Factors Hindering Quality of Antenatal Care Among Pregnant Women Attending Primary Healthcare in Ede, Osun State, Nigeria

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Abstract

Background: Quality antenatal care is crucial for achieving Sustainable Development Goals in both developing and developed countries. This study aimed to identify factors hindering the quality of antenatal care among pregnant women attending primary healthcare facilities in Ede South, Osun State, Nigeria.

Methods: A descriptive cross-sectional study was conducted, and data were collected using questionnaires. We used Chi-square and multivariable logistic regression for data analysis.

Results: Factors that significantly hindered the quality of antenatal care included healthcare workers not rendering services promptly (p=0.001; AOR=2.87; CI=1.55-5.3), lack of modern equipment (p=0.00; AOR=4.23; CI=2.13-7.75), and healthcare workers lacking sufficient skills (p=0.01; AOR=2.4; CI=1.23-4.68). No significant association was found between socio-demographic variables and perceived quality of antenatal care.

Conclusion: Pregnant women perceive good-quality antenatal care at primary healthcare centers. However, factors such as delayed services, outdated equipment, and inadequate healthcare workers' skills significantly hinder the quality of care. Addressing these factors could improve the quality of antenatal care services in primary healthcare facilities in Ede South, Osun State, Nigeria.

Keywords: Antenatal care, pregnant women, primary healthcare, factors

Introduction

Pregnancy and childbirth are two important periods in the lives of women and their children. Health outcomes are influenced by the utilization of quality antenatal care (ANC) services and the presence of a skilled birth attendant during childbirth. Low utilization of quality ANC and delivery services is a significant factor contributing to maternal and neonatal deaths and disabilities, which is a public health challenge worldwide (Kyei-Nimakoh et al., 2017).

To prevent the likelihood of women and teenage girls experiencing pregnancy-related disorders and to enable early detection and intervention, the WHO (2016) antenatal care model recommends

eight visits to antenatal care for all pregnant women, compared to only four visits (the previous recommendation from WHO). Pregnant women should receive antenatal care in their first trimester (0-12 weeks of gestation), and subsequent visits take place at 20, 26, 38, and 40 weeks of gestation (WHO, 2016).

Research indicates that the Nigerian government's safe motherhood program, which aimed to improve access to facility care and lower maternal mortality, faced several challenges. These included cultural norms and beliefs that limited women's access to high-quality maternal health services, particularly in rural areas. Consequently, this increased maternal mortality (Ajegbile, 2023; Oladimeji & Fatusi, 2022; Udenigwe *et al.,* 2023).

Primary Health Care (PHCs), which is the first level of Nigeria's three-tiered health system, has been found with limited use of maternal health services. These PHCs are regarded as the primary point of call for all Nigerians, whether in rural or urban regions, and are situated within five kilometers of residential areas (Ahuru *et al.,* 2021; Ntoimo *et al.,* 2022; Okonofua *et al.,* 2022).

According to Aregbeshola and Khan (2017), only 20% of Nigeria's 30,000 PHCs are operational, restricting women's access to high-quality maternal health services. These restrictions may explain why women prefer traditional methods and traditional birth attendants who reside in local communities and are thought to offer culturally competent care during labor (Ntoimo et al*.,* 2022; Eluobaju et al., 2023).

Quality antenatal care services are characterized by service efficiency, timeliness, effectiveness, equity, accessibility, comprehensiveness, acceptability, appropriateness, continuity, privacy and confidentiality (Makonnen et al., 2017). The quality of antenatal care is the most important issue and the main predictor variable in achieving sustainable development goals in developing and developed countries (Akachi et al., 2017). Only half (53%) of women in North-Western Nigeria between the ages of 15 and 49 years visited antenatal care at least once with a skilled provider during their most recent pregnancy, and only 16% delivered at a healthcare facility, according to the 2018 Nigeria Demographic and Health Survey (NPC, 2019). Physical infrastructure, human resources, knowledge, expertise, and capacity to handle routine pregnancies and problems necessitating quick life-saving treatments determine quality care. Inputs, the delivery of care or services, and the results must all be measured using standards of care (Panneerselvam, 2017).

Quality antenatal care is a fundamental right for women to safeguard their health, help them maintain normal pregnancies, and reduce the rate of maternal mortality and morbidity (Catalano, 2020). According to Okafor *et al*. (2015), inadequate staffing, lack of essential drugs and medical supplies, poor infrastructure, inadequate training of healthcare workers, cultural beliefs, and socioeconomic factors hinder the quality of antenatal care provided to pregnant women. Additionally, Aduloju

et al. (2020) discovered that elements such as ineffective patient-provider communication, lack of patient privacy during consultations, and lengthy waiting times might all have a negative or adverse effect on the quality of care in Nigeria.

Pregnant women in primary healthcare institutions in Nigeria continue to receive inadequate care despite efforts to enhance antenatal care, which can harm maternal and neonatal outcomes (Fawole et al., 2020). In a study conducted by Adeyemi et al. (2019), it was found that the factors hindering the quality of care were inadequate information and education regarding antenatal care, poor communication between patients and healthcare providers, and lack of trust in healthcare providers. However, there is little information on the precise factors hindering antenatal care quality in Ede South Local Government, Osun State. Therefore, this study sought to determine the factors hindering the quality of antenatal care among pregnant women attending primary healthcare facilities in Ede, South Local Government, Osun State.

The study was guided by two research questions: (1) What is the quality of antenatal care for pregnant women at primary healthcare facilities in Ede South, Osun State? (2) What factors hinder quality antenatal care at primary healthcare in Ede, Osun?

Literature Review

Antenatal care is critical for identifying and managing conditions that can cause maternal morbidity and mortality if left untreated (McCauley et al., 2022*)*. Antenatal care is a woman's initial opportunity to engage with official health services, which connects her to a referral system for pregnant women who experience difficulties (Tadesse & Modibia, 2020). Direct causes of maternal mortality arise during or after pregnancy, whereas indirect causes are not directly related to pregnancy or care (Aghajani et al., 2022). The direct causes of maternal death include complications during pregnancy, although many other factors may also play a role (Tesfay et al., 2023).

The provision and utilization of ANC services are influenced by different factors, including poor quality of care, socio-demographic and socio-cultural characteristics of patients, education, occupation, ethnicity, social relationships, and patients' income level; logistical aspects such as waiting time and facility location; and social perception of general health, illness, and diseases (Konlan et al., 2020).

A survey conducted in Nigeria reported a 46.5% prevalence of ANC underutilization (Adewuyi et al., 2018). The utilization of antenatal care services is associated with several sociodemographic and economic factors, including availability and access to healthcare services, past experience of complications during delivery, and motivation by either health care providers or family, among others (Adewuyi *et al.,* 2018; Adhikari *et al*., 2020). Nigeria faces significant developmental challenges, including poor reproductive health indices and high

maternal mortality rates (El-Khatib et al., 2020).

Many studies across different parts of Nigeria have shown the reasons why women do not want to deliver in health facilities and prefer to deliver at home or with Traditional Birth Attendants (TBA), even when they attend ANC, and know the importance and benefits of delivering at the health facility. Factors that influence the quality of care include individual, household, community, and state levels; sociocultural factors; religious practices; distance; cost of services; long waiting time in health facilities; and attitudes of health workers (Abubakari *et al*., 2017; Adedokun & Yaya, 2020; Johnson *et al.,* 2020; Adewuyi *et al.,* 2018 & Umar, 2017).

Assessment of the quality of ANC is imperative for improving care provision during pregnancy and ensuring good health outcomes for the mother and baby (Arsenault et al., 2018). Systematic supervision of the mother during pregnancy is the core intervention within the continuum of care (Muchie, 2017).

Methods

Study Setting

The state of Osun is located in western Nigeria, with a population of 3,416,959 and 30 Local Government Areas. It is inhabited mainly by Yoruba, its economy is based mainly on agriculture, and its capital is Osogbo. Ede town in Osun state is located in the southwestern part of Nigeria. Ede South is a Local Government Area in Osun State, Nigeria. It consists of ten political wards and has a Secretariat in the town of Ede. It covers an area of 219 km².

Research Design

A descriptive cross-sectional study was used to investigate the factors hindering the quality of antenatal care among pregnant women attending primary healthcare facilities in the Ede South Local Government, Osun State, Nigeria, between February 7 and March 10, 2024. The study included pregnant women attending primary healthcare in the Ede South Local Government and willing to participate.

Sample

A sample size of 274 was calculated using the Leslie–Kish formula, with a 95% confidence interval, a 5% marginal error (d), and the prevalence of pregnant women who received the recommended ≥8 ANC contacts. A multi-stage sampling technique was used in this study. The first stage involved identifying and listing all the primary health care (PHC). A simple random sampling was used to select seven out of the eighteen listed PHCs. These seven PHCs included Jagun-Jagun Primary Health Center, Sekona PHC, Alajue-Oja, Akoda PHC, Kuye PHC, Obada PHC, and Baba-Sanya PHC. Pregnant women who were present on the day of data collection and were willing to participate in the study were systematically selected from the antenatal clinic registers. The respondents were selected at intervals using odd numbers until the desired sample size was met.

Data Collection Tools

The researchers used a self-designed questionnaire, partly based on Mwanja and Kasonga's 2022 work, to collect data from pregnant women visiting primary healthcare facilities in Ede, Osun State. Linguists translated the questionnaire into the local Yoruba language for women who could not read English. To ensure accuracy, the translations were reviewed and then back-translated into English. The questionnaire was also pre-tested on 10% of pregnant women receiving antenatal care in similar settings.

Data Processing and Analysis

Two research assistants assisted the research team in collecting the data. The research assistants received training to understand the content of the questionnaire. The collected data were checked for completeness and consistency and entered into the Statistical Package for the Social Sciences (SPSS) software, version 25, for analysis.

Descriptive statistics were calculated, including frequencies, means, and standard deviations. Bivariate analysis was conducted to assess the relationships between variables. Each variable was initially analyzed using bivariate logistic regression, and independent variables with a P-value < 0.2 were included in the multivariable logistic regression model. Multivariable logistic regression was used to identify the key predictor variables associated with the quality of ANC services while controlling for confounding variables. Lastly, variables with a P-value < 0.5 were deemed statistically significant.

Ethical Consideration

The study was conducted following the review and approval by the Adeleke University, Ede Ethical Review Committee (AUERC), with reference number (AUERC/2023/11/33/PH-UG/042). Research assistants were guided on handling sensitive and emotional issues and maintaining confidentiality. Also, the Medical Officer of Health (MoH) representing the Ede South Local Government granted permission for the study. All respondents provided written informed consent and were informed that their participation was voluntary.

Results

Socio-demographic Characteristics

Table 1 presents the sociodemographic characteristics of the respondents. The respondents ranged in age from 19 to 40 years, with a mean age of 25.5 years and a standard deviation of ±3.42. Over half of the respondents (53.6%) were between 25 and 34 years, 44.5% were between 15 and 24 years, and 1.8% were between 35 and 44 years. Most respondents (71.9%) identified as Muslim, 96% were of Yoruba descent, 71.5% had completed secondary school, and 86.9% were married. Additionally, 55.1% of respondents were traders, and 58% had 1 to 2 children. A small proportion (34.7%) received a monthly income of <₦N5,000, while 53.6% of the respondents' husbands were business owners.

Table1.

Frequency Distributions of Respondents by Sociodemographic Characteristics

Variable	Category	Frequency	Percent%
Age	15-24 years	122	44.5
	25-34 years	147	53.6
	35-44 years	5	1.8
	Mean age (±3.42)		
Religion	Christianity	77	28.1
	Islam	197	71.9
Tribe	Yoruba	263	96.0
	Igbo	2	7
	Others	9	3.3
Level of Education	No formal Education	13	4.7
	Primary	13	4.7
	Secondary	196	71.5
	Tertiary	52	19.0
Marital Status	Single	26	9.5
	Married	238	86.9
	Divorced	1	.4
	Separated	7	2.6
	Others	2	0.7
Occupation	Trader	151	55.1
	Artesian	79	28.8
	Civil Servant	15	5.5
	Unemployed	29	10.6
Parity	0	73	26.6
	1-2	159	58.0
	3-4	42	15.3
Monthly Income	<5,000	95	34.7
	10,000-29,999	92	33.6
	30,000-49,999	67	24.5
	>50,000	20	7.3
Husband's Occupation	Business	147	53.6
	Artesian	85	31.0
	Civil Servant	22	8.0
	Unemployed	20	7.3

Table 2 shows the quality of antenatal care services from the respondents' perspective. The range of possible scores for the quality of antenatal services was 0-20, while the actual scores ranged from 2 to 17, with a mean score of 10.6 and a standard deviation of 2.63. A moderate proportion (55.8%) had actual scores between 11 and 20, whereas 44.2% scored between 0 and 10.

Table 2

Quality of Antenatal Care Services

Variable	Scores	Frequency	Percent
Quality of Antenatal Care Services	Poor (0-10)	121	44.2
	Good (11-20)	153	55.8
		274	100.0

Figure 1 displays the percentage of respondents regarding factors that hinder the quality of antenatal services. The results revealed that most (83.6%) reported that healthcare workers (HCWs) possess good communication skills. The majority (75.5%) noted that HCWs provided easy access to appointments, while most (61.7%) indicated that HCWs did not deliver services on time. A small proportion (18.6%) of respondents said they were willing to solve the problem.

Figure 1

Factors Hindering Quality of Antenatal Care

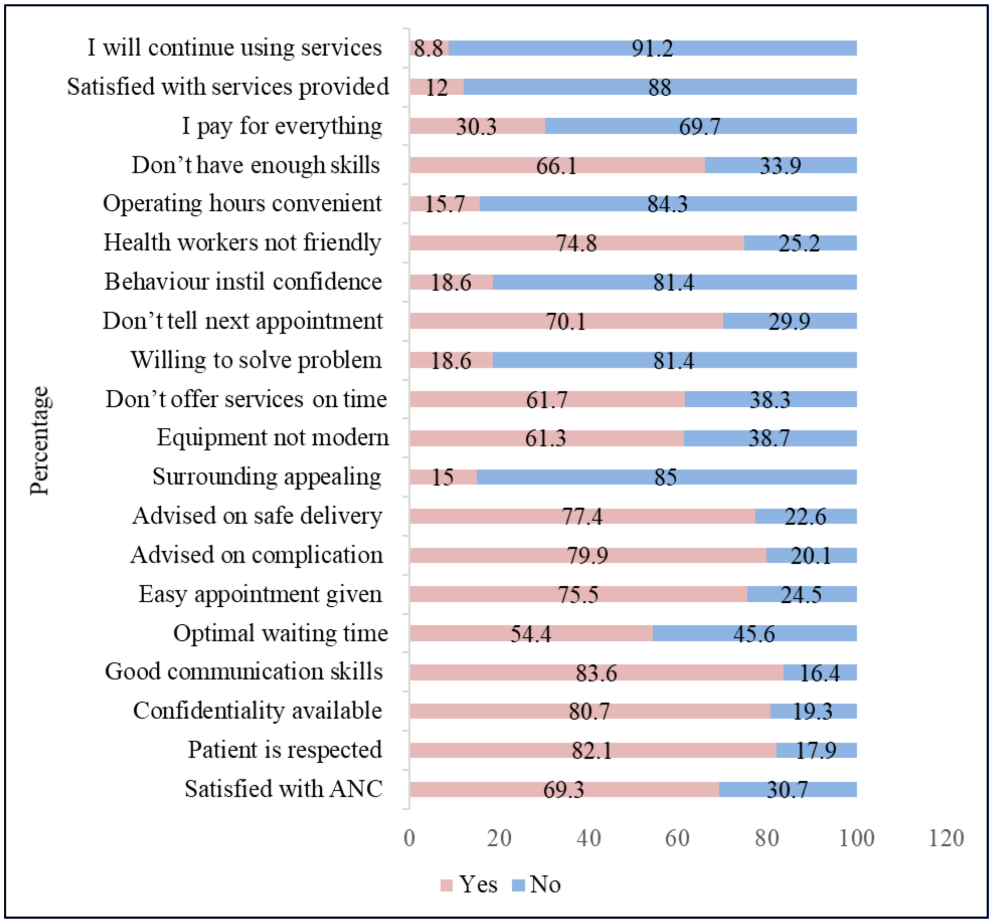

Table 3 shows the analysis of the independent variables. The results indicate that delayed service from HCW (p value=0.001, AOR=2.87, CI=1.55-5.3), not being informed about the next appointment by HCW (p value=0.005, AOR=2.73, CI=1.36-5.5), unfriendliness of HCW (p value=0.129, AOR=1.93, CI=0.82-4.54), inadequate skills of HCW (p value=0.01, AOR=2.4, CI=1.23-4.68), poor command skills of HCW (p value=0.7, AOR=1.12, CI=0.5-2.49), and outdated equipment (p value=0.00, AOR=4.23, CI=2.13-7.75) all had significant effects.

Table 3

Logistic Regression Analysis of Quality of services against factors inhibiting quality of service

Variable	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
HCWs don't offer services on time (1)	1.05	0.31	11.4	1	*0.001	2.87	1.55	5.3
HCWs don't tell next appointment (1)	1.007	0.35	7.96	1	*0.005	2.73	1.36	5.5
HCWs are not friendly (1)	0.66	0.43	2.30	1	0.129	1.93	0.82	4.54
HCWs don't have enough skills (1)	0.87	0.34	6.68	1	*0.01	2.40	1.23	4.68
HCWs don't have good comm skills (1)	0.11	0.40	0.08	1	0.7	1.12	0.50	2.49
Equipment not modern (1)	1.44	0.30	21.9	1	*0.00	4.23	2.31	7.75
Constant	-3.09	0.53	33.2	1	0.00	0.04		

* Depicts variables with p value ≤0.05

Table 4 show that age had a p value of 0.45, religion had a p value of 0.77, tribe had a p value of 0.65, level of education had a p value of 0.64, marital status had a p value of 0.45, occupation had a p value of 0.70, parity had a p value of 0.27, and monthly income had a p value of 0.06.

Table 4

Logistic Regression Analysis of Quality of Antenatal Services vs. Socioeconomic Factors

Sociodemographic Variables	Wald	Df	Sig.
Age	3.68	4	0.45
Religion	0.08	1	0.77
Tribe	0.85	2	0.65
Level of Education	1.68	3	0.64
Marital Status	3.62	4	0.45
Occupation	1.39	3	0.70
Parity	2.59	2	0.27
Monthly Income	7.21	3	0.06
Constant	0.05	1	0.81

* Depicts variables with p value ≤0.05

Discussion

This study recruited participants with a mean age of 25.5 years and a standard deviation of +3.42. Moderate proportions (53.6%) of respondents were between 25 and 34 years old, which is an ideal explanation for women of reproductive age who visit antenatal care clinics. This finding is similar to that of Tawose et al. (2023), with the majority (26.0%) of the respondents being between the ages of 25 and 29 years. A large number (86.9%) of the respondents were married, suggesting that they were with their husbands and had the opportunity to visit the clinic for care. Just over half (55.1%) of the respondents were traders, 58% had 1-2 children, and about one-third of the respondents (34.7%) earned a monthly income of under N5,000. Additionally, approximately half (53.6%) had husbands who were business owners. This sociodemographic characteristic is representative of the population of Southwest Nigeria.

This study assessed the factors hindering the quality of antenatal care among respondents. More than half of the respondents (55.8%) said that they were satisfied with antenatal services. These services include pregnant women not having to pay for everything demanded, friendly health workers, advice on safe delivery, guidance on complications, easy appointment scheduling, short waiting times, good communication skills, confidentiality, and respectful treatment.

Quality of antenatal care scores ranged from 2 to 17, with an average score of 10.6 and a standard deviation of 2.63. A significant portion (55.8%) of respondents scored between 11 and 20, while 44.2% scored between 0 and 10. Our findings indicate that antenatal care is generally of good quality among respondents. This aligns with Azodoh et al. (2021), who found high satisfaction with the quality of services at primary healthcare centers. However, it differs from other studies: Fesseha et al. (2014) reported that the perceived quality of antenatal care was

very poor, Afulani et al. (2019) observed suboptimal quality, and Majrooh et al. (2014) reported extremely poor quality of antenatal services.

This study also conducted a logistic regression analysis of the quality of services against factors that inhibit service quality. The inhibiting factors included: HCW not offering services on time (p=0.001, AOR=2.87, CI=1.55-5.3), HCW not informing patients about the next appointment (p=0.005, AOR=2.73, CI=1.36-5.5), HCW not being friendly (p=0.129, AOR=1.93, CI=0.82-4.54), HCW lacking sufficient skills (p=0.01, AOR=2.4, CI=1.23-4.68), HCW not having good communication skills (p=0.7, AOR=1.12, CI=0.5-2.49), and equipment not being modern (p=0.00, AOR=4.23, CI=2.13-7.75). The factors HCW not offering services on time, HCW not informing patients about the next appointment, HCW lacking enough skills, and outdated equipment are statistically significantly associated with the quality of antenatal care.

However, HCWs who are not friendly and lack good communication skills are not significantly linked to the quality of antenatal care. The chances of receiving good quality care are about three times higher when services are provided on time by HCWs compared to when they are not. The chances of receiving good quality care are about three times higher when HCWs inform patients about their next appointment compared to when they do not. The chances of receiving good quality care are about twice as high when HCWs have adequate skills compared to when they lack them. The chances of receiving good quality care are about four times higher when the equipment is modern compared to when it is not. This finding is similar to that of Majrooh et al. (2014), who observed a lack of facility resources and an indifferent attitude leading to low quality of care, and Hijazi et al. (2018), who found that scheduled follow-up appointments and providing dignified and respectful care influenced the quality of care.

This study conducted logistic regression on the quality of antenatal services against age, religion, tribe, level of education, marital status, occupation, parity, and monthly income. The socio-demographic variables showed the following p-values: age p=0.45, religion p=0.77, tribe p=0.65, level of education p=0.64, marital status p=0.45, occupation p=0.70, parity p=0.27, and monthly income p=0.06. This indicates that there is no statistically significant association between these variables and the quality of antenatal services. This finding contradicts the study by Joshi et al. (2014), which revealed that older age, higher parity, higher levels of education, and higher household economic status of women were predictors of good quality ANC.

Conclusion

This study revealed factors hindering pregnant women from attending primary healthcare centers in Ede South Local Government. The factors reported were staff not having enough skills, operating hours not convenient, health workers

not being friendly, not providing next appointment date, not willing to solve problems, not offering services on time, not having modern equipment, and surrounding not appealing. It is recommended that the quality of antenatal care services be maintained and that pregnant women be able to utilize the facilities that serve as the first level of healthcare in the community. In addition, factors hindering quality of antenatal services should be addressed such as ensuring that HCWs offer services on time, HCWs tell patients their next appointment, equipment are modern, and improving the skills of HCWs.

This cross-sectional study could not establish causal links between prenatal care quality and the factors identified. Additionally, because it was conducted in selected primary healthcare centers, it may not accurately represent all pregnant women in the area, especially those who do not visit private clinics or official healthcare facilities.

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