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Research Article

A Cross-Sectional Study of Knowledge on Infertility Causes Among Reproductive-Age Women in Mile 1, Diobu, Rivers State

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Abstract

This cross-sectional study examined factors influencing infertility knowledge, perceptions, and access to services among women aged 15 to 49 in three districts—Abba Street, Abakaliki Street, and Abonnema Road—in Mile 1 Diobu, Port Harcourt, Rivers State. Using multistage sampling, 384 respondents (128 per district) completed questionnaires assessing socioeconomic, educational, and occupational factors, along with proposed solutions to infertility challenges. Results showed socioeconomic status significantly affected access to infertility services, with 39.8%, 39.1%, and 41.4% of respondents in the three districts reporting strong influence. Education was identified as critical in increasing infertility knowledge, acknowledged by 37.5%, 35.9%, and 38.3% respectively. Occupation had a moderate impact, with about 28-30% indicating it significantly affects infertility risk. Increased awareness and education were the most favored solutions (38.3%-39.1%), followed by improved healthcare access (29.7%-30.5%) and reduced costs (23.4%-24.2%). Chi-square analysis revealed significant associations for age ($\chi^2 = 15.27$, df = 6, p = 0.018), marital status ($\chi^2 = 14.11$, df = 6, p = 0.029), and education ($\chi^2 = 19.54$, df = 6, p = 0.003) with infertility knowledge and access, confirming their important roles. However, occupation (p = 0.207) and ethnicity (p = 0.320) were not significant, while religion (p = 0.055) was marginally non-significant, suggesting varied influences of these factors. This study underscores the need for targeted educational programs, improved healthcare services, and financial support to enhance infertility management in semi-urban Nigerian settings. Ethical clearance was obtained, and data were analyzed using SPSS version 20. The findings offer valuable insights for policymakers and healthcare providers addressing infertility in similar communities.

Keywords: Assessing; Knowledge; Causes; Infertility; Women of Reproductive Age

Introduction

Around 10-15% of couples in their reproductive years have infertility, a problem that is acknowledged worldwide [8]. According to additional data from the World Health Organization (WHO), 8-12% of couples globally experience infertility. Generally speaking, infertility is the inability to reproduce naturally. It is usually identified when a couple is unable to conceive following a year of unprotected sexual activity. Another way to put it is when a woman is unable to bring a pregnancy to term [18].

Advances in assisted reproductive technologies (ART), such as intracytoplasmic sperm injection (ICSI) and in vitro fertilization

(IVF), have led to an increase in the number of couples seeking remedies for infertility in recent years. Pregnancy chances have grown dramatically adue to these technologies; long-term cumulative pregnancy rates currently hover around 70% [25]. Alongside these technological advancements, women are increasingly delaying parenthood until after the age of 35, frequently to concentrate on furthering their careers or pursuing higher education [6].

[7] emphasizes how older parents can have an unfavorable effect on fertility, affecting both the success of assisted reproductive methods and natural conception. Pregnancy loss rates and infertility tend to increase with women's age [26]. This change emphasizes how vital family planning and counseling are, especially when considering the effects of increased maternal and paternal age on fertility. According to a recent European poll, a large number of women are ignorant about the effects of aging on fertility and incorrectly think that getting pregnant young protects against infertility [11]. This emphasizes the need for increased knowledge and instruction about the biological constraints associated with aging and fertility.

Additionally, the increased use of reproductive therapies has raised awareness of the psychological impacts of infertility. As research has shown how emotionally taxing infertility may be for both people and couples, there is rising worry about the impact on women in reproductive age. According to Greil (2019), experiencing infertility frequently results in severe psychological problems like anxiety, despair, and emotional instability. A couple's relationship may suffer significantly as a result of infertility [1].

According to research, infertility treatment can also result in decreased life satisfaction during the diagnostic and treatment stages, which can lower general well-being [15]. People commonly distinguish between primary and secondary forms of infertility.

When a couple has tried for at least a year without using contraception and has never been successful in conceiving, it is referred to as primary infertility [14,18]. Whether the pregnancy ended in a live birth, miscarriage, or stillbirth, secondary infertility is the inability of a couple to conceive again after a year or more of trying. Recognizing not only the physical and medical difficulties caused by infertility but also the substantial psychological, social, and emotional repercussions is becoming increasingly crucial as the prevalence of it rises worldwide, particularly due to shifting societal and lifestyle factors. These problems necessitate an all-encompassing treatment strategy that includes both medical attention and psychological support.

Research Methodology

Area of study

Mile 1 Diobu, situated in the heart of Port Harcourt, Rivers State, is a bustling commercial and residential hub that plays a central role in the city's economic and social life. It is known for its vibrant market activities, diverse population, and strategic location as a major transit and trade center, making it one of the busiest areas in Port Harcourt. The Mile 1 Market is the heartbeat of commercial activity in the area, drawing traders, wholesalers, and retailers who sell a vast range of goods, including clothing, electronics, food items, household essentials, beauty products, and general merchandise. This market serves not just the local community but also attracts buyers from across the state and neighboring regions, making it a crucial economic hub. Beyond the organized market, Mile 1 thrives on a strong informal sector, with street vendors, artisans, tailors, cobblers, and small-scale business owners operating in various capacities.

Research design

The study adopted a cross-sectional descriptive design. A well-structured questionnaire was used to collect the data. A cross-sectional study is a type of research design in which you collect data from many different individuals at a single point in time

Population of study

The target population for this study comprised of everyone (female adults) who are present on the day of the research.

Sample and sample size

The actual population size for the study is yet unknown, therefore the Cochran formula was used to determine the sample size.

$$n = \frac{z^2}{4e^2}$$

$$n = \frac{(1.96)^2}{4(0.05)^2} = 384.16$$

Where:

n = sample size

e = acceptable sampling error (e = 0.05)

z = value at reliability level or significance level

Sampling technique

A multistage sampling technique was employed to ensure a representative and unbiased selection of participants from Mile 1 Diobu, Port Harcourt, Rivers State. The process will occur in three distinct stages.

Stage 1: Selection of Study Locations within Mile 1 Diobu

Three districts were selected using a simple random sampling technique through balloting without replacement. All eligible district names in Mile 1 Diobu were written on individual slips of paper, folded, and thoroughly mixed in a container. Three slips were then be randomly picked, and the corresponding districts was selected for the study. This technique ensures fairness and randomness in the selection process and increases the likelihood of obtaining a diverse sample that reflects the population structure.

Stage 2: Selection of Participants (Women Aged 15-49)

Within each selected district, eligible female residents aged 15 to 49 years were identified. A simple random sampling method again was applied to select participants. This ensures that each woman within the defined age range has an equal chance of being included, minimizing bias and enhancing the generalizability of findings.

Stage 3: Allocation of Sample Size to Each District

A total sample size of 384 respondents was evenly distributed across the three selected districts to maintain balance and comparability. Accordingly, the final sample distribution will be as follows:

- Abba Street - 128 respondents
- Abakaliki Street - 128 respondents
- Abonnema Road - 128 respondents

This multistage approach allows for structured, step-by-step participant selection and improves the study's accuracy, ensuring that the findings reflect the characteristics and perceptions of the target population in Mile 1 Diobu.

Instrument for data collection

A structured questionnaire was developed to collect quantitative data on the causes of infertility on women at reproductive age. The questionnaire consists of demographic information: Age, gender, etc. Knowledge of Infertility: questions regarding what you know about infertility, Cultural perceptions: questions regarding how women are treated in most communities.

Ethical clearance

The ethical approval letter was obtained from Abia State University Ethical Committee. Respondents were informed of their voluntarism to participate in the study confidentiality and anonymity of data collected was maintained.

Method of data collection

Data was collected through self-structured questionnaires. The researcher was responsible for distributing and collecting completed questionnaires.

Method of data analysis

Data is cleared, coded, entered, and analyzed using the statistical package for the social sciences (SPSS) version 20.

Results

The majority of respondents in Abba Street (32.8%), Abakaliki Street (29.7%), and Abonnema Road (27.3%) are aged 25-34 years. Most respondents are married in Abba Street (43.0%), Abakaliki Street (40.6%), and Abonnema Road (45.3%). Secondary education is the highest level attained by the majority in Abba Street (40.6%), Abakaliki Street (36.7%), and Abonnema Road (39.1%). Self-employment is the most common occupation in Abba Street (32.8%) and Abonnema Road (32.0%), while employment slightly leads in Abakaliki Street (32.0%). Christianity is the predominant religion in Abba Street (81.3%), Abakaliki Street (79.7%), and Abonnema Road (82.8%). The Igbo ethnic group forms the majority in Abba Street (72.7%), Abakaliki Street (70.3%), and Abonnema Road (73.4%).

Table 1: Sociodemographic Characteristics.

Variables	Abba Street	Abakaliki Street	Abonnema Road
Age			
15-24 years	28 (21.9%)	25 (19.5%)	30 (23.4%)
25-34 years	42 (32.8%)	38 (29.7%)	35 (27.3%)
35-44 years	36 (28.1%)	41 (32.0%)	38 (29.7%)
45-49 years	22 (17.2%)	24 (18.8%)	25 (19.6%)
Marital Status			
Married	55 (43.0%)	52 (40.6%)	58 (45.3%)
Single	46 (35.9%)	50 (39.1%)	41 (32.0%)
Divorced/Separated	18 (14.1%)	16 (12.5%)	20 (15.6%)
Widowed	9 (7.0%)	10 (7.8%)	9 (7.1%)
Highest Level of Education			
No formal education	11 (8.6%)	13 (10.2%)	14 (10.9%)
Primary	21 (16.4%)	20 (15.6%)	24 (18.8%)
Secondary	52 (40.6%)	47 (36.7%)	50 (39.1%)
Tertiary	44 (34.4%)	48 (37.5%)	40 (31.2%)
Occupation			
Employed	39 (30.5%)	41 (32.0%)	38 (29.7%)
Self-employed	42 (32.8%)	37 (28.9%)	41 (32.0%)
Unemployed	28 (21.9%)	30 (23.4%)	31 (24.2%)
Student	19 (14.8%)	20 (15.6%)	18 (14.1%)
Religion			
Christianity	104 (81.3%)	102 (79.7%)	106 (82.8%)
Islam	16 (12.5%)	15 (11.7%)	12 (9.4%)
Traditional Worshipper	6 (4.7%)	7 (5.5%)	6 (4.7%)
Others	2 (1.6%)	4 (3.1%)	4 (3.1%)
Ethnicity			
Igbo	93 (72.7%)	90 (70.3%)	94 (73.4%)
Yoruba	12 (9.4%)	14 (10.9%)	11 (8.6%)
Hausa	9 (7.0%)	10 (7.8%)	8 (6.3%)
Others	14 (10.9%)	14 (10.9%)	15 (11.7%)

Variable	Chi-square (χ^2)	Degrees of Freedom (df)	p-value	Interpretation
Age	15.27	6	0.018*	Significant association
Marital Status	14.11	6	0.029*	Significant association
Education	19.54	6	0.003*	Significant association
Occupation	8.45	6	0.207	Not significant
Religion	12.36	6	0.055	Marginally not significant
Ethnicity	7.03	6	0.320	Not significant

Table 2

*p < 0.05 is considered significant.

The chi-square test results indicate that age, marital status, and education have a statistically significant association with the outcome variable across the studied locations, as their p-values are less than the 0.05 threshold (p = 0.018, 0.029, and 0.003 respectively). This suggests that differences in age groups, marital status categories, and levels of education meaningfully relate to variations in the outcome, implying these factors influence the observed differences between the communities.

Conversely, occupation (p = 0.207) and ethnicity (p = 0.320) do not show significant associations, indicating that variations in occupation and ethnic backgrounds are less likely to explain differences in the outcome variable within this study context.

The variable religion shows a marginally non-significant association (p = 0.055), which suggests a potential trend towards association, but it does not meet the conventional threshold for statistical significance. This might warrant further investigation with larger sample sizes or additional variables.

Table 3: Knowledge of Infertility.

Variables	Abba Street	Abakaliki Street	Abonnema Road
Main Cause of Infertility in Women			
Biological/medical factors	62 (48.4%)	59 (46.1%)	60 (46.9%)
Spiritual factors	24 (18.8%)	27 (21.1%)	25 (19.5%)
Lifestyle factors	26 (20.3%)	24 (18.8%)	28 (21.9%)
Environmental factors	16 (12.5%)	18 (14.1%)	15 (11.7%)
How would you describe infertility?			
Inability to conceive after one year of trying	58 (45.3%)	60 (46.9%)	55 (43.0%)
Inability to carry a pregnancy to term	28 (21.9%)	25 (19.5%)	30 (23.4%)
Inability to conceive at all	35 (27.3%)	32 (25.0%)	34 (26.6%)
Others	7 (5.5%)	11 (8.6%)	9 (7.0%)
Can infertility be treated?			
Always treatable	41 (32.0%)	40 (31.3%)	43 (33.6%)
Sometimes treatable	58 (45.3%)	60 (46.9%)	55 (43.0%)
Rarely treatable	20 (15.6%)	18 (14.1%)	21 (16.4%)
Never treatable	9 (7.0%)	10 (7.8%)	9 (7.0%)
What increases a woman's risk of infertility?			
Age	34 (26.6%)	36 (28.1%)	33 (25.8%)
Medical conditions	41 (32.0%)	38 (29.7%)	40 (31.2%)
Lifestyle factors	35 (27.3%)	32 (25.0%)	34 (26.6%)
Others	18 (14.1%)	22 (17.2%)	21 (16.4%)

The majority of respondents from Abba Street (48.4%), Abakaliki Street (46.1%), and Abonnema Road (46.9%) identified biological or medical factors as the main cause of infertility in women. Most respondents described infertility as the inability to conceive after one year of trying, with 45.3% in Abba Street, 46.9% in Abakaliki Street, and 43.0% in Abonnema Road selecting this option. The majority believed infertility is sometimes treatable, with 45.3% in Abba Street, 46.9% in Abakaliki Street, and 43.0% in Abonnema Road holding this view. Medical conditions were most frequently reported as increasing the risk of infertility, cited by 32.0% of respondents in Abba Street, 29.7% in Abakaliki Street, and 31.2% in Abonnema Road.

Table 4: Sources of Information on Infertility.

Variables	Abba Street	Abakaliki Street	Abonnema Road
Where do you get most of your information?			
Healthcare providers	45 (35.2%)	47 (36.7%)	49 (38.3%)
Family/friends	30 (23.4%)	32 (25.0%)	28 (21.9%)
Internet/social media	38 (29.7%)	35 (27.3%)	36 (28.1%)
Others	15 (11.7%)	14 (10.9%)	15 (11.7%)
Have you discussed infertility with a healthcare provider?			
Yes, in detail	39 (30.5%)	41 (32.0%)	40 (31.2%)
Yes, briefly	35 (27.3%)	33 (25.8%)	34 (26.6%)
No, but I would like to	30 (23.4%)	29 (22.7%)	32 (25.0%)
No, and I don't think it's necessary	24 (18.8%)	25 (19.5%)	22 (17.2%)
Preferred learning format			
Workshops/seminars	42 (32.8%)	40 (31.3%)	44 (34.4%)
Online resources	38 (29.7%)	41 (32.0%)	36 (28.1%)
Support groups	28 (21.9%)	26 (20.3%)	27 (21.1%)
Others	20 (15.6%)	21 (16.4%)	21 (16.4%)

The majority of respondents reported healthcare providers as their main source of information, with 35.2% in Abba Street, 36.7% in Abakaliki Street, and 38.3% in Abonnema Road. Most respondents had discussed infertility with a healthcare provider in some capacity. Specifically, 30.5% in Abba Street, 32.0% in Abakaliki Street, and 31.2% in Abonnema Road reported having detailed discussions, while brief discussions were reported by 27.3%, 25.8%, and 26.6% respectively. Workshops and seminars were the preferred learning format among respondents, chosen by 32.8% in Abba Street, 31.3% in Abakaliki Street, and 34.4% in Abonnema Road.

Most respondents perceived infertility as a stigma, with a significant proportion indicating a notable stigma: 35.9% in Abba Street, 37.5% in Abakaliki Street, and 34.4% in Abonnema Road. Additionally, a substantial number acknowledged some stigma, with 32.8%, 30.5%, and 31.2% respectively. Emotional distress was identified as the major societal impact of infertility, affecting 34.4% in Abba Street, 35.2% in Abakaliki Street, and 35.9% in Abonnema Road. Social isolation was also frequently mentioned, with roughly 30-33% across the three communities. Cultural beliefs were seen as influential by the majority, with about 30% strongly influenced and

Table 5: Cultural Beliefs and Perceptions of Infertility.

Variables	Abba Street	Abakaliki Street	Abonnema Road
Is infertility a stigma in your community?			
Yes, a significant stigma	46 (35.9%)	48 (37.5%)	44 (34.4%)
Yes, some stigma	42 (32.8%)	39 (30.5%)	40 (31.2%)
No, little stigma	25 (19.5%)	24 (18.8%)	28 (21.9%)
No, no stigma at all	15 (11.7%)	17 (13.3%)	16 (12.5%)
Societal impact of infertility on a woman			
Social isolation	40 (31.2%)	42 (32.8%)	38 (29.7%)
Emotional distress	44 (34.4%)	45 (35.2%)	46 (35.9%)
Marital problems	34 (26.6%)	30 (23.4%)	31 (24.2%)
Others	10 (7.8%)	11 (8.6%)	13 (10.2%)
Cultural beliefs influence perception?			
Strongly influence	38 (29.7%)	36 (28.1%)	40 (31.2%)
Somewhat influence	42 (32.8%)	43 (33.6%)	41 (32.0%)
Little influence	30 (23.4%)	28 (21.9%)	26 (20.3%)
No influence	18 (14.1%)	21 (16.4%)	21 (16.4%)
How should infertility be addressed?			
Medical treatment	51 (39.8%)	48 (37.5%)	50 (39.1%)
Spiritual/prayer healing	33 (25.8%)	35 (27.3%)	32 (25.0%)
Counseling/support groups	30 (23.4%)	29 (22.7%)	30 (23.4%)
Others	14 (10.9%)	16 (12.5%)	16 (12.5%)

approximately 32-34% somewhat influenced across all locations. Medical treatment was the preferred method of addressing infertility among respondents, chosen by 39.8% in Abba Street, 37.5% in Abakaliki Street, and 39.1% in Abonnema Road.

Most respondents believed socioeconomic status significantly affects access to infertility treatment, with 39.8% in Abba Street, 39.1% in Abakaliki Street, and 41.4% in Abonnema Road expressing this view. Additionally, a considerable proportion noted it affects access somewhat (around 27-30%). A majority agreed education increases knowledge about infertility significantly, with 37.5% in Abba Street, 35.9% in Abakaliki Street, and 38.3% in Abonnema Road supporting this. Another large group felt education increases knowledge somewhat (around 30-33%). Most respondents perceived occupation as influencing infertility risk either significantly (about 27-30%) or somewhat (about 32-36%) across the three locations. Increased awareness and education was the top choice to improve access, with roughly 38-39% in all communities. Improved healthcare access and reduced costs were also notable suggestions, chosen by around 28-31% and 23-24% respectively.

Coefficients close to zero with high p-values (>0.05) indicate no statistically significant difference in perceptions between locations for each variable. Odds ratios (Exp(β)) near 1 mean the odds of perceiving these factors as affecting infertility or access are similar across locations. This suggests homogeneity in perception across Abba Street, Abakaliki Street, and Abonnema Road respondents.

Table 6: Sociodemographic Factors Influencing Infertility.

Variables	Abba Street	Abakaliki Street	Abonnema Road
Does socioeconomic status affect access?			
Yes, significantly	51 (39.8%)	50 (39.1%)	53 (41.4%)
Yes, somewhat	38 (29.7%)	36 (28.1%)	35 (27.3%)
No, not much	26 (20.3%)	27 (21.1%)	25 (19.5%)
No, not at all	13 (10.2%)	15 (11.7%)	15 (11.7%)
How does education affect knowledge?			
Increases significantly	48 (37.5%)	46 (35.9%)	49 (38.3%)
Increases somewhat	40 (31.2%)	42 (32.8%)	38 (29.7%)
Has little impact	27 (21.1%)	28 (21.9%)	26 (20.3%)
Has no impact	13 (10.2%)	12 (9.4%)	15 (11.7%)
Does occupation affect infertility risk?			
Yes, significantly	36 (28.1%)	35 (27.3%)	38 (29.7%)
Yes, somewhat	44 (34.4%)	46 (35.9%)	42 (32.8%)
No, not much	28 (21.9%)	27 (21.1%)	29 (22.7%)
No, not at all	20 (15.6%)	20 (15.6%)	19 (14.8%)
What would improve access to treatment?			
Increased awareness/education	49 (38.3%)	50 (39.1%)	48 (37.5%)
Improved healthcare access	38 (29.7%)	36 (28.1%)	39 (30.5%)
Reduced costs	30 (23.4%)	31 (24.2%)	30 (23.4%)
Others	11 (8.6%)	11 (8.6%)	11 (8.6%)

Table 7: Logistic Regression.

Variable	Location	Coefficient (β)	Std Error	Odds Ratio Exp(β))	p-value
Socioeconomic status affects access	Abakaliki Street	-0.04	0.21	0.96	0.85
	Abonnema Road	0.08	0.20	1.08	0.78
Education affects knowledge	Abakaliki Street	-0.07	0.22	0.93	0.75
	Abonnema Road	0.05	0.21	1.05	0.80
Occupation affects infertility risk	Abakaliki Street	0.10	0.23	1.10	0.67
	Abonnema Road	-0.06	0.24	0.94	0.81

Discussion, Conclusion and Recommendations

Discussion

The majority of respondents in Abba Street (32.8%), Abakaliki Street (29.7%), and Abonnema Road (27.3%) fall within the 25-34 years age group, indicating a relatively young adult population across these communities. Most respondents are married, with proportions of 43.0% in Abba Street, 40.6% in Abakaliki Street, and 45.3% in Abonnema Road, reflecting prevailing marital stability in these areas. Secondary education represents the highest educational attainment for the majority, reported by 40.6% in Abba Street, 36.7% in Abakaliki Street, and 39.1% in Abonnema

Road, suggesting moderate educational levels. Regarding occupation, self-employment is most common in Abba Street (32.8%) and Abonnema Road (32.0%), while formal employment slightly leads in Abakaliki Street (32.0%), highlighting varied economic engagement. Christianity predominates as the main religion across all communities—81.3% in Abba Street, 79.7% in Abakaliki Street, and 82.8% in Abonnema Road—signifying strong religious homogeneity. The Igbo ethnic group constitutes the majority in Abba Street (72.7%), Abakaliki Street (70.3%), and Abonnema Road (73.4%), underscoring ethnic consistency in these localities.

According to [28] similar demographic patterns are observed in southeastern Nigeria, where young adults aged 25-34 dominate the population, and marriage rates remain high in rural and semi-urban settings. Similarly, [2] reported that secondary education is the most common level of education in Nigerian communities with mixed urban-rural characteristics, reflecting limited access to tertiary education. Furthermore, self-employment as a primary occupation aligns with findings by [23], who observed high rates of informal sector engagement in Igbo-dominated regions. Christianity's dominance and the ethnic homogeneity of the Igbo people in these areas are consistent with demographic studies by [13], which emphasize the cultural and religious unity within southeastern Nigerian populations.

Research Question 1: What is the knowledge of infertility among women of reproductive age (15-49)?

The majority of respondents from Abba Street (48.4%), Abakaliki Street (46.1%), and Abonnema Road (46.9%) identified biological or medical factors as the primary cause of infertility in women, highlighting a widespread recognition of medical explanations for infertility. Most respondents described infertility as the inability to conceive after one year of trying, with similar proportions across Abba Street (45.3%), Abakaliki Street (46.9%), and Abonnema Road (43.0%), indicating a common understanding of clinical definitions of infertility. Furthermore, a majority believed that infertility is sometimes treatable, reported by 45.3% in Abba Street, 46.9% in Abakaliki Street, and 43.0% in Abonnema Road, reflecting moderate optimism about treatment outcomes. Medical conditions were the most frequently cited factors increasing the risk of infertility, with 32.0% of respondents in Abba Street, 29.7% in Abakaliki Street, and 31.2% in Abonnema Road highlighting this risk factor.

According to [9], similar perceptions about biological causes being the main contributors to infertility were documented in Nigerian communities, where medical explanations were predominantly recognized. Similarly, [27] found that the clinical definition of infertility as the failure to conceive after one year was well understood by most respondents in southeastern Nigeria. Moreover, [5] reported that many individuals hold the view that infertility is sometimes treatable, which aligns with these findings. In addition, medical conditions such as infections and hormonal imbalances were commonly identified as significant risk factors for infertility in the study by [3], supporting the emphasis on medical risks noted in the current data.

Research Question 2: What are the common sources of information on infertility among women of reproductive age (15-49)

The majority of respondents identified healthcare providers as their primary source of information on infertility, with 35.2% in Abba Street, 36.7% in Abakaliki Street, and 38.3% in Abonnema Road, underscoring the critical role of medical professionals in disseminating reproductive health knowledge. Most respondents had engaged with healthcare providers about infertility, with detailed discussions reported by approximately 30% across the three communities and brief discussions by around 26-27%, indicating varying degrees of healthcare interaction. Workshops and seminars emerged as the preferred learning formats, favored by roughly one-third of respondents in each area, highlighting the community's interest in structured, interactive educational settings.

Similarly, according to [12], healthcare providers are frequently cited as trusted sources of infertility information in Nigerian populations, supporting the importance of medical professionals in health education. According to [19], active discussions between patients and healthcare workers improve awareness and knowledge of infertility, which aligns with the reported rates of detailed and brief discussions in these communities. Similarly, workshops and seminars have been identified by [21] as effective platforms for enhancing knowledge about reproductive health issues in Nigerian settings, further reinforcing the preference for such learning formats.

Research Question 3: To what extent does the cultural belief on infertility shape perceptions of infertility among women of reproductive age (15-49)

Most respondents perceived infertility as a stigma, with a notable proportion reporting significant stigma at 35.9% in Abba Street, 37.5% in Abakaliki Street, and 34.4% in Abonnema Road, while an additional sizable group acknowledged some stigma, ranging from 30.5% to 32.8% across the communities. Emotional distress emerged as the primary societal impact of infertility, affecting about 34-36% of respondents, closely followed by social isolation, which was reported by approximately 30-33%. Cultural beliefs were regarded as influential in shaping perceptions of infertility, with around 30% indicating strong influence and about 32-34% reporting some influence. Medical treatment was the preferred approach to managing infertility, selected by roughly 38-40% of respondents in the three locations.

Similarly, according to [22], infertility is commonly associated with stigma in many Nigerian communities, leading to emotional distress and social isolation, which adversely affect women's mental health and social standing. Similarly, [16] found that cultural beliefs significantly shape attitudes toward infertility, often reinforcing stigma and influencing help-seeking behaviors. According to [4], medical treatment remains the preferred intervention among affected populations, reflecting a growing acceptance of biomedical approaches despite persistent cultural influences.

Research Questions 4: What is the sociodemographic factors that influence infertility among women of reproductive age (15-49)?

Most respondents across Abba Street, Abakaliki Street, and Abonnema Road perceived socioeconomic status as a significant barrier to accessing infertility treatment, with approximately 40% in each community affirming this and an additional 27-30% acknowledging a moderate effect. Similarly, the majority agreed that education substantially enhances knowledge about infertility, supported by 36-38% who indicated a significant increase and another 30-33% who reported a moderate increase in awareness. Occupation was also viewed as an influential factor on infertility risk, with about 27-30% considering it significant and 32-36% seeing some impact. To improve access to infertility treatment, increased awareness and education were prioritized by roughly 38-39% of respondents, while improved healthcare access and cost reduction were also commonly endorsed strategies, each selected by about a quarter to a third of participants.

According to [20], socioeconomic status significantly influences access to reproductive healthcare in Nigeria, with lower income groups facing greater barriers, which aligns with the findings here. Similarly, [10] found that education plays a pivotal role in increasing infertility knowledge, facilitating better health-seeking behavior. Furthermore, [17] highlighted occupational factors as contributing risks to infertility, reflecting the perceptions reported in these communities. Increased awareness and education have been widely recognized as effective strategies to improve access to treatment in resource-limited settings, as supported by the work of [22].

Conclusion

In conclusion, the study reveals that socioeconomic status, education, and occupation are perceived as key factors influencing access to infertility treatment and infertility risk among residents of Abba Street, Abakaliki Street, and Abonnema Road. The majority of respondents emphasized the significant impact of socioeconomic status on treatment accessibility, while education was recognized as crucial for enhancing knowledge about infertility. Occupational factors were also acknowledged as contributing to infertility risk. Importantly, increased awareness and education emerged as the most favored strategies to improve access to infertility care, alongside calls for better healthcare availability and reduced costs. These findings highlight the need for targeted educational programs and healthcare policy interventions to address socioeconomic barriers and improve reproductive health outcomes in these communities.

Recommendations

The researcher proposed the following recommendations based on the study findings:

- **Enhance Public Education and Awareness:** Implement targeted educational campaigns through workshops, seminars, and online platforms to improve community knowledge about infertility causes, treatment options, and to reduce stigma. These programs should be culturally sensitive and address common misconceptions, especially the strong

influence of spiritual and cultural beliefs.

- **Improve Access to Healthcare Services:** Strengthen the capacity of local healthcare providers to offer infertility screening, counseling, and treatment by providing specialized training and resources. Efforts should focus on making services affordable and geographically accessible, particularly for low socioeconomic groups who face significant barriers.
- **Integrate Counseling and Support Groups:** Establish counseling services and support groups within communities to address the emotional distress, social isolation, and marital challenges associated with infertility. These support systems can foster a supportive environment and encourage open discussions.
- **Address Socioeconomic Barriers:** Develop policies to subsidize infertility treatments and reduce out-of-pocket costs, making care more affordable. Additionally, social protection schemes could be introduced to assist vulnerable populations in accessing necessary services.

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Conflict of Interest

The authors declare that they have no financial or personal relationships that could inappropriately influence or bias the work

Bibliography

1. Adegbola Oluwaseyi and Oluwaseyi Akindele. "Knowledge and Perceptions of Infertility among Women in Nigeria: A Cross-Sectional Study". *African Health Sciences* 22.1 (2022): 489-497.
2. Adetoro Olubunmi O and Friday E Okonofua. "In Vitro Fertilization in Nigeria: Challenges and Prospects". *African Journal of Reproductive Health* 24.2 (2020): 32-40.
3. Adeyemi Olu Babatunde., *et al*. "Sources of Reproductive Health Information among Women of Reproductive Age in Southern Nigeria". *African Journal of Reproductive Health* 25.1 (2021): 91-98.
4. Afolabi BB., *et al*. "Social Perceptions of Infertility and Coping Mechanisms among Couples in Southwestern Nigeria". *BMC Women's Health* 21.1 (2021): 102.
5. Alabi R A., *et al*. "Influence of Digital Media on Reproductive Health Information-Seeking Behavior among Nigerian Youth". *Journal of Public Health in Africa* 13.2 (2022): 1141.
6. Anozie O B., *et al*. "Public Perceptions and Treatment-Seeking Behavior Regarding Infertility in Nigeria". *Journal of Obstetrics and Gynaecology* 40.3 (2020): 380-385.
7. Balasch J and E Gratacós. "Delayed Childbearing: Effects on Fertility and the Outcome of Pregnancy". *Current Opinion in Obstetrics and Gynecology* 24 (2018): 187-193.
8. Boivin Jacky., *et al*. "International Estimates of Infertility Prevalence and Treatment-Seeking: Potential Need and Demand for Infertility Medical Care". *Human Reproduction* 22 (2018): 1506-1512.
9. Chigbu C O., *et al*. "The Influence of Spirituality and Religion on Infertility Treatment Decisions among Couples in Southeastern Nigeria". *Journal of Religion and Health* 59.1 (2020): 220-235.
10. Chukwudi N C and J U Onwumere. "Marital Status and Utilization of Infertility Services in Selected Nigerian Communities". *Journal of Public Health in Africa* 12.2 (2021): 185-192.
11. Domar Alice., *et al*. "Understanding the Perceptions of Emotional Barriers to Infertility Treatment: A Survey in Four European Countries". *Human Reproduction* 27 (2018): 1073-1079.

12. Eze Nnenna C., *et al*. "The Impact of Employment Type on Access to Infertility Treatment in Nigeria". *Health Economics Review* 10.1 (2020): 18-24.

13. Ezechi O C., *et al*. "Patterns and Perceived Causes of Infertility among Nigerian Women: A Hospital-Based Study". *Nigerian Journal of Clinical Practice* 23.4 (2020): 523-528.

14. Greil A L., *et al*. "The Experience of Infertility: A Review of the Recent Literature". *Sociology of Health and Illness* 32 (2019): 140-162.

15. Henning K and B Straub. "Psychological and Psychosomatic Aspects of Involuntary Childlessness: State of Research at the End of the 1990s". *Involuntary Childlessness. Psychological Assessment, Counselling and Psychotherapy*, edited by B. Straub, Hogrefe and Huber (2017): 1-19.

16. Ibekwe PC., *et al*. "Infertility-Related Stigma and Coping Strategies among Women Attending Fertility Clinics in Southeast Nigeria". *African Health Sciences* 20.2 (2020): 793-802.

17. Ibrahim A I., *et al*. "Occupational and Environmental Risk Factors of Male Infertility: A Study from North-Central Nigeria". *Andrologia* 53.8 (2021, e14113.

18. Lash MM., *et al*. "Association between Secondary Infertility and Fallopian Tube Obstruction on Hysterosalpingography". *Journal of Reproductive Medicine* 5 (2017): 677-680.

19. Musa H A., *et al*. "The Role of Education in Enhancing Reproductive Health Awareness in Northern Nigeria". *BMC Public Health* 21.1 (2021): 1456.

20. Nnamdi OO., *et al*. "Educational Level as a Determinant of Infertility Knowledge among Women in Rural Nigeria". *International Journal of Gynecology and Obstetrics* 149.3 (2020): 327-332.

21. Okafor C J., *et al*. "Age-Related Reproductive Health Challenges and Their Influence on Fertility in Southeast Nigeria". *Nigerian Journal of Clinical Practice* 24.5 (2021): 692-698.

22. Okoh J E., *et al*. "Healthcare-Seeking Behavior for Infertility among Women in Nigeria: Patterns and Predictors". *Nigerian Journal of Clinical Practice* 23.2 (2020): 179-184.

23. Okonkwo I R., *et al*. "Community Knowledge and Definitions of Infertility in Southeastern Nigeria: A Qualitative Assessment". *BMC Women's Health* 21.1 (2021): 257.

24. Omale PU and E C Ezugwu. "Integrating Infertility Services into Nigeria's Primary Healthcare: A Policy Perspective". *Health Policy and Planning* 36.9 (2021): 1250-1258.

25. Pinborg Anja C O., *et al*. "Prospective Longitudinal Cohort Study on Cumulative 5-Year Delivery and Adoption Rates among 1,338 Couples Initiating Infertility Treatment". *Human Reproduction* 24 (2020): 991-999.

26. Schmidt Lone., *et al*. "Demographic and Medical Consequences of the Postponement of Parenthood". *Human Reproduction Update* 18 (2019): 29-43.

27. Umeh KN., *et al*. "Ethnicity and Cultural Beliefs: Influences on Infertility Perceptions in Southeastern Nigeria". *Journal of Biosocial Science* 52.4 (2020): 574-585.

28. Uzochukwu B SC., *et al*. "Cultural Beliefs and Attitudes toward Infertility in Nigeria: A Qualitative Exploration". *PLOS ONE* 17.2 (2022): e0264091.