VOL 2 NO 9: SEPTEMBER, 2025
AN OPEN ACCESS PEER-REVIEWED JOURNAL
Frontline Professionals Journal 2(9), 95-105, EISSN 1596-0501

Original Research Article

KNOWLEDGE, ATTITUDE, AND UTILIZATION OF CONTRACEPTIVES AMONG MARRIED WOMEN: A CROSS-SECTIONAL STUDY IN ARI RURAL COMMUNITY OF NINGI LGA, BAUCHI STATE, NORTHEASTERN NIGERIA.

Authors: [1]Alhassan, A. and [1]Ekong, I. E.

[1]Department of Community Health, School of Public Health, University of Port Harcourt, Nigeria.

Corresponding Author: Alhassan, A.
Email: auwalualhassannng77@gmail.com

Authors' contributions
This study was a collaborative effort of the author. The author reviewed and approved the final version of the manuscript for publication.

Article Information
DOI: https://doi.org/10.60787/fpj.vol2no9.95-105
EISSN 1596-0501
Website: https://frontlineprofessionalsjournal.info
Email: frontlineprofessionalsjournal@gmail.com

CITATION: Alhassan, A. and Ekong, I. E**.** (2025). Knowledge, Attitude, and Utilization of Contraceptives among Married Women: A Cross-Sectional Study in Ari Rural Community of Ningi LGA, Bauchi state, Northeastern Nigeria. *Frontline Professionals Journal* 2(9), 95-105

ABSTRACT
The importance of contraceptive usage among married women cannot be overstated, as it plays a pivotal role in birth control and reproductive health. While other research has looked into family planning issues in other groups, this study stands out because it's specifically focused on the Ari rural area of Bauchi state. The objectives encompass assessment of the awareness, perception and usage of contraceptives, examining this will contribute valuable insights that can inform and improve birth spacing programs in the region. A descriptive cross-sectional study design was used for the study. Data was collected using a structured interviewer-administered questionnaire. Multi stage sampling technique was used to select sample size of 278. The data were analysed using the SPSS statistical package, version 28. The findings revealed 38.50% had good knowledge of contraception. Positive attitudes toward contraceptive use was 43.88%. Slightly higher contraceptive practice with 142 (51%) against the no practice of 136(49%) was revealed. The commonest contraceptives used were injectable 55(38.7%). Many married women in the rural area lacked sufficient knowledge of contraceptives. Comprehensive education initiatives to raise awareness of contraceptives and their benefits should be implemented.

Keywords: Knowledge, Attitude, contraceptive usage, Married women.

INTRODUCTION
By enabling individuals and couples to make well-informed decisions about the number and spacing of their children, ensuring reproductive health is made possible by child spacing. To avoid unplanned pregnancies, provide optimal birth spacing, and improve the general well-being of mothers, children and families, it includes the use of various contraceptive methods (WHO, 2018; Kasa *et al.,* 2018). However, the use of child spacing methods by married women is dangerously low in many parts of Nigeria, especially Bauchi state (NDHS & NPC,

2008). As a result, maternal mortality rates are consistently high. By 2050, it is projected that approximately two-thirds of the global population will be residing in urban areas due to the rapid urbanization trend (Birabwa *et al.,* 2021). Notably, Sub-Saharan Africa is currently experiencing the swiftest urbanization, although nearly 70% of its urban inhabitants reside in informal settlements.

Throughout history, urban regions have typically exhibited higher usage of contemporary contraception and reduced unmet family planning needs, attributed to improved accessibility, proximity to, and diversity of services (Birabwa *et al.,* 2021). However, the once prominent disparities between the rural and the urban population, these aspects are diminishing, while growing inequalities within the urban Areas lead to unfavorable outcomes among urban dwellers, particularly those living in informal settlements. Individuals in impoverished informal urban communities bear the heaviest burden of health inequality due to unfavorable living conditions, social marginalization, and limited prospects for socioeconomic empowerment (Birabwa *et al.,* 2021). Unfortunately, health indicators, including family planning metrics, for this specific subgroup are often concealed within broader urban averages.

According to the 2007 WHO Family Planning handbook, "Family Planning" refers to giving women access to contraception after a miscarriage or abortion. Family planning is a way for people and couples to plan for and have the desired number of children they want, and to also space the time for those pregnancies. This is achieved by resolving involuntary infertility and using contraceptive measures. The length of time between pregnancies can have a big impact on a woman's health and how each pregnancy turns out. In essence, family planning is a voluntary process. When used properly, the various contraceptive methods (formerly known as birth control) can be personalized to meet individual needs and provide a range of acceptable and efficient solutions. Only married women who indicate a desire to avoid pregnancy but do not use any type of contraception are considered to have unmet family planning needs. With 545 maternal deaths for every 100,000 live births, Nigeria has one of the highest rates (NDHS &NPC, 2008). According to Williamson et al. (2009), several factors are significant in determining how often women of reproductive age use contraceptives. The proper planning and execution of family planning programs depend on the identification of these characteristics (Ezebialu and Eke, 2013). Although rarely have the factors influencing the use of artificial family planning services and methods by women of reproductive age been discussed in Nigeria, studies on these factors have been reported for some areas of the country (PRB, 2011). In Nigeria, 83% of women did not use any contraceptive devices and methods to avoid unwanted pregnancy in 2018. (NFPB 2020). By 2024, the Nigerian government hopes to have a prevalence rate of modern contraceptives of 27% among all women. The Nigeria Family Planning Blueprint for 2020–2024 made the pledge public. Estimates from the National

Bureau of Statistics issued on August 24, 2021, shows that 12 percent of women in the most populous nation in Africa utilized modern methods of contraception, with slightly more than 16 percent of women using any type of contraception. The 2020 Statistical Report on Women and Men in Nigeria states that almost 83% of Nigerian women did not use any contraceptive methods in 2018. Yobe had the greatest percentage of women (98.1%) who did not use any kind of contraception among the provinces, followed by Sokoto (97.7 %%). According to the survey, Lagos had the lowest percentage of women who did not use contraceptives (50.6). Men make up 50.5% of the population, compared to women who make up 49.5%. Nigeria's population crisis has serious repercussions for the socioeconomic development of the nation, according to data released by the World Population Reference Bureau in 2018. The population of Nigeria increased steadily from roughly 56 million in 1960 to 195,874,683 million in 2018 and is expected to reach 204 million by 2025. This indicates growth rates of 126.79% and 60.63% for the corresponding periods. (PRB, 2018). This suggests that family planning is essential as the world's population particularly that of the developing world and specifically Nigeria, will continue to expand rapidly.

The Northern Nigerian state of Bauchi faces substantial obstacles when it comes to married women's understanding, attitudes, and use of contraception. The focus of this research work is Ari village, which is situated in Bauchi state's Ningi Local Government Area (LGA). The village of Ari exemplifies a rural area where services, as well as information related to reproductive health, are frequently hard to come by. Understanding the complex

factors that affect knowledge, beliefs, and use of contraceptives in this particular environment is therefore crucial. The development of tailored interventions and strategies to enhance family planning practices when it comes to local married women can be based on this information. Limited studies have provided thorough national-level evaluations of the Factors affecting Nigerian women of reproductive age's usage of modern contraception, where much previous research has concentrated on particular regions (PRB, 2011).

Consequently, by shining light on the complex factors that affect women of childbearing rural communities in Bauchi state who use contraception, this study's work in Ari village will make a substantial contribution to overall knowledge already in existence. This study intends to offer practical knowledge that will help policymakers, healthcare professionals, and other relevant stakeholders in formulating effective interventions to increase contraceptive prevalence rates and mitigate the persistently high maternal mortality rates in Ningi, Bauchi state, and Nigeria at large. It does this by examining the knowledge levels, attitudes, and family planning-related contraceptive methods. The findings will support the creation of specialized strategies and evidence-based decision-making focused on enhancing reproductive health outcomes for married women in the research region, ultimately advancing Nigeria's larger objective of sustainable development.

MATERIAL AND METHODS

Study Design

To gather information on married women's knowledge, attitudes, and usage of contraceptives in Ari Village, Ningi LGA, Bauchi State, Nigeria, this study used a descriptive cross-sectional study design.

Study Area

The research was conducted in the Nigerian state of Bauchi's Ari village, located in the Ari district. Ari community, located in Ningi LGA, is one of the oldest villages in the area, with a population of over 5000 people according to the Ari PHC Catchment Population Community Information Board (2021). The community is situated approximately 7km from Ningi town along the Yadagungume Fuskar Mata Road. The residents of the community are primarily farmers, businessmen and women, civil servants, and laborers. Within the community, there is a traditional leader known as the District Head of Ari. Additionally, Ari village has a primary healthcare center and local markets. Notably, the community features a large mountain that serves as a source of firewood, mineral resources, and a grazing area for herdsmen.

Study Population

The study's participants were married women who lived in Ari Village, Ningi LGA, Bauchi State, Nigeria. These women were chosen based on their marital status and village of residence. The study's inclusion requirements included marital status and current residence in Ari Village. Women from a range of age groups, educational levels, occupations, and socioeconomic conditions made up most of the village's population.

Inclusion and Exclusion Criteria

Inclusion criteria

The study included women who were legally married according to cultural and legal norms. Participants were required to be currently residing in Ari Village, Ningi LGA, Bauchi State, Nigeria.

Exclusion Criteria:

Non-indigene married women who have been resident in Ari community for less than two years and eligible women who were absent at the time of data collection.

Study Tool

A self-administered structured questionnaire was used as the main method of data collection for this investigation. Six sections, A through F, addressing various facets of the investigation, were included in the questionnaire. The purpose of Section A was to gather demographic data, which included personal information.

Participants' knowledge of contraceptives was tested in Section B. The purpose of Section C was to evaluate married women's opinions toward the use of contraception. Participants in Section D, which addressed current contraceptive practices, indicated if they were currently using any contraceptive methods. The objective of Section E was to determine the contraceptive methods that women in the Ari community used the most frequently. The issues related to married women's non-use of contraceptives were the subject of the last part, part F.

Sample size

Eligible married women in Ari community were used for the study. Using the Cochran formula, the sample size for the study was calculated using the prevalence of contraceptive use among married women which was 21% and confidence level of 95%. With the addition of a 10% non-response rate, the sample size of 281 was obtained.

Sampling Techniques

The study utilized a multistage sampling method to select participants. The following steps were undertaken to ensure a representative sample:

Stage 1: Selection of Local Government Area (LGA) Bauchi State comprises Twenty (20) Local Government Areas (LGAs), and in this study, Ningi LGA was chosen as the target area. Ningi LGA was selected based on its relevance to the research topic and availability of data.

Stage 2: Selection of Community within Ningi LGA, the Ari community was selected as the study area. The selection was based on factors such as population size, accessibility, and the concentration of married women of reproductive age.

Stage 3: Selection of Participants. To select the participants, a systematic random sampling technique was employed. The household listing was obtained from the local authorities, and a sampling interval was determined based on the estimated number of households and the desired sample size. Every nth household was selected to participate in the study.

Stage 4: Eligibility Criteria. Within the selected households, only married women of reproductive age (18-49 years) were considered eligible for participation in the study. If multiple eligible participants were present in a household, one participant was randomly chosen.

Data collection

A group of four research assistants were hired and trained specifically for data gathering. Married women who voluntarily volunteered to take part in the study were interviewed in-person. As the main instrument for gathering data, pre-tested, self-administered structured questionnaires were used. These questionnaires asked about a variety of topics, such as the participants' sociodemographic traits, their knowledge of contraceptives, their attitudes toward using contraceptives, and their practices in relation to contraception. Necessary training was provided to the research assistants so that uniform and standardized data gathering methods would be used. Their participation helped to assure the timely and accurate collection of data from the participants, which improved the study's overall effectiveness and dependability.

Data Analysis

The collected data underwent a thorough cleaning process and were subsequently entered into a database using MS Excel. Analysis and presentation of the results were conducted using the statistical package for social sciences (SPSS) version 28.0. Summary measures were calculated for each outcome of interest to provide a comprehensive understanding of the findings. To assess the level of knowledge about contraceptives among married women in the Ari community of Ningi LGA, Bauchi State, a set of ten questions was utilized and respondents were scored

one point for each question that was answered correctly. Respondents were categorized based on their performance on these questions. Those who correctly answered at least 80% questions were classified as having good knowledge. Respondents who scored between 60% and 79% were considered to have average knowledge, while those who answered correctly less than 50% questions correctly were deemed to have poor knowledge.

The attitude of the respondents towards contraception was assessed with a set of five questions, on a five-point Likert scale. Respondents were scored +2 when they strongly agreed to a positive statement, scored +1, if they agreed, 0, if they were indifferent; scored -1, if they disagree; and -2, if they strongly disagree to the positive statement. The scoring was reversed for negative statement. The respondents were subsequently rated to have positive attitude towards contraception when they have a cumulative positive score; they were indifferent to contraception when they have a cumulative score of zero; and were considered to have poor attitude, if they have a negative cumulative score. To ascertain the use of contraceptives among married women in the Ari community, data on contraceptive practices were collected. The prevalence and patterns of contraceptive use were analyzed and presented to provide insights into the adoption and utilization of various contraceptive methods. Additionally, factors associated with the use of contraceptives among married women in the Ari community were examined. Statistical techniques such as Chi-Square analysis were employed to identify the demographic, socio-economic, and cultural factors that significantly influenced contraceptive usage. Furthermore, the prevalence of problems associated with non-use of contraceptives among married women in the Ari community was assessed. This involved analyzing data related to unintended pregnancies, unsafe abortions, and health complications arising from the lack of contraceptive utilization. Additionally, statistical measures like Cronbach's alpha were used to evaluate the questionnaire's internal consistency in the knowledge, attitude, and practice portions. High internal consistency values showed that each section's questions accurately measured the desired constructs. Additionally, data cleaning procedures were put in place to find and deal with any inconsistent or missing responses. The reliability of the data was ensured by follow-up discussion with participants to address discrepancies.

Ethical Considerations

Prior to the data collection, participants received thorough information about the goals, methods, possible hazards, and advantages of the study. Each subject provided their informed consent, highlighting their voluntary participation. They were told of their freedom to make decisions and that they might leave the study at any time without suffering any repercussions. Strict safeguards were put in place to protect the privacy and confidentiality of the participant's information. All information gathered was held in strict confidence and kept in a secure location. The data were only accessible to authorized members of the research team, and participant identities were anonymized. The University of Port Harcourt's Ethics Committee gave the study its seal of approval. This approval validated the study's design and methodology by ensuring that the research complied with widely accepted ethical standards and guidelines.

RESULT

Table 1.0

SOCIODEMOGRAPHIC CHARACTERISTIC	FREQUENCY	PERCENTAGE
Age of Respondents		
25 years and below	68	24.5
26 - 35 years	120	43.2
36 – 45	85	30.6
46 and above	5	1.8
Mean Age = 30.90		
Number of Children		
0-1	43	15.5

2-4	104	37.4
5-9	103	37.1
10 and above	28	10.1
Education level		
None	30	10.8
Primary	40	14.4
Secondary	23	8.3
Tertiary	2	0.7
Qur'anic Study	183	65.8
Religious Distribution of Respondents		
Islam	262	94.2
Christianity	16	5.8
Respondents by Occupation		
House Wife	195	70.1
Farming	10	3.6
Trading	68	24.5
Civil Service	5	1.8

Out of all the participants, 68 (24.5%) were below the age of 25, and 120 (43.2%) fell within the age range of 26 to 35 years. Those aged between 36 and 45 years consisted of 85 (30.6%). Forty-three (15.5%) reported having 0-1 child, while 104 (37.4%) had 2-4 children. Furthermore, 103 (37.1%) stated they had 5-9 children, indicating a significant portion of the respondents fell into this category, whereas 28 (10.1%) reported having 10 children or more. Thirty (10.8%) had not received any formal education. 40 respondents (14.4%) had successfully completed their primary level education, while 23 (8.3%) had achieved a secondary level of education, only 2 (0.7%) reported having tertiary education. Majority, 183 (65.8%), had Qur'anic education. Majority, 262 (94.2%), were Muslims. Sixteen (5.8%), reported being Christians. A substantial majority of 195 (70.1%) identified themselves as housewives. Moreover, there were 10 (3.6%) who reported their occupation as farmers. Additionally, 68 (24.5%) were engaged in trading. Furthermore, 5 (1.8%) identified themselves as civil servants.

Table 2: Respondents Knowledge and Attitude towards contraceptives

Knowledge	**Frequency**	
Variable	**n=278**	**%**
Good Knowledge	107	38.5
Poor Knowledge	171	61.5
	Attitude	
Positive Attitude	122	43.88
Indifference	**83**	**29.85**
Negative Attitude	**73**	**26.25**

Only 38. 5% of the respondents had good knowledge of contraceptive while majority (61.5%) had poor knowledge of contraceptive. One hundred and twenty-two (43.88%) had positive attitude and 83(29.85%) were indifferent while 26.25% displayed Negative attitude towards contraception.

Table 3. Respondents Use of Contraceptives

Variable	Frequency n=278	Percentage %
Had used contraceptive		
Yes	142	51
No	136	49
Still using contraceptive	n=142	
Yes	112	78.9
No	30	21.1
Reasons for not using		
Fear of side effect	16	53.3
Lack of husband's approval	2	6.7
Parent disapproval	2	6.7
Social reasons	1	3.3
Wants a male child	2	6.7
Religious / Cultural reasons	5	16.7
Cost/ unavailability of commodity	2	6.7
Sources of Services		
Health Facility	115	81
Community pharmacy	10	7
Outreach Sessions	17	12
Method of contraceptives used		
Oral Pills (POC/COP)	45	31.7
Injectables	55	38.7
Implants	36	25.4
Emergency Pills	1	0.7
Male Condom	5	3.5
Female Condom	0	0
IUD	0	0
Duration of Use		
0-1year	37	13.3
1-3years	60	21.6
3 years and above	45	16.2

Majority, 142(51%) are active users of contraceptives while 136(49%) had not used. About 112 (78.9%) continue to use contraceptives. Thirty (21.1%) are not using it currently. Most, 115(81.0%) obtained services at the health facilities, 10 (7.0%) from pharmacy stores. seventeen (12.0%) at outreach sessions. Injectable (38.7%) remain the most commonly used contraceptive, oral contraceptive pills 45 (31.7%) and implants, 36 (25.4%). Thirty-seven (13.3%) < 1 year while 16.2% used 3 years and above.

Variable	**Use of Contraceptives**		**Statistics**	**df**	**P Value**
	Yes	**No**	**X^2**		

Age	**n= 142**	**n=136**			
Less than 25	68	0	Chi-square =823.997	736	0.013
25-35	74	46			
36-45	0	85			
Above 45	0	5			
Level of Education	**n=183**	**n=183**			
None	30	0	Chi-square = 206.298	92	0.000
Primary	38	2			
Secondary	0	23			
Tertiary	0	2			
Qur'anic Study	74	109			

The Calculated Pearson chi-square value was 823.977 with 736 degrees of freedom, resulting in a p-value of 0.013. This indicates a statistically significant relationship between age and the use of contraceptives. The suggests that there is not enough evidence to reject the null hypothesis. For the relationship between educational level and use of contraceptive, Pearson chi-square value has 92 degrees of freedom and was 206.298, and P value, of 0.000, there is a statistically significant correlation between the usage of contraceptives and education level.

DISCUSSION OF FINDINGS

Knowledge of contraceptives

The study assessed the respondents' knowledge depicted in Table 2, revealed that the largest group 61.5% (171) had poor knowledge of contraception in contrast with a study by Aliyu *et al* (2015) where knowledge on modern method was 97.7% indicating a substantial proportion of the respondents lacked sufficient knowledge about contraceptive methods. A study by Priyadharshini, (2022) reports similar findings (91%) of poor knowledge in rural Vellore. Limited health education may contribute to the knowledge gap thus emphasizing need for targeted educational interventions.

Attitude towards contraceptives

From Table 2, 43.88% (122) exhibited a positive attitude towards contraception. Similar to this, is a community-based study in rural Pakistan where majority (76%) had positive attitude but more than the findings in the present study. (Mustafa, *et al* 2008). Ashraf & Mujahid, (2018) also reported positive attitude to contraceptives of 81%, yet practice was low, thus concluding adequate knowledge, positive attitude and lower practice. In contrast, Adegboyega (2019) in a descriptive study of 200 women reports overall attitude towards contraceptive as negative, 49.42%, recommending stronger counselling. Positive attitude could be as a result of previous experience of contraceptive use, successful use by friends or relative and appreciation of the freedom to space children.

The use of contraceptives among the married women.

Findings revealed the prevalence use of 51.1% respondents. These are active users of family planning. This was more than the prevalence in a study by Aliyu, (2010) where only 12.5% actively utilize contraceptive, but less than 58% in a hospital -based study by Ashraf & Mujahid, (2018) where participants had adequate knowledge and positive attitudes but were lacking in practice. There is moderate utilization of contraceptive here but room for improvement. This means almost half of the respondent are not using any family planning method, suggesting that although family planning program is getting to some women, there is still high unmet needs. Nonuse of 49% may pose greater risk of unwanted pregnancy, leading to criminal abortion, maternal morbidity and for younger

females, school dropout. This also reflects, some level of awareness, acceptance of contraceptive but some clue on barriers which may still prevent others from accessing it. The uptake of 51.1 % is average compared to national target of >60%+ by 2030, signaling the need for community outreach, male involvement and expulsion of misconceptions about contraceptives. Fear of side effect was the main reasons for not using family planning among the respondents.

Its align with other studies which also find side effect as hindrance to contraceptive use. This result is greater than that of a semi urban study in south west Nigeria where fear of side effect was only 14.6% (Olaoye *et al.,* 2017) while 83.3% were reported in a study among market women in Oyo state, Nigeria. (Disu, K, 2025). This is a common concern and may show gap in health communication and counselling on side effect expectation and management. About 81% obtained Family planning commodity from the health facility, and 12 % from the out-reach sessions in contrast with a study of Ebonyi market women where 51% and 9% from patent medicine store and public hospital respectively. (Egede *et al,* 2015). Higher dependence on health facility is commendable compared to other sources in other studies. Injectable 38% usage is in line with usage of 15-20% in sub- Saharan African countries (Ross,J & Aganda, A, 2012). Thus, suggesting moderate preference while condom use, 3.5% is in contrast with use among market women in Ebonyi state, advocating the need to promote barrier method as it serves dual purposes. (Egede *et al* 2015). Zero IUD use is in contrast with the study at Ebonyi which reports 2.5 %. This may be due to lack of availability and /or providers limitations. Addressing this demands training of providers and making sure the commodities are available. A shorter duration of 1 – 3 years is reported of about 21.6% in agreement with discontinuation rate in SSA of 38% within 1 year to 55% within 2 years. (Tsui, *et al,* 2017). This may result from fear of side effect and desire for pregnancy or religious / cultural expectations.

Relationship between socio demographic profile and use of contraceptives

Finding indicates that respondents aged 25 -35 years more likely used contraceptive. This aligns with a study in Cameroon where use was found among women age 25 – 34 years showing relationship between age and use. (Ajong *et al,* 2016), but in contrast, Unumeri et al, (n.d.) reported 15 -24 younger who were less users. Lesser Use among younger women may put them at risk of unsafe abortion and discontinuation of education while older women use is mostly to space or limit birth, thus indicating the need for youth friendly reproductive health. Relationship between educational level and use in this study indicate the need for reduction of barrier for uneducated or less educated women and community mobilization to reconcile use among the reproductive age groups

CONCLUSION

Considerable proportion of respondents had good knowledge of contraceptive while majority had poor knowledge. Most of the married women had a positive attitude but utilization of contraceptive is average thus creating room for improvement. Injectable was the method mostly used. Condom use is poor encouraging the need to promote barrier method as it serves dual purposes. Fear of side effect was the main reasons for not using family planning. Higher dependence on health facility is commendable compared to other sources. Zero IUD use may be due to lack of availability and /or providers limitation.

Recommendations.

There is a need for targeted educational interventions for married women. Training of providers and making sure the commodities are available is a strategy for addressing poor utilization

There is need for lessening of barriers for uneducated women and community mobilization to reconcile utilization among the educated and uneducated.

Acknowledgement

The authors expressed gratitude to God Almighty for His unending blessings. Our special thanks go to Professor Best Ordinioha for his valuable advice throughout the research work. We appreciate the staff of School of public

Health, university of Port Harcourt. The thank all the participant and research assistance for their contribution to the study

References

Abubakar, A. A., & Yusuf, M. S. (2018). Exploring the role of religious and cultural beliefs in contraceptive decision-making among women in the Niger Delta region, Nigeria. *International Journal of Community Medicine and Public Health*, 5(11), 4942-4949.

Ahmed, S., Musa, A., Ibrahim, M. S., & Omeiza, S. Y. (2021). Factors influencing the utilization of modern contraceptives among married women in selected rural communities of Bauchi State, Nigeria. *Advances in Social Sciences Research Journal*, 8(2), 410-419.

Ajong, A. B., Njotang, P. N., Yakum, M. N., Essi, M. J., Essiben, F., Eko, F. E., & Mbu, R. E. (2016). Determinants of unmet need for family planning among women in urban Cameroon: A cross-sectional survey in the Biyem-Assi Health District, Yaoundé. *BMC Women's Health,* 16(1), 4. https://doi.org/10.1186/s12905-016-0283-9

Aliyu, A., Dahiru, T., Oyefabi, A. M., & Ladan, A. M. (2015). Knowledge, determinants and use of modern contraceptives among married women in Sabon Gari, Zaria-Northern Nigeria. *Journal of Medicine in the Tropics*, 17(2), 91–97. https://doi.org/10.4103/2276-7096.165082

Ashraf, S., & Mujahid, S. (2018). Knowledge, attitude and practices regarding contraception among married women of reproductive age. *Journal of Rehman Medical Institute, 4(3), 6–10.* https://journals.jhcrc.edu.pk/index.php/JRMI/article/view/23

Birabwa, C., Chemonges, D., Tetui, M., Baroudi, M., Namatovu, F., Akuze, J., Makumbi, F., Ssekamatte, T., Atuyambe, L., Hernandez, A., & Sewe, M. O. (2021). Knowledge and information exposure about family planning among women of reproductive age in informal settlements of Kira Municipality, Wakiso District, Uganda. *Frontiers in Global Women's Health*, 2, Article 650538. https://doi.org/10.3389/fgwh.2021.650538

Disu, K, (2025). Barriers and facilitator of contraceptive Uptake: Across-sectional study mong market women in selected markets in oyo state, Nigeria. *IJRISS*, 7(1), 130 -143). https//org/104777/IJRISS.2024.816SCO0011

Egede, J. O., Onoh, R. C., Umeora, O. U. J., Iyoke, C. A., Dimejesi, I. B. O., & Lawani, L. O. (2015). Contraceptive prevalence and preference in a cohort of south–east Nigerian women. Patient Preference and Adherence, 9, 707–714. https://doi.org/10.2147/PPA.S72952

Ezebialu, I. U., & Eke, A. C. (2013). Knowledge and practice of emergency contraception among female undergraduates in South Eastern Nigeria. *Annals of Medical and Health Sciences Research*, 3(4), 541–545. https://doi.org/10.4103/2141-9248.122092

Kasa SA, Tarekegn M, Embiale N. Knowledge, attitude and practice towards family planning among reproductive-age women in a resource-limited setting of Northwest Ethiopia. *BMC Research Notes.* 2018; 11:577.

Mustafa, R., Afreen, U., & Hashmi, H. A. (2008). Contraceptive knowledge, attitude and practice among rural women. *Journal of the College of Physicians and Surgeons Pakistan,* 18(9), 542–545. https://jcpsp.pk/archive/2008/Sep2008/07.pdf

National Population Commission (NPC). Nigeria Demographic and Health Survey (NDHS) 2008. Abuja, Nigeria: NPC; 2008.

Olaoye, T., Adwwale, D., &Dipeolu, I (2017). Barriers to contraceptives uptake among women of reproductive age in semi urban community of Ekiti state, southwest Nigeria. *BMC Public Health,* 17(1), 100 -110. https://doi.org/10.1186/s12889-017-4286-1

Population Reference Bureau. (2011). 2011 World population data sheet. Washington, DC: Population Reference Bureau. https://www.prb.org/resources/2011-world-population-data-sheet

Priyadharshini, N., Manikandan, M., & Muthulakshmi, M. (2022). Knowledge, Attitude, and Practices of Contraceptives Among Married Women of Rural Vellore, Tamil Nadu. *Journal of Family Medicine and Primary Care,* 11(8), 4378–4383. https://doi.org/10.4103/jfmpc.jfmpc_1526_21

Ross, J.& AgwandaA.(2012). Increase use of injectable contraception in sub- Saharan Africa. *African journal of Reproductive Health*, 16/94), 68-80. https://pubmed.ncbi.nlm.nih.gov/23444545

Sulemana, A. (2024). Knowledge and utilisation of family planning services among tertiary students in Northern Ghana: The case of College of Nursing and Midwifery, Nalerigu. *African Journal of Reproductive Health*, 28(3), 124–133. https://doi.org/10.29063/ajrh2024/v28i3.12

Tsui, A, Brown, B, & Li, Q (2017) Contraceptive practice in sub–Saharan Africa. Population and Development Review, 43 (suppl. 1), 166 -191. https://doi.org/10.1111/padr.12051

Unumeri, G., Ahonsi, B., Oginni, A., & Ishaku, S. (n.d.). Contraceptive use and its socio-economic determinants among women in North-East and North-West Regions of Nigeria: A comparative analysis. Population Council, Abuja, Nigeria; UNFPA, Ghana.

Williamson LM, Parkes A, Wight D, Petticrew M, Hart GJ. Limits to modern contraceptive use among young women in developing countries: a systematic review of qualitative research. *Reprod Health*. 2009 Feb 19; 6:3. doi: 10.1186/1742-4755-6-3. PMID: 19228420; PMCID: PMC2652437.

World Health Organization. Family planning: a global handbook for providers (3rd ed.). Geneva: World Health Organization; 2018