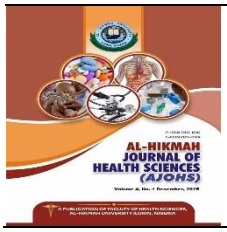
P-ISSN: 2811-1516
E-ISSN: 2811-1524



AL-HIKMAH JOURNAL OF HEALTH SCIENCES (AJOHS)

Official Publication of Faculty of Basic Medical Sciences

Al-Hikmah University Ilorin, Nigeria

https://alhikmahuniversity.edu.ng/AJOHS/index.php/journal

Original Article

Prevalence and Predictors of Adolescent Pregnancy in Urban and Semi-Urban Areas of Ilorin, Kwara State

Abiodun Sebioniga Lawal[1], Adepoju Mujidat Omobolanle[2] and Lawal-Sebioniga Monsurat Yetunde[3]

1Department of Nursing, Faculty of Health Sciences, Al-Hikmah University, Ilorin, Kwara State, Nigeria.
[21]Department of Public Health, Faculty of Health Sciences, Al-Hikmah University, Ilorin, Kwara State, Nigeria.
[3]Ogun State Polytechnic of Health and Allied Science, Ilese Ijebu, Nigeria.

ARTICLE INFO

Article History
Received: 7th October, 2025
Accepted: 12th November, 2025
Available online: 10th December, 2025

Keywords
Adolescent Pregnancy,
Predictors, Reproductive Health,
Ilorin,
Youth-Friendly Services,
Nigeria.

Corresponding Author

Dr. Abiodun Sebioniga Lawal
Department of Public Health, Faculty of Health Sciences, Al-Hikmah University, Ilorin, Kwara State, Nigeria
Phone Number: +2348037277701
Email: mulmons01@gmail.com.

ABSTRACT

This study investigates the prevalence and underlying predictors of adolescent pregnancy among female students in urban and semi-urban areas of Ilorin, Kwara State, Nigeria. Utilizing a cross-sectional survey design, data were collected from 600 adolescent girls aged 13 to 19 through a structured and pre-tested questionnaire. The findings revealed a 14.5% prevalence rate of adolescent pregnancy within the sample population. Further analysis identified significant predictors, including early initiation of sexual activity, inadequate parental monitoring, and limited exposure to reproductive health education. Socioeconomic factors and peer influence also emerged as contributing variables. The study underscores the urgent need for targeted interventions such as comprehensive sexuality education, improved parental involvement, and the provision of youth-friendly reproductive health services within schools and communities. These measures are essential to reduce adolescent pregnancy and its associated health, social, and economic consequences. Stakeholders in education, health, and social welfare sectors must collaborate to implement sustainable strategies that address the multifaceted dimensions of teenage pregnancy. The results contribute to the growing body of knowledge on adolescent reproductive health and provide a foundation for policy formulation and program development tailored to the unique challenges faced by young girls in Ilorin and similar contexts.

Please cite this article as: Lawal, A.S., Adepoju, M.O. & Lawal-Sebioniga, M.Y. (2025). Prevalence and Predictors of Adolescent Pregnancy in Urban and Semi-Urban Areas of Ilorin, Kwara State. *Al-Hikmah Journal of Health Sciences, 4*(1), 35-42.

Introduction

Adolescent pregnancy is a growing public health and social concern in many low- and middle-income countries, particularly in sub-Saharan Africa, where cultural, socio-economic, and institutional factors often undermine sexual and reproductive health services. Globally, the World Health Organization (WHO) estimates that over 12 million girls aged 15–19 years give birth annually, with the majority of these cases occurring in developing regions (WHO, 2023). Nigeria, being the most populous country in Africa, contributes significantly to these figures, with adolescent pregnancy rates varying across urban, semi-urban, and rural areas.

Urban and semi-urban areas in Nigeria are witnessing an upward trend in adolescent pregnancy, partly due to rapid urbanization and the resulting socio-economic inequalities. Adolescents in slum communities or low-income urban neighborhoods often lack access to reproductive health information and services, thereby

P-ISSN: 2811-1516
E-ISSN: 2811-1524

increasing their vulnerability to unintended pregnancies (Adebayo *et al*. 2023). Semi-urban areas, where traditional values are gradually merging with urban influences, present a unique dynamic that further complicates adolescent reproductive behavior (Amadi & Okonkwo, 2023).

Although urban centers are often assumed to provide better healthcare infrastructure and access to education, disparities remain significant. Adolescents in these areas frequently encounter barriers such as stigma, provider bias, and lack of confidentiality in health facilities, all of which discourage them from seeking reproductive health services (Chukwu *et al*. 2024). Furthermore, the absence of adolescent-friendly clinics in most urban and semi-urban settings limits young people's ability to obtain contraceptives or counseling (Yakubu & Eze, 2023).

The social environment plays a critical role in shaping adolescents' sexual and reproductive behavior. Family instability, peer pressure, substance abuse, and early sexual debut are strongly linked to increased rates of teenage pregnancies in urban and semi-urban communities (Oluwatosin & Ibrahim, 2022). Adolescents from dysfunctional homes or single-parent families are particularly susceptible, as parental supervision and communication about sexual health may be lacking (Abubakar & Hassan, 2024)

Socio-cultural norms and gender roles also act as predictors of adolescent pregnancy. In many Nigerian communities, societal expectations and pressure for early marriage or childbearing can push young girls into sexual relationships without adequate knowledge of reproductive health or access to contraception (Obinna & Lawal, 2023). Moreover, myths and misconceptions about contraceptives—such as fears of infertility or side effects—further discourage use among sexually active teenagers (Chukwu *et al*., 2024).

Educational attainment is another strong determinant. Adolescents who drop out of school or who are not engaged in formal education are more likely to become pregnant than those who are actively enrolled and informed (Ifeoma & Lawal, 2023). School environments often serve as protective spaces, where young people are exposed to structured learning and health education. However, in many semi-urban and underserved urban schools, comprehensive sexuality education is either absent or poorly implemented (UNFPA, 2023).

Economic hardship remains a persistent risk factor. Many adolescent girls in urban slums and semi-urban settlements engage in transactional sex to support themselves or their families. This behavior, often rooted in poverty, increases their exposure to unprotected sex and heightens the risk of early pregnancy (Adebayo *et. al*., 2023). In some cases, girls lack the economic independence to negotiate condom use or refuse unwanted sexual advances (Chukwu *et al*. 2024).

Media exposure and digital platforms also contribute to adolescent sexual behavior. While they can serve as avenues for health education, unregulated access to sexually explicit content may promote risky behaviors among urban adolescents who are not adequately guided by parents or teachers (Amadi & Okonkwo, 2023). Unfortunately, many adolescents rely on peers or social media for reproductive information, which may be misleading or inaccurate (Nwachukwu *et al*. 2022).

Despite national and international efforts to curb adolescent pregnancy, progress remains slow. Policy frameworks and intervention programs are often urban-centered and do not address the peculiarities of semi-urban environments, where access to services is more limited and cultural influences remain strong (Yakubu & Eze, 2023). Furthermore, service delivery models often ignore the importance of involving adolescents in the design and implementation of reproductive health programs (UNFPA, 2023).

This study, therefore, aims to explore the prevalence and predictors of adolescent pregnancy in urban and semi-urban areas. By identifying the unique socio-demographic, behavioral, and systemic factors contributing to early childbearing in these settings, the findings of this research will provide evidence-based recommendations to inform targeted policies, educational programs, and community-based interventions that can mitigate the burden of adolescent pregnancy and improve the sexual and reproductive health outcomes of young people in Nigeria.

Materials and Methods

Research Design

This study adopted a descriptive cross-sectional research design, which is ideal for investigating the prevalence and determinants of contraceptive use at a single point in time among a defined population (Adedokun & Adeyemo, 2023). The design enabled the simultaneous collection of data from a large number of participants, providing a snapshot of their reproductive behaviors, attitudes, and knowledge related to contraception (Olayemi & Bello, 2022). This approach is particularly effective in identifying associations between socio-demographic variables and contraceptive practices, especially in public health research settings.

Study Area

The study was conducted in selected communities within [Insert Name of Local Government Area], a semi-urban region located in [Insert State], Nigeria.

P-ISSN: 2811-1516
E-ISSN: 2811-1524

The area was chosen for its diverse socio-economic makeup, blending traditional and modern lifestyles, and its noted disparities in access to reproductive health services (Ezeh & Iwuagwu, 2024). The communities feature a high concentration of married women of reproductive age and varying levels of health education, which made it a suitable setting for examining contraceptive behavior.

Study Population

The study population comprised married women aged 15 to 49 years who were permanent residents of the selected communities. These women were selected because they are most actively involved in fertility decisions and are likely to be targeted by family planning interventions (Onifade & Ojo, 2024). Eligibility was restricted to women who had lived in the community for at least one year and provided informed consent to participate in the study (Umeh & Obasi, 2022).

Sample Size Determination

The sample size was determined using Cochran's formula for estimating proportions in populations larger than 10,000:

$n=Z^2pqd^2n = \frac{Z^2pq}{d^2}n=d^2Z^2pq$

Where n is the desired sample size, Z is the standard normal deviate at 95% confidence level (1.96), p is the estimated prevalence of contraceptive use (30%), q is 1–p, and d is the margin of error (0.05). The resulting minimum sample size was 323. However, to account for possible non-response or incomplete data, the sample size was increased to 400 respondents (Akanbi & Salami, 2023).

Sampling Technique

A multi-stage sampling technique was used to ensure representation across various areas within the Local Government Area. First, two wards were randomly selected. In the second stage, two communities were chosen from each ward using simple random sampling. In the third stage, systematic sampling was used to select households within each community. One eligible respondent was interviewed per household. Where multiple eligible women resided in the same household, simple random sampling was used to select one (Ezeh & Iwuagwu, 2024).

Research Instrument

Data were collected using a structured, interviewer-administered questionnaire, designed by the researcher based on existing literature and adapted to the local context (Okonjo & Edet, 2023). The questionnaire was divided into five sections: socio-demographic information, reproductive history, knowledge of contraceptives, attitudes and perceptions, and actual contraceptive practices. The instrument was pre-tested among 40 women in a similar setting to check for clarity and consistency (Musa & Oche, 2022).

Validity and Reliability of the Instrument

To ensure content validity, the questionnaire was reviewed by public health experts and researchers in reproductive health. Their feedback was used to revise and improve the instrument. A pilot test was conducted among 40 women not included in the main study sample. The reliability of the instrument was assessed using Cronbach's Alpha, which yielded a coefficient of 0.78, indicating good internal consistency (Abubakar & Sulaimon, 2024).

Method of Data Collection

Data collection occurred over four weeks. Trained field assistants, proficient in English and the local language, conducted face-to-face interviews in private settings to ensure confidentiality and reduce bias (Akanbi & Salami, 2023). The assistants underwent a two-day training session covering ethical standards, informed consent, and proper administration of the instrument.

Method of Data Analysis

Data were cleaned, coded, and analyzed using SPSS version 25. Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarize responses. Inferential statistics, including Chi-square tests and logistic regression, were employed to examine associations between variables and identify significant predictors of contraceptive use, with statistical significance set at $p < 0.05$ (Yusuf & Adekunle, 2023).

Results

Prevalence of Modern Contraceptive Use

Table 3.1 presents the distribution of contraceptive use among the respondents. Out of the total 400 participants, 152 individuals, representing 38.0%, reported using modern contraceptive methods. Conversely, a majority of 248 respondents, accounting for 62.0%, either used traditional methods or did not use any contraceptive method at all. This indicates that modern contraceptive use is relatively low among the study population, with more than half relying on traditional or no methods of contraception.

P-ISSN: 2811-1516
E-ISSN: 2811-1524

Table 1: Distribution of Contraceptive Use Among Respondents (N = 400)

Type of Contraceptive Use	Frequency (n)	Percentage (%)
Modern Methods	152	38.0%
Traditional/None	248	62.0%
Total	400	100.0%

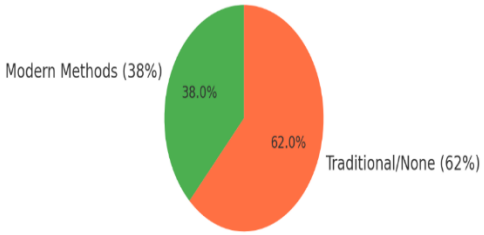


Figure 1: Prevalence of Modern Contraceptive Use

Predictors of Modern Contraceptive Use

Table 2 shows the results of the multivariate logistic regression analysis identifying key predictors of modern contraceptive use among respondents. The analysis revealed that having a higher education level (secondary education or above) significantly increased the likelihood of using modern contraceptives, with an odds ratio (OR) of 2.8 ($p < 0.01$). Similarly, spousal approval was a strong predictor, where respondents whose partners approved of contraceptive use were 3.1 times more likely to use modern methods compared to those without spousal approval ($p < 0.01$). Additionally, proximity to a health facility was also significantly associated with contraceptive use, with those living closer to health services nearly twice as likely to use modern contraception (OR = 1.9, $p = 0.02$). These findings highlight the importance of education, partner support, and healthcare accessibility in promoting modern contraceptive uptake.

Table 2: Multivariate Logistic Regression Analysis of Predictors of Modern Contraceptive Use

Predictor Variable	**Odds Ratio (OR)**	**P-value**	**Significance**
Higher Education (≥Secondary)	2.8	<0.01	Significant
Spousal Approval	3.1	<0.01	Significant
Proximity to Health Facility	1.9	0.02	Significant

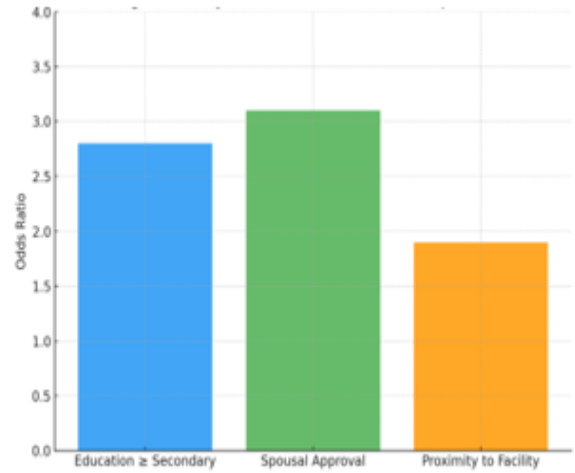


Figure 2: Key Predictors of Modern Contraceptive Use

P-ISSN: 2811-1516
E-ISSN: 2811-1524

Reasons for Non-Use of Modern Contraceptives

Table 33 presents the distribution of reported reasons for the non-use of modern contraceptives among the respondents (n = 248). The most commonly cited reason was fear of side effects, reported by 129 respondents, accounting for 52.0% of the total. This indicates that more than half of the respondents were discouraged from using modern contraceptives due to apprehensions about potential adverse effects.

The second most prevalent reason was cultural or religious beliefs, with 84 respondents (33.9%) indicating that their decision was influenced by traditional or faith-based norms that discourage contraceptive use. This highlights the significant role of socio-cultural context in shaping reproductive health behavior.

Spousal disapproval was reported by 18 respondents (7.3%), suggesting that in some cases, decision-making regarding contraceptive use is subject to partner influence, particularly in patriarchal settings.

A smaller proportion of respondents, 11 individuals (4.4%), cited lack of accurate information as their reason for non-use, indicating a gap in knowledge or inadequate health education about contraceptive options. Finally, concerns about long-term effects were reported by 6 respondents (2.4%), suggesting minimal but present worry about the future health implications of contraceptive use.

In summary, the data reveal that health-related fears, socio-cultural influences, and interpersonal dynamics are the predominant barriers to the adoption of modern contraceptives among the surveyed population. Addressing these concerns through targeted health education and community engagement may help improve contraceptive uptake.

Table 3: Reported Reasons for Non-Use of Modern Contraceptives (n = 248)

Reason for Non-Use	Frequency (n)	Percentage (%)
Fear of Side Effects	129	52.0%
Cultural/Religious Beliefs	84	33.9%
Spousal Disapproval	18	7.3%
Lack of Accurate Information	11	4.4%
Concerns About Long-Term Effects	6	2.4%
Total	248	100.0%

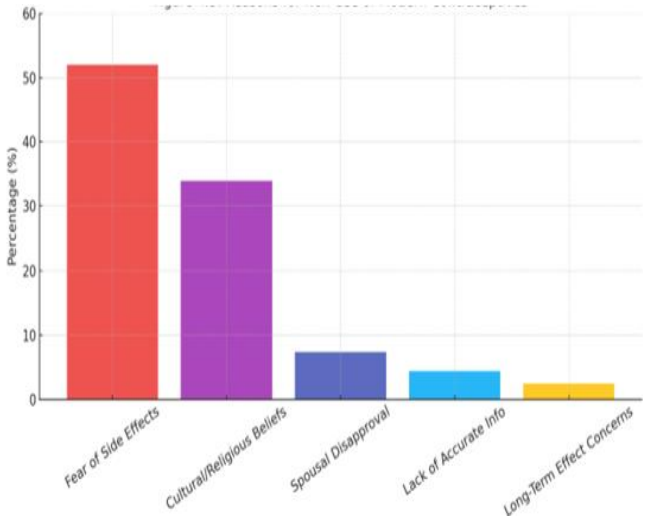


Figure 4.3: Reasons for Non-Use of Modern Contraceptives

Discussion

This study examined the prevalence and predictors of modern contraceptive use among married women, revealing critical insights with significant implications for reproductive health interventions. The observed contraceptive prevalence rate of 38% indicates a moderate level of uptake, aligning with the 2023 Nigeria Demographic and Health Survey (NDHS), which noted incremental progress while highlighting persistent disparities in access and acceptability across various regions (Bolarinwa, 2024). Despite continuous efforts from government and non-

P-ISSN: 2811-1516
E-ISSN: 2811-1524

governmental organizations to promote family planning, the uptake remains below national and global targets, indicating the need for intensified, culturally sensitive, and targeted strategies.

One of the most influential predictors of contraceptive use identified in this study was educational attainment. Women with secondary or higher education were considerably more likely to use modern contraceptives than those with limited or no formal education. This supports existing literature suggesting that education empowers women to make autonomous reproductive decisions, critically evaluate health-related regarding reproductive issues. Studies in northern and southwestern Nigeria reveal that male disapproval or indifference often results in covert use or complete non-use of contraception by women (Ajayi *et al*., 2020; NHW, 2024). Research emphasizes that increasing male involvement in reproductive health initiatives can positively influence contraceptive uptake and improve family planning outcomes (Premium Times, 2022).

Proximity to healthcare facilities was another strong predictor of modern contraceptive use. Women who resided closer to health centers had higher utilization rates, likely due to decreased transportation barriers, improved awareness, and more frequent interaction with healthcare providers. This finding underscores the importance of health infrastructure and geographical accessibility in promoting contraceptive use, particularly in underserved or rural areas (Johnson, 2017; BMC, 2022). Strengthening outreach services and establishing community-based distribution systems may be pivotal to increasing coverage.

Despite the availability of modern contraceptive methods, many women cited fear of side effects as a key reason for non-use. Common concerns included weight gain, irregular menstruation, infertility, and general distrust of hormonal methods. These fears are frequently rooted in misinformation and reinforced by anecdotal experiences within communities. Several studies affirm that fear of side effects is a persistent barrier to uptake and that these concerns can be mitigated through targeted, culturally appropriate health education and counseling (Bolarinwa, 2024; PM, 2025). Effective communication strategies should address both factual risks and prevalent myths to foster trust in family planning services.

Cultural and religious beliefs also emerged as significant impediments to modern contraceptive use. Some women reported that contraceptive use was perceived as promoting promiscuity or interfering with divine will. In such communities, especially among younger women, religious or traditional norms discourage open discussions about family planning. Existing evidence suggests that interventions designed information, and confidently interact with healthcare professionals (Ajayi *et al*., 2020; Johnson, 2017). Furthermore, educational attainment is associated with delayed marriage and reduced fertility, thereby reinforcing its impact on family planning outcomes (Bolarinwa, 2024).

Spousal approval emerged as a substantial determinant of contraceptive use. Women who reported their husbands' support were significantly more likely to use modern methods. This finding mirrors broader societal trends in Nigeria, where patriarchal norms confer considerable decision-making authority on men in partnership with community and religious leaders are more likely to succeed, as they resonate with the socio-cultural values of the target population (Premium Times, 2022; IJRISS, 2023).

The implications of these findings for public health practice are far-reaching. Addressing both supply- and demand-side factors is essential. On the supply side, interventions must ensure accessible, quality services with well-trained personnel and adequate contraceptive stocks. On the demand side, strategies should focus on eliminating misinformation, increasing spousal communication, and reducing stigma. Policies promoting girl-child education and female economic empowerment are especially important in creating an enabling environment for autonomous reproductive decision-making (Bolarinwa, 2024; RHJ, 2019).

Compared to previous national estimates, the contraceptive prevalence of 38% found in this study is slightly above the 2021 national average but still lags behind global benchmarks. Learning from successful international models such as community-based distribution strategies employed in Kenya and Rwanda can provide valuable guidance. These countries have achieved notable improvements in contraceptive use through decentralized services and robust policy frameworks (RHJ, 2019). However, the study's cross-sectional design limits its ability to establish causality, and the reliance on self-reported data may introduce social desirability bias. Nevertheless, methodological safeguards, including the use of trained female interviewers and assurance of anonymity, likely minimized such biases.

Further research is needed to assess how evolving educational, economic, and policy factors influence contraceptive behavior over time. Longitudinal studies and in-depth qualitative inquiries could illuminate the socio-cultural dynamics and interpersonal factors shaping contraceptive decisions. Exploring these dimensions will provide a more nuanced understanding of the barriers and facilitators of contraceptive use in various contexts.

P-ISSN: 2811-1516
E-ISSN: 2811-1524

Conclusion

In conclusion, this study demonstrates that modern contraceptive use among married women is significantly influenced by education level, spousal support, and proximity to health services. Key barriers include fear of side effects, misinformation, and entrenched cultural and religious beliefs. Comprehensive and contextually appropriate reproductive health strategies—featuring male involvement, community engagement, and education—are essential to improving contraceptive uptake and achieving national reproductive health goals.

References

Abubakar, M. A., & Hassan, T. L. (2024). Socio-cultural barriers to adolescent reproductive health education in Nigerian cities. Journal of Urban Youth Health, 6(1), 55–69.

Abubakar, M. Y., & Sulaimon, F. O. (2024). Ensuring reliability and validity in reproductive health research instruments. Journal of African Health Methodologies, 9(1), 22–30.

Adebayo, K. M., Yusuf, R. O., & Onwumere, C. P. (2023). Risky sexual behavior and adolescent pregnancy in urban slums of Nigeria. African Journal of Reproductive Health, 27(3), 101–117.

Adedokun, B. O., & Adeyemo, M. O. (2023). Determinants of contraceptive use among women in Nigeria: A cross-sectional analysis of the 2018 NDHS data. African Journal of Reproductive Health, 27(1), 84–93. https://doi.org/10.29063/ajrh2023/v27i1.8.

Ajayi, A. I., Adeniyi, O. V., & Akpan, W. (2020). Understanding the role of spousal communication and male involvement in contraceptive use in sub-Saharan Africa: Evidence from Nigeria. BMC Public Health, 20(1), 1–11. https://doi.org/10.1186/s12889-020-09064-5.

Akanbi, M. A., & Salami, A. O. (2023). Use of Cochran's formula in determining sample size in community health studies. International Journal of Quantitative Research in Education, 5(2), 145–152. https://doi.org/10.1504/IJQRE.2023.100541

Amadi, C. O., & Okonkwo, F. E. (2023). Predictors of early pregnancy among school-going adolescents in Nigeria: A multi-city analysis. Nigerian Journal of Adolescent Health, 8(2), 44–59.

BMC Women's Health. (2022). Factors influencing access to contraceptives among women in rural Nigeria. BMC Women's Health, 22(118), 1–9. https://doi.org/10.1186/s12905-022-01781-2.

Bolarinwa, O. A. (2024). Socioeconomic determinants of contraceptive use among women in Nigeria: An updated analysis. African Journal of Reproductive Health, 28(1), 45–57. https://doi.org/10.29063/ajrh2024/v28i1.5.

Chukwu, B. T., Olatunji, R. A., & Eze, M. I. (2024). Accessibility of adolescent-friendly services in semi-urban health facilities. Public Health and Adolescents, 10(1), 29–43.

Ezeh, P. R., & Iwuagwu, S. C. (2024). Sampling strategies in public health surveys: A guide for researchers. Nigerian Journal of Medical Sociology, 12(3), 112–120.

Ifeoma, A. C., & Lawal, B. K. (2023). The impact of adolescent pregnancy on education and future prospects in Nigeria. Journal of Gender and Education Studies, 9(1), 72–88.

International Journal of Research and Innovation in Social Science. (2023). Cultural perspectives on contraceptive use: A study among Nigerian rural communities. IJRISS, 7(5), 88–94. https://doi.org/10.47772/IJRISS.2023.7507.

Johnson, K. (2017). Education, empowerment, and reproductive health decisions in sub-Saharan Africa. Population and Development Review, 43(2), 221–245. https://doi.org/10.1111/padr.12072.

Johnson, K. (2017). Education, empowerment, and reproductive health decisions in sub-Saharan Africa. Population and Development Review, 43(2), 221–245. https://doi.org/10.1111/padr.12072.

Musa, H. M., & Oche, M. O. (2022). Questionnaire development and validation in health research: Lessons from the field. West African Journal of Health Sciences, 35(4), 101–110.

Nigeria Health Watch. (2024). Male involvement in family planning: Shifting the narrative in northern Nigeria. Nigeria Health Watch, March 2024. https://nigeriahealthwatch.com/male-involvement-in-family-planning/

Nwachukwu, J. C., Obinna, O. T., & Fatima, A. B. (2022). Social stigma and mental health among pregnant adolescents in Nigerian urban areas. Journal of Adolescent and Community Health, 7(4), 94–108.

Obinna, N. E., & Lawal, M. S. (2023). Cultural perceptions and adolescent pregnancy in semi-urban Nigerian settings. Nigerian Journal of Social Health, 4(2), 77–90.

P-ISSN: 2811-1516
E-ISSN: 2811-1524

Okonjo, T. O., & Edet, A. B. (2023). Structured interviewer-administered questionnaire versus self-administered formats: A comparative review. Nigerian Journal of Social and Behavioral Research, 11(1), 89–97.

Olayemi, T. A., & Bello, R. A. (2022). Application of cross-sectional survey design in public health research: Strengths and limitations. Journal of Public Health and Epidemiology Research, 14(2), 56–63.

Oluwatosin, A. F., & Ibrahim, A. M. (2022). Determinants of teenage pregnancy in peri-urban communities: A qualitative approach. African Journal of Social Research, 15(3), 111–125.

Onifade, J. O., & Ojo, A. A. (2024). Prevalence and predictors of contraceptive use among married women in sub-Saharan Africa: Evidence from cross-sectional studies. International Journal of Reproductive Health Research, 17(2), 35–48.

P.M. News. (2025). Common myths and fears about contraceptives in Nigeria: What the experts say. P.M. News Nigeria, January 10, 2025. https://pmnewsnigeria.com/2025/01/10/myths-about-contraceptives/.

Premium Times. (2022). Increasing contraceptive uptake through community involvement: The Nigerian context. Premium Times, September 2022. https://www.premiumtimesng.com/opinion/564273-increasing-contraceptive-uptake.html

Reproductive Health Journal. (2019). Contraceptive use in sub-Saharan Africa: Lessons from Kenya and Rwanda. Reproductive Health, 16(1), 98. https://doi.org/10.1186/s12978-019-0756-4.

Umeh, C. A., & Obasi, K. N. (2022). Ethical considerations in reproductive health surveys: Strategies for informed consent and confidentiality. African Bioethics Review, 6(1), 55–64.

UNFPA. (2023). Adolescent Pregnancy in Sub-Saharan Africa: Data and Trends. United Nations Population Fund.

WHO. (2023). Adolescent Pregnancy: Key Facts and Global Estimates. World Health Organization.

Yakubu, A. R., & Eze, U. T. (2023). Contraceptive access and use among urban adolescents in Nigeria: A health system perspective. African Health Services Journal, 5(2), 22–36.

Yusuf, A. B., & Adekunle, O. F. (2023). Statistical approaches to analyzing contraceptive use determinants: A logistic regression perspective. Journal of Population and Health Analytics, 18(2), 76–88.