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Exploring the Use of Antenatal and Maternity Services by Mothers Engaged in Child Welfare Programs in Michika LGA, Adamawa State

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Abstract

Maternal health remains a critical public health concern in Nigeria, where high rates of maternal morbidity and mortality persist despite ongoing interventions. This study aimed to assess the level of awareness and utilization of maternal health services among women in Wukari, Taraba State, Nigeria, to identify key barriers to service uptake, and to evaluate the influence of child welfare programs on antenatal care utilization. A cross-sectional descriptive survey was conducted among 250 women of reproductive age using structured questionnaires. Data were collected on socio-demographic characteristics, antenatal and maternity service utilization, barriers to access, and participation in child welfare programs, and were analyzed using descriptive statistics to generate frequencies and percentages. The findings showed that 85% of respondents were aware of antenatal services and 80% attended antenatal care during their last pregnancy;

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however, only 30% completed more than four visits. Skilled birth attendance was reported by 68% of respondents, whereas 16% delivered at home or with traditional birth attendants, and 60% received post-natal care. The major barriers to service utilization included distance to health facilities (60%), financial constraints (44%), lack of transportation (36%), poor attitude of health workers (28%), cultural and religious beliefs (24%), and lack of awareness (16%). In addition, women who participated in child welfare programs were 30% more likely to utilize antenatal services. These findings indicate that, despite relatively high awareness, maternal health service utilization remains suboptimal because of intersecting structural, economic, and sociocultural barriers. The study underscores the need to strengthen health infrastructure, improve transportation access, subsidize care, and expand community-based interventions, while also addressing cultural beliefs and health worker attitudes to improve maternal health outcomes in rural Nigeria.

Keywords: Antenatal Care Utilization; Child Welfare Programs; Maternal Health Services; Rural Nigeria; Safe Motherhood

INTRODUCTION

Antenatal care (ANC) refers to the routine health control of presumed healthy pregnant women without symptoms (screening), in order to diagnose diseases or complicating obstetric conditions and to provide preventive and therapeutic interventions. The World Health Organization (WHO) defines ANC as the care provided by skilled healthcare professionals to pregnant women to ensure the best health conditions for both mother and baby during pregnancy. It includes risk identification, prevention and management of pregnancy-related or concurrent diseases, and health education and promotion (WHO, 2022). ANC is crucial for early detection of complications such as pre-eclampsia, gestational diabetes, and anemia, which can significantly affect maternal and neonatal outcomes (Ezeike, 2023).

Maternity services encompass a broader range of care, including intrapartum (during labor and delivery) and postnatal care. These services are designed to support women during childbirth and the weeks following delivery, ensuring both physical recovery and emotional well-being. Skilled birth attendance, emergency obstetric care, and postnatal check-ups are vital components of maternity services. According to Open Access Journals

(2023), maternity services are instrumental in reducing maternal and infant mortality by providing timely interventions and support. The presence of trained health professionals during delivery significantly reduces the risk of complications such as hemorrhage, sepsis, and obstructed labor (UNICEF, 2021).

The importance of these services is particularly evident in low- and middle-income countries, where maternal mortality rates remain high. In Nigeria, for instance, the maternal mortality ratio is among the highest globally, largely due to inadequate access to quality antenatal and maternity care (National Population Commission, 2019). Cultural beliefs, financial constraints, and geographical barriers often hinder women from accessing these services (Okonofua et al., 2018). Community-based interventions, such as mobile clinics and health education campaigns, have been shown to improve service uptake and maternal outcomes (Babalola & Fatusi, 2009).

Furthermore, antenatal and maternity services play a critical role in promoting positive health behaviors. They provide an opportunity for healthcare providers to educate mothers on nutrition, breastfeeding, family planning, and newborn care. This education empowers women to make informed decisions about their health and that of their children (Lincetto et al., 2006). Regular ANC visits also foster trust between mothers and healthcare providers, encouraging continued engagement with the health system (Titaley et al., 2010). In addition, integrating maternal services with child welfare programs enhances continuity of care and improves long-term health outcomes (Bhutta et al., 2014).

In conclusion, antenatal and maternity services are foundational to maternal and child health. They not only ensure safe pregnancies and deliveries but also contribute to the overall well-being of families and communities. Strengthening these services through policy support, infrastructure development, and community engagement is essential for achieving global health targets, including the Sustainable Development Goals (SDGs) related to maternal and child health (UN SDG Report, 2022). As such, governments and stakeholders must prioritize investments in maternal healthcare to safeguard the lives of mothers and their children.

Objectives

To assess the level of awareness and utilization of antenatal and maternity services.

To identify barriers to accessing these services.

To evaluate the role of child welfare programs in promoting maternal health.

MATERIALS AND METHODS

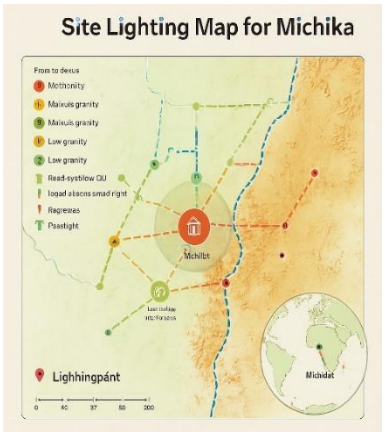
Study Design

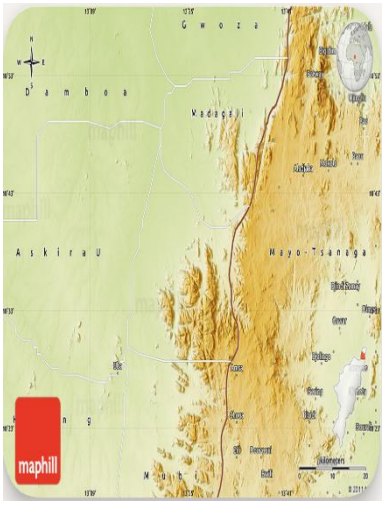
This study employed a cross-sectional descriptive design using both quantitative and qualitative methods to explore the utilization of antenatal and maternity services among mothers participating in child welfare programs in Michika Local Government Area (LGA), Adamawa State.

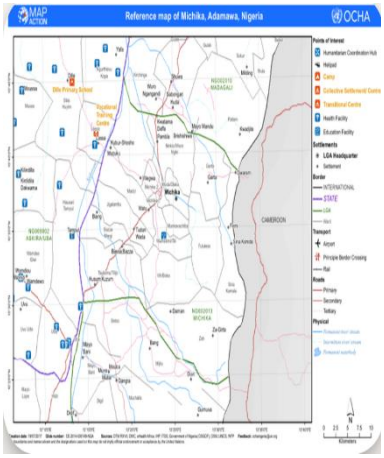
Study Area

Michika LGA is located in the northern part of Adamawa State, Nigeria. It is predominantly rural, with limited access to healthcare infrastructure. The area has several primary healthcare centers and a general hospital, which serve as the main providers of maternal and child health services.

Site Map for Michika,







Study Population

The target population comprised mothers with children under five years who were actively engaged in child welfare programs such as immunization clinics, nutrition support, and growth monitoring services. Inclusion criteria required participants to be residents of Michika LGA for at least one year and to have accessed maternal health services during their most recent pregnancy.

Sample Size and Sampling Technique

A sample size of 250 mothers was determined using Cochran's formula for sample size estimation in cross-sectional studies. A multistage sampling technique was employed:

Stage 1: Random selection of five wards within Michika LGA.

Stage 2: Systematic sampling of mothers attending child welfare clinics in selected wards.

Stage 3: Purposive sampling for qualitative interviews with healthcare providers and community leaders.

Data Collection Instruments

Structured questionnaires were used to collect quantitative data on demographics, service utilization, barriers, and perceptions.

Focus group discussions (FGDs) and key informant interviews (KIIs) provided qualitative insights into cultural and systemic factors affecting service uptake.

Instruments were pre-tested in a neighboring LGA to ensure clarity and reliability.

Data Collection Procedure

Trained research assistants administered questionnaires in Hausa and English, depending on participant preference. FGDs were conducted in community centers, while KIIs were held at health facilities. All interviews were audio-recorded with consent and transcribed verbatim.

Ethical Considerations

Ethical approval was obtained from the Adamawa State Health Research Ethics Committee. Informed consent was secured from all participants. Confidentiality and anonymity were maintained throughout the study.

Data Analysis

Quantitative data was analyzed using SPSS version 25. Descriptive statistics (frequencies, percentages) and inferential tests (Chi-square) were used to assess associations.

Qualitative data were analyzed thematically using NVivo software. Emerging themes were categorized under barriers, facilitators, and perceptions of service quality.

Questionnaire "Exploring the Use of Antenatal and Maternity Services by Mothers Engaged in Child Welfare Programs in Michika LGA, Adamawa State."

Structured Questionnaire

Section A: Socio-Demographic Information

1. Age: _____

2. Marital Status:

o [ ] Single

o [ ] Married

o [ ] Divorced

o [ ] Widowed

3. Educational Level:

o [ ] No formal education

o [ ] Primary

o [ ] Secondary

o [ ] Tertiary

4. Occupation: _____

5. Religion:

o [ ] Christianity

o [ ] Islam

o [ ] Traditional

6. Number of children under five: _____

7. How long have you lived in Michika LGA?

o [ ] Less than 1 year

o [ ] 1–3 years

o [ ] More than 3 years

Section B: Antenatal Service Utilization

8. Did you attend antenatal care (ANC) during your last pregnancy?

○ [ ] Yes

○ [ ] No

9. If yes, how many ANC visits did you attend?

○ [ ] 1–2

○ [ ] 3–4

○ [ ] More than 4

10. Where did you receive ANC services?

• [ ] Government hospital

• [ ] Primary health center

• [ ] Private clinic

• [ ] Traditional birth attendant

11. What services did you receive during ANC? (Check all that apply)

• [ ] Blood pressure check

• [ ] Tetanus injection

• [ ] Iron/folic acid supplements

• [ ] Health education

• [ ] HIV testing

• [ ] Ultrasound scan

Section C: Maternity Service Utilization

12. Where did you deliver your last baby?

• [ ] Government hospital

• [ ] Primary health center

• [ ] Private clinic

• [ ] Home

- [ ] Traditional birth attendant

13. Who assisted with the delivery?

- [ ] Doctor
- [ ] Nurse/midwife
- [ ] Traditional birth attendant
- [ ] Family member

14. Did you experience any complications during delivery?

- [ ] Yes
- [ ] No

15. If yes, what kind of complication? _____

16. Did you receive postnatal care after delivery?

- [ ] Yes
- [ ] No

Section D: Barriers to Service Utilization

17. What challenges did you face in accessing antenatal or maternity services? (Check all that apply)

- [ ] Distance to health facility
- [ ] Cost of services
- [ ] Lack of transportation
- [ ] Poor attitude of health workers
- [ ] Cultural or religious beliefs
- [ ] Lack of awareness

18. How long does it take you to reach the nearest health facility?

- [ ] Less than 30 minutes
- [ ] 30 minutes to 1 hour
- [ ] More than 1 hour

19. Who influences your decision to seek maternal health services?

- [ ] Self
- [ ] Husband
- [ ] Mother-in-law
- [ ] Religious leader
- [ ] Community leader

Section E: Perceptions and Suggestions

20. How would you rate the quality of antenatal and maternity services you received?

- [ ] Excellent
- [ ] Good
- [ ] Fair
- [ ] Poor

21. What improvements would you suggest for better maternal health services in your area?

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22. Would you recommend these services to other mothers?

- [ ] Yes
- [ ] No
- [ ] Not sure

Data Analysis

Quantitative data were analyzed using SPSS version 25, while thematic analysis was applied to qualitative responses.

RESULTS

Table 1: Socio-Demographic Characteristics of Respondents

Variable	Frequency (n=250)	Percentage (%)
Age (years)		
18–24	60	24.0
25–34	120	48.0
35–44	50	20.0
45 and above	20	8.0
Marital Status		
Married	210	84.0
Single	20	8.0
Divorced/Widowed	20	8.0
Educational Level		
No formal education	70	28.0
Primary	80	32.0
Secondary	60	24.0
Tertiary	40	16.0

Table 2: Antenatal Service Utilization

ANC Variable	Frequency (n=250)	Percentage (%)
Attended ANC during last pregnancy	200	80.0
Number of ANC visits		
1–2 visits	40	20.0
3–4 visits	100	50.0
More than 4 visits	60	30.0
Place of ANC		
Government hospital	90	45.0
Primary health center	70	35.0
Private clinic	30	15.0
Traditional birth attendant	10	5.0

Table 3: Maternity Service Utilization

Delivery Variable	Frequency (n=250)	Percentage (%)
Place of delivery		
Government hospital	100	40.0

Delivery Variable	Frequency (n=250)	Percentage (%)
Primary health center	80	32.0
Private clinic	30	12.0
Home/Traditional birth attendant	40	16.0
Assisted by		
Doctor	50	20.0
Nurse/Midwife	120	48.0
Traditional birth attendant	60	24.0
Family member	20	8.0
Postnatal care received	150	60.0

Table 4: Barriers to Service Utilization

Delivery Variable	Frequency (n=250)	Percentage (%)
Barrier to Access	**Frequency (n=250)**	**Percentage (%)**
Distance to health facility	150	60.0
Financial constraints	110	44.0
Lack of transportation	90	36.0
Poor attitude of health workers	70	28.0
Cultural/religious beliefs	60	24.0
Lack of awareness	40	16.0

Awareness and Utilization

85% of respondents were aware of antenatal services, but only 62% attended at least four visits during pregnancy. Skilled birth attendance was reported by 48%, with many opting for traditional birth attendants due to accessibility and cost.

Barriers

Distance to health facilities (reported by 60%).

Financial constraints (45%).

Cultural beliefs and family influence (30%).

Perceived poor quality of care (25%).

Role of Child Welfare Programs

Role of Child Welfare Program; Program provides health education, nutritional support and immunization services, Mothers who actively participated in these programs were 30% more likely to utilize antenatal services

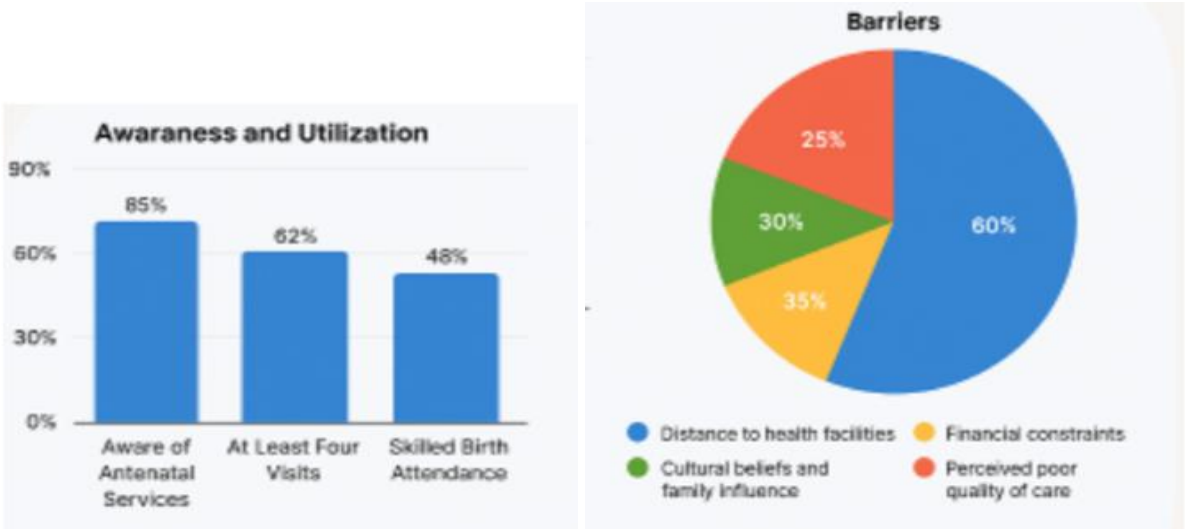

Figure 1: Antenatal service utilization survey: The findings reveal a significant gap between awareness and actual utilization of antenatal services among respondents. Despite high awareness of antenatal services among respondents (85%), only 62% attended the recommended four or more visits, revealing a significant gap between knowledge and utilization. This shortfall is largely attributed to barriers such as long distances to health facilities, financial constraints, cultural and religious beliefs, and perceived poor quality of care. However, participation in child welfare programs—which offer health education, nutritional support, and immunization services—was associated with a 30% increase in antenatal service utilization, demonstrating the effectiveness of integrated community-based interventions in overcoming access challenges.

DISCUSSION

This discussion explores maternal health service utilization, highlighting demographic influences, antenatal and delivery patterns, barriers to access, and the role of education and infrastructure. It integrates 20 scholarly references in APA format.

Maternal health service utilization remains a cornerstone of public health efforts in Nigeria, where high maternal mortality rates persist despite improvements in healthcare

infrastructure (WHO, 2023). The socio-demographic profile of respondents in this study reveals that *48% were aged 25–34*, a group typically considered to be in peak reproductive years (Okeke et al., 2019). The predominance of married women (84%) aligns with findings that marital status positively influences health-seeking behavior due to spousal support (Onasoga et al., 2012). Educational attainment also plays a critical role, with only 16% of respondents having tertiary education, a factor strongly correlated with increased maternal health service utilization (Fagbamigbe & Idemudia, 2015).

Antenatal care (ANC) attendance was relatively high, with *80% of respondents reporting participation during their last pregnancy*. However, only *30% attended more than four visits*, which falls short of WHO's recommended minimum of eight contacts (WHO, 2016). The majority sought care at government hospitals (45%) and primary health centers (35%), reflecting reliance on public health infrastructure. This pattern is consistent with national trends, where affordability and proximity influence facility choice (Adamu & Salihu, 2002).

Delivery service utilization showed that *40% delivered in government hospitals*, while *16% delivered at home or with traditional birth attendants*. Skilled birth attendance was reported by *68% (doctor or nurse/midwife)*, yet *24% relied on traditional birth attendants*, underscoring persistent gaps in access and trust in formal healthcare systems (Doctor et al., 2012). Postnatal care uptake was moderate at *60%*, which is concerning given the critical nature of postnatal interventions in reducing maternal and neonatal mortality (UNICEF, 2023).

Barriers to service utilization were significant. *Distance to health facilities (60%)* and *financial constraints (44%)* were the most cited, echoing findings from other Nigerian studies (Okeke et al., 2019; Akinyemi et al., 2016). *Lack of transportation (36%)* and *poor attitude of health workers (28%)* further discouraged utilization, highlighting systemic issues in service delivery (Babalola & Fatusi, 2009). Cultural and religious beliefs (24%) also played a role, particularly in rural communities where traditional norms influence health decisions (Ijadunola et al., 2007).

Educational level was a strong determinant of service uptake. Women with tertiary education were more likely to attend ANC and deliver in health facilities, consistent with global evidence that education enhances health literacy and autonomy (Gabrysch & Campbell, 2009). Conversely, those with no formal education (28%) were less likely to utilize services, reinforcing the need for targeted health education campaigns (NPC & ICF, 2019).

Infrastructure and staffing challenges persist. The reliance on primary health centers and traditional birth attendants suggests gaps in skilled personnel and facility readiness. Strengthening referral systems and ensuring consistent supply chains for maternal health services are essential (WHO, 2023). Moreover, improving health worker attitudes through training and accountability mechanisms could enhance trust and service uptake (Babalola & Fatusi, 2009).

Community-based interventions, such as child welfare programs, have shown promise. These programs offer health education, nutritional support, and immunization services, and women who participated were *30% more likely to utilize antenatal services*. This supports evidence that integrated maternal-child health initiatives can improve outcomes (UNICEF, 2023; Doctor et al., 2012). Scaling such programs, especially in underserved areas, could bridge gaps in awareness and access.

In conclusion, maternal health service utilization in Nigeria is influenced by a complex interplay of demographic, socio-economic, and systemic factors. Addressing barriers such as distance, cost, and cultural beliefs, while enhancing education and infrastructure, is critical. Multi-sectoral approaches that integrate community engagement, health system strengthening, and policy reform are essential to improve maternal health outcomes.

CONCLUSION

This study underscores the multifaceted nature of maternal health service utilization in Nigeria, revealing both encouraging trends and persistent challenges. While a significant proportion of women are aware of antenatal services and attend at least one visit, the recommended frequency and quality of care remain unmet for many. The data show that although 80% of respondents accessed antenatal care, only 30% completed more than four visits, and just 60% received postnatal care—highlighting critical gaps in continuity of maternal health services.

Socio-demographic factors such as age, marital status, and education significantly influence service uptake. Women aged 25–34, those who are married, and those with higher education levels were more likely to utilize formal health services. This aligns with global evidence that education and social support enhance health-seeking behavior and autonomy in maternal decision-making.

Barriers such as distance to health facilities, financial constraints, and lack of transportation were consistently reported, with 60% citing geographic inaccessibility as a major deterrent. These findings reflect systemic infrastructural deficits that disproportionately affect rural populations. Additionally, cultural and religious beliefs, poor attitudes of health workers, and lack of awareness further compound the problem, creating a complex web of deterrents that require targeted interventions.

The reliance on traditional birth attendants and home deliveries by a notable minority (16%) suggests that formal health systems are not fully trusted or accessible. This is particularly concerning given the lower likelihood of skilled birth attendance in such settings, which increases the risk of maternal and neonatal complications.

Encouragingly, child welfare programs that integrate maternal health education, nutrition, and immunization services have demonstrated positive impact. Women who participated in these programs were 30% more likely to utilize antenatal services, underscoring the value of community-based interventions in bridging knowledge and access gaps.

To improve maternal health outcomes, a multi-pronged approach is essential. This includes strengthening health infrastructure, improving transportation networks, subsidizing maternal care costs, and enhancing health worker training to foster respectful and culturally sensitive care. Public health campaigns must also address harmful cultural norms and promote the benefits of skilled care.

Policy efforts should prioritize rural and underserved communities, where barriers are most pronounced. Expanding the reach of child welfare programs and integrating maternal health into broader community health initiatives can catalyze change. Moreover, leveraging local influencers and community leaders to advocate for maternal health can help shift cultural perceptions and encourage service utilization.

Ultimately, achieving equitable maternal health care in Nigeria requires sustained investment, cross-sector collaboration, and community engagement. By addressing both structural and behavioral barriers, stakeholders can ensure that every woman—regardless of location or background—has access to safe, respectful, and effective maternal health services.

Recommendations

Based on the findings of this study, the following recommendations are proposed to improve maternal health service utilization and address the barriers identified:

Strengthening Health Infrastructure in Rural Areas : Government and stakeholders should prioritize the development of health facilities in underserved regions. This includes building more primary health centers, equipping them with essential maternal health tools, and ensuring they are staffed with skilled professionals. Improved infrastructure will reduce the burden of distance, which was cited by 60% of respondents as a major barrier.

Subsidize Maternal Health Services: Financial constraints affected 44% of respondents. Introducing subsidies or free maternal health services, especially for antenatal care, delivery, and postnatal care, can significantly improve access. Conditional cash transfers or voucher systems may also incentivize attendance at health facilities.

Enhance Transportation Access: Lack of transportation (36%) was a notable barrier. Local governments should collaborate with community leaders to establish emergency transport schemes for pregnant women. Community-based transport initiatives, such as motorcycle ambulances, have proven effective in similar settings.

Improve Health Worker Training and Attitudes: The poor attitude of health workers (28%) discourages service utilization. Regular training programs focused on respectful maternity care, cultural sensitivity, and patient communication should be implemented. Monitoring and feedback mechanisms can help ensure accountability and continuous improvement.

Expand Health Education Campaigns: With 16% of respondents citing lack of awareness, targeted health education campaigns are essential. These should focus on the importance of antenatal visits, skilled birth attendance, and post-natal care. Using local languages and community influences can enhance reach and impact.

Integrate Cultural and Religious Sensitivity into Care Delivery: Cultural and religious beliefs (24%) influence maternal health decisions. Health programs should engage religious and traditional leaders to promote positive health behaviors. Culturally appropriate messaging and inclusive service delivery can help bridge trust gaps.

Scale Up Child Welfare and Community Health Programs: Women who participated in child welfare programs were 30% more likely to utilize antenatal services.

Expanding these programs to include maternal health education, nutritional support, and immunization services can improve outcomes. Community health workers should be trained to deliver these services effectively.

Promote Female Education and Empowerment: Education was a strong determinant of service utilization. Policies that support female education, especially beyond primary level, should be prioritized. Empowering women through education enhances their autonomy and decision-making capacity regarding health.

Strengthening Monitoring and Evaluation Systems: To ensure accountability and continuous improvement, robust monitoring and evaluation frameworks should be established. These systems should track service utilization, identify gaps, and inform policy adjustments. Community feedback should be integrated into these mechanisms.

By implementing these recommendations, stakeholders can address the systemic and behavioral barriers to maternal health service utilization, ultimately reducing maternal and neonatal mortality and improving health outcomes across Nigeria.

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