Original Research Article

Predictors of postnatal care utilization among postnatal mothers: a community-based cross-sectional study in Northern Ghana

Abstract

Introduction: Postnatal care (PNC) is crucial for both mothers and newborns, reducing maternal and neonatal fatalities. It is essential for mitigating physical and cognitive impairments, disability, and mortality. However, it is often underutilized for delivering high-quality services. Most maternal and newborn fatalities occur during the first month postpartum, with complications more likely in-home deliveries. The global decline in infant mortality is slower than in under-five mortality. The study aims to assess the predictors of postnatal care services among postnatal mothers in Northern Ghana.

Methods: The study used community based cross sectional study design in Tamale Metropolis. The study recruited 326 postnatal mothers and were willing to participate in this study. The sample units were recruited using the disproportionate stratified sampling . A structured questionnaire was used to solicit the response from the participants. Data was analyzed by Stata version 18 and p value less than 0.05 was considered statistically significant .

Results: A majority, 58.9%, are under 30 years old, 77% are married, employment status shows \50.9% are unemployed. Regarding reproductive history, 62.3% have been pregnant fewer than four times, while 37.7% have had four or more pregnancies. In terms of distance to healthcare, 50.3% live less than 6 kilometers from a health facility, the majority, 78.2%, can reach a health facility in 1 hour or less, while 21.8% take more than an hour. All respondents (100%) have heard of postnatal care. The main source of information about PNC is health workers (66%), followed by community meetings (16.6%), radio/TV (9.8%), and family and friends (7.7%). Regarding the recommended number of PNC visits, 58.6% believe that mothers and babies should visit four or more times. The data shows that 92.9% of mothers attended postnatal care (PNC) within 48 hours, with 54.0% attending 2-3 times within the first 42 days. The main reasons for attending were immunization for the baby (91.7%), monitoring the baby's health (88.7%), and monitoring the mother's health (53.7%). The analysis revealed several significant associations between postnatal care utilisation and age ($p = 0.041$), marital status ($p = 0.037$), and the highest level of education completed ($p = 0.009$), gravida ($p = 0.001$), parity ($p = 0.003$), distance to the health center ($p = 0.049$) and average time to reach the health center ($p = 0.009$).

Conclusion: The research indicates a positive attitude towards postnatal care among mothers, but challenges like budget and logistical issues need to be addressed. To improve access, engagement, and health outcomes, a multimodal strategy involving technology, community participation, and healthcare system enhancements is recommended.

Keywords: postnatal care, services, utilization, postnatal mothers, predictors, child health, mortality.

Introduction

Postnatal care (PNC) is given to mothers and newborns during 42 days after birth. The postnatal period is a crucial phase for both mothers and newborns. The majority of maternal and neonatal fatalities occur during this period [1]. PNC is an essential component of mother and child health, playing a vital role in decreasing maternal and neonatal death and morbidity[2]. It is universally recognized as the paramount element of maternity and infant health care for mitigating physical and cognitive impairments, along with disability and mortality stemming from postnatal factors. Nonetheless, this is the most underused timeframe for delivering high-quality services [3].
The bulk of mother and newborn fatalities transpire during the first month postpartum, with more than fifty percent of postnatal maternal deaths occurring within the first twenty-four hours following delivery[4, 5]. Postpartum complications are more likely to occur with home deliveries unless safe family practices are adhered to and health professionals are present. Despite the occurrence of newborn fatalities, the global decline in infant mortality is progressing at a slower rate than the reduction in under-five mortality[6].

Early postnatal care visits are among the most critical treatments in maternal healthcare for decreasing morbidity and death. Research indicates that just 48% of mothersreceive follow-up care within two days post-childbirth [7] Additionally, 36% of mothers in low-income countries have at least one postnatal care visit within 42 days. Only one-third of women in Sub-Saharan Africa deliver in medical facilities, and less than one-fifth of those who give birth at home get postnatal care visits within two days[3].

Research indicates that the utilization of postnatal care services is affected by a lack of awareness or perceived necessity among women and their families; the distance to healthcare facilities; inadequate transportation infrastructure; substandard service quality and supply in health facilities; prevailing traditional or cultural practices; and the limited decision-making authority of women, as well as community lifestyle factors[8–10]. Additional factors include insufficient access to proficient delivery attendants and the frequent limitations or unavailability of essential basic and comprehensive emergency obstetric and newborn care services [11–13]

Nevertheless, PNC utilisation rates remain inadequate in most low- and middle-income countries (LMICs), especially in rural and neglected regions. Approximately 60% of maternal fatalities transpire during the postnatal phase, highlighting the need for prompt and sufficient postnatal care measures. A significant percentage of women, especially in low- and middle-income countries, fail to use these vital services, leading to detrimental consequences for both mothers and their newborns.

The insufficient use of PNC services is ascribed to several variables, including socio-economic obstacles, lack of knowledge, cultural norms, and inefficiencies within the health system[3, 12]. Socioeconomic variables, including income level, education, and work position, substantially affect a woman's propensity to pursue postnatal care. Mothers with restricted education or financial means may lack awareness of the advantages of postnatal care or cannot afford transportation to healthcare facilities, especially in rural areas[8, 14]. Cultural attitudes and behaviors may facilitate or hinder postpartum care usage, with some cultures prioritizing traditional postpartum care over biomedical treatments[8, 15].Factors associated to the health system, such as the availability and accessibility of health services, are also crucial. In several low- and middle-income countries, healthcare facilities are often situated at considerable distances from rural populations, and the quality of treatment may be substandard owing to personnel shortages, insufficient vital supplies, or inadequate infrastructure[16, 17].

This community-based cross-sectional research seeks to address this gap by investigating the

determinants of postnatal care consumption among postnatal mothers within a designated community context. This research will examine individual, household, and community-level factors to elucidate the determinants affecting PNC utilization and furnish evidence-based recommendations for policymakers and healthcare providers to improve maternal and newborn health outcomes in underserved regions.

Methods

Study setting

The study was conducted in the Tamale metropolis. The Tamale Metropolitan Assembly was established by legislation (L.I. 2068). It is one of six Metropolitan Assemblies in Ghana and the only Metropolis in the Upper East, Upper West, Northern, North East, and Savannah regions of Northern Ghana. Tamale serves as both the Metropolitan and Regional Capital of the Northern Region. The Region is centrally located, bordered to the northwest by Sagnarigu Municipality, to the east by Mion District, to the south by East Gonja, and to the southwest by Central Gonja. The Metropolis has 116 localities: 41 (35%) are urban, 15 (13%) are peri-urban, and 60 (52%) are rural. Rural Tamale serves as the Metropolis' agricultural hub because of its fertile terrain. These settlements lack essential social and economic infrastructure such as roads, schools, hospitals, markets, and recreational facilities.

Study designs

The study employed the community based cross sectional study design.Cross-sectional studies are economical and time-efficient since they use a single-point data collecting approach. They provide comparisons across groups from a substantial sample and document particular temporal instances, such as national censuses, offering a picture of a nation's circumstances.

Study population

The study included postnatal mothers (i.e., mothers with babies less than 6 weeks old) who reside in the Tamale Metropolis.

Inclusion and exclusion

Inclusion criteria include postnatal mothers, those with babies less than 6 weeks old, and residents of the Tamale Metropolis. These criteria ensure the study focuses on a specific population for the research question. On the other hand, exclusion criteria exclude participants with serious health complications, those who have moved out of the Tamale Metropolis, or those with babies older than 6 weeks. These criteria help ensure a homogeneous and relevant study population, improving the quality and applicability of research findings.

Sample size determination

$$n = \frac{z^2\sigma}{m_0 E^2}$$

- Sample size (n) =?
- Variance (σ) = P (1-P)

- A recent student study in Ghana estimated the utilization of PNC is74.0% [18]. Thus, p =74% (0.74

Thus, Variance (σ) = P (1-P)

Variance (σ) = 0.74(1-0.74)

σ = 0.1924

- Margin of error (MOE)=0.05
- The critical value (Z) at 95% Confidence Interval = 1.96

The sample determination formula is stated as:

$$n = \frac{z^2\sigma}{m_0 E^2}$$

$$n = \frac{(1.96)^2 * 0.1924}{(0.05)^2}$$

$$n = \frac{3.8416 * 0.1924}{0.0025}$$

$$n = \frac{0.7391}{0.0025}$$

$$n = 295.6$$

$$n = 296$$

Toaccount for noncompliance and response rate, 10.0% of the estimated was added. Thus, the sample size for this study was 326.

Sampling techniques

The research used disproportionate stratified sampling to choose six neighborhoods from the Tamale Metropolis. This approach permits varying sample sizes from each stratum, irrespective of population proportions. This method guarantees sufficient representation of smaller or less populated communities, which may be inadequately represented in proportional sampling. This approach is especially advantageous when substantial disparities across strata, such as rural and urban areas, are anticipated, and it ensures equitable representation of smaller subgroups for a more comprehensive study.

Data collection tools and procedures

This research used a structured questionnaire to gather data on postnatal care usage among women in Tamale Metropolis, Ghana. The questionnaire had four sections: Socio-Demographic Information, Healthcare Access Information, Knowledge and Awareness of Postnatal Care, and Utilization of Postnatal Care.

Each segment had closed-ended questions to facilitate quick data collecting and simplify analysis.

The research targeted postnatal mothers residing in the Tamale Metropolis who matched the inclusion criteria. Recruitment occurred in healthcare facilities and community settings, guaranteeing extensive outreach and representation of both mothers who accessed and those who did not get postnatal care. Pilot testing was performed with a limited cohort of postnatal mothers to identify and resolve any difficulties related to the questions' clarity, phrasing, or organization.

Trained field data collectors conducted face-to-face interviews using a standardized questionnaire adapted from a previous study[19]. This approach guaranteed that individuals who were illiterate or had reading challenges could still participate in the research. All participants provided verbal informed permission before the interviews began, confirming their comprehension of the study's goal and their right to decline participation or withdraw at any moment.

Data collection lasted 25 to 35 minutes for each respondent. Confidentiality was maintained throughout the data collection procedure, and all data collectors received training on ethical considerations.

Data analysis and presentation

Data was cleaned in Microsoft Excel software and exported to STATA version 18 for analysis. Descriptive and Inferential statistics were run under the specific objectives of the study. The results are presented in the table. Utilization of PNC was those mothers who had postnatal care services within the first 48 hours after birth. A chi-square analysis betweenthe utilization of postnatal care services and demographics, as well as the health accessibility characteristics, was performed. Statistical significance was slated at $p<0.05$.

Ethical consideration

The research on postnatal care use among women in Tamale Metropolis, Ghana, complied with the ethical standards established in the Declaration of Helsinki. These included informed permission, confidentiality, non-discrimination, inclusiveness, risk mitigation, cultural sensitivity, and ethical training. Participants were granted verbal informed permission, and personal data was maintained confidentially. The recruitment process was equitable, and the interviews were succinct, courteous, and unobtrusive. Cultural sensitivity was maintained, and data collectors underwent training in ethical methods. The research maintained the participants' rights, dignity, and safety**.**

Results

Socio-demographic characteristics of the respondents

A majority, 58.9%, are under 30 years old, while 41.1% are aged 30 or older. Regarding marital status, 77% are married, with 23% unmarried. Educational attainment varies, with 41.1% having completed tertiary education, 8% with SHS, 27.6% completing JHS, and 23.3% lacking formal education. Employment status shows that 21.5% are employed, 27.6% are self-employed, and 50.9% are unemployed. Regarding reproductive history, 62.3% have been pregnant fewer than four times, while 37.7% have had four or more pregnancies. Additionally, 72.1% have fewer than four children, and 27.9% have four or more children ***(Table 1).***

Health access characteristics of the respondents

The data reveals key aspects of health access among the population, such as health insurance, while only 2.1% lack coverage. In terms of distance to healthcare, 50.3% live less than 6 kilometers from a health facility, with the remaining 49.7% living 6 kilometers or more away. The most common means of transportation to a health facility is by bicycle or motorbike (36.2%), followed by public transport (26.4%), walking (24.5%), and private vehicles (12.0%). The majority, 78.2%, can reach a health facility in 1 hour or less, while 21.8% take more than an hour***(Table 2).***

Knowledge of the respondents on the postnatal care services

All respondents (100%) have heard of postnatal care. The main source of information about PNC is health workers (66%), followed by community meetings (16.6%), radio/TV (9.8%), and family and friends (7.7%). Regarding the recommended number of PNC visits, 58.6% believe that mothers and babies should visit four or more times, while 32.5% think 2 to 3 visits are sufficient. Only 0.6% believe once is enough, and 8.3% do not know. The primary services offered during PNC include child immunization (95.1%), general health education (78.2%), treatment for health issues (77.0%), and family planning services (59.8%) ***(Table 3).***

Utilization of postnatal care services and associated factors

The data shows that 92.9% of mothers attended postnatal care (PNC) within 48 hours and the remaining 7.1% of the respondents did not attend to postnatal care (figure 1), with 54.0% attending 2-3 times within the first 42 days. The main reasons for attending were immunization for the baby (91.7%), monitoring the baby's health (88.7%), and monitoring the mother's health (53.7%). Positive aspects of PNC services included comprehensive health education (39.0%), quick service (24.8%), friendly staff (18.4%), and a clean environment (17.8%), while long waiting times (51.5%) and unfriendly staff (21.8%) were the main dislikes(Table 4).

Association between demographics and health access characteristics and utilization of PNC

The analysis revealed several significant associations between demographics, health access characteristics, and the utilization of postnatal care (PNC) services. Age ($p = 0.041$), marital status ($p = 0.037$), and the highest level of education completed ($p = 0.009$) were significantly related to PNC utilization. Reproductive factors such as gravida ($p = 0.001$) and parity ($p = 0.003$) also showed significant associations. Additionally, health access factors, including distance to the health center ($p = 0.049$) and average time to reach the health center ($p = 0.009$), were significantly linked to PNC service use(Table 5).

Discussion

The study aimed to examine the factors influencing postnatal care services utilization among postnatal mothers in the Tamale Metropolis. The outcome of the research is discussed below:

According to the findings, 100% of the respondents had heard of postnatal care (PNC),which shows that manywere aware of PNC. This result is consistent with research conducted by Asumah et al. [8], who indicate higher awareness levels among postnatal mothers about PNC. This suggests that raising awareness is essential to promoting maternity healthcare services. Varied sources of information were identified as health professionals as their primary source of knowledge on PNC (66%), followed by community gatherings (16.6%), radio and television (9.8%), and friends and family (7.7%). According to research by Ghiasi [20], health worker involvement greatly enhances mothers' chance to use postnatal care (PNC) services. This emphasizes the crucial role that healthcare workers play in teaching mothers about postnatal care. The present research was carried out in a primarily urban region where community volunteers are engaged in health advocacy, particularly concerning maternal and child health in all aspects

of the communities, and radio programs were also available for the nurses to use to target a larger audience. The mothers tend to comprehend health ideas more well from these volunteers since they are familiar figures within the community. Consequently, this may explain the discrepancies. Therefore, to get a more extensive understanding of MHS, it is advisable to use many information sources to enhance awareness and utilization.

On the frequency of PNC visits, 32.5% of respondents feel that two to three visits are acceptable, while 58.6% say women and newborns should attend four or more times. Just 0.6% think that one time is sufficient, while 8.3% are unsure. This high bar for many visits is reassuring and shows that the significance of routine health examinations for pregnant women and their babies is recognized.

A comprehensive approach to mother and child health is shown in the critical services provided during PNC, which include child vaccination (95.1%), general health education (78.2%), treatment for health concerns (77.0%), and family planning services (59.8%). These results align with those of Tassema et al. [3],who pointed out that during PNC, having access to various services is essential for meeting the short- and long-term health requirements of both mothers and newborns. High rates of service delivery, especially in the area of vaccinations, point to a strong focus on preventive care, which is essential for lowering morbidity and death in this susceptible demographic.

According to the statistics, 92.9% of women used postnatal care (PNC) services within 48 hours after giving birth, indicating a high level of early involvement with medical services. Of them, 54.0% went to PNC visits two or more times in the first forty-two days, showing a tendency for continued monitoring of mother and baby health throughout the crucial postpartum phase. These results align with numerous studies conducted [8, 18, 21],which found that early PNC attendance is essential for enhancing the health of both mothers and their children.However, the acceptance of PNC in Tamale Metropolis is higher than that of the previous studies cited above. This is because Tamale Metropolis is primarily urban and has health facilities and adequate staff to provide health care to the populace. In contrast to the above, some studies conducted in Nigeria [9]and Ethiopia [21] reported very low utilization of ITNs. These countries could consider using digital health to improve the attendance of postnatal mothers to PNC services[22]. While using telehealth, there is a need for increased health services in every area of the country to allow easy access to health services in general.

The baby's health was a significant factor in 91.7% of the reasons people attended PNC services, with 88.7% mentioning the significance of keeping an eye on the baby's health. This emphasis on newborn care highlights the importance of prioritizing early immunizations and routine checkups to improve children's health. Furthermore, 53.7% of mothers used PNC to monitor their health, indicating a rising awareness of the significance of maternal health throughout the postpartum phase. This result is consistent with the findings of Asumah et al. [8], who highlighted that a mother's perceived need for medical care for her children often influences her involvement with PNC.

Mothers reported several favorable experiences with PNC services, such as thorough health education (39.0%), prompt service (24.8%), kind personnel (18.4%), and a clean atmosphere (17.8%). However, several notable areas for improvement were also noted. 51.5% of respondents expressed significant worry about long wait times, suggesting they might be a deterrent to using and being satisfied with services. Moreover, a substantial proportion of mothers—21.8%—expressed discontent with the attitudes of the staff, indicating that improving staff training and service delivery might potentially enhance the overall

experience of mothers using PNC services. This result aligns with the research conducted by Sheikh et al. [23], which suggested that extended wait times and unfavorable staff attitudes may discourage women from obtaining essential healthcare treatments.

The association between age and PNC use ($p = 0.041$) aligns with other research[8, 24], suggesting that younger mothers could behave differently when seeking health care than older mothers. Due to their lack of expertise with healthcare institutions or their reduced health literacy, women under 30 may be less inclined to seek PNC treatments. According to research[24], younger women were less likely than older women to seek postnatal care, often because of concerns about accessibility or a sense of lack of need.

Similarly, the use of PNC was strongly impacted by marital status ($p = 0.037$), with married women using PNC at more excellent rates than single women. This result is consistent with studies showing that social support networks, often more excellent among married people, might encourage people to seek medical attention. For example, research conducted by various researchers[21, 24]showed that married women are more likely to get support from spouses to visit PNC services and have greater access to healthcare resources. This implies that getting postnatal care depends greatly on social support.

The mostsignificant degree of schooling attained ($p = 0.009$) is an additional important factor affecting PNC use. This result is consistent with previous research showing that more educational attainment is linked to improved health literacy, which raises the probability of using healthcare services. According to a recent study[8, 10, 19, 25], educated women are more likely to use PNC services since they are better aware of its advantages. Better mother and child health outcomes result from women knowing the necessary to make educated choices about their health.

Gravida ($p = 0.001$) and parity ($p = 0.003$), two reproductive variables, also showed significant correlations with PNC use. It may be because of a lack of familiarity with the healthcare system or a moreconsiderable worry for the health of their first few pregnancies that women who have had fewer pregnancies or deliveries tend to seek PNC more often. This is consistent with a study [17] that found that compared to more experienced mothers attending ANC, first-time mothers are frequently more motivated to seek healthcare services, including PNC.

Lastly, a significant association was found between PNC service consumption and health access characteristics, such as the average time to reach the health center ($p = 0.009$) and the distance to the health center ($p = 0.049$). Healthcare access is hampered by longer travel times and distances, especially in rural or underserved locations. For instance, research by Cahyono et al. [26].Found that women's attendance at PNC visits was considerably discouraged by practical issues such as transportation and distance. This implies that increasing access to medical services could raise PNC use rates.

Conclusion

The research reveals a favorable disposition towards postnatal care among mothers, with healthcare professionals significantly contributing to the education and motivation of mothers to engage with these services. Nonetheless, budgetary limitations and logistical difficulties must be resolved to enhance access to treatment. Although a wide array of services is provided during postnatal care, improving service delivery and facilitating mothers' access to these services without difficulty converting knowledge into actual usage is crucial. Enhancing PNC participation promotes mother and child health and corresponds

with global health strategies focused on decreasing morbidity and death rates in at-risk communities. Mitigating these obstacles and improving support structures around postnatal care may elevate health outcomes and general pleasure for mothers and their babies.

Recommendation

A multimodal strategy including technology, community participation, and enhancements to the healthcare system is essential for improving postnatal care (PNC) usage and results. This encompasses the creation of a mobile application to furnish mothers with appointment reminders and educational resources, the integration of telehealth services for virtual consultations, collaboration with local community organizations for outreach initiatives, training of healthcare personnel to enhance communication skills, and the establishment of transportation assistance programs or incentives for postnatal care visits. These methods may mitigate access obstacles, enhance patient contacts, and foster increased engagement rates, leading to better mother and baby health outcomes. Addressing these aspects may create a more conducive atmosphere for mothers pursuing postnatal care and their babies.Future research should explore the effectiveness and feasibility of implementing multimodal strategies—such as mobile health applications, telehealth consultations, community-driven outreach, improved healthcare personnel training, and transportation support programsto enhance postnatal care usage and outcomes, thereby overcoming access barriers and promoting better health for mothers and their babies.

Consent for publication

Not applicable

Data Availability

Data used to support this study are available from the corresponding author upon request.

Disclaimer (Artificial intelligence)

Authors at this moment declare that generative AI (ChatGPT) has been used during manuscript editing(grammar).

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Table 1: Socio-demographic characteristics of the respondents

Variables	Category	Frequency	Percentage
Age			
	<30 years	192	58.9
	≥30 years	134	41.1
Marital status			
	Married	251	77.0
	Not married	75	23.0
Highest level of education completed.			
	Tertiary	134	41.1
	SHS	26	8.0
	JHS	90	27.6
	No formal education	76	23.3
Occupation			
	Employed	70	21.5
	Self-employed	90	27.6
	Unemployed	166	50.9
Gravida			
	<4	203	62.3
	≥4	123	37.7
Parity			
	<4	235	72.1
	≥4	91	27.9

Table 2: Health access characteristics of the respondents

Variables	Category	Frequency	Percentage
Have any form of health insurance.			
	Yes	319	97.9
	No	7	2.1
Distance from home to health facility(in Km)			
	<6	164	50.3
	≥6	162	49.7
Means of transportation to the health facility			
	Bicycle/Motorbike	118	36.2
	Private vehicle	39	12.0
	Public transport	86	26.4
	Walking	80	24.5
Duration to nearest health facility			
	≤1 hour	255	78.2
	>1 hour	71	21.8

Table 3: Knowledge of the respondents on the postnatal care services

Variables	Category	Frequency	Percentage
Heard of postnatal care			
	Yes	326	100.0
source of information about PNC			
	Community meeting	54	16.6
	Family and friends	25	7.7
	Health worker	215	66.0
	Radio/TV	32	9.8
Number of times a mother and baby should visit the PNC clinic.			
	2-3 times	106	32.5
	4 times or more	191	58.6
	Do not know	27	8.3
	once	2	0.6
services provided during PNC			
	Child immunization	310	95.1
	Family planning services	195	59.8
	Treatment for health issues	251	77.0
	General health education	255	78.2

Table 4: Utilization of postnatal care services and associated factors

Variables	Category	Frequency	Percentage
PNC visits attended within 42 days			
	One	58	17.8
	2-3 times	176	54.0
	4 or more	90	27.6
Main reasons for attending PNC			
	Advice from a health worker	130	39.9
	Monitor my health	175	53.7
	To monitor my baby's health	289	88.7
	Immunization for my baby	299	91.7
	Family planning services	160	49.1
What did you like most about the PNC services			
	Clean environment	58	17.8
	Friendly staff	60	18.4
	Comprehensive health education	127	39.0
	Quick service	81	24.8
What did you dislike about the PNC services			
	Inadequate health education	42	12.9
	Long waiting time	168	51.5
	Poor service quality	38	11.7
	Unfriendly staff	71	21.8
What could be done to improve PNC services utilization			
	Improve attitudes of health staff	86	26.4
	Reduce waiting time	128	39.3
	Increase community education	84	25.8
	Provide transport support	28	8.6

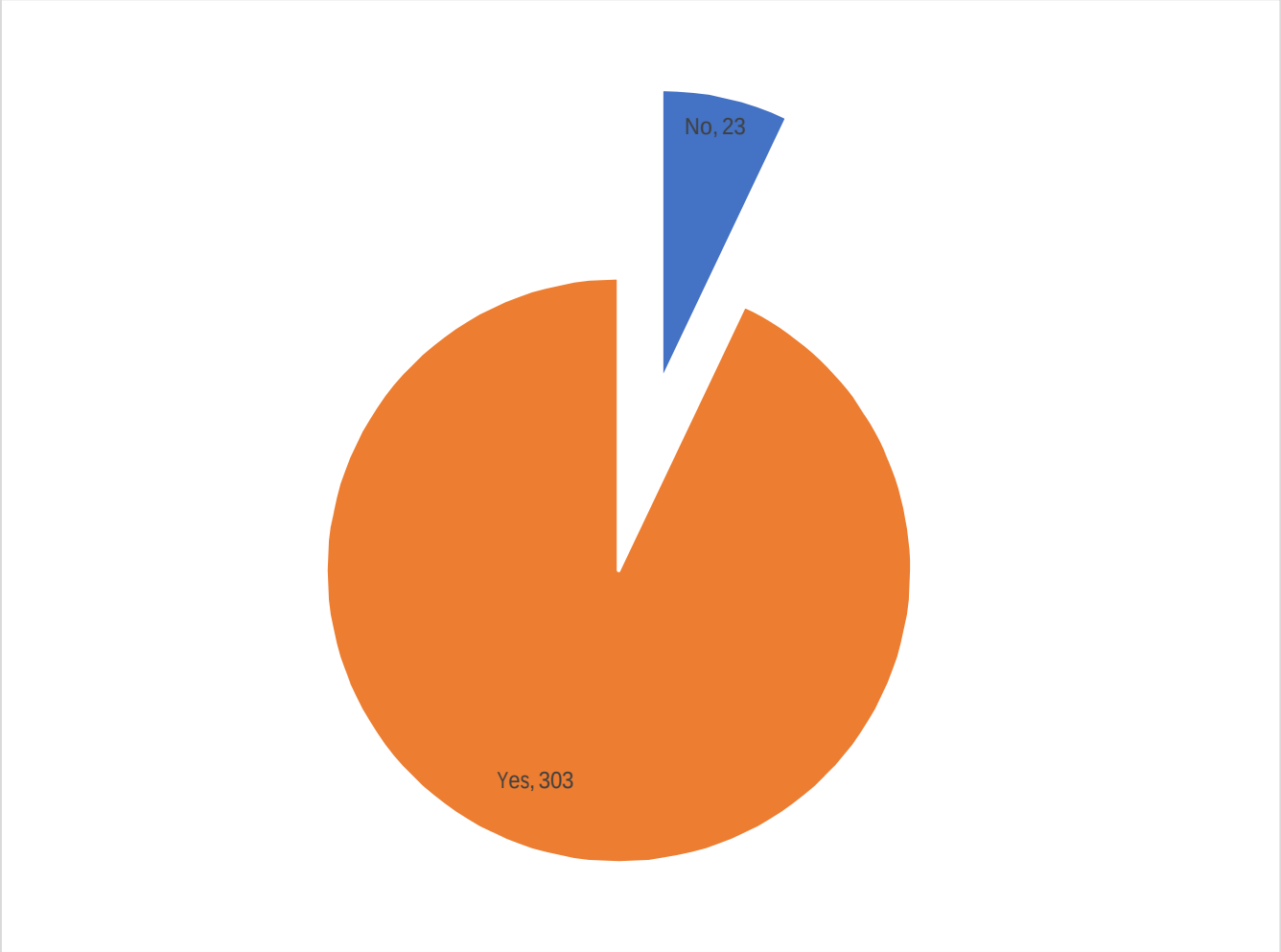

Figure 1: The proportion of postnatal mothers who utilized postnatal care within 48 hours

Table 5: Association between demographics and health access characteristics and utilization of PNC

Variable	Category	Utilization of PNC services		p-value
		Yes	No	
Age				P=0.041
	<30 years	177(92.2%)	15(7.8%)	
	≥30 years	126(94.0%)	8(7.8%)	
Marital status				p=0.037
	Married	236(94.0%)	15(6.0%)	
	Not married	67(89.3%)	8(10.7%)	

Highest level of education completed.				P=0.009
	JHS	80(90.9%)	8(9.1%)	
	Tertiary	128(92.8%)	6(4.3%)	
	No formal education	66(89.2%)	8(10.8%)	
	Primary	26(100.0%)	0(0.0%)	
Occupation				P=0.179
	Employed	67(95.7%)	3(4.3%)	
	Self-employed	79(89.8%)	9(10.2%)	
	Unemployed	154(91.7%)	10(6.0%)	
Gravida				p=0.001
	< 4	189(93.1%)	14(6.9%)	
	≥ 4	114(92.7%)	9(7.3%)	
Parity				p=0.003
	< 4	221(94.0%)	14(6.0%)	
	≥ 4	82(90.1%)	9(9.9%)	
Distance	< 6km	148(90.2%)	16(9.8%)	p=0.049
	≥ 6km	155(95.7%)	7(4.3%)	
Average time to the health center				p=0.009
	≤ 1 hour	232(91.0%)	23(9.0%)	
	>1 hour	100(100.0%)	0(0.0%)	