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Original Research Article

Unmet needs, knowledge of contraception and self-reported barriers to contraceptive use among women of reproductive age in Osun State, Nigeria

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ABSTRACT

Background: Unmet need for contraception has been a focus in addressing the high fertility rate, especially in developing countries such as Nigeria. The concept of unmet need implies the gap between women's reproductive intentions and their contraceptive behaviour for family planning. This study assessed the knowledge and unmet need for contraception, including self-reported barriers to contraceptive use among women of reproductive age in Osun State, Nigeria.

Methods: A community-based cross-sectional study was conducted among 1,218 women of reproductive age. The respondents were recruited using a multistage sampling technique. Quantitative and qualitative data were collected using a semi-structured questionnaire and an FGD guide, respectively, and data were analysed using SPSS version 23.0.

Results: The mean age of respondents was 31 years (S.D 7.24 years). The unmet need for contraception among respondents was 36.2%. About 70% of respondents were able to list 1-2 methods of contraception, and 12.3% were able to describe the fertile period. Overall, 67.6% of respondents had good knowledge of contraception, 93.6% knew the correct use of OCP, 41.0% knew the correct use of injectables, and 35.1% knew the correct use of implants. About a quarter (23%) of respondents reported fear of side effects as a barrier to contraceptive use.

Conclusions: This study found a high level of unmet need for contraception among women of reproductive age in Osun State compared to the national average, even though there was good knowledge of contraceptives among respondents. Policymakers can strengthen family planning programs by understanding and using data on unmet need.

Keywords: Barriers, Contraceptives, Knowledge, Nigeria, Unmet needs

INTRODUCTION

The concept of unmet need implies the gap between some women's reproductive intentions and their contraceptive behaviour for family planning.¹ The existing significant gaps between women's desire to delay or stop childbearing and their actual use of contraception have remained unchecked.² This indicator is essential because it offers the basis for providing contraceptive services and shows how a country complies with its population's reproductive health rights.³ Contraception is the intentional prevention of conception through the use of various devices, sexual

practices, chemicals, drugs or surgical procedures. An effective contraception allows a physical relationship without fear of an unwanted pregnancy and ensures freedom to have children when desired.⁴

Contraceptive use improves women's and children's health in many ways, including reducing maternal mortality risks, improving child survival, improving schooling and economic outcomes, especially for girls and women through birth spacing and improved nutritional status of both mothers and children.^{5,6} A useful measure of the gap between the desire for, and access to, contraception

(which affects the rate of contraceptive use) is the estimation of the unmet need for contraception.⁷ The concept of unmet need for contraception has been integral to international family planning policy, programmes, and research.

Concerns about the consequences of rapid population growth and high fertility rates in developing countries led to the introduction of family planning through the use of modern contraception in the 1960s.⁸ Effective use of contraceptives has been established as a strategy for fertility regulation.^{9,10} Worldwide, progress has been recorded in improving women and girls' knowledge of and access to contraception, as evidenced by a rise in contraceptive use from 55% to 63% between 1990 and 2010.¹¹ A further increase from 663 to 851 million women aged 15-49 years who used contraceptives was recorded between 2000 and 2020.¹⁰

Despite the increasing knowledge rate and high overall levels of contraceptive use across the globe, contraceptive use has remained very low in sub-Saharan Africa, including Nigeria, studies have shown that awareness and knowledge of contraceptives are not enough to implement their use, but both factors are major determinants.^{12,13} This underscores the need to explore other barriers to contraceptive use among women of reproductive age. Barriers such as lack of knowledge on contraceptive methods, fear of side effects, culture, religion, myths and misconceptions, the number of living children, employment status, lack of a partner's support, and the health system have been documented to undermine effective contraceptive use among women of reproductive age.¹⁴⁻¹⁹

The World Health Organisation (WHO) describes women with unmet need for contraception as those who are fecund (capable of producing offspring) and sexually active but are not using any method of contraception, and report not wanting any more children or wanting to delay the birth of the next child.³ Despite the wide range of options available, some women still have their need for contraception unmet. The Nigerian government, through the Federal Ministry of Health, set a modern contraceptive prevalence target of 27% among women of reproductive age (15-49 years) by 2020.²⁰ In 2018, the unmet need for contraception among women of reproductive age was 11.6% globally, but doubled in sub-Saharan Africa.^{21,22} An estimated 214 million women of reproductive age in the developing world would like to avoid pregnancy, but are not using modern contraception.^{23,24} In Nigeria, according to the 2018 NDHS, the unmet need for contraception among married women was 19%.¹² Women with an unmet need for modern contraception accounted for 90% of all unintended pregnancies, and more than half of these pregnancies end in abortion in Nigeria.²³ Consequently, unsafe abortion and high-risk births account for 61,000 deaths among women each year in Nigeria.²³

Many studies in Nigeria have assessed contraceptive knowledge, but limited data exist regarding the in-depth knowledge of the appropriate use of contraceptives and unmet needs for contraception. This paper aimed to fill this gap and push the boundaries of knowledge of contraceptive use and unmet need for contraception and self-reported barriers to contraceptive use among women of reproductive age in Osun State, south-western geopolitical zone of Nigeria, even further.

The objective of this study was to assess knowledge and level of unmet needs for contraception and self-reported barriers to contraceptive use among women of reproductive age in Osun State.

METHODS

Study design and setting

A community-based cross-sectional study was conducted among women of reproductive age in Osun State, Southwestern Nigeria, from February to May 2022 using a mixed method of data collection. Osun State was projected to have a population of 5,480,690 by 2021 using an estimated population growth rate of 3.2% according to the 2006 national population census.²⁵ The fertility rate in Osun State is 3.8 births/woman, and the birth rate is 33 births/1000 population.^{12,25}

Health care delivery is provided by both public and private sectors, with the Ministry of Health having oversight responsibility over the entire health system. Osun State has 904 public health facilities, located in different parts of the State (845 primary care facilities, 57 secondary health facilities and two tertiary health facilities).²⁵ The primary health centres provide, among other health care services, reproductive health services such as family-planning information, counselling and services, health education and services for prenatal care, child delivery, and post-natal care, especially on breastfeeding, infant and women's health care, treatment of reproductive tract infections and sexually transmitted diseases. Family planning commodities such as injectables, IUCDs, implants, condoms and pills are available in primary health centres in the state at a cost.

Study participants and sampling technique

This included women of reproductive age (15-49 years) married or in sexual union residing in Osun State, while women of reproductive age who were too sick to participate in the study and visitors to the communities were excluded from the study. A total of 1218 respondents were recruited into the study within 4 months period. A multistage sampling technique was used in the selection of the 1218 respondents. Simple random sampling by the balloting method was used in selecting 16 LGAs from a total of 30 LGAs in Osun State. One ward and one settlement were selected per LGA by simple random sampling in the second and third stages, respectively.

Questionnaires were allocated proportionately based on the population of the settlements selected. In the fourth stage, the houses in the selected settlements were chosen using a systematic sampling method. The sampling interval (k^{th}) was computed by dividing the number of houses in the settlements by the number of respondents. The first house was selected randomly between 1 and the sampling interval using a table of random numbers. Women of reproductive age found in the house were recruited into the study. In houses with more than one household, one household was selected randomly, and women of reproductive age in the selected household were recruited into the study. The k^{th} interval was repeated to select subsequent respondents recruited into the study until the required sample size was obtained.

Study instruments and data collection methods

Data collection was through both quantitative and qualitative methods. For the qualitative data collection, the FGD guide was used to obtain information from respondents, whereas for the quantitative method, a semi-structured questionnaire with both closed and open-ended questions was used. The questionnaire was adapted from the Nigeria Demographic Health Survey 2018 and previous studies on determinants of unmet need for contraception. The questionnaire was designed to seek information about the respondents' socio-demographic characteristics, knowledge of contraception, obstetrics and gynaecological history, and reasons for unmet need for contraception among women of reproductive age group in Osun State.

The FGD guide included questions on methods known, benefits and disadvantages, source of contraceptive information, current use of contraception, barriers to contraceptive use and husband's view on contraceptives. The participants were purposively selected based on not using contraceptives at the time of the survey. A total of 10 FGD groups comprising 8-10 women of reproductive age per group were conducted, each lasting 45 minutes to 1 hour. The FGD took place at venues suggested by the participants, and privacy was ensured.

Measurement of variables and data analysis

The qualitative analysis was done to help emphasise the experiences, opinions, behaviours, and social contexts of study participants on reasons for not using contraception and barriers to contraceptive use. Recordings from the FGDs were transcribed verbatim. Some aspects of the data were assigned descriptive labels (codes) to identify related content. Deductive and inductive approaches were employed; the deductive approach was used to organise and align the data to research questions; the inductive approach was used to understand contents and generate themes based on the participants' responses.

For quantitative data analysis, a set of 10 questions was used to assess respondents' knowledge of contraception.

Each correct response was scored 1 point, while an incorrect response was scored 0 point. The total scores for each respondent were computed and used to categorise them into those with good and poor knowledge. A score $<50\%$ and $\geq 50\%$ was graded as poor and good knowledge of contraception, respectively.

The level of unmet need for contraception was estimated using Westoff model that is, from the overall sample size, the proportion of women not using contraception who either wanted to stop childbearing (unmet need for limiting) or who wanted to postpone the next birth for at least two more years (unmet need for spacing) or women who reported that their last pregnancy was not wanted at the time of conception (Figure 1).²⁶

Using the information gathered from the questionnaire, respondents were divided into those using a modern contraceptive method and those not using one at the time of the survey. The non-users were then subdivided into pregnant/amenorrheic and non-pregnant/not amenorrheic women categories. The pregnant/amenorrheic were further subdivided into three categories: those whose pregnancies were intended, mistimed and unwanted at the time of the survey. Those in the mistimed and unwanted pregnancy category were regarded as one component of the total unmet need. The other component consists of nonusers who were neither pregnant nor amenorrheic. This category of women was first divided into fecund or infecund women.

A fecund woman is defined as one who can get pregnant after 6 months of unprotected sexual intercourse. The fecundity status was determined by asking if the women were able to get pregnant after six months of unprotected sexual intercourse or whether they had any underlying medical condition preventing conception, such as a fibroid or a hysterectomy. The fecund women were then subdivided by their reproductive preference. Women who wanted another child soon were excluded from the unmet need category, while women who wanted to wait for at least two years or who wanted no more children were classified in the unmet need group.

Total unmet need was the sum of women who are: non-pregnant fecund women who want to become pregnant later but are not using contraceptives at the time of survey, non-pregnant fecund women who want no more pregnancy but are not using contraceptives at the time of survey, pregnant women who report their pregnancy was mistimed at the time of survey.

The total unmet need for contraception in respondents was computed using the formula below.²⁶

(Number of women of reproductive age who were fecund, married or in-union who did not want children now + do not want again and were not using any form of contraception method + pregnant women report their pregnancy was unwanted + mistimed at conception / Total number of women of reproductive age who were married or in-union) $\times 100$

This study touched on sensitive matters in a setting where the issue under study is generally met with social criticism; there may be a possibility of underreporting of some personal information (sensitivity bias). However, respondents were assured of confidentiality and encouraged to provide honest responses.

RESULTS

A total of one thousand two hundred and eighteen (1218) questionnaires were administered, one thousand one hundred and eighty-nine (1189) were correctly filled and analysed, giving a response rate of 98%.

Table 1: Socio-demographic characteristics of respondents.

Variables	Frequency	Percentage
Age (years)		
<20	27	2.3
20-29	526	44.2
30-39	449	37.8
40-49	187	15.7
Mean± SD		
Marital status		
Single	22	1.9
Cohabiting	41	3.4
Married	1059	89.0
Separated/divorce	67	5.6
Ethnicity		
Yoruba	995	83.7
Igbo	79	6.6
Hausa	115	9.7
Religion		
Islam	764	64.3
Protestant/Pentecostal	315	26.5
Catholic	85	7.1
Traditional	25	2.1
Education		
No formal	121	10.2
Primary	242	20.4
Secondary	603	50.7
Tertiary	223	18.8
Occupation		
Unemployed/housewife	263	22.1
Unskilled	508	42.7
Skilled	322	27.1
Professional	96	8.1
Income		
No income	277	23.3
<₦30,000	689	57.9
₦30,000-₦100,000	219	18.4
>₦100,000	4	0.3

The mean age of respondents was 31 years (SD 7.24 years). Majority of the respondents were married 1059

(89.1%). The most practiced religion of respondents was Islam, 764 (64.3 %) (Table 1).

Table 2: Awareness and knowledge of contraception among respondents.

Variables	Total Statistics
Aware of contraception	
No	614 (51.6)
Yes	575 (48.4)
Respondents aware of contraception	n=575
Methods known	
1-2	397 (69.5)
3-4	135 (23.4)
>4	43 (7.5)
Description of fertile period	
No idea	504 (87.7)
Knowledgeable***	71 (12.3)
Description of contraception	
No idea	147 (25.6)
Prevents pregnancy	236 (41.1)
Spacing/family planning	129 (22.4)
Protection against STI	63 (11.0)
Benefit of contraception	
No idea	231 (40.2)
Prevents pregnancy	232 (40.3)
Child spacing	68 (11.8)
Prevention of STI	26 (4.5)
Physical and psychological health	18 (3.1)

*** 10th-14th days after menstruation.

Table 3: In-depth knowledge of contraceptive use among respondents.

Variables	Total	Frequency (%)
Correct use of OCP		
No idea	37	6.4
Daily	538	93.6
Correct use of injectables		
Every month	339	59.0
2-3 month	236	41.0
length of time before implant removal		
1-2 years	373	64.9
3-5 years	202	35.1
Condom offers dual protection		
No	309	53.7
Yes	266	46.3
Explanation of dual protection		
Prevent disease	212	79.7
Prevents pregnancy and STI	54	20.3

A total of five hundred and seventy-five (48.4%) of respondents are aware of contraceptives. The level of knowledge was assessed among respondents who were aware of contraceptives only. More than half of the

respondents were able to describe contraception and its benefits. About 70% of respondents were able to list 1-2 methods of contraception, and 12.3% were able to describe the fertile period (Table 2).

Table 4: Overall knowledge of contraception among respondents.

Variables	Total
Knowledge score	
<5	186 (32.3)
≥5	389 (67.6)
Knowledge grade	
Poor (knowledge score <5)	186 (32.3)
Good	389 (67.6)

Table 5: Self-reported barriers to contraception among respondents currently not using contraception.

Reason for not using contraceptives	
Variables	Total n=919 (%)
Fear of side effect	
No	708 (77.0)
Yes	211 (23.0)
Husband opposition	
No	873 (95.0)
Yes	46 (5.0)
Significant others	
No	871 (94.8)
Yes	48 (5.2)
Religious opposition	
No	873 (95.0)
Yes	46 (5.0)
Infrequent sex	
No	864 (94.0)
Yes	55 (6.0)

Table 6: Other self-reported barriers to contraception among respondents currently not using contraception.

Reason for not using contraceptive	
Variables	Total n=919 (%)
Perceived low risk of pregnancy	
No	813 (88.5)
Yes	106 (11.5)
Limited access to quality service	
No	900 (97.9)
Yes	19 (2.1)
Attitude of health workers	
No	910 (99.0)
Yes	9 (1.0)

Table 3 shows the in-depth knowledge of contraceptive usage among respondents. The majority of respondents knew the correct use of OCP (93.6%). Over two-thirds of respondents (41.0%) knew the correct use of injectables, 35.1% knew the correct use of implants. Only one-fifth of

respondents were able to explain the dual protection of condoms. Overall, 67.6% of the respondents had a good knowledge of contraception (Table 4).

Table 5 shows the self-reported barriers to contraception among respondents currently not using contraception. About a quarter of respondents reported fear of side effects as a barrier to contraceptive use. The other self-reported barriers to contraception among respondents include perceived low risk of pregnancy (reported by 11.5% of respondents (Table 6).

The unmet need for contraception among respondents was 36.2%. An illustration of how the total unmet need for contraception among respondents was calculated is shown in Figure 1.

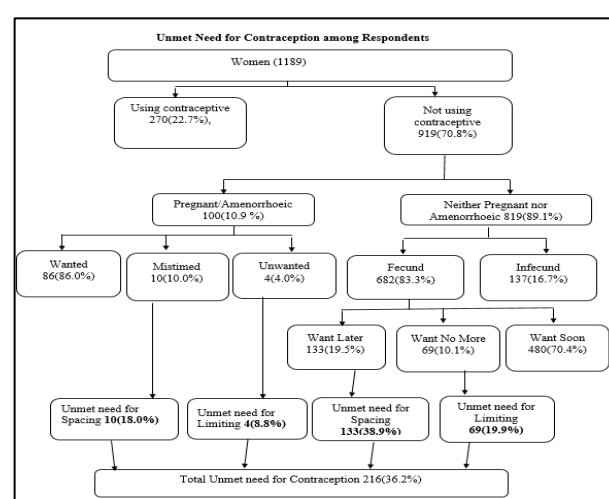


Figure 1: Level of unmet need for contraception among respondents.

Result of focus group discussion sessions

In response to the question ‘what benefits of contraception do you know’, some of the participants responded that contraception prevents pregnancy, some mentioned ‘child spacing’, and participants said

“It helps the woman to space her children and enjoy herself”. (FGD with 32-year-old participant)

“Contraception prevents a woman from nursing a child and being pregnant with another one”. (FGD with 26-year-old participant)

When asked about the disadvantages of contraception, some participants mentioned heavy bleeding/cessation of menstrual flow, some mentioned excessive weight gain, few said it prevents women from getting pregnant when they desire, while others said it causes frequent headaches. A participant said

“I was having a headache every day and adding weight until I removed it”. (FGD with 38-year-old participant)

Majority of participants gave heavy bleeding/cessation of menstrual flow, some said it causes headache and prevents women from getting pregnant later as disadvantages of contraception, and a few said it causes weight gain. A respondent said

"I have a sister who was having her period two times a month with clotted blood, also a neighbour who was bleeding for almost 3 weeks because of a contraceptive". (FGD with 30-year-old participant)

In response to the reason for not using contraception, some respondents mentioned fear of side effects, some mentioned husband opposition, a few gave no reason, infrequent sex and wanting to get pregnant later; a participant said

"I still want more children, and it can prevent pregnancy when I want to be pregnant". (FGD with 24-year-old participant)

Another participant said:

"I am not using it because the side effect is worse than having a child. I know someone who used an implant, and they had to open her forearm because they could not find it there again". (FGD with 35-year-old participant)

DISCUSSION

Family planning through contraception use has been recognised as one of the ten great public health achievements in the past century. Contraceptive use improves women and children's health by reducing maternal mortality risks and improving child survival through birth spacing and nutritional status of both the mothers and children. In addition, contraceptive use is one of the key indicators of achieving sustainable development goal 3.7.

Despite the wide range of contraceptives available, some women who do not want to get pregnant still do not use contraception. Several studies have assessed the knowledge of and barriers to contraception; however, only a few have assessed the level of unmet need for contraception and in-depth knowledge of contraceptive use and self-reported barriers to contraception. This study set out to assess the knowledge and barriers to contraceptive use and the level of unmet need for contraception among women in Osun State, Nigeria.

Over two-thirds of respondents were below 30 years, and the majority were married. In Osun State, where this study was carried out, culture encourages women to be married rather than be divorced or single. The Yoruba ethnic group in southwestern Nigeria constitutes most of the respondents of this study. Ethnicity plays an important role in contraceptive practices in Nigeria, with some studies reporting that women of Yoruba ethnicity exhibit a notably higher uptake of contraceptive methods compared to their

counterparts for the 2 other major ethnic groups in Nigeria-Igbo and Hausa.²⁷⁻²⁹

This study measured respondents' levels of awareness and knowledge concerning contraceptive use and timing. About half (48.4%) of respondents were aware of contraception. Therefore, only 575 of the 1189 respondents had some knowledge of contraception (good or poor). The level of awareness of contraceptives from this study is therefore low compared to other previous studies, which had awareness of contraceptives ranging from 70% to as high as 90%, although in different Nigerian communities with different cultures, demography and rural-urban compositions.^{27,30,31}

Over two-thirds of respondents had good knowledge of contraception (67.6%). This finding was similar to studies done in the Democratic Republic of the Congo, south-eastern and south-western Nigeria, which found a high contraceptive knowledge among respondents.³²⁻³⁴ Knowledge of contraception in this study was adjudged good only if respondents gave a correct response to at least 50% of the stipulated questions, as compared to other studies that assess knowledge of contraception by the ability of women to mention two or more modern contraceptives.

Several women in less developed countries, including all married women, would prefer to avoid a pregnancy but are not using any form of family planning, referred to as having an "unmet need" for contraception- a concept that has influenced the development of family planning programs globally and in Nigeria for over 2 decades. In some countries, however, unmet need remains persistently high (more than one-fifth of married women) or is increasing, indicating that greater efforts are needed to understand and address the causes of unmet need. This study reported a high (36.2%) level of unmet need for contraception among women of reproductive age, higher than the NDHS Survey of 2018 (19%). However, this is similar to studies conducted in Ethiopia, Ghana, India, and the Plateau State in Nigeria, which reported a high level of unmet need for contraception among women of reproductive age.^{16,35-38} The factors responsible for the high level of unmet need for contraception in this study may be the income of respondents and religion, as these factors have been reported in other countries as a reason for high unmet need.^{13,15} Most women in this study were Muslims and had a monthly income below 30,000.

Fear of side effects, husband opposition and perceived low risk of pregnancy were major barriers to the use of contraceptives in this study. This is in keeping with similar studies done in Kenya and Nigeria.^{2,19,29,38-40} Other reasons reported by respondents for not using contraceptives in this study and similar studies were religious, lack of access, infrequent sex and perceived low risk of pregnancy, which is the same as reported in similar studies.^{18,27,29,31,33}

This study has been able to provide a locally relevant study for future trends on knowledge, unmet need for contraception and barriers to contraceptive use among women of reproductive age.

CONCLUSION

This study found a high (36.2%) level of unmet need for contraception among women of reproductive age in Osun State compared to the national average, even though there is good knowledge of contraceptives (67.6%) among respondents. Policymakers and program managers can strengthen family planning programs by understanding and using data on unmet need, considering the characteristics of women and couples with unmet need, and working to remove barriers that prevent individuals from choosing and using a family planning method.

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