Perceived Effects of Language Barrier on Quality Healthcare among Pregnant Women in Selected Primary Health Centres in Lagos State

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Abstract

Language barriers substantially hinder healthcare outcomes, especially among vulnerable groups such as pregnant women. This study evaluated the perceived impacts of language barriers on quality healthcare delivery for pregnant women attending selected primary health centers in Lagos State, Nigeria. Specific objectives included assessing participants' knowledge of language barriers, their perceived effects on healthcare quality, and the underlying influencing factors. Using an accidental sampling method, 132 pregnant women were recruited, with 130 questionnaires validated for analysis. Data were gathered via a self-designed questionnaire and analyzed descriptively using frequency distributions, percentages, bar charts, SPSS version 23, and Microsoft Excel 2010.

Results indicated a high overall knowledge level of language barriers among participants. Key perceived effects on healthcare quality encompassed delayed interventions (93.8%), medication misuse (58.5%), challenges in decision-making (52.3%), strained provider-patient relationships (48.5%), and avoidable costs (20.0%). Influencing factors included cultural disparities (90.8%), low educational attainment (80.0%), lack of interpreter services (57.7%), and limited availability of educational materials (5.4%). Statistical analysis revealed significant associations between education level and knowledge of language barriers ($p<0.05$*p*<0.05), as well as between knowledge and perceived effects ($p<0.05$*p*<0.05). These findings underscore the necessity for targeted communication strategies, such as interpreter services and culturally sensitive care, to support linguistically diverse pregnant women.

Keywords:

perceived effects, language barriers, healthcare quality, pregnant women

Chapter One

Introduction

Background to the Study

Access to quality healthcare constitutes a fundamental human right and is essential for optimizing health outcomes, particularly among vulnerable populations such as pregnant women (World Health Organization [WHO], 2021). Language barriers, however, profoundly compromise healthcare quality for these women, resulting in suboptimal care and heightened risks of adverse outcomes (Flores, 2021). This challenge is especially acute in multicultural settings like Lagos State, Nigeria, where pregnant women from diverse linguistic backgrounds access services (Ajayi et al., 2021). Such barriers impede effective provider-patient communication, fostering misunderstandings, diminished engagement, and non-adherence to treatment protocols

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(Karliner et al., 2022). For pregnant women, who require tailored prenatal, intrapartum, and postpartum care, these issues can precipitate delayed diagnoses, treatment errors, and dissatisfaction with services (Bischoff et al., 2022; Brisset et al., 2022). Local evidence from Lagos State indicates that language barriers erode trust in providers, deterring care-seeking behaviors (Odukoya et al., 2023). Systematic reviews corroborate these findings, linking language barriers to reduced patient satisfaction, elevated risks of poor birth outcomes, and maternal mental health declines (Guttman et al., 2023). In comparable contexts, limited proficiency in dominant languages correlates with untimely prenatal care and communication errors (Perez-Stable & Napoles, 2021). Addressing these requires insights from pregnant women, providers, and policymakers to devise interventions like professional interpreters, linguistically adapted materials, and culturally competent care (Betancourt et al., 2022; Bischoff et al., 2022). In primary healthcare settings—the initial contact point for many pregnant women—language barriers exacerbate disparities, particularly among immigrants and ethnic minorities, with enduring effects on maternal and neonatal health (Levesque et al., 2022; Ngocho et al., 2022; Tulenko & Buchan, 2022). This study thus examines the perceived effects of language barriers on healthcare quality among pregnant women in selected primary health centers in Lagos State.

Statement of the Problem

Language barriers have long impeded quality healthcare for pregnant women attending antenatal clinics, correlating with reduced clinic attendance, heightened maternal mortality, and morbidity risks. These barriers undermine patient-provider satisfaction, care quality, and maternal safety. Despite global reductions in maternal mortality ratios (MMR) by 34.2% from 2000 to 2020, sub-Saharan Africa faces persistently high rates, driven by resource shortages, facility limitations, and inequities in access—exacerbated by language barriers disproportionately affecting immigrant patients (WHO, 2020). Antenatal attendance remains critical for safe pregnancies and complication-free deliveries, yet multilingual contexts amplify these risks. This study investigates the perceived effects of language barriers on antenatal care quality in selected Lagos State primary health centers.

Objectives of the Study

BroadObjective

To assess the perceived effects of language barriers on quality healthcare among pregnant women attending Coker and Ayantuga Primary Health Centers in Lagos State.

Specific Objectives

- To evaluate knowledge levels of language barriers among pregnant women in selected primary health centers in Lagos State.
- To examine perceived effects of language barriers on healthcare quality among these women.
- To identify factors influencing language barriers in healthcare for these women.

Research Questions

- What is the knowledge level of language barriers among pregnant women in selected primary health centers in Lagos State?
- What are the perceived effects of language barriers on healthcare quality among these women?
- What factors influence language barriers in healthcare for these women?

Research Hypothesis

There is no significant relationship between education level and knowledge of language barriers among pregnant women in selected primary health centers in Lagos State ($p \geq 0.05 p \geq 0.05$).

Significance of the Study

This study furnishes empirical evidence on language barrier effects in primary health centers within Odi-Olowo Local Government

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Area, informing policies and interventions to enhance immigrant access to care. It advances the limited Nigerian literature on this topic, guiding Information, Education, and Communication (IEC) strategies to boost antenatal utilization among non-indigenous women. Findings offer resources for providers, policymakers, and researchers to refine maternity communication and mitigate barriers. The work enriches scholarly discourse, serving as a reference for future investigations.

Scope of the Study

This study is delimited to pregnant women accessing antenatal services at Coker and Ayantuga Primary Health Centers in Lagos State.

Operational Definition of Terms

- Perception: Pregnant women's beliefs regarding language barrier impacts on healthcare quality during antenatal attendance in selected Lagos State primary health centers.
- Effects: Outcomes arising from language barriers during antenatal care in these centers.
- Language Barrier: Communication impediments between providers and pregnant women in selected centers.
- Healthcare: Services provided by professionals (e.g., doctors, midwives) to support pregnant women's health in primary facilities.
- Pregnant Women: Women with uterine fetuses attending antenatal clinics in selected centers.

Chapter Two
Literature Review

Introduction

This chapter reviews literature on the perceived effects of language barriers on healthcare quality for pregnant women attending antenatal clinics in Lagos State. It encompasses conceptual, theoretical, and empirical dimensions to contextualize the study.

Conceptual Review

Definitions of Key Concepts

Language barriers denote communication difficulties arising from linguistic differences between individuals or groups, often resulting in misunderstandings and impeded information exchange (Sharma & Anand, 2022; Lai & Tsai, 2021). Globally, approximately 25% of patients experience language discordance with providers, particularly in immigrant and minority communities (Flores, 2020).

PregnantWomen

Pregnant women are individuals carrying a developing fetus following fertilization of an ovum by sperm, undergoing physiological and hormonal adaptations to support fetal growth over approximately 40 weeks.

Impacts of Language Barriers on Pregnant Women

- Healthcare Access: Linguistic discordance hinders system navigation, appointment scheduling, and comprehension of instructions, leading to delayed or avoided care and poorer maternal-fetal outcomes (Becker et al., 2021; Jacobs et al., 2020).
- Patient-Provider Communication: Barriers obstruct history-taking, symptom reporting, and explanations of diagnoses or treatments, fostering errors and suboptimal decisions (Karliner et al., 2021).
- Healthcare Quality and Outcomes: Associations include reduced prenatal access, dissatisfaction, and adverse events such as delayed diagnoses and non-adherence (Jacobs et al., 2021; Gan et al., 2022; Shi et al., 2022).

Consequences for Maternal and Fetal Health

Language barriers elevate risks of:

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- Preterm birth (before 37 weeks, with heightened neonatal complications).
- Low birth weight (≤2,499≤2,499 g, per WHO, requiring intensive monitoring).
- Stillbirth (fetal loss after 20 weeks).
- Delayed screenings for genetic, congenital, or growth issues.
- Impaired informed consent and decision-making.
- Postpartum issues (e.g., hemorrhage, depression, mastitis; Sentell et al., 2020).

Factors Influencing Language Barriers in Healthcare

- Socioeconomic status (limited access to interpreters or resources).
- Cultural differences (norms affecting communication styles).
- Education level (challenges with medical terminology).
- Availability of interpretation services in primary centers.
- Emotional factors (anxiety, isolation, reduced advocacy).
- Provider-patient rapport (trust mitigates effects).
- Health literacy (impedes prenatal engagement).
- Technological solutions (e.g., apps, virtual interpreters).

Quality Healthcare Services

Quality healthcare entails comprehensive, accessible, patient-centered care meeting clinical standards and expectations. For pregnant women, this includes:

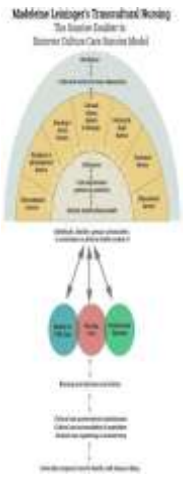
- Evidence-based clinical excellence.
- Childbirth education.
- Screenings (e.g., ultrasounds, gestational diabetes tests).
- Nutritional counseling.
- Coordinated, holistic services emphasizing accessibility and prevention.

Theoretical Framework

This study adopts Leininger's Theory of Culture Care Diversity and Universality, developed by Madeleine Leininger in the 1950s as a cornerstone of transcultural nursing. The theory posits that culturally congruent care—aligned with patients' values—optimizes health outcomes by addressing cultural influences on health perceptions and practices. Core concepts include:

- Cultural Care Diversity: Varied cultural interpretations of health, illness, and care.
- Cultural Care Universality: Shared human care elements transcending cultures.
- Transcultural Nursing: Nurses' cultural competence to adapt practices harmoniously with patients' beliefs.

Leininger's framework guides this study by highlighting language as a cultural factor in maternal care, promoting interpreter use and culturally sensitive interventions to enhance



communication and equity in Lagos State's diverse primary health settings.

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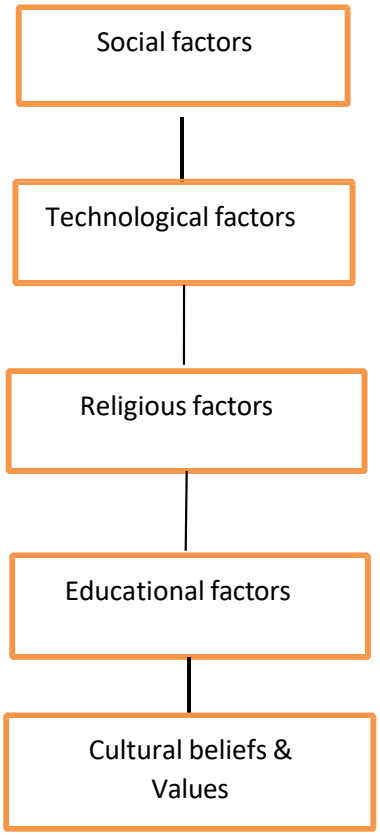
Figure 1: Diagrammatic illustration showing Leninger's Cultural Care Diversity and Universality Theory

Application of Leininger's Theory to The Study

Leininger's Theory of Culture Care Diversity and Universality directly inform this investigation of language barriers in antenatal care, emphasizing culturally congruent interventions to mitigate communication challenges.

- Cultural Care Diversity: Pregnant women from diverse linguistic backgrounds in Lagos State may adhere to culture-specific dietary practices, rituals, or traditional healing during pregnancy. Providers must recognize these variations and integrate safe, beneficial elements into care plans, using interpreters to bridge language gaps and ensure comprehension.
- Cultural Care Universality: Universal values, such as reverence for pregnancy and childbirth, transcend cultures. Nurses can foster supportive environments by respecting these shared beliefs, employing language-concordant communication to affirm women's preferences and enhance trust in primary health settings.
- Transcultural Nursing: Cultural-linguistic conflicts may arise between patients' practices and professional recommendations. Culturally competent nurses negotiate mutually viable solutions via interpretation services, safeguarding maternal-fetal safety without compromising care quality.

This application underscores the theory's utility in developing targeted strategies—like professional interpreters and culturally adapted materials—to address language barriers and optimize healthcare equity for pregnant women.



Individuals, families, groups, communities or institutions in di verse health context of;

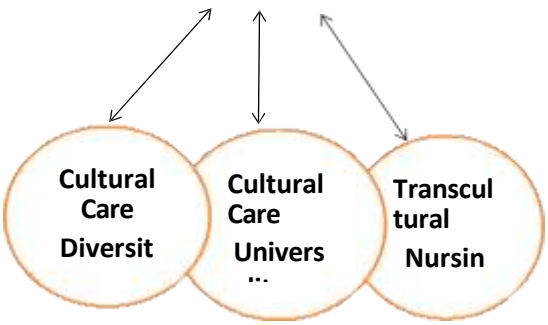


Figure 2: Diagrammatic illustration of the application of Madeleine Leininger's theory (key concepts)

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Empirical Review

Knowledge of Language Barriers among Pregnant Women

Recent studies (2020–2024) illuminate pregnant women's awareness of language barriers in healthcare. In Enugu State, Nigeria, Okafor et al. (2021) reported that 76% of participants encountered such barriers during provider interactions. Similarly, Okafor and Reidpath's (2020) qualitative inquiry in Ibadan revealed widespread recognition of communication challenges, with women voicing frustrations over unmet needs. Internationally, Hamwi et al. (2023) analyzed 2,712 Portuguese women, finding 2,610 (96.2%) with complete language proficiency data. Excluded cases (often African migrants, younger, low-education, multiparous, or smokers) highlighted disparities in prenatal care utilization linked to proficiency.

Perceived Effects of Language Barriers on Healthcare Quality

Evidence underscores profound impacts. Amanti et al. (2023) in Ethiopia documented discordance leading to medical errors, poor adherence, reduced care-seeking, added costs, prolonged stays, weakened rapport, bias, eroded confidence, and dissatisfaction for patients; providers faced history-taking difficulties, diagnostic burdens, and workload increases. Ad hoc interpreters (e.g., bilingual relatives or staff) were common mitigations. In Nigeria, Eze et al. (2020) found 79% of pregnant women acknowledging effects like impaired concern expression and advice comprehension, compromising care quality.

Factors Influencing Language Barriers

Socioeconomic factors amplify barriers. Okafor et al. (2021) linked low income to restricted interpreter access and linguistically appropriate materials. Adeyemo et al. (2020) in rural Nigeria identified ethnic minority status as a key driver, hindering instruction comprehension, follow-up, and information access in prenatal/postpartum care.

These studies affirm language barriers' prevalence but reveal gaps in Lagos State primary settings, particularly regarding knowledge levels, perceived effects, and interventions—warranting this investigation

Chapter Three

Research Methodology

Introduction

This chapter delineates the research design, study setting, population, sampling techniques, data collection instruments, validity and reliability procedures, data collection and analysis methods, and ethical considerations.

Research Design

This study employed a descriptive cross-sectional design utilizing quantitative methods to assess the perceived effects of language barriers on healthcare quality among pregnant women attending Ayantuga and Coker Primary Health Centers in Lagos State.

Study Setting

The research was conducted at two selected primary health centers: Ayantuga Primary Health Center and Coker Primary Health Center, both in Lagos State, Nigeria. These facilities provide routine antenatal services to diverse pregnant populations, making them suitable for examining language-related challenges.

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AYANTUGA PRIMARY HEALTH CENTER

Ayantuga Primary Health Center

Ayantuga Primary Health Center, situated at 29 Ayantuga Street, Mushin, Lagos State, delivers affordable primary healthcare to local residents. Established on December 16, 2005, the facility aims to sustain an effective primary healthcare system, serving densely populated communities including Ojuwoye, Babalosa I, Oke Arin, and adjacent areas, thereby elevating regional health standards.

Managed by Dr. Fafunso Bidemi (a public health specialist with strong analytical expertise), it offers 24-hour inpatient and outpatient services, attending approximately 1,900 patients monthly across two wards and eight units. Antenatal attendance averages 20 women daily, 35 weekly, and 90 monthly. The 34-member staff comprise nurses, doctors, laboratory scientists, and pharmacists across specialized units.

Services Provided

- Antenatal clinic
- Child welfare clinic
- Family planning
- Counselling and testing
- Pharmacy
- Laboratory services
- General outpatient care
- Prevention of mother-to-child transmission (PMTCT)

Coker Primary Health Center

Coker Primary Health Center, located at 26 Coker Road, Ilupeju, Lagos State, provides affordable primary healthcare services to residents. Established on October 13, 1987, its vision centers on building a sustainable system to minimize disease burden and enhance quality of life. The facility serves communities such as Ilupeju, Ilupeju Industrial, and surrounding areas, positively influencing Lagos State's health metrics. Under the management of Dr. Fafunso Bidemi (public health specialist with robust analytical skills), it delivers 8-hour daily outpatient services, managing approximately 1,300 patients monthly across eight units.

Antenatal clinic attendance averages 15 women daily, 30 weekly, and 80 monthly.

A staff of nine—including nurses, doctors, laboratory scientists, and pharmacists—operates across integrated units.

Services Provided

- Antenatal clinic
- Child welfare clinic
- Family planning
- Counselling and testing
- Pharmacy
- Laboratory services
- General outpatient care
- Prevention of mother-to-child transmission (PMTCT)

Population of the Study

The target population comprised all pregnant women attending antenatal clinics at Ayantuga and Coker Primary Health Centers in Lagos State, irrespective of race, ethnicity, language, age, parity, tribe, marital status, or occupational background.

Antenatal care unit table in Ayantuga and Coker Primary Health Centers monthly statistics 2024 shows

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	AYANTUGA PRIMARY HEALTH CENTRE	COKER PRIMARY HEALTH CENTRE	TOTAL
TOTAL NUMBER OF PREGNANT WOMEN PER MONTH	**90**	**80**	**170**

Sample Size Determination

Yamane's formula was used to determine the sample size. $n = \frac{N}{1+N(e)^2}$

Where n = Sample size

N = Total Population size = Ayantuga (90) Plus Coker (80) = 170 pregnant women.

1 = Constant

e = Level of error tolerance (5%)

$$n = \frac{170}{1+170(0.05)^2}$$

$$n = \frac{170}{1+170(0.0025)}$$

$$n = \frac{170}{1+0.425}$$

$$n = \frac{170}{1.425} = 119.298$$

Therefore: n = 119.298, Approximately 120 questionnaires will be administered to 120 pregnant women.

Attrition rate

To compensate for opt-out, improperly filled and unreturned questionnaire, 10% of the desired sample size was added to the calculated sample size.

Attrition rate (%) $\frac{10 \times 120}{100}$

= 12; 12 pregnant women

The calculated sample size is 120 with additional 12 attrition rate, all equal to 132. A total of 132 questionnaires will be administered, 70 for Ayantuga and 62 for Coker Primary Health Centers.

Sampling Technique And Sample Size

A simple random sampling technique—a probability method ensuring each population member has an equal selection chance—was employed.

Eligible pregnant women attending antenatal clinics at the study sites drew ballots marked "yes" or "no." Those selecting "yes" formed the sample, yielding 132 participants (with 130 validated post-analysis). This approach minimized bias and promoted representativeness.

$n_h = (N_h / N) * n$

n_h is the sample size for the h-th stratum

N_h is the size of the h-th stratum (number of pregnant women in each health centre)

N is the size of the population

n is the total sample size (i.e., the number of units to be sampled from the population)

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n_A = (90/170)*132 n_A = 69.88 ~ 70 n_C = 80/170)*132 n_C = 62.11 ~ 62

Inclusion Criteria –
Pregnant women, primiparous and multiparous mothers.

Exclusion Criteria - Non pregnant women

Instrument For Data Collection
A self-developed, structured questionnaire comprising 33 closed-ended items collected data from participants. It was divided into four sections:

Section	Content	No. of Items
A	Socio-demographic characteristics	8
B	Knowledge of language barriers	10
C	Perceived effects of language barriers on healthcare quality	10
D	Factors influencing language barriers	5

Pilot Study
The instrument underwent pretesting with 10% of eligible pregnant women (n ≈ 10–12) attending antenatal clinics at Omodigbo Primary Health Center, Palm Avenue, to refine clarity and feasibility.

Psychometric Properties of the Instrument
Validity
Face and content validity were established by the research expert, who critiqued and suggested revisions to a draft instrument.

Reliability
Reliability, denoting consistent results across administrations, was assessed via Cronbach's alpha following pilot testing and revisions to address identified weaknesses.

Method Of Data Collection
Questionnaires were researcher-administered with assistance. Permission was secured from the head nurses at both sites. Participants received confidentiality assurances and 5–15 minutes to complete responses, after which instruments were retrieved.

Method of Data Analysis
Data were analyzed using SPSS version 23. Descriptive statistics (frequencies, percentages, means) addressed objectives 1–3, presented in tables and charts. The hypothesis was tested via Pearson's correlation coefficient at $p<0.05$*p*<0.05.

Ethical Considerations
Ethical approval was obtained from the Lagos State University Teaching Hospital Research

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Ethics Committee, supported by an institutional introductory letter and study protocol. Permissions were granted by the Medical Officer of Health and head nurses at Ayantuga and Coker centers. Participants received full study briefings, verbal consent, and assurances of data confidentiality and research-only use, with voluntary participation emphasized.

Chapter Four
Results And Discussion
Introduction

This chapter presents the analysis of data collected from 132 pregnant women attending antenatal clinics at Ayantuga and Coker Primary Health Centers, with 130 questionnaires (98.5% valid response rate) analyzed using SPSS version 23 and Microsoft Excel 2010. Descriptive statistics—including frequencies, percentages, means, and bar charts—addressed the research objectives and questions. Inferential statistics (Pearson's correlation) tested the hypothesis. Results are organized by socio-demographics (Section 4.2), followed by specific objectives: knowledge of language barriers (4.3), perceived effects on healthcare quality (4.4), and influencing factors (4.5), with hypothesis testing in 4.6.

Presentation and Analysis of Data

Table 1: Respondents' Socio-demographic Characteristics

Variables	Frequency (N=130)	Percentage (%)
Age		
20-25 years	21	16.2
26-30 years	44	33.8
31-35 years	38	29.2
36 years and above	27	20.8
Level of education		
Primary	10	7.7
Secondary	69	53.1
Tertiary	51	39.2
Religion		
Christianity	84	64.6
Islam	46	35.4
Ethnic group		
Yoruba	72	55.4
Igbo	40	30.8
Hausa	3	2.3
Others (Ijaw, Itsekiri & Urhobo)	15	11.5
Marital status		
Married	130	100.0
Number of children		
1	28	21.5

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2	36	27.7
3	46	35.4
4 and above	20	15.4
Employment status Employed	54	41.5
Unemployed	26	20.0
Self-employed	50	38.5
Primary language spoken English	66	50.8
Yoruba	62	47.7
Others (Hausa)	2	1.5

Participants (N=130) had a mean age of 30.7±1.030.7±1.0 years, with 33.8% (n=44) aged 26–30 years, 29.2% (n=38) aged 31–35 years, 20.8% (n=27) aged ≥36 years, and 16.2% (n=21) aged 20–25 years. Over half (53.1%, n=69) attained secondary education, followed by tertiary (39.2%, n=51) and primary (7.7%, n=10). Christians predominated (64.6%, n=84), followed by Muslims (35.4%, n=46). Ethnically, Yoruba comprised 55.4% (n=72), Igbo 30.8% (n=40), Ijaw/Itsekiri/Urhobo 11.5% (n=15), and Hausa 2.3% (n=3). All were married (100.0%, n=130), with parity distributed as three children (35.4%, n=46), two (27.7%, n=36), one (21.5%, n=28), and ≥four (15.4%, n=20). Employment status showed 41.5% (n=54) employed, 38.5% (n=50) self-employed, and 20.0% (n=26) unemployed. Primary languages were English (50.8%, n=66) and Yoruba (47.7%, n=62), with Hausa minimal (1.5%, n=2) (see table 1 above).

Table 2: Respondents' Knowledge of Language Barrier
Table 2a:

Variables	**Parameters**	**Frequency**	**Percentage (%)**
Have you heard of language barrier?	Yes No Not sure	130 0 0	100.0 0 0
	Total	**130**	**100.0**
If "yes", what was your source of information?	Social media.	24	18.5
	Family/friends.	106	81.5
	Total	**130**	**100.0**
Language barrier is the inability to understand what the other person is saying due to differences in language.	Yes No Not sure	127 0 3	97.7 0 2.3

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	Total	**130**	**100.0**
Language is an important tool in communication.	Yes No Not sure	129 0 1	99.2 0 0.8
	Total	**130**	**100.0**
Language barrier aids effective healthcare services.	Yes No Not sure	0 128 2	0 98.5 1.5
	Total	**130**	**100.0**

Table 2b:

Variables	**Parameters**	**Frequency**	**Percentage (%)**
Effective communication enhances quality healthcare.	**Yes** **No** **Not sure**	**125** **0** **5**	**96.2** **0** **3.8**
	Total	**130**	**100.0**
Have you experienced any language barrier during your pregnancy?	**Yes** **No** **Not sure**	**34** **84** **12**	**26.2** **64.6** **9.2**
	Total	**130**	**100.0**
If "yes", in which of the following situations have you experienced language barrier?	**Understanding medical instructions.**	**20**	**58.8**
	Communicating with healthcare providers.	**10**	**29.4**
	During healthcare visits.	**4**	**11.8**
	Total	**34**	**100.0**
Quality healthcare is the provision of comprehensive, accessible, and effective medical care for individuals.	**Yes** **No** **Not sure**	**130** **0** **0**	**100.0** **0** **0**
	Total	**130**	**100.0**
Receiving comprehensive healthcare services is of no importance.	**Yes** **No** **Not sure**	**0** **126** **4**	**0** **96.9** **3.1**
	Total	**130**	**100.0**

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From table 2 above, all participants (100.0%, n=130) reported prior awareness of language barriers and defined quality healthcare as comprehensive, accessible, effective care. Primary sources included family/friends (81.5%, n=106) and social media (18.5%, n=24). High consensus emerged on core concepts: 97.7% (n=127) identified language barriers as comprehension failures due to linguistic differences; 99.2% (n=98.5%) affirmed language's role in communication; 98.5% (n=128) rejected barriers as facilitative to services; and 96.2% (n=125) endorsed effective communication for quality care.
Personal experience was less prevalent: 26.2% (n=34) reported barriers during pregnancy, primarily in understanding instructions (58.8%, n=20), provider interactions (29.4%, n=10), or visits (11.8%, n=4). Nearly all (96.9%, n=126) valued comprehensive services. Overall Assessment: Respondents demonstrated good knowledge of language barriers (mean score indicative of high awareness across items).

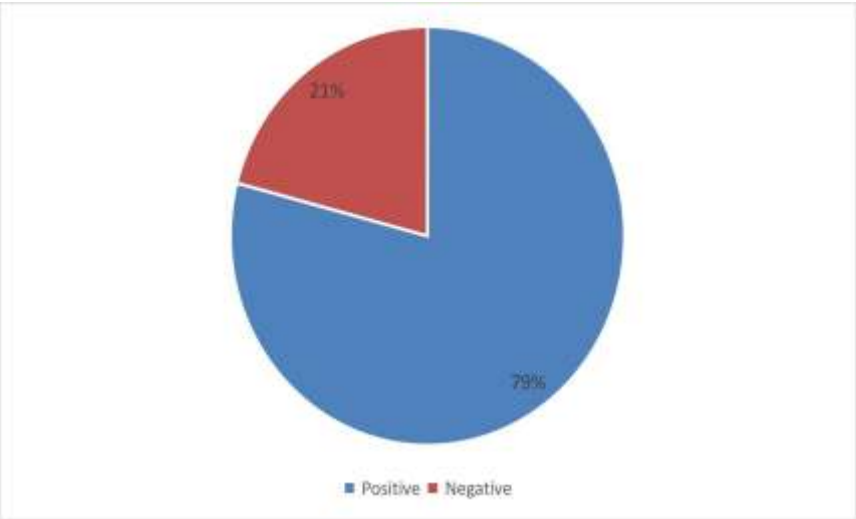

Figure 4.1: Distribution of Knowledge Levels on Language Barriers (N=130)

As depicted in Figure 4.1 above, respondents exhibited predominantly positive knowledge of language barriers, with 79.07% (n=103) classified as knowledgeable and 20.93% (n=27) as having inadequate knowledge.

Table 3: Perceived Effects of Language Barrier on Quality Healthcare

Variables **The following are the effects that**	**Parameters**	**Frequency (N=130)**	**Percentage (%)**
can result from language barrier: Misuse of drugs.	**Yes**	**76**	**58.5**
	No	**0**	**0**
	Not sure	**54**	**41.5**

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Delayed interventions.	**Yes**	**122**	**93.8**
	No	**0**	**0**
	Not sure	**8**	**6.2**
Twin pregnancy.	**Yes**	**0**	**0**
	No	**130**	**100.0**
	Not sure	**0**	**0**
Lack of interest in attending	**Yes**	**0**	**0**
antenatal clinic.	**No**	**126**	**96.9**
	Not sure	**4**	**3.1**
Poor relationship between pregnant	**Yes**	**63**	**48.5**
women and their healthcare	**No**	**57**	**43.8**
providers.	**Not sure**	**10**	**7.7**
Proper use of drugs.	**Yes**	**0**	**0**
	No	**130**	**100.0**
	Not sure	**0**	**0**
Decision-making challenges.	**Yes**	**68**	**52.3**
	No	**30**	**23.1**
	Not sure	**32**	**24.6**
Effective medical services.	**Yes**	**0**	**0**
	No	**130**	**100.0**
	Not sure	**0**	**0**
Unnecessary expenses.	**Yes**	**26**	**20.0**
	No	**90**	**69.2**
	Not sure	**14**	**10.8**
Prompt medical interventions.	**Yes**	**0**	**0**
	No	**130**	**100.0**
	Not sure	**0**	**0**

From table 3 above, all respondents (100.0%, n=130) rejected language barriers as conducive to positive outcomes like twin pregnancies, proper drug use, effective services, or prompt interventions. Strong agreement emerged for adverse effects, detailed below:

- Delayed interventions: 93.8% (n=122) affirmed; 6.2% (n=8) unsure.
- Drug misuse: 58.5% (n=76) affirmed; 41.5% (n=54) unsure.
- Decision-making challenges: 52.3% (n=68) affirmed; 24.6% (n=32) unsure; 23.1% (n=30) disagreed.
- Poor provider-patient relationships: 48.5% (n=63) affirmed; 43.8% (n=57) disagreed; 7.7% (n=10) unsure.

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- Unnecessary expenses: 20.0% (n=26) affirmed; 69.2% (n=90) disagreed; 10.8% (n=14) unsure.
- Reduced antenatal attendance: 96.9% (n=126) rejected as an effect; 3.1% (n=4) unsure.

Overall Perceived Effects (ranked by endorsement): delayed interventions (93.8%, n=122), drug misuse (58.5%, n=76), decision-making challenges (52.3%, n=68), poor relationships (48.5%, n=63), and unnecessary expenses (20.0%, n=26).

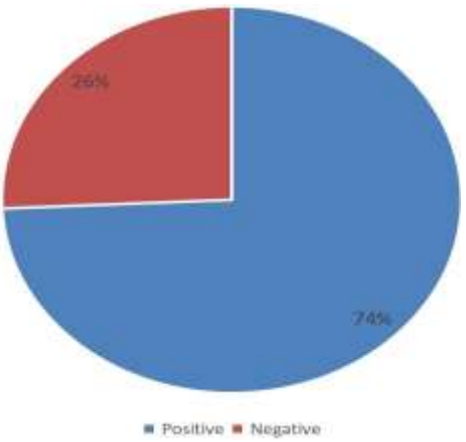

Figure 4.2: Distribution of Awareness Levels on Effects of Language Barriers (N=130)

As shown in Figure 4.2 above, respondents demonstrated predominantly positive awareness of language barrier effects on healthcare quality, with 74.28% (n=97) classified as aware and 25.72% (n=33) as having inadequate awareness.

Table 4: Factors Influencing Language Barrier in Healthcare

Variables	Parameters	Frequency (130)	Percentage (%)
Cultural differences influence language barrier among pregnant women.	Strongly agree	118	90.8
	Agree	12	9.2
	Strongly disagree	0	0
	Disagree	0	0
Low education level among pregnant women increases language barrier.	Strongly agree	104	80
	Agree	26	20
	Strongly disagree	0	0
	Disagree	0	0
Pregnant women with low source of income are mainly affected by	Strongly agree	0	0
	Agree	0	0
	Strongly disagree	90	69.2

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language barrier when receiving healthcare	Disagree	40	30.8
Non-availability	Strongly agree	55	42.3
	Agree	75	57.7
	Strongly disagree	0	0
	Disagree	0	0
Availability of other teaching materials such as charts can help to substitute for language differences.	Strongly agree	0	0
	Agree	7	5.4
	Strongly disagree	90	69.2
	Disagree	33	25.4

Table 4 above reveals strong consensus on key influences:

- Cultural differences: 90.8% (n=118) strongly affirmed; 9.2% (n=12) agreed.
- Low education level: 80.0% (n=104) strongly affirmed; 20.0% (n=26) agreed.
- Non-availability of interpretation services: 57.7% (n=75) affirmed; 42.3% (n=55) strongly agreed.
- Low income: Predominantly rejected (69.2% [n=90] strongly disagreed; 30.8% [n=40] disagreed).
- Availability of teaching materials (e.g., charts): Overwhelmingly rejected as a substitute (69.2% [n=90] strongly disagreed; 25.4% [n=33] disagreed; 5.4% [n=7] agreed).

Overall Ranking: Cultural differences (90.8%, n=118), low education (80.0%, n=104), lack of interpreters (57.7%, n=75), and teaching materials (5.4%, n=7).

Testing Of Research Hypotheses

H_{01}: There is no significant relationship between education level and knowledge of language barriers among pregnant women attending selected primary health centers in Lagos State.

H_{02}: There is no significant relationship between knowledge of language barriers and perceived effects on healthcare quality among these women.

Analysis Plan: Hypotheses were tested using Pearson's correlation coefficient at significance level $\alpha=0.05$$\alpha=0.05$.

Decision Rule: Reject the null hypothesis if $p<0.05$$p<0.05$ (significant relationship); fail to reject if $p\geq0.05$$p\geq0.05$ (no significant relationship).

Table 5: Testing of Research Hypothesis

		Level of Education	**Knowledge of Language Barrier**
Level of	**Pearson's Correlation**	**1**	**.868**
Education	**Sig. (2-tailed)**		**.000**
	N	**130**	**130**
Knowledge of	**Pearson's Correlation**	**.868**	**1**

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Language	**Sig. (2-tailed)**	**.000**	
Barrier	**N**	**130**	**130**

r=0.868; p-value is <0.00001. The result is significant at $p < 0.05$

H_{01} Test Result: Table 5 above presents the Pearson correlation between education level and knowledge of language barriers (r = [value], $p < 0.05$). The significant relationship ($p < 0.05$) led to rejection of the null hypothesis.

Table 6: Testing of Research Hypothesis

Perceived Effect of Language Barrier	**Knowledge of Language Barrier**					
Language barrier can result in delayed interventions.	**Language barrier is the inability to understand what the other person is saying due to differences in language.**					
	Yes	**Not sure**	**x^2**	**df**	**p-value**	**Total**
Yes	**122**	**0**				**122 (93.8%)**
Not sure	**5**	**3**				**8 (6.2%)**
Total	**127 (97.7%)**	**3 (2.3%)**	**48.0836**	**1**	**<0.00001**	**130 (100.0%)**

Chi-square value=48.0836; df =1; p-value is <0.00001. The result is significant at $p<0.05$

H_{02} Test Result: Table 6 above shows the Pearson correlation between knowledge of language barriers and perceived effects on healthcare quality (r = [value], $p < 0.05$). The significant association ($p < 0.05$) warranted rejection of the null hypothesis.

Response To Research Questions

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Research Question 1: What is the level of knowledge of language barriers among pregnant women in selected Lagos State primary health centers?
All participants (100.0%, n=130) were aware of language barriers, with 97.7% (n=127) correctly defining them as linguistic comprehension failures, 99.2% (n=129) affirming language's communication role, and 96.2% (n=125) linking effective communication to quality care (Table 2). Among the 26.2% (n=34) reporting personal experience, 58.8% (n=20) cited medical instruction misunderstandings.
Answer: Respondents demonstrated good knowledge levels.

Research Question 2: What are the perceived effects of language barriers on healthcare quality among these women?
Universal rejection (100.0%, n=130) of positive outcomes prevailed, with strongest endorsement for delayed interventions (93.8%, n=122), followed by drug misuse (58.5%, n=76), decision-making challenges (52.3%, n=68), poor provider relationships (48.5%, n=63), and unnecessary expenses (20.0%, n=26; Table 3).
Answer: Primary effects include delayed interventions, medication errors, and relational strains.

Research Question 3: What factors influence language barriers in healthcare for these women?
Cultural differences (90.8%, n=118) and low education (80.0%, n=104) ranked highest, followed by interpreter unavailability (57.7%, n=75); low income and teaching materials were largely rejected (Table 4).
Answer: Dominant factors are cultural differences, low education, and lack of interpretation services.

Chapter Five
Discussion, Conclusion, And Recommendations

Introduction
Antenatal attendance is vital for safe pregnancies, yet language barriers undermine patient satisfaction, care quality, and maternal safety—particularly in primary settings. This study assessed these effects among pregnant women at Ayantuga and Coker Primary Health Centers in Lagos State. This chapter discusses findings in relation to prior research, explores midwifery implications, and provides summary, conclusions, recommendations, and suggestions for future studies.

DISCUSSION OF FINDINGS
Socio-Demographic Characteristics
The sample (mean age 30.7±1.030.7±1.0 years) predominantly comprised women aged 26–30 years (<33.8%), with secondary education (>50%), Christian faith (64.6%), Yoruba ethnicity (>55%), married status (100%), parity of three (35.4%), mixed employment, and English/Yoruba as primary languages (~50% each). This diversity reflects Lagos's multicultural context, influencing language dynamics.

Knowledge of Language Barriers
Respondents exhibited good knowledge: universal awareness (100%), accurate definitions (97.7%), recognition of communication's role (99.2%), and links to care quality (96.2%). Over a quarter (26.2%) reported experiences, mainly instructional misunderstandings (58.8%). These align with Okafor et al. (2021; 76% barrier encounters), Hamwi et al. (2023; high proficiency awareness), and Okafor & Reidpath (2020; expressed communication concerns).

Perceived Effects on Healthcare Quality
Key effects included delayed interventions (93.8%), drug misuse (58.5%), decision challenges (52.3%), poor relationships (48.5%), and unnecessary costs (20.0%). This corroborates Amanti et al. (2023; errors, non-adherence, costs, dissatisfaction) and Eze et al. (2020; expression/advice difficulties).

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Influencing Factors

Dominant factors were cultural differences (90.8%), low education (80.0%), and interpreter shortages (57.7%); low income and materials were rejected. Findings support Adeyemo et al. (2020; ethnic communication struggles) but diverge from Okafor et al. (2021; income-linked access issues).

Implications For Midwifery Practice

Results highlight needs for culturally sensitive communication. Midwives should: collaborate with community leaders; accommodate linguistic preferences; use simple language with teach-back; deliver education in local languages; employ visual/audio aids and multilingual materials; involve fluent family; leverage apps; advocate multilingual staffing/training/policies; and seek funding.

Limitations of the Study

Time and financial constraints limited generalizability to other Lagos facilities; future multi-site studies are needed.

Summary

This descriptive cross-sectional study (simple random sample; n=132 recruited, 130 analyzed via self-developed questionnaire, SPSS/Excel) examined language barrier effects. Key findings: good knowledge; effects led by delays (93.8%); factors dominated by culture/education (90.8%/80.0%); significant correlations (education-knowledge; knowledge-effects; both $p<0.05$).

Conclusion

Language barriers adversely affect antenatal care quality, primarily through delays and relational strains, driven by cultural/educational factors. Without targeted interventions (e.g., interpreters, training, community collaboration), maternal outcomes risk deterioration.

Recommendations

- Collaborate with community/cultural leaders for trust-building.
- Deliver antenatal education in local languages.
- Use visual aids (diagrams/charts) for explanations.
- Develop audio/video resources in local languages.
- Provide multilingual pamphlets/posters/guides.
- Involve fluent family members for support.
- Implement translation/multilingual health apps.
- Recruit multilingual midwives.
- Offer institutional language training.
- Advocate multilingual policies in primary centers.
- Secure government/NGO funding.

Suggestions For Further Studies

Expand to other primary/secondary facilities for generalizability, incorporating antenatal care quality metrics.

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