# ORIGINAL ARTICLE

# Determinants of postpartum care utilization across parity groups in secondary health facilities in Katsina State, Nigeria

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#### ABSTRACT

Background: Postpartum care (PPC) is a critical pillar for reducing maternal and neonatal morbidity and mortality. However, its utilization is often influenced by various socio-cultural and healthcare-related factors. Objective: This study examines the factors affecting PPC utilization among women of different parity groups in secondary health facilities in Katsina State, Nigeria. Methodology: A cross-sectional study was conducted using structured questionnaires to collect data from 440 women on socio-demographic characteristics, obstetric history, and factors influencing PPC utilization across 10 weeks (June-August 2024). Results were analyzed using SPSS version 24. A Kruskal-Wallis test was employed to determine significant differences in these factors across parity groups. While demographics and factors affecting PPC utilization were analyzed using descriptive statistical methods. Results: The study found that cultural factors, proximity to healthcare facilities, health workers' attitudes, and perceived quality of care significantly influenced PPC utilization across parity groups (p < 0.05), whereas financial constraints and previous obstetric complications did not show significant variation across parity groups (p > 0.05). These findings suggest that while some factors vary with parity, others consistently affect PPC utilization regardless of the number of previous births. Conclusion: Efforts to improve PPC utilization should integrate culturally sensitive approaches, enhance healthcare accessibility, and promote positive health worker-patient interactions. Policymakers should tailor interventions to address the unique needs of different parity groups while ensuring financial and structural barriers are minimized.

**Keywords:** Postpartum care, Parity, Maternal health, Healthcare utilization, Katsina State, Nigeria

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#### INTRODUCTION

Postnatal care (PNC) is a comprehensive set of healthcare services designed to enhance the well-being of both mothers and newborns. These services include risk identification, preventive interventions, health education and promotion, as well as the management or referral of complications. PNC has been widely recognized as an important factor in improving maternal and neonatal health outcomes, reducing mortality rates, and enhancing the overall experience of healthcare users. Understanding women's experiences and needs during the postnatal period is essential for optimizing care utilization and satisfaction. The World Health Organization (WHO) recommends that all women and newborns receive postnatal care within the first 24 hours following childbirth, irrespective of the place of delivery, and that subsequent visits occur within the first six weeks postpartum (1). Timely access to maternal health services is a critical intervention in reducing pregnancy- and childbirth-related mortality. Although significant progress has been made in increasing antenatal care attendance and facility-based deliveries, PNC utilization remains suboptimal, particularly in low- and middle-income countries (LMICs). The immediate postpartum period is particularly critical, as it is when most physiological adaptations occur, and when both maternal and neonatal survival are most at risk (2). As a result, timely postnatal care has become an important indicator in tracking progress toward national and global maternal and child health goals (3).

Despite ongoing global efforts to improve maternal health outcomes, most maternal health intervention programs in sub-Saharan Africa have primarily focused on increasing the coverage of skilled birth attendance and emergency obstetric and neonatal care. These efforts aim to reduce maternal mortality, stillbirths, and early neonatal deaths—often referred to as the "triple return." However, comprehensive and individualized care for women and their infants after childbirth has received relatively less attention. Evidence suggests that over half of maternal deaths and the majority of neonatal deaths occur within the first week postpartum, underscoring the need for high-quality postnatal care services (2). The WHO identifies the postnatal period as the most critical yet often neglected phase in maternal and neonatal healthcare, during which most maternal and newborn deaths occur. Data from Nigeria's

National Health Management Information System (NHMIS, 2020) indicate that the country remains far from achieving the Sustainable Development Goal (SDG) target of reducing maternal mortality to 70 deaths per 100,000 live births. Northern Nigerian states such as Katsina, Zamfara, Kano, Jigawa, and Sokoto have persistently high maternal mortality rates, with Katsina State recording the highest at 653 deaths per 100,000 live births, most of which occur during delivery and the immediate postpartum period (4). These statistics highlight the urgent need to investigate the factors influencing the quality and utilization of postpartum nursing care, particularly in secondary healthcare facilities in Katsina State.

## **Review of literature**

The postpartum period is marked not only by physical recovery from childbirth but also by potential health challenges such as breast infections, hemorrhoids, painful intercourse, persistent headaches, depressive symptoms, backaches, sore nipples, breast tenderness, and other breastfeeding-related issues. Additionally, women often experience physical exhaustion and sleep deprivation. Postnatal visits provide the opportunity for health promotion, family assessments, screenings, disease prevention, and referrals to community resources. Moreover, these visits allow mothers to discuss significant postpartum issues such as maternal depression, family planning, and breastfeeding challenges (5). However, the utilization of PNC services is influenced by multiple factors, including maternal age, educational level, occupational status, place and mode of delivery, number of pregnancies, awareness of obstetric danger signs, and knowledge of available postnatal care services. Patients also prioritize respectful treatment, privacy, confidentiality, adequate information and counseling, accessibility, reasonable waiting times, affordability, and clean, comfortable facilities (6,7). Determinants of PNC utilization vary across cultures and socioeconomic contexts, emphasizing the importance of location-specific assessments to enhance maternal and child healthcare services (8).

Several studies have examined the factors associated with PNC utilization in different settings. A study by Nduka (2021) in rural Abia State found that PNC utilization was significantly linked to marital status, maternal occupation, child immunization appointments, health worker attitudes, and the educational status of husbands. The study revealed that 95.1% of respondents attended postnatal visits, with primary reasons including routine check-ups, family

planning counseling, positive interactions with health workers, coinciding immunization appointments, and child illness. Married women were twice as likely to seek PNC services as their unmarried counterparts, and employed mothers were also twice as likely to utilize PNC services as unemployed women. Likewise, a qualitative evidence synthesis by Sacks et al. (2022) identified access, service quality, and societal norms as interconnected factors influencing PNC uptake. Many women recognized the unique challenges of the postnatal period and highlighted the need for emotional and psychosocial support alongside medical care (9,10).

In Ethiopia, a study by Liknaw et al. (2021) on PNC utilization in East Gojjam Zone reported a low utilization rate of 34.6%, attributing this to limited awareness, cultural and religious beliefs, long travel distances, inadequate transportation, exposure to environmental conditions, and prolonged waiting times at healthcare facilities. Similarly, research in Malawi by Sagawa et al. (2021) revealed that PNC uptake was primarily influenced by maternal and partner education levels, partner occupation, household income, decisionmaking power, awareness of available PNC services, knowledge of postpartum danger signs, and place of delivery. These findings highlight the multidimensional nature of PNC utilization and underscore the need for targeted interventions to improve access and quality of postnatal care across different socio-economic and cultural settings (11,12).

Given the critical importance of postnatal care and the persistent gaps in its utilization, the WHO's 2022 postnatal care guidelines emphasize the necessity of routine maternal assessments during the first 24 hours postpartum (13). Women should undergo regular monitoring of vaginal bleeding, uterine tone, fundal height, temperature, and heart rate. The Integrated Management of Neonatal and Childhood Illness (IMNCI) guidelines (2020) further outline a structured postpartum check-up schedule: the first visit should occur within 24 hours of delivery (especially for home births), followed by visits on days three, seven, and six weeks postpartum. Additional visits are recommended for low-birth-weight infants on days 14, 21, and 28 (14). While consensus has been reached on the essential content of postnatal care, questions remain regarding the optimal timing, location, and personnel responsible for postnatal service delivery (1).

Despite increasing facility-based childbirth rates in LMICs, there remains a significant gap in understanding the quality of postpartum nursing care, particularly for women giving birth in health facilities. The WHO advises that women experiencing uncomplicated vaginal births in healthcare facilities remain hospitalized for at least 24 hours to allow for the detection of potentially life-threatening maternal conditions such as postpartum hemorrhage, puerperal infection, postpartum preeclampsia, and thromboembolism, as well as neonatal complications like sepsis (15). However, existing research on postnatal care quality largely focuses on women who deliver outside health facilities, leaving a gap in knowledge regarding care quality within healthcare institutions before discharge(15). Recognizing these challenges, the WHO and USAID (2022) have updated global postnatal care guidelines to refine recommendations on the timing, content, and context of postnatal visits, with a particular focus on resource-limited settings (16).

## **Objective**

This study seeks to examine the factors influencing the quality and utilization of postpartum care among mothers delivering in secondary healthcare facilities in Katsina State.

# MATERIALS AND METHODS Study Design and Setting

A cross-sectional descriptive survey design was employed to assess the factors influencing the quality and utilization of postpartum nursing care at a specific point in time. This design facilitated the identification of associations and patterns within the target population, aligning with the study's objective. Katsina State, located in the North West geopolitical zone of Nigeria, served as the study area. It covers a land area of 24,192 km² and has a projected population of 7.8 million as of 2016. The state has 34 Local Government Areas (LGAs) and 18 secondary health facilities, with six selected for this study.

# **Population and Sampling**

The study targeted postpartum women within six weeks of delivery across the selected secondary health facilities. A total population of 1,692 postpartum women was identified, and the sample size was determined using Yamane's formula (17), resulting in a required sample size of 400. To account for a 10% attrition rate, an additional 40 participants were included, bringing the final sample size to 440. Inclusion criteria required participants to have more than one delivery and no history of postpartum complications,

while primigravida women and those with high-risk pregnancies were excluded.

A multi-stage sampling technique was employed for participant selection. Initially, 18 secondary health facilities were identified across three senatorial zones of Katsina State. Two facilities per zone were then randomly selected. The proportion of participants per facility was calculated based on the total number of postpartum women in each hospital. Data collection focused on units providing postpartum care, including the labour ward, postnatal ward, and postnatal clinic. A purposive sampling technique ensured the inclusion of eligible respondents.

### Instrumentation

A structured questionnaire was utilized to assess demographic and obstetric characteristics, and factors influencing postpartum care (PPC) services. The questionnaire comprised multiple sections: sociodemographic characteristics, obstetric history, and factors affecting PPC utilization. It was pre-tested on 44 participants (10% of the sample) at General Hospital Katsina, ensuring reliability, with a Cronbach's alpha coefficient of 0.70. The questionnaire was available in English and Hausa, with trained research assistants facilitating data collection for participants unable to read or write.

#### **Ethical Considerations and Permissions**

Official permission was obtained from Katsina State Ministry of Health (Number; MOH/ADM/SUB/1152/1/874). Additional permissions were secured from the Chief Nursing Officer and Ward In-Charges of the selected health facilities. Six bilingual research assistants were trained over three days to aid data collection. Informed verbal consent was obtained from participants, emphasizing study objectives, confidentiality, and voluntary participation.

# **Implementation and Data Collection**

Data collection spanned ten weeks across all selected health facilities. Postpartum women were recruited and briefed on the study's purpose and objectives. Structured questionnaires with consent forms were distributed, ensuring willing participation. Respondents unable to read or write received assistance from research assistants who administered the questionnaire in Hausa and recorded responses in English. Upon completion, all questionnaires were compiled by the

researcher for analysis.

#### **RESULTS**

A total of 440 postpartum women from six selected health facilities from the study area participated in the study with 419 responses representing 95.2 % response rate. Their sociodemographic characteristics are provided in table 1.

The table presents the socio-demographic characteristics of the respondents. The majority (47.7%) were aged between 21 and 30 years, with a significant proportion (40.8%) engaged in business. More than half (54.9%) had attained a secondary school certificate. Additionally, most respondents (85.0%) identified as Muslims, while the majority (83.3%) belonged to the Hausa-Fulani ethnic group. A large proportion (77.3%) resided in urban areas, and slightly more than half (51.8%) came from nuclear families. Regarding parity, 48.0% had given birth to three or four children, while 54.0% reported an estimated monthly income ranging from ₹10,000 to ₹31,000.

Table 2 presents the obstetric history of the respondents. The findings reveal that nearly half (48.0%) had experienced three to four pregnancies, while the majority (92.1%) had not undergone an abortion. Additionally, most respondents (94.7%) reported no history of neonatal death, with jaundice identified as the leading cause (68.2%) among those who had experienced neonatal loss.

Table 3 presents the factors affecting the utilization of postpartum care services. The findings indicate that the quality of care provided is the most significant factor influencing service utilization (84.5%), followed by cultural influences (73.7%). Additionally, the attitude of healthcare workers (73.0%) and proximity to healthcare facilities (53.9%) are key personal factors impacting postpartum care utilization. Financial constraints (41.0%) and previous complications (30.5%) were identified as the least influential factors.

The Kruskal-Wallis test was conducted to determine whether there were significant differences in the factors influencing postpartum care utilization among women of different parity groups (Para 1-2, Para 3-4, and  $\geq$ 5). The results are presented in table 4.

parity.

| □Cultural Factors: The test indicates a statistically       |
|---|
| significant difference in the influence of cultural factors |
| across different parity groups, suggesting that women's     |
| parity level may shape how cultural beliefs affect their    |
| utilization of postpartum care services.                    |
|   |
| □ Previous Complications: There was no significant          |
| difference in how previous complications influenced         |
| utilization across the parity groups, indicating that past  |

□ Proximity: The result shows a significant difference, meaning that the importance of proximity in postpartum care utilization varies among different parity groups.

obstetric experiences had a similar impact regardless of

□ Health Worker's Attitude: A statistically significant difference was observed, suggesting that perception of healthcare workers' attitudes influences postpartum care utilization differently among women with varying parity levels.

□ Quality of Care Rendered: A significant difference was found, highlighting that perceptions of care quality differ across parity groups and may affect their likelihood of seeking postpartum care.

□Financial Constraints: No significant difference was noted, indicating that financial barriers similarly affected postpartum care utilization among all parity groups.

These findings suggest that while some factors, such as cultural beliefs, proximity, health worker attitudes, and perceived quality of care, vary significantly among women with different parity levels, others, like financial constraints and previous complications, have a uniform effect across all groups.

## **DISCUSSION**

# Socio-demographic Characteristics of Mothers

The study revealed that the majority of the women were aged 21–30 years and engaged in various businesses. Although most resided in urban communities, their educational attainment was primarily at the secondary school level. This trend reflects their efforts to supplement their husbands' income amid economic challenges. Women with lower education levels predominantly came from rural communities in

educationally disadvantaged Local Government Areas (LGAs). Ethnically, most respondents identified as Hausa and practiced Islam, consistent with Katsina State's location in northern Nigeria, where the Hausa/Fulani Muslim population is predominant. Economically, most respondents belonged to the middle-income class, with monthly earnings ranging between \$\mathbb{N}10,000\$ and \$\mathbb{N}31,000\$. These findings align with similar studies conducted in Nigeria and other regions (7,18).

# **Obstetric History of the Respondents**

The majority of the mothers were married housewives with a parity of 3–4. Most had no history of abortion or neonatal death, although a small proportion reported neonatal deaths, with jaundice being the predominant cause. These findings are consistent with a study from the Northern Shoa region of Ethiopia, which reported a similar parity range (57.6%) among women utilizing postnatal care services (19).

# **Factors Influencing Utilization of Postpartum Care Services**

The study identified the quality of care as the most significant factor influencing postpartum care (PPC) utilization (84.5%), followed by cultural factors (73.7%). Health workers' attitudes (73.0%) and proximity to health facilities (53.9%) were also critical personal factors affecting PPC utilization. These findings resonate with a study in East Gojjam Zone, Northwest Ethiopia, which reported a 34.6% PNC utilization rate and attributed low uptake to lack of awareness, traditional beliefs, distance, transportation challenges, and long waiting times (11). Similarly, a study in Mangochi District, Malawi, found that PNC utilization was influenced by maternal and partner education, household income, decision-making power, knowledge of PNC services, awareness of postpartum danger signs, and place of delivery (12). Sacks et al., further emphasized that PNC utilization is shaped by interconnected factors, including access, quality of care, and social norms, with many women highlighting the need for emotional and psychosocial support during the postnatal period (10).

Looking at factors across various parity groups, the study found that cultural factors significantly influenced postpartum care (PPC) utilization differently across parity groups, aligning with research in Ethiopia, which identified cultural beliefs and traditional practices as major barriers to postnatal care (PNC) utilization. Similarly, Sagawa et al., in Malawi highlighted how cultural norms and religious practices shape maternal health-seeking behaviors, particularly among women with higher parity. In contrast,

previous complications did not show significant differences across parity groups, suggesting that past obstetric experiences uniformly affect PPC utilization. This finding is consistent with Sacks et al., who found that women with prior complications were equally motivated to seek care regardless of parity, recognizing the importance of medical support during the postpartum period (11,12,10).

Proximity to healthcare facilities significantly influenced PPC utilization differently across parity groups, highlighting that accessibility plays a varying role depending on parity. This aligns with Akibu et al. in Ethiopia, where distance to health facilities was a critical barrier, particularly for higher-parity women in rural areas (19). Additionally, perceptions of health workers' attitudes significantly varied across parity groups, reinforcing findings from Kamau, which emphasized that respectful and supportive healthcare interactions encourage PNC utilization, especially among women with lower parity who may have less experience navigating healthcare systems (7). The study also found that the perceived quality of care significantly influenced utilization differently across parity groups, supporting Olajubu's study in Nigeria, which found that higher-parity women often have specific expectations regarding personalized care and continuity (18). However, financial constraints showed no significant differences across parity groups, indicating that economic barriers uniformly affect PPC utilization, a trend consistent with global findings, which identified financial limitations as a universal challenge affecting maternal health service utilization (10).

### **Conclusion**

This study examined the factors influencing postpartum care (PPC) utilization among women of different parity groups in secondary health facilities in Katsina State. The findings reveal that cultural beliefs, proximity to healthcare facilities, health workers' attitudes, and perceived quality of care significantly affect PPC utilization across parity groups. In contrast, financial constraints and previous obstetric complications had a uniform impact across all groups. These results underscore the need for culturally sensitive interventions, improved accessibility, and enhanced healthcare provider-patient interactions to encourage PPC uptake.

## Recommendations

Based on the findings of this study, the following recommendations are proposed to improve postpartum care (PPC) utilization across different parity groups in Katsina State:

- 1.Address Cultural Barriers Community-based health education programs should be implemented to challenge cultural misconceptions about postpartum care. Engaging religious and traditional leaders in maternal health advocacy can help improve PPC acceptance.
- 2.Improve Accessibility to Health Facilities Policies should focus on reducing distance barriers by expanding the availability of PPC services to rural areas through mobile clinics, community health outreach programs, and strengthening primary healthcare centers.
- 3.Enhance Health Workers' Attitudes and Communication Healthcare providers should undergo regular training on respectful maternity care, cultural competence, and patient-centered communication to improve women's experiences and encourage PPC utilization.
- 4.Ensure Quality of Postpartum Care Secondary health facilities should focus on enhancing the quality of PPC services by ensuring adequate staffing, timely services, and improved patient-provider relationships to meet the expectations of women with varying parity levels.
- 5.Address Financial Barriers Subsidizing maternal health services, offering financial incentives, or implementing health insurance schemes tailored for postpartum women can help reduce economic constraints that hinder PPC utilization.
- 6.Parity-Specific Health Interventions Tailored interventions should be developed to address the unique needs of different parity groups. First-time mothers may require more education and counseling, while multiparous women may need targeted support addressing previous childbirth experiences and expectations.
- 7.Strengthen Maternal Health Policies The government and policymakers should incorporate findings from this study into maternal health policies to ensure that postpartum care services are inclusive and accessible to all women, regardless of their parity level.

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### **TABLES AND FIGURES**

**TABLES** 

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Table 1. Socio-Demographic Characteristics of the Respondents (N=419)

| <u>Variable</u>    | F   | %     |
|--------------------|-----|-------|
| Age in years       |     |       |
| ≤20                | 142 | 33.9% |
| 21 - 30            | 200 | 47.7% |
| 31 - 40            | 52  | 12.4% |
| ≥45                | 25  | 6.0%  |
| Occupation         |     |       |
| House wife         | 129 | 30.8  |
| Civil servant      | 119 | 20.4  |
| Business           | 171 | 40.8  |
| Level of education |     |       |
| Primary            | 111 | 26.5  |

| Secondary                | 230 | 54.9 |
|--------------------------|-----|------|
| Tertiary                 | 57  | 15.6 |
| Informal                 | 20  | 4.8  |
| None                     | 1   | 0.2  |
| Religion                 |     |      |
| Islam                    | 356 | 85.0 |
| Christianity             | 63  | 15.0 |
| Ethnic group             |     |      |
| Hausa/Fulani             | 349 | 83.3 |
| Yoruba                   | 41  | 9.8  |
| Igbo                     | 29  | 6.9  |
| Residence                |     |      |
| Urban                    | 324 | 77.3 |
| Rural                    | 95  | 22.7 |
| Family type              |     |      |
| Extended family          | 202 | 48.2 |
| Nuclear family           | 217 | 51.8 |
| Parity                   |     |      |
| Para 1-2                 | 131 | 31.3 |
| Para 3-4                 | 201 | 48.0 |
| ≥5                       | 87  | 20.7 |
| Estimated monthly Income |     |      |
| ≤ 9,000                  | 125 | 29.8 |
| 10,000 - 31,000          | 226 | 54.0 |
| ≥32,000                  | 68  | 16.2 |
|                          |     |      |

Table 2. Obstetric History of the Respondents (N=419)

| Variable                    | F   | %    |
|-----------------------------|-----|------|
| Number of pregnancy(s)      |     |      |
| Para 1-2                    | 131 | 31.3 |
| Para 3-4                    | 201 | 48.0 |
| ≥5                          | 87  | 20.7 |
| Abortion(s)                 |     |      |
| Yes                         | 33  | 7.9  |
| No                          | 386 | 92.1 |
| Number of neonatal deaths   |     |      |
| Yes                         | 22  | 5.3  |
| No                          | 397 | 94.7 |
| Cause of the neonatal death |     |      |
| Infection                   | 7   | 31.8 |
| Jaundice                    | 15  | 68.2 |

Table 3. Factors Influencing the Utilization of Postpartum Care Services Among Women in Secondary Health Facilities in Katsina State

| Variables                | Yes   |      | No    |      |
|--------------------------|-------|------|-------|------|
|                          | F     | (%)  | F     | (%)  |
| Cultural factors         | 309   | 73.7 | 110   | 26.3 |
| Previous complications   | 128   | 30.5 | 291   | 69.5 |
| Proximity                | 226   | 53.9 | 193   | 46.1 |
| Health worker's attitude | 306   | 73.0 | 113   | 27.0 |
| Quality of care rendered | 354   | 84.5 | 65    | 15.5 |
| Financial constrains     | 170   | 41.0 | 249   | 59.0 |
| MEAN                     | 249.0 | 59.4 | 170.0 | 40.6 |

Table 4. Factors influencing postpartum care utilization among women of different parity groups

| Factor                   | H-statistic | P-value  |
|--------------------------|-------------|----------|
| Cultural factors         | 313.05      | 1.05e-68 |
| Previous complications   | 404.22      | 1.68e-88 |
| Proximity                | 216.83      | 8.23e-48 |
| Health worker's attitude | 303.34      | 1.35e-66 |
| Quality of care          | 292.89      | 2.51e-64 |
| Financial constraints    | 287.95      | 2.97e-63 |