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Exploring knowledge, attitudes, and the use of modern contraceptive methods among women of reproductive age in Abuja, Nigeria

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Abstract

Contraceptive use in Sub-Saharan Africa, including Nigeria, is critically important for reducing unintended pregnancies, unsafe abortions, and maternal mortality. This study investigates the knowledge, attitudes, and practices regarding modern contraceptive methods among women of reproductive age (15–49 years) in Gwarinpa, Abuja, Nigeria. Using a descriptive cross-sectional design, data were collected from 206 women through a semi-structured electronic questionnaire. The study found that 71% of participants used modern contraceptive methods, with oral contraceptives being the most popular. A majority (85%) had favourable attitudes towards contraceptive use, and 88.3% were aware of the benefits of modern contraceptives. However, cultural and religious opposition (42%) posed significant barriers. Despite concerns about side effects, the study revealed that access to contraception was generally not a major issue. Health facilities played a major role in providing information, though other sources, such as the Internet and social networks, were also influential. The study suggests that targeted interventions are needed to overcome cultural barriers and improve contraceptive uptake, particularly in rural and underserved areas, contributing to better maternal health outcomes in Nigeria.

Keywords: Contraceptive use; Reproductive health; Family planning; Modern contraceptives; Maternal health

1. Introduction

Contraceptive use remains a critical issue in Sub-Saharan Africa, including Nigeria, where low adoption rates contribute to high rates of unintended pregnancies, unsafe abortions, and maternal mortality (Cates et al., [1]). Family planning, which enables individuals and couples to prevent or delay pregnancies, is recognized as a basic human right (Meselu et al., [2]). This right, endorsed by the International Conference on Population and Development in 1994, underscores the necessity of access to contraception. Modern contraceptive methods—such as male and female condoms, oral contraceptives, intrauterine devices (IUDs), implants, and sterilization—are more effective in preventing unintended pregnancies compared to traditional methods (Aviisah et al., [3]; Lasong et al., [4]). These methods play a crucial role in reducing maternal mortality by allowing couples to control fertility and space births appropriately. Globally, the demand for family planning is on the rise, but many women, particularly in Sub-Saharan Africa, still face unmet needs for contraception. Around 222 million women globally wish to avoid pregnancy but are not using contraception,

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contributing to a significant number of maternal deaths (Cahill et al., [5]). Family Planning 2020 aims to address this unmet need, targeting an additional 120 million women in developing countries (Alkema et al., [6]). Despite global progress, contraceptive use in Nigeria remains low, with a modern contraceptive prevalence of just 10% among married women (National Population Commission and ICF International, [7]). This low rate is particularly pronounced in Northern Nigeria, where cultural and religious beliefs, as well as demographic factors such as age and education, hinder contraceptive uptake (Babalola et al., [8]; Obasohan, [9]). A recent study by Enaworu et al. [10] found that stigma was one of the most common barriers limiting the utilization of primary healthcare services where contraceptives are expected to be provided. These barriers, particularly stigma, further complicate efforts to increase contraceptive uptake and reduce unintended pregnancies

Nigeria's family planning program, introduced in 1964, has faced challenges due to limited prioritization by the government and societal resistance. Although contraceptive use has risen globally, Nigeria continues to have one of the highest maternal mortality rates worldwide, accounting for 14% of global maternal deaths despite having only 2% of the world's population (World Health Organization, [11]). In Northern Nigeria, particularly in states like Kano and Jigawa, contraceptive use is almost nonexistent (Ladi et al., [12]). These disparities call for targeted interventions to increase awareness and use of contraceptive methods, particularly in rural and underserved regions.

The significance of this study lies in its potential to address gaps in contraceptive knowledge and usage in urban Nigeria. Focusing on Gwarinpa, a metropolitan area in Abuja, the study aims to assess the knowledge, attitudes, and practices regarding modern contraception among women in this community. This is crucial because unintended pregnancies, often resulting in unsafe abortions, continue to be a major public health issue in Nigeria, contributing to high maternal mortality (Bankole et al., [13]). Despite restrictive abortion laws, Nigeria recorded over 1.25 million induced abortions in 2012, exacerbating maternal health challenges (Bankole et al., [13]). By examining contraceptive use in Gwarinpa, this study provides valuable insights that could inform public health strategies and improve family planning services in Nigeria. The primary objective of this study is to evaluate the knowledge, attitudes, and practices related to modern contraception among women in Gwarinpa. Specifically, the study seeks to assess the level of knowledge of modern contraceptive methods among women of reproductive age (15-49 years) in Gwarinpa, examine women's attitudes towards the use of modern contraceptive methods in Gwarinpa, and identify the factors that influence the use of modern contraceptive methods among women of reproductive age in this area. The hypothesis of the study posits that there is no association between socio-demographic variables and the use of modern contraceptives among women of reproductive age in Nigeria (H0). Conversely, the alternative hypothesis suggests that there is an association between socio-demographic variables and the use of modern contraceptives among women of reproductive age in Nigeria (H1).

Through understanding the factors that influence contraceptive use, this research will help identify strategies to reduce unintended pregnancies and improve maternal health outcomes. Ultimately, this study aims to contribute to Nigeria's efforts in reducing maternal mortality and achieving better family planning outcomes in line with global health goals.

2. Material and methods

This study utilized a descriptive cross-sectional design to examine the knowledge, attitudes, and usage of modern contraceptive methods among women of reproductive age in Gwarinpa, Abuja, Nigeria. The study was conducted in Gwarinpa, a rapidly developing Abuja Municipal Area Council district. Gwarinpa, located slightly northwest of Nigeria's capital, Abuja, has a population of approximately 140,000 residents. The area is characterised by a mix of civil servants, business owners, tricycle riders, artisans, and entrepreneurs, making it a representative urban setting for this study. The target population consisted of 350 women of reproductive age (15–49 years), per the World Health Organization's definition of reproductive age. Women residing in Gwarinpa within this age group were eligible for inclusion, regardless of marital status or parity. Sample size calculation was performed using the Taro Yamane formula, which yielded a sample size of approximately 187 participants. A 10% increase was applied to account for attrition, resulting in a final sample size of 206 participants. Convenience sampling, a non-probability sampling method, was used to select eligible participants who agreed to provide information on their contraceptive knowledge, attitudes, and behaviours.

Data was collected through a semi-structured electronic questionnaire developed using Google Forms. The questionnaire comprised three sections: demographic information, knowledge and attitudes toward modern contraceptive methods, and the use of modern contraceptive methods. It included both closed and open-ended questions, designed to be accessible to both literate and illiterate respondents. The questionnaire was set up to limit responses to one per participant, using a unique email address to prevent multiple submissions.

Data analysis was performed using SPSS version 25.0. Descriptive statistics were employed to summarize the demographic characteristics and other relevant variables. Continuous variables, such as age and income, were

summarized using means and standard deviations, while categorical variables, including marital status, ethnicity, and occupational status, were presented as proportions. The chi-square test was used to examine relationships between categorical variables. Statistical significance was set at a p-value of <0.05.

Ethical approval for the study was obtained from the Federal Capital Territory Health Research Ethics Committee, Abuja (Approval No: FHREC/2022/01/111/13-07-22). Participation in the study was voluntary, and informed consent was obtained from all participants. All data was collected anonymously, and confidentiality was ensured throughout the study.

3. Results

3.1. Socio-Demographic Characteristics of Respondents

The socio-demographic characteristics of the study participants are summarized in Tables 1A and 1B. A total of 206 questionnaires were distributed, and 200 were returned fully completed, yielding a response rate of 97.0%. The largest age group (39.0%) was between 30-34 years, while the smallest group (4.0%) fell within the 20-24 age range. Most respondents (55.0%) were married, while 41.5% were single. Most of the respondents (59.0%) were of Igbo ethnicity, followed by Hausa (22.0%) and Yoruba (19.0%). Regarding religious affiliation, 84.0% of respondents identified as Christians and 16.0% as Muslims. The largest proportion of participants (25.5%) resided in the 3rd Avenue area, while 19.5% lived in the 1st Avenue area. The majority (49.0%) of respondents had either a post-graduate or tertiary education. Most respondents (54.5%) were employed, with a significant number (33.0%) being self-employed. Regarding monthly income, 18.5% of respondents earned more than N200,000, while 21.0% indicated that income was not applicable.

Table 1A Demographic Characteristics of Respondents

Variable	Response	Frequency (n)	Percentage (%)
Age	15-19	17	8.5
	20-24	8	4.0
	25-29	34	17.0
	30-34	78	39.0
	35-39	33	16.5
	40-44	19	9.5
	45-49	11	5.5
Marital Status	Divorced	1	.5
	Married	110	55.0
	Separated	6	3.0
	Single	83	41.5
Ethnicity	Hausa	44	22
	Igbo	118	59
	Yoruba	38	19
Religion	Christianity	168	84.0
	Islam	32	16.0

Table 1B Socio-economic Characteristics of Respondents

Variable	Response	Frequency (n)	Percent (%)
Area of Residence	1st Avenue	39	19.5
	2nd Avenue	31	15.5
	3rd Avenue	51	25.5
	4th Avenue	24	12.0
	5th Avenue	25	12.5
	6th Avenue	30	15.0
Educational Qualification	Post Graduate	98	49.0
	Secondary school	4	2.0
	Tertiary Education	98	49.0
Employment Status	Employed	109	54.5
	Self-employed	66	33.0
	Student	1	.5
	Unemployed	24	12.0
Monthly Income	Not Applicable	42	21.0
	Less than 30,000	14	7.0
	31,000 - 50,000	20	10.0
	51,000- 100,000	34	17.0
	101,000 - 150,000	33	16.5
	151,000 - 200,000	20	10.0
	Above 200,000	37	18.5

Most participants in the study demonstrated a high level of knowledge regarding modern contraceptive methods. Most participants were aware of the benefits and risks of contraceptives, with 88.3% correctly identifying the advantages of using modern methods. However, a small percentage (12.0%) mistakenly believed that contraceptives were harmful to health. The mean knowledge score across all questions was 3.25, indicating a generally strong understanding of contraceptive options (Table 2). In terms of attitudes, the respondents showed generally favourable views towards contraceptive use. The average attitude score was 3.34, with 85.0% of participants agreeing on the importance of discussing contraceptive options with their partners. Furthermore, 71.0% recognized modern contraceptives as more reliable than traditional methods. Despite these positive views, 42.0% of respondents acknowledged the cultural or religious opposition to contraceptive use, reflecting a significant challenge in the context of societal norms (Table 3). When examining contraceptive practices, it was found that 71.0% of the participants were using a modern contraceptive method. The most common methods were oral contraceptives (41.5%), followed by male condoms (18.5%) and intrauterine devices (15.0%). A smaller proportion of women (9.0%) used contraceptive implants. The non-use of contraceptives was primarily attributed to concerns about side effects (24.0%) and preference for abstinence (22.0%). Interestingly, 41.5% of women made contraceptive decisions jointly with their partners, while 31.5% made the decision independently (Table 4A). Side effects were a notable concern for some users. Irregular menstruation was the most frequently reported side effect (19.5%), followed by weight gain (16.0%) and mood changes (12.5%). Despite these concerns, 21.5% of women reported no side effects, suggesting that while side effects affect some users, many others experience no issues with contraceptive use (Table 4B). Health facilities were identified as the primary source of information about contraceptive methods, with 31.5% of participants obtaining their knowledge from medical professionals. Other sources included the internet (15.0%), family and friends (14.5%), and mass media (12.0%). These findings indicate that while health professionals play a significant role in disseminating information, other channels, such as the Internet and social networks, also contribute to awareness (Table 4B). Access to contraceptives was generally not a major barrier for most respondents, as 77.0% reported no significant challenges in obtaining

contraceptives. However, 8.5% cited cost as a limiting factor, and 7.5% mentioned concerns about confidentiality when accessing contraceptive services. These barriers highlight areas where interventions could be targeted to improve access to contraception (Table 5). Factors influencing contraceptive choices included the availability of methods at local health facilities, financial considerations, and partner support. The availability of contraceptives in health facilities was cited by 68.0% of respondents as a key factor in their choice of method, while cost was a significant determinant for 22.0% of participants.

Finally, statistical analysis revealed a significant association between socio-demographic factors (such as age, education, and marital status) and contraceptive use. A chi-square test indicated that these variables influenced contraceptive use patterns, with a p-value of 0.01, suggesting that demographic factors play an important role in shaping contraceptive practices (Table 6).

Table 2 Knowledge of Modern Contraceptive Methods

S/N	Item	Responses					Mean	Std. Dev.	Remark
		SA	A	N	D	SD			
1	Contraceptives are highly beneficial	58	82	48	2	10	3.88	1.01	Agree
2	Contraceptives are harmful	5	46	80	47	22	2.82	1.00	Disagree
3	Benefits of modern contraception outweigh the risks	18	90	60	24	8	3.43	0.95	Agree
4	Modern Contraceptive Methods can lead to infertility	1	53	75	62	9	2.88	0.87	Disagree
	Cumulative						3.25	0.96	

Benchmark: Mean ≥3.00 = Agree, mean < 3.00 Disagree

Table 3 Attitude towards the Use of Modern Contraceptive Methods

S/N	Item	Responses					Mean	Std. Dev.	Remark
		SA	A	N	D	SD			
1	Modern contraceptives are more reliable than traditional contraceptives(withdrawal method	49	91	35	12	13	3.76	1.09	Agree
2	It is important to discuss contraceptive choices with partner	104	79	10	1	6	4.37	0.85	Agree
3	My religion/culture is against the use of contraceptives	17	40	45	62	36	2.70	1.22	Disagree
4	Use of contraceptives promotes promiscuity	8	34	59	56	43	2.54	1.12	Disagree
	Cumulative						3.34	1.07	

Table 4A The use of Modern Contraceptives among Women of Reproductive Age

Question	Response	Frequency	Percent
Use Modern Contraceptives	No	58	29.0
	Yes	142	71.0
	Total	200	100.0
Types of Modern Contraceptives used	Oral Contraceptives(Pills)	59	41.55

	Male Condom	19	13.38
	Female Condom	4	2.82
	Intrauterine Device(IUD)	13	9.15
	Implants	9	6.34
	Lactational Amenorrhea Method(LAM)	5	3.52
	Standard Days Method(SDM)	6	4.23
	Not Applicable	27	19.01
Reasons for not using Contraceptives	Abstinence	44	22.00
	Fear of side effects	48	24.00
	partner refusal or disapproval	2	1.00
	Do not know how to use it	3	1.50
	against my religion/culture	11	5.50
	Reduce sexual pleasure	9	4.50
	not applicable	62	31.00
	currently pregnant	2	1.00
	Health challenge	7	3.50
	Trying for baby	2	1.00
	Still using condoms	2	1.00
	Causes bleeding	2	1.00
	Increasing my blood pressure	2	1.00
	Just had a baby	2	1.00
	Spotting for months	2	1.00
Decision Taker	My Doctor	5	2.5
	My Partner	4	2.0
	My Partner and I	83	41.5
	Myself	65	31.5
	Not Applicable	45	22.5

Table 4B Use of Modern Contraceptives by Women Reproductive of Age

Question	**Response**	**Frequency**	**Percent**
Side effects of contraceptives used	Weight gain	17	8.5
	Irregular Menstruation	39	19.5
	Amenorrhea	15	7.5
	Mood Change	20	10
	Nausea	7	3.5
	Heavy menstrual flow	18	9
	None	43	21.5

	Not applicable	37	18.5
	Yeast infection	1	0.5
	Bleeding	1	0.5
	Headaches	1	0.5
	Ectopic pregnancy	1	0.5
How they learn about contraceptive	Health Facility	63	31.5
	A friend's recommendation	29	14.5
	Media(TV, Radio, Newspaper)	17	8.5
	Social Media(Instagram, Facebook, Twitter)	12	6
	Internet Search(Google)	30	15
	Not Applicable	49	24.5
Sources of Contraceptives used	Family Planning Clinic	41	20.5
	Pharmacy/ Drug shop	60	30
	Government Health Facility	16	8.0
	NGOs	3	1.5
	Not Applicable	75	37.5
	Private health facility	5	2.5

Table 5 Challenges in Accessing the Contraceptive Methods Currently Used by Respondents

	Frequency	**Percent**
Expensive	17	8.5
Lack of confidentiality	15	7.5
Far distance	9	4.5
Not Applicable	154	77.0
No challenges faced:	5	2.5

Table 6 Summary of Chi-square table for Association between Socio-demographic Variables and the use of Modern Contraceptives

Variable	**N**	**Mean**	**Std. Dev.**	**df.**	**X2-cal**	**X2-crit**	**p-value**	**Remark**
Socio-demographic	200	26.38	3.38	102	141.25	113.15	0.01	Sig.
Use of modern contraceptives								

Significant at $p < 0.05$

4. Discussion

The study revealed several key findings regarding women of reproductive age in Gwarinpa, Abuja, and their engagement with modern contraception methods. Firstly, these women demonstrated a significant level of knowledge about modern contraception, as they were aware of various available methods. Additionally, they exhibited positive attitudes towards these methods, which contributed to effective birth control practices. A substantial proportion of respondents, 142

(71.0%), reported using modern contraceptives, with oral contraceptive pills commonly used method by 49 (41.55%) of these respondents. However, the study identified challenges in accessing modern contraceptive methods, with the high cost being a primary barrier for 17 (8.5%) of respondents. Beyond financial concerns, maintaining confidentiality also emerged as a significant challenge for some women.

A study conducted by Olugbenga-Bello et al;[14] revealed that 66.3% of women used modern contraceptive methods, while only 6.7% relied on natural methods and 0.7% on traditional methods. Additionally, 26.3% of women did not use any contraceptive methods due to barriers such as inaccessibility, low socioeconomic status, religious beliefs, and family dynamics. While many women used modern family planning methods, others lacked sufficient knowledge about common contraceptive options. This is similar to our study findings. Furthermore, Nansseu et al. [15] explored family planning knowledge, attitudes, and practices in the Mbouda health district of Cameroon. Their study showed that 96% of women had knowledge of modern contraceptive methods, with significant usage rates for condoms (96%), safe period practices (86%), and injections (76.2%). While most women in their study demonstrated good knowledge and actively practised family planning, some remained uninformed. The findings from our research resonate with the conclusions of Nansseu et al. [15], highlighting that most women are well-informed and aware of family planning methods.

Attitudes toward contraception often reflect usage patterns, with current users generally expressing higher levels of satisfaction and more positive views compared to past or non-users. Allagoa and Nyengidiki [16] conducted a study on the knowledge, attitudes, and practices of contraception among antenatal patients at the University of Port Harcourt Teaching Hospital, Port Harcourt. They found that women exhibited a positive attitude toward contraception, with 51.2% of respondents identifying six weeks as the appropriate time to commence family planning, while 21.3% were unaware of any specific timing. These findings align with our study, which demonstrates that women of reproductive age in Gwarinpa, Abuja, hold positive attitudes toward contraception. However, differences emerge when comparing the types of contraceptives used. Allagoa and Nyengidiki [16] reported that among 26.5% of respondents who had previously used contraceptive methods, condoms were the most common choice. This contrasts with our findings where 71.0% of women reported using some form of contraception, with oral contraceptive pills being the most common method. Our study's findings are consistent with Kara et al. [17], who found that oral contraceptives were the most frequently used contraception method, accounting for 54.9% of usage. In addition, our study identified the high cost of contraceptives as a significant obstacle, ranking as the primary challenge for many women. This highlights the importance of addressing financial and accessibility issues to improve contraceptive uptake and satisfaction.

Our study encountered certain limitations that should be acknowledged. Data collection was conducted using Google Forms, which posed a potential risk of respondents submitting multiple entries. To mitigate this, the form was preset to accept only one response per unique email. Additionally, the findings provide valuable insights into the experiences of women of reproductive age in Gwarinpa, Abuja. While these results are specific to this community, they serve as a foundation for understanding similar patterns in other populations with further research.

5. Conclusion and Recommendations

Our study revealed that women of reproductive age in Gwarinpa, Abuja, are knowledgeable about modern contraceptive methods and generally exhibit positive attitudes toward their use. However, despite this awareness and favourable disposition, the actual use of modern contraceptives requires improvement to effectively reduce maternal mortality rates. Significant associations were also found between socio-demographic variables and contraceptive use, emphasizing the importance of addressing factors such as age, marital status, and education in shaping contraceptive behaviours.

To address these gaps, efforts should focus on disseminating accurate information about the efficacy and importance of modern contraceptive methods through diverse channels, including mass media, community opinion leaders, religious leaders, and healthcare professionals. Tailored messages should target specific socio-demographic groups to bridge existing gaps in use. Outreach efforts must also extend beyond women attending antenatal clinics to include young, unmarried women and men while addressing myths and misconceptions about contraceptives and providing clear guidance on their proper use. Additionally, strategies to subsidize the cost of modern contraceptives should be implemented to enhance accessibility, especially for lower-income groups. Strengthening confidentiality measures in contraceptive service delivery is also crucial for building trust and encouraging uptake. By addressing these challenges, the adoption of modern contraceptive methods can be significantly increased, contributing to improved reproductive health outcomes in Gwarinpa and similar settings.

Compliance with ethical standards

Disclosure of conflict of interest

All authors have disclosed that they have no conflicts of interest or competing interests related to the publication of this manuscript. No financial or non-financial relationships with any institution, organization, or product mentioned in the manuscript, or any competing products, could influence the study's outcome.

Statement of ethical approval

Ethical approval for the study was obtained from the Federal Capital Territory Health Research Ethics Committee, Abuja (Approval No: FHREC/2022/01/111/13-07-22). Participation in the study was voluntary, and informed consent was obtained from all participants. All data was collected anonymously, and confidentiality was ensured throughout the study.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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