of higher-order kids exhibiting a significantly weaker use of services more than mothers of lower-order children- presumably because larger families spread out resources and because they are simply tired of care. Although educational level correlated with the higher use of PNC, its impact was not significant in a multivariate mode and it is possible that educational barriers can still result in the inability to use the service despite the educational level. It is important to note that wealth status is strongly and significantly correlated to PNC utilization; women in the richest households have nine times more chances of receiving timely care, as opposed to the poorest quintile. These highlights pre-existing economic imbalances in access to maternal health services. The dimensions of inequality are caste and ethnicity. Specifically, the Other Terai women were extremely unlikely to receive PNC services compared to majority women indicating that even with the inclusion of policy rhetoric, the Other Terai women were still maligned. Even more surprisingly, a meaningful rural-urban disparity was not found in the ad-justed model, which possibly reflected positive trends in service outreach service, however, descriptive figures indicated huge absolute differences between rural and urban populations and would be a topic worth exploring in greater depth.

Together, the results report the complexity of PNC use and bring out system inequities that have to be addressed using context-specific and individualized interventions.

The recommendations to be made by the study to enhance the use of postnatal care (PNC) in Bagmati Province include enabling low-income families with financial assistance, providing proper health education, particularly in rural communities, and providing culturally sensitive interventions of disadvantaged populations. It reminds that more efforts should be made to differentiate any

plans of both multiparous and first-time mothers, to transfer effective models of urban health to the rural population, to involve religious and cultural leaders in spreading the word about care, and to investigate such understudied aspects of care as job insecurity and social norms.

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