READINESS FOR ANTENATAL SERVICES AMONG SELECTED SECONDARY HEALTH FACILITIES IN ABUJA, FCT, NIGERIA

by

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DOI:10.64450/njsh.v2i2.003

Abstract

Weaknesses within the maternal health continuum, including antenatal, delivery, and postnatal services, contribute to the high maternal mortality rate in Nigeria. The deficiencies in the health system primarily stem from a lack of skilled health workers, equipment, and health commodities, which prevent the delivery of quality services. Antenatal services, as the first point of contact for pregnant women with the health system, play an important role in improving maternal and child health outcomes and ultimately reducing maternal and neonatal mortality. Most public health facilities in Nigeria are unable to deliver quality ANC services due to an inadequate skilled health workforce, medicines, commodities, and infrastructure, which ultimately result in the unacceptably high maternal mortality rate. This study assessed the readiness of health facilities within AMAC, FCT, to provide antenatal services so as to gain insights into the level of service provision and identify bottlenecks that hinder the delivery of quality care. The research employed a cross-sectional study design, utilizing health facility assessments of general hospitals to determine readiness using the WHO Service Availability and Assessment framework (SARA). ANC service readiness was generally good, with all facilities showing 100% compliance for basic equipment and diagnostic capacity. This high level of readiness for ANC services encourages ANC visits, boosts facility deliveries, and ultimately improves maternal outcomes. Due to the lack of training on antenatal services observed in some hospitals during this study, it is recommended that a strong and well-trained monitoring and evaluation team be established for effective supervision of health facilities in areas such as staff training, capacity building, and the availability of work aids. Additionally, readiness assessments for ANC services should be conducted annually.

Key words: Antenatal services; maternal health; readiness; secondary health facilities; Abuja; FCT.

1. INTRODUCTION

Maternal health is an important aspect of public health in all societies, and it is often used as an indicator of the level of socioeconomic development of countries (Rooney, Cleone & World Health Organization. Maternal Health and Safe Motherhood Programme, 1992) and effective health systems, Wilmoth, 2012, as cited by (Sajedinejad ,Sima., Majdzadeh ,Reza.,Vedadhir ,AbouAli., Tabatabaei, Mahmoud, Mohammad, Kazem., 2015). Though maternal mortality rates are dropping globally, the rates in Sub-Saharan Africa remain unacceptably high. Nigeria bears about 28.3 % of the global estimated maternal mortality burden, with a maternal mortality rate of 1,047 per 100,000 live births (World Health Organization, 2023) .

Maternal health services (MHS) are primarily delivered through antenatal care services (ANC), skilled birth attendants (SBA) during delivery, and postnatal care services (PNC), with the latter consuming the most time and care resources. These services are comprehensive and include medical care, counseling, health education, and social and nutritional services (WHO, 2016). The initiation and maintenance of ANC provide women with the opportunity to be screened for infections such as syphilis, HIV, and hepatitis. Pregnant women attending ANC also benefit from preventive health services such as immunization against tetanus toxoid and chemoprophylaxis for malaria. The advantages of ANC visits include protecting women and their unborn children (United Nations Children's Fund, 2024), reducing maternal near misses (Turi, Ebisa., Fekadu, Ginenus., Taye, Bedasa., Kejela, Gemechu., Desalegn, Markos., Mosisa, Getu., Etafa, Worku., Tsegaye, Reta., Simegnew, Dawit., Tilahun, Temesgen., 2020), and increasing facility deliveries (Ilesanmi, Benjamin Bukky., Solanke Bola Lukman., Oni, Tosin Olajide., Yinusa, Rasheed Adebayo., Oluwatope, Omolaye Bukola., Oyeleye Olaoye James., 2023). The significance of ANC is reflected in its inclusion as one of the tracer indicators for universal health coverage under the Sustainable Development Goals (WHO, 2025).

Antenatal care has evolved over the years to become more evidence-based, individualized, driven by quality, not quantity, and provided by skilled personnel. It is currently referred to as focused antenatal care (FANC). FANC is part of the WHO ANC package, which entails more evidence-based, individualized care driven by quality, not quantity, and provided by skilled personnel. It is a new model that emphasizes individual assessment and decision-making by both the healthcare provider and pregnant women, and it is associated with better health outcomes for both mother and baby (Nwabueze ,Cherechi O., Okeke, Chinyere C., Nwevo, Chimaobi O., Nwodo, Lynda A., Nwekpa, Williams C., Nwaiwu,Peter I., 2023). A study in Ethiopia describes FANC as the most important and inclusive care a pregnant woman can receive to ensure optimal health for both mother and fetus (Adane, Daniel., Bante, Agegnehu., Wassihun, Biresaw ., 2021).

Data from the 2018 Nigeria Demographic and Health Survey indicates that only 57% of pregnant women received the minimum recommended four ANC visits,

and this is suboptimal (National Population Commission(NPC)[Nigeria] & ICF, 2019). Factors affecting utilization of ANC services include the socioeconomic status of the women and their partners, the woman's educational status, religion, and rural-urban residence, which can be referred to as the demand side. The supply side includes health system factors such as facility readiness. Service readiness refers to the capacity of health facilities to provide specific services, like possession of basic equipment, basic commodities, standard precautions for infection prevention, diagnostic capacity, and essential medicines (*WHO, 2015*). The WHO Service Availability and Readiness Assessment (SARA) framework is a widely used tool to assess health system capacity, such as facility readiness. Most health facilities in Nigeria are unable to deliver quality ANC services due to poor readiness of their facilities evidenced by an inadequate skilled health workforce, medicines, commodities, and infrastructure, which ultimately result in the unacceptably high maternal mortality rate.

This study was conducted to determine service readiness for ANC services using tracer indicators like staff training/guidelines, basic equipment, diagnostic capacity, commodities, and medicines. Service readiness provides insights into the level of service provision and can be used to identify bottlenecks that hinder the delivery of quality services(Chaulagain, Dipak Raj., Malqvist, Mats., Wrammert, Johan., Gurung, Rejina., Brunell, Olivia., Basnet, Omkar., Kc, Ashish ., 2022). This study assessed the readiness of selected secondary health facilities within AMAC, FCT, to deliver antenatal services with the use of a cross-sectional study design. This is to contribute to the literature and make recommendations for practice, policy, and research in maternal health provision in Nigeria.

2. LITERATURE REVIEW

Maternal mortality rates are declining globally, but they remain unacceptably high in Sub-Saharan Africa. The maternal mortality rate of 1,047 per 100,000 live births in Nigeria accounts for about 28.3 % of the global estimated maternal mortality burden (World Health Organization, 2023). Antenatal services are a crucial component of the maternal health continuum. They have been proven to protect women and their unborn child (UNICEF,2024), reduce maternal near misses (Turi et al., 2020) and identified as one of the tracer indicators for universal health coverage under the Sustainable Development Goals (WHO, 2025). The quality and accessibility of ANC services can be influenced by the level of facility readiness. Service readiness refers to the capacity of health facilities to provide specific services, like possession of basic equipment, basic commodities, standard precautions for infection prevention, diagnostic capacity, and essential medicines.

The WHO Service Availability and Readiness Assessment (SARA) framework is the most widely used tool to evaluate health system readiness. The WHO SARA framework for ANC readiness has 4 domains: staff and guidelines (guidelines on

ANC, ANC check-lists and/or job aids, staff trained in ANC), Equipment (blood pressure apparatus), Diagnostics (heamoglobin, urine dipstick-protein), and medicine and commodities (Iron tablets, folic acid tablets, Tetanus toxoid vaccine, Intermittent preventive therapy (IPT) drugs, Insecticide-treated nets (ITNs). Literature shows few studies in Nigeria on the use of the SARA framework for readiness: Immunization services in PHCs in Kaduna state (Joseph, Jonathan G., Brown, Victoria B., Oluwatosin, Oyeninhun A., 2024), maternal and child health in PHCs in Ekiti (Oluwole, Esther O.,Adeniran, Adeyinka., Chieme, Chisom F., Ojo, Omobola Y., Akinyinka , Modupe R., Ilesanmi, Marcus M., Olujobi, Babatunde A., Bakare, Omowunmi Q., 2022). Other studies on readiness without utilizing the SARA framework are ANC and childhood assessment in PHCs in Zamfara (Yankuzo, 2023), and the health management and delivery care utilization in 5 states (Gage, Anastasia J.,llombu , Onyebuchi., Akinyemi, Akanni Ibukun., 2016).

The use of the SARA framework for readiness for maternal and newborn care services assessment outside Nigeria include cases reported in Tanzania (Kimario, Agathon Avelin.,Mahmoud, Ashraf., Thomas, Jonaviva A.,Mallilah, Benardine P., Mlay, Pendo S., Olomi, Gaudensia., Mmbaga, Blandina., 2024) and Madagascar (Andriantsimietry, Sandrine H.,Rakotomanga, Raymond., Rakotovao, Jean Pierre., Ramiadrison, Eliane., Razakariasy, Marc Eric R., Favero, Rachel., Gomez, Patricia., Dao, Blami., Bazant, Eva., 2016).

A trend observed in the reviewed literature shows readiness assessments done only in PHCs for public health facilities, with none done for secondary, none for ANC alone, and none for private health facilities. Equally, no study was found on ANC readiness alone using the SARA framework in Nigeria in any secondary health facility. A study in Burkina Faso showed that the readiness of facilities attracts frequent ANC visits, with the resultant improvement in health outcomes and reduction of maternal and neonatal mortality (Appel, Inke., Lohmann,Julia., De Allegri,Manuela., Koulidiati,Jean-Louis., Somda, Serge., Robyn, Paul Jaocb., Badolo, Hermann., Brenner, Stephan., 2023). Another study found a significant association between ANC readiness and provision of care, with higher readiness resulting in a likelihood of good provision of care and good outcomes (Sheffel, Ashely., Carter, Emily., Zeger, Scott., Munos, Melinda K ., 2023)

This review was conducted to identify existing empirical evidence on facility readiness for antenatal services in Nigeria and to look for gaps so as to provide insights into the level of service provision and to identify bottlenecks that hinder the delivery of quality services.

This study seeks to add knowledge on readiness for ANC services for both private and public health facilities with the view to aiding policy formulation and implementation.

3. METHODS

This study was conducted only within publicly owned secondary health facilities located within AMAC, Abuja, FCT, which provide maternal health services. There is a total of eight (8) publicly owned secondary health facilities in AMAC that are not linked to a government parastatal, agency, or department. Garki Hospital, a publicly owned but fully privately run secondary health facility, was selected to represent a hospital with Public Private Partnership arrangements within AMAC, Abuja FCT.

Asokoro General Hospital, Nyanya General Hospital, and Karshi General Hospital were selected to represent the General Hospitals in AMAC, FCT that do not have a functional and substantive PPP arrangement in place. This selection was done to compare the readiness for ANC between the publicly managed and privately managed hospitals. Nyanya and Karshi General Hospitals are fairly matched in terms of manpower and facilities, as well as location in an area with similar socio-economic metrics. This analogy also applies to Garki and Asokoro General Hospitals. Service readiness was determined for the four selected General Hospitals using data from the National Primary Health Care Development Agency (NPHCDA) Health Facility Assessment Questionnaire administered to the maternal health officials in each facility.

Inclusion Criteria

i. Secondary health facilities primarily owned by the government with or without any form of PPP arrangements within AMAC, Abuja FCT, that have been providing services for at least the past 5 years or more
ii. Health administrators and maternal health service providers working in the selected secondary health facility for at least two (2) years before the study.
iii. Health administrators and maternal health service providers in the selected secondary health facilities who give consent to participate in the study.

Exclusion Criteria

i. Secondary health facilities with any or no form of PPP arrangements within AMAC, FCT, that are on strike during the period of the study
ii. Health administrators and maternal health service providers in the selected secondary health facilities who decline to give consent to participate in the study.

Data Collection and Analytical Techniques

Trained data collectors conducted on-site visits to the selected health facilities for direct observation and interaction with facility staff. The trained data collectors used a validated checklist and interview guides to gather comprehensive data on various domains from each selected health facility, such as infrastructure, human resources, equipment, staffing, and service delivery, among others. After the data collection was done, the data were cleaned and coded into SPSS version 25 for further analysis. Continuous data was summarized using means and standard deviation, while categorical data was presented as frequencies and percentages.

The entries were double-checked, and follow-up visits and calls were made for clarification**.**

The WHO Service Availability and Readiness Assessment (SARA) reference manual 2015 was utilized to analyze the data from the health facility assessment questionnaire to determine readiness for service provision. The domains (groups of activities and materials) in ANC services include Staff and Guidelines, Equipment, Diagnostics, and Medicine and Commodities, totaling four. The expected target is 100%, so each domain accounts for 25% (100/4) of the total score. Equal weight is assigned to each domain. The weight of indicators within each domain is derived by dividing the domain proportion by the number of indicators in that domain. For instance, the Staff and Guidelines domain has three indicators (availability of guidelines on ANC, availability of ANC checklists and/or job aids, and availability of staff trained in ANC), meaning each indicator in this domain has a weight of 8.33 (25/3). See Table 1 below.

4. RESULTS

TABLE 1: READINESS FOR ANTENATAL CARE SERVICES

Domain-Staff and Guidelines (25%)	**HOSPITALS**			
Indicators	**Karshi Hospital**	**Nyanya Hospital**	**Garki Hospital**	**Asokoro Hospital**
a. Availability of guidelines on ANC	NA	8.33	8.33	8.33
b. Availability of ANC check-lists and /or job aids	NA	8.33	8.33	8.33
c. Availability of Staff trained in ANC	8.33	NA	NA	8.33
Domain readiness	8.33 (33.3%)	16.66 (66.64%)	16.66(66.64%)	25(100%)
Domain-Equipment (25%) Blood pressure apparatus	25	25	25	25
Domain readiness	25 (100%)	25 (100%)	25 (100%)	25 (100%)
Domain-Diagnostics (25%) Heamoglobin	12.5	12.5	12.5	12.5
Urine dipstick protein	12.5	12.5	12.5	12.5
Domain readiness	25 (100%)	25 (100%)	25 (100%)	25 (100%)
Domain-Medicines and commodities (25%)				
a. Iron tablets	5	5	5	5
b. Folic acid tablets	5	5	5	5
c.Tetanus toxoid vaccine	5	5	5	5
d.IPT drug (Sulphadoxine Pyrimethamine)	5	5	5	5
e. Insecticide-treated nets (ITNs)	NA	NA	NA	NA

Domain readiness	20 (80%)	20 (80%)	20 (80%)	20 (80%)
Total % readiness	**78.33**	**86.66**	**86.66**	**94.99**

National ANC readiness: 79.7%, and FCT ANC readiness: 99.30% (field survey source from the 2023 National Health Facility Survey)

The staff and guidelines domain readiness results show 100% for Asokoro, 66.64% each for Garki and Nyanya, and 33.3% for Karshi. Domain readiness for equipment and diagnostics was 100% for all the facilities. All the facilities recorded 80% domain readiness for medicine and commodities. From the study, Asokoro hospital is the readiest facility for ANC services at 94.99%, with Karshi the least at 78.33%. None of the facilities has ITNs available.

5. DISCUSSIONS

This study assessed the readiness of selected secondary health facilities within AMAC, FCT, to deliver antenatal services to provide insights into areas that need improvement. The overall readiness for ANC services in this study was generally good, with Asokoro hospital highest at 94.99%, above the national value of 79.7% (National Bureau of Statistics, 2023). This high ANC readiness level in a facility in FCT is not surprising since the 2023 health facility survey shows FCT ANC readiness at 99.3%. High readiness for ANC is a boost for facility delivery, as reported by Ilesanmi et al., 2023) and also aids reduction of the maternal mortality rate.(Kebede, Tayue Tateke.,Godana, Wanzahun., Utaile, Mesfin Mamo., Sebsibe, Yemisirach Berhanu., 2021).

Garki and Nyanya both have ANC readiness of 86.66%, which is above the national 79.7% but below the FCT 99.3% due to a lack of training on ANC. This finding is similar to a study in Ethiopia, which shows that private health facilities have less availability of staff trained in ANC (Alemu, Addisu Alehegn., Welsh, Alec., Getachew, Theodros., Khajehei, Marjan.,2025). Both facilities need to work on staff training to be able to improve on ANC readiness to the commendable FCT level. Training is very critical for ANC services delivery. The absence of training will prevent providers from acquiring the knowledge necessary to educate pregnant women on how to detect and manage abnormalities in pregnancy when attending ANC. Educating pregnant women on FANC has been shown to lead to improved pregnancy-related outcomes (Haruna-Ogun, 2023).

Karshi hospital has 78.33 % readiness, which is similar to the national 79.7%, but very poor compared to the FCT 99.3%. This relatively poor readiness level at Karshi is due to the weaknesses in the staff and guidelines domain as a result of a lack of guidelines for ANC, as well as the checklist/job aids. This lack of guidelines will lead to non-adherence to stated procedures and poor service delivery at this hospital. Availability and adherence to guidelines have been proven to improve the quality of care and lead to better outcomes, as supported by a study in Ghana (Amoakoh-Coleman, Mary., Kilpstein-Grobusch, Kerstin., Agyepong, Irene Akua., Kayode, Gbenga A., Grobbee, Diederick E., Ansah, Evelyn K., 2016).

None of the facilities had ITNs available at ANC visits. ITNs are essential tools in the fight against malaria, particularly in endemic regions like Nigeria due to the negative effects of malaria during pregnancy, including maternal anemia, pregnancy loss, preterm births, intrauterine growth retardation, and perinatal mortality(Kamga, Sabrina Lynda Simo., Ali, Innocent Mbulli., Ngangnang,Ghislain Romeo., Ulucesme,Mehmet Can., Keptcheu, Leonard., Keming, Eva Mai., Tchuenkam, Valery- Pacome Kom., Foyet, Juluis Visney., Aktas, Munir., Nouborn, Michel., Payne, Vincent K., 2024). ANC can be a viable channel for ITNs distribution in health facilities as reported by a study in Ghana (Nuñez,Luigi.,Skejefte, Malia., Asamoah, Obed E., Owusu, Prince., Malm, Keziah., Miller, Jane E., 2023).

6. CONCLUSIONS AND RECOMMENDATIONS

In this study, readiness for antenatal service provision was higher or comparable in all four facilities compared to the national value. However, the reported lack of training in focused antenatal care (FANC) in the last two years from Garki and Nyanya hospitals needs to be addressed through strong regulatory monitoring and evaluation activities. Karshi hospital requires improvements in the availability of guidelines and job aids for ANC. The data indicates the same ANC readiness at the publicly managed Nyanya hospital and the privately managed Garki hospital. This suggests there is no apparent advantage between the publicly managed and privately managed facilities regarding ANC readiness in this study.

The facilities located in urban and semi-urban areas (Asokoro, Garki& Nyanya) have better ANC readiness than the Karshi hospital, which is located in a rural area. ANC is crucial in the maternal health continuum and can serve as an essential channel for improved maternal health outcomes. A robust, independent, and well-trained monitoring and evaluation team, including both public and private sector representatives, should be established to effectively oversee health facilities, particularly in areas such as staff training and capacity building. Additionally, checklists and work aids should be provided to healthcare providers. Considerations should also be made for the potential distribution of ITNs during ANC visits.

Readiness assessments for ANC services should be carried out annually due to the high maternal mortality rate in Nigeria to improve on this key health index for our health system.

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Citation

Sunday Agamah, Oluwafemi Boluwatife Priscilla and Sanusi Abubakar (2025) Readiness for Antenatal Services among Selected Secondary Health Facilities in Abuja, FCT, Nigeria. *Nigerian Journal of Social Health* 2 (2) 26 – 36.

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