

# **Demand and Unmet needs of Contraception among sexually active in-union women in Nigeria: Distribution, Drivers, Barriers, Issues and Program Implication**

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## **Abstract**

Does the unmet need for contraceptives in Nigeria at 16% indicate a success story towards improving sexual and reproductive health of women? This study assessed and compared prevalence of contraceptive demand and unmet needs and determined the distribution, determinants, barriers and issues surrounding contraceptive demands and unmet needs in Nigeria.

Using a nationally representative data, total demand for contraception was 31.2%, consisting of unmet need (16.1%) and met needs at 15.1%. Unmet need for family planning was higher among rural women (16.8% vs 14.9%). Younger women had higher odds of having unmet needs (OR=7.10; 95% CI: 5.18-9.73). Other factors influencing unmet needs include region, education, religion and economic status. Opposition by spouses, health concerns and poor knowledge barred demand for contraceptives.

The low unmet need should not be mistaken for a good progress in family planning programming in Nigeria. The success of family planning in Nigeria is better measured using contraceptive prevalence rate.

Keywords: unmet needs, in-union women, demand for contraceptives, Nigeria

## **Introduction**

In recent times, campaign for improved sexual and reproductive health of women through use of contraceptives has been one of the world's major public health interventions. It has been advocated by international organizations, governments and non-governmental organizations as well as charity and community based organizations. Women at risk of pregnancy are an extremely important sub-population to management of Family Planning (FP) program. Prior to 2009, it was estimated that about \$3.1 billion was spent annually on education, promotion, production and distribution of various FP methods to about 600 million who use modern contraceptives (Singh et al. 2009; Kent 2010). In 2009, Singh et al estimated that \$3.6 billion would be spent annually to reach over 215 million unreached women. The current world expenditure on sexual and reproductive health is \$39.2 billion annually of which every 25% is spent on family planning(Singh et al. 2014). Gate Foundation had stressed that voluntary family planning remains one of the most cost-effective investments a nation can offer its present and future and that "every \$1 spent on family planning translate to \$6 savings to be expended on

other livelihood services” (Gates Foundation 2015). The big question are does the level of unmet need of family planning in Nigeria justify the huge investments in family planning by stakeholders? Is the level of unmet need for contraceptives in Nigeria an indicator of improved women sexual and reproductive health?

The worldwide campaign for use of family planning is borne out of the fact that adoption of FP can help improve sexual and reproductive health among other advantages. If used properly and regularly, some family planning methods such as condoms prevent the transmission of HIV and other sexually transmitted infections(Adebowale et al. 2011). FP also reduces unwanted pregnancy and the demand for unsafe abortion(Martinez et al. 2012; Martinez et al. 2011). The long term benefits of using FP include securing the well-being and autonomy of women, enhancing health and development of communities and nations, reduction of infant and maternal mortality, reduction of incidence of HIV, empowering people, ensuring better education and making population growth slower(Fagbamigbe et al. 2011; Ezire et al. 2013; Martinez et al. 2011; Wellings et al. 2006). These benefits necessitated the inclusion of Contraceptive Prevalence Rate (CPR) as one of the indicators of the Millennium Development Goals (MDG) 5 (United Nations 2011; WHO 2012; FGN-MDG 2014; World Bank 2013; United Nations 1990; PATH 2008). Beside other advantages, contraceptives are useful in delaying and avoiding pregnancy(Adebowale et al. 2011; Fagbamigbe et al. 2011; Ezire et al. 2013).

Although contraceptive use has increased globally, its use has remained very low in sub-Saharan Africa, Nigeria inclusive (Ashford 2003; World Bank 2010; Darroch et al. 2011). The world CPR rose from 54% in 1990 to 57% in 2012 and from 23% to 24% in Africa over the same period (United Nations 2011; WHO 2014). National surveys in 2012 and 2013 has placed CPR in Nigeria at about 15% which did not change when compared with the estimated 15% in 2007 but higher than the 13% of 2003. (National Population Commission (Nigeria) and ICF International. 2014; FMOH 2013; National Population Commission (Nigeria) and ICF International 2009; FMOH 2007).

Despite high knowledge rate and increasing overall levels of contraceptive use across globe, existing significant gaps between the women’s desire to delay or stop childbearing and their actual use of contraception has remained unchecked. By the end of 2009 as many as 15% of the 1.4 billion of women of childbearing ages (15 to 49) in developing countries wanted to avoid pregnancy but are not using an effective means of contraception (Kent 2010; Singh et al. 2009). According to World Health Statistics, approximately one in every eight currently married or in-union women aged 15–49 years across the globe had an unmet need for family planning compared to one in four in the WHO African Region (Statistics 2011; WHO 2014; WHO 2012; United Nations 2011).

For nearly three decades, unmet need for contraception has been a main indicator determining success of family planning programs worldwide and has been identified as one of the indicators of the Millennium Development Goals (MDG)(United Nations 2011; WHO 2012). Unmet need shows the gap between the reproductive intentions of currently in union women and their contraceptive behaviour (DHS 2015; Measure Evaluation PRH 2015). It depicts the extent to which contraceptive demands and needs of this subpopulation are met. People’s rights to stop

childbearing; determine the number and spacing of pregnancies are better reinforced by FP (WHO 2013). Unmet need is found among women with an apparent demand and need for FP who are not using contraception (DHS 2015; Measure Evaluation PRH 2015). These women are the main focus of FP programming because of their “unmet demand” status. For several years, over a half of yearly expenditures on family planning have been focused on meeting unmet needs (Singh et al. 2009; Kent 2010)

Evidences suggest that unwanted pregnancies are commoner and of higher risk among women at the beginning and later end of their reproductive age (Becker et al. 2006; Klima 1998). Unwanted pregnancy has also been reported to be strongly associated with maternal mortality through unsafe abortion and pregnancy complications factors (Klima 1998). According to reports from Gates Foundation, about a quarter of the 80 million unplanned pregnancies in developing countries were aborted in an unsafe manner in 2012 (Gates Foundation 2015). Later in life, products of unwanted pregnancies may have higher negative outcomes than those who were not and their poverty gap may get wider (Marston & Cleland 2003; Gelband 2001).

Although no direct relationship between reduction of unmet need for FP and increasing the CPR has been established so far, reducing unmet need has been reported to be positively associated with increased contraceptive use and decreasing Total Fertility Rates (TFR) (Becker et al. 2006). By extension, reduction of unmet need would decrease unwanted pregnancies and abortion which is higher among people on the foot of economic ladder and thereby improving their socioeconomic status (Gelband 2001). The two indicators are both low in Nigeria. While most recent CPR in Nigeria is 15%, the unmet need for FP is 16% (National Population Commission (Nigeria) and ICF International. 2014; FMoH 2013).

The aim of this study is to assess and compare prevalence of contraceptive demand and unmet needs across social-demographic characteristics and autonomy of the women, determine the distribution, the determinants, the barriers and the issues surrounding contraceptive demands and unmet needs in Nigeria. We hypothesized that there are no significant differences in unmet needs of the women across their background characteristics and reproductive behavior. This study will provide answers to some burning questions which include: What are the demands for contraceptives in Nigeria? Which proportion of the demands was met? Which contraceptive use indicator better address the usage in Nigeria? What are the determinants of unmet needs among in-union women in Nigeria? Are there diversities in background characteristics of the women vis-a-vis their unmet needs? Why were contraceptive needs not met? What are the barriers in meeting contraceptive needs in Nigeria? Could the level of demand and unmet need improve women sexual and reproductive health? The outcomes of his study will assist in strengthening family planning programming in Nigeria.

## **Methods:**

### *Study Area*

This study is carried out among women of reproductive age in Nigeria. Nigeria with an annual growth rate of 3.2% currently has about 180 million inhabitants (Population Reference Bureau 2014; Fagbamigbe et al. 2015; NPC 2013). Nigeria is the most populous nation in Africa and one

of the most populous in the world (Population Reference Bureau 2012; Gupta et al. 2014) with the possibility of becoming fifth largest in 2050. Nigeria has a predominant young population with high fertility rate of 5.5 (National Population Commission (Nigeria) and ICF International. 2014). Recent nationally representative surveys have put Nigeria CPR at 15% with unmet need for FP at 16% (National Population Commission (Nigeria) and ICF International. 2014; FMOH 2013). Nigeria has 36 states and a Federal Capital Territory (political divisions), grouped into six geopolitical zones.

### *Study Design and Data collection*

We used the data from 2013 Nigeria Demographic Health Survey. The data was a secondary cross-sectional and nationally representative. The data was collected from women of reproductive age residing in non-institutional dwelling units in Nigeria. The survey used the sampling frame to delineate the Enumeration Areas (EAs), Local Government Areas (LGAs), states and zones in Nigeria as prepared in the 2006 Population Census of the Federal Republic of Nigeria. The sample used for the interview was selected using a stratified three-stage cluster design spread over rural and urban areas in Nigeria. Detailed sampling design has been documented earlier (National Population Commission (Nigeria) and ICF International. 2014).

### *Outcome variable*

We extracted fertility, breastfeeding and contraceptive use information provided by 27829 women who were either currently married or in a sexual union. The primary outcomes in this study were demand and unmet need for contraceptives. We defined demand as addition of contraceptive prevalence rate and unmet needs.

Literature did not agree on the definition of unmet needs. Its measurement uses assumptions which are often imprecise and controversial (Cleland et al. 2014). Westoff et al proposed that women are at risk of pregnancy if they are of reproductive age and currently married or in union; fecund; not using a contraceptive method and Not currently pregnant or amenorrheic (Westoff & Ochoa 1991) The authors however maintained that fecund women who want their next child within the next two years, or currently pregnant or amenorrheic women who were using contraception at the time they became pregnant with the current/last or whose pregnancy was reported as intentional are not to be considered as having unmet need.

Critics of the existing methods for computing unmet need identified its four major limitations: allowances were not made for married or cohabitating women who abstain from sex, never-married or formerly married women were not included in the computation, users of traditional methods are treated as nonusers because it is less effective and that male partners were excluded from computations of unmet need estimates (Cleland et al. 2006; Cleland et al. 2014).

However, we defined unmet need, based on recent definitions by Bradley et al, as proportion of fertile and sexually active in-union women who are not using contraceptives but would have

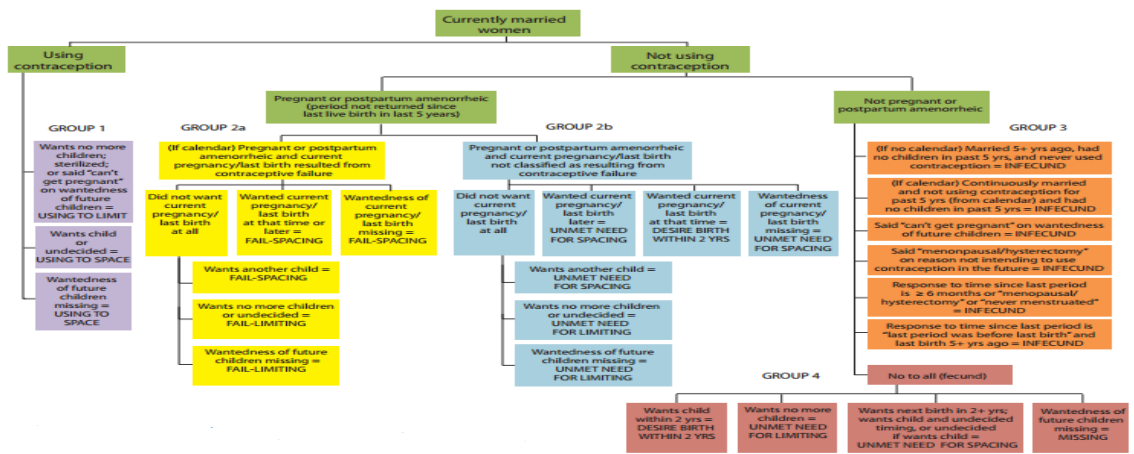


Figure 1: Definition of unmet need among currently married women (Bradley et al. 2012)

preferred to limit or space the birth of next child (Bradley et al. 2012). We followed the procedure in Figure 1 for the computation of the number of women of reproductive age, either married or in a union, who have an unmet need for family planning.

As recommended by Measure Evaluation, responses to the following survey questions were used in computing the demand and unmet needs:

- Desire for additional children and desired length of birth interval
- Current use of contraceptive
- Current fecundity, pregnancy, and amenorrhea status for non-contraceptive users
- Number and time planning status of the current/last pregnancy for women currently pregnant or amenorrheic and
- Contraceptive use as at the time of the current/last pregnancy (Measure Evaluation PRH 2015).

A woman using contraception, either modern or traditional methods, was considered a contraceptive user, and does not have unmet need. Non users, who were pregnant or amenorrheic women whose pregnancy was mistimed or unwanted were considered to have unmet need. Therefore the women with unmet needs are i) in-union pregnant women whose pregnancies were unwanted or mistimed at the time of conception ii) in-union postpartum amenorrheic women who were not on contraceptives and whose last birth was unwanted or mistimed iii) all in-union fecund women who were neither pregnant nor postpartum amenorrheic, and who either want to limit family size or want to space births, but were not on any contraceptives (United Nations 2014).

### Independent variables

The independent variables zones wealth quintile, highest level of education, religion, place of residence, religion and ethnicity.

We estimated the demand for contraceptives, prevalence of both types of unmet needs: limiting and spacing, the total met needs by modern contraception and all contraception methods by background characteristics using descriptive statistics. We examined the associations between having unmet needs and the demographic, socioeconomic, and reproductive profiles of the respondents using bivariate and multivariate logistic regression at 5% significance level. We used multiple response data analysis techniques to assess barriers to non-use of contraceptives among those who had unmet demand.

### *Ethical Approval*

Ethical approvals for the study was obtained from the National Health Research Ethics Committee assigned number NHREC/01/01/2007 as earlier documented (National Population Commission (Nigeria) and ICF International. 2014). Full details of ethical considerations are available therein.

### Results

Of the 27829 in-union women included in the analysis, total demand for contraception in Nigeria was 31.2%. This was made up of unmet need at 16.1% (11.9% for spacing and 4.2% for limiting) and met needs at 15.1% (8.5% for spacing and 6.6% for limiting) as shown in Table 1 and Table 2.

Table 1: Distribution of family planning needs among currently married women in Nigeria

Types of FP Need	n	%
Unmet need for spacing	3,315	11.9
Unmet need for limiting	1,166	4.2
Met need for spacing	2,376	8.5
Met need for limiting	1,840	6.6
No unmet need	14,113	50.7
Infecund or menopausal	4,715	16.9
Missing	304	1.1
<b>Total</b>	<b>27,829</b>	<b>100.0</b>

The overall contraceptive prevalence rate was 15.2% while modern contraceptive prevalence rate was 9.8%. Almost a half (48.5%) of the 31.2% total contraceptive demand was satisfied by any method. The 9.8% modern contraceptive prevalence reduced the total contraceptive demand satisfied by modern contraceptives to 31.3% compared with 48.5% demand satisfied by all methods. Unmet need for family planning was higher among rural women compared with urban residents (16.8% vs 14.9%) and among women who cannot move around freely without been monitored by their spouses than those who were freer (16.2% vs 15.6%). Rate of unmet need was higher among women with either no education (12.0%), primary or quaranic (12.2%) or secondary (12.7%) compared with women with higher education at 8.0%. Also, unmet need was higher among respondents who experienced violence than those who did not (18.7% vs 15.1%). Demand for contraceptives increased with age of the women but declined among those aged 40-

49 years. The total demand in urban areas nearly doubled that of rural areas (41.7% vs 25.3%). There were variations in zonal demand for contraceptives, highest in south west (53.5%) and least in the North east (15.2%). While 65.7% of the demand for FP among women in highest economic status were met by any method of contraceptives, only 18.3% were met among those in the lowest economic status. On proportion of total demand satisfied by modern contraceptives, 41.5% was found among the women in highest economic status compared to 18.3% among those in lowest economic status. Also women who had access to their household's resources had higher rate of family planning demand satisfied by modern contraceptives (40.6% vs 20.6%). The average ideal number of children desired by the women was 7 and it varied slightly across women's characteristics as shown in Table 2.

Table 2: Need and demand for family planning among currently married women by their characteristics

Characteristics	n	Unmet need for Spacing	Unmet need for Limiting	Unmet need Total	Met need for FP	Uses MC Methods	<sup>a</sup> Total demand for FP	<sup>b</sup> demand satisfied	<sup>c</sup> demand satisfied by MC	Ideal family size
<b>Age</b>										
15-19	2251	13.0	0.1	13.1	2.1	1.2	15.2	13.9	7.6	7
20-24	4362	16.1	0.4	16.6	9.6	6.2	26.1	36.6	23.8	7
25-29	5913	15.7	1.1	16.8	14.1	8.8	30.9	45.6	28.6	7
30-39	9171	11.4	6.0	17.4	20.0	13.0	37.4	53.5	34.8	7
40-49	6133	5.6	8.7	14.3	17.7	11.5	32.0	55.2	35.9	8
<b>Residence</b>										
Urban	10124	10.3	4.7	14.9	26.8	16.9	41.7	64.2	40.5	6
Rural	17705	12.8	3.9	16.8	8.5	5.7	25.3	33.6	22.6	8
<b>Zone</b>										
North Central	3895	16.9	6.6	23.5	15.6	12.4	39.1	39.9	31.7	6
North East	4679	14.2	3.3	17.6	3.2	2.7	20.7	15.2	13.1	9
North West	10034	10.4	1.6	12.0	4.3	3.6	16.3	26.2	22.3	9
South East	2333	7.4	5.1	12.5	29.3	11.0	41.8	70.0	26.4	6
South South	2699	14.9	7.3	22.2	28.1	16.4	50.2	55.9	32.6	5
South West	4189	9.0	6.5	15.5	38.0	24.9	53.5	71.1	46.6	5
<b>Economic status</b>										
Lowest	12410	11.9	3.0	14.8	3.3	2.2	18.2	18.3	12.3	9
Middle	4983	14.8	5.3	20.0	13.3	9.1	33.3	39.8	27.4	7
Highest	10437	10.6	5.1	15.7	30.1	19.1	45.9	65.7	41.5	6
<b>Education</b>										
No Education	13470	12.0	2.9	14.9	2.7	1.7	17.5	15.2	9.9	9
Primary/Qur'anic	5336	12.2	7.1	19.4	20.0	13.6	39.3	50.8	34.7	7
Secondary	6980	12.7	4.6	17.3	29.2	18.7	46.4	62.8	40.2	5
Higher	2043	8.0	3.7	11.7	37.0	22.4	48.7	75.9	46.0	5
<b>Religion</b>										
Catholics	2396	11.0	6.0	16.9	28.3	15.3	45.2	62.5	33.9	6
Other Christian	8185	11.5	6.9	18.3	30.0	19.6	48.4	62.1	40.5	5
Islam	16811	12.3	2.6	14.9	6.2	4.3	21.1	29.4	20.5	8
Others	437	11.0	5.1	16.1	8.3	5.1	24.4	34.0	21.1	7
<b>Tribe</b>										
Hausa/Fulani	11485	11.5	1.9	13.4	1.8	1.2	15.2	11.8	7.9	9
Yoruba	3565	8.4	6.4	14.8	41.6	28.9	56.4	73.8	51.2	5
Igbo/Ibibio	3055	8.2	4.8	13.0	31.2	13.7	44.2	70.5	31.0	5

Others	9723	14.8	5.9	20.5	15.5	11.7	36.0	43.1	32.5	6
<b>Autonomy with her</b>										
Autonomous	12911	11.7	4.5	16.2	16.1	10.7	32.3	49.8	33.2	7
Not Autonomous	5501	10.6	5.8	16.4	24.1	15.4	40.5	59.5	38.1	6
<b>Access to Resources</b>										
Yes	10463	10.1	5.9	16.0	28.3	18.0	44.3	63.9	40.6	6
No	17366	13.0	3.1	16.2	7.2	4.8	23.4	30.8	20.6	8
<b>Abused/Violence</b>										
Yes	5108	13.1	5.6	18.7	24.0	15.7	42.7	56.2	36.8	6
No	16511	12.0	3.1	15.1	13.7	8.7	28.8	47.6	30.2	7
<b>Move freely/discuss</b>										
Yes	7829	11.2	4.3	15.6	17.6	11.1	33.2	53.0	33.4	7
No	13790	12.8	3.4	16.2	15.3	10.0	31.5	48.6	31.7	7
<b>Total</b>	<b>27829</b>	<b>11.9</b>	<b>4.2</b>	<b>16.1</b>	<b>15.2</b>	<b>9.8</b>	<b>31.2</b>	<b>48.5</b>	<b>31.3</b>	<b>7</b>

Percents generated using the revised definition of unmet need presented in Bradley et al., 2012.

MC Modern Contraceptives FP Family Planning <sup>a</sup>Total demand is the sum of unmet and met need.

<sup>b</sup>Percentage of demand satisfied (by any method) is met need divided by total demand.

<sup>c</sup>Modern methods include female sterilisation, male sterilisation, pill, IUD, injectables, implants, male condom, female condom, and lactational amenorrhoea method (LAM).

Younger women had higher odds of having unmet needs than the older women (OR= 7.10; CI: 5.18-9.73). Other factors that increased the odds of unmet need for contraceptives were respondents residing in North East (OR=10.39, CI:8.7-12.4) and North West (OR=8.20, CI:6.96-9.66) compared to South West, having no formal education (OR=14.6, CI:12.2-17.5), being an Islam faithful (OR=3.85, CI:3.33-4.46) and belonging to lowest economic status (OR=7.88, CI:6.97-8.90). Women with no education had an adjusted odd ratio thrice likely to have unmet need than those with higher education (aOR=3.23, CI:2.60-4.02). Opposition by the women or their spouses to use of contraception, health concerns and poor knowledge were the most important factors barring in-union women from using contraceptives as shown in Table 3.

Table 3: Determinants of unmet needs among sexually active women with family planning needs in Nigeria

Characteristics	OR(95% CI)	aOR(95% CI)
Age		
15-19	*7.10(5.18-9.73)	*4.29(3.03-6.07)
20-24	*2.22(1.91-2.58)	*2.01(1.69-2.40)
25-29	*1.60(1.41-1.82)	*1.74(1.50-2.02)
30-39	*1.13(1.01-1.26)	*1.24(1.09-1.41)
40-49 <sup>^</sup>		
Zone		
North Central	*2.50(2.19-2.86)	0.99(0.82-1.19)
North East	*10.39(8.7-12.4)	*1.68(1.31-2.16)
North West	*8.20(6.96-9.66)	*0.69(0.52-0.92)
South East	1.01(0.86-1.19)	*0.67(0.52-0.87)
South South	*2.04(1.79-2.34)	1.06(0.87-1.29)
South West <sup>^</sup>		
Residence		
Urban <sup>^</sup>		
Rural	*3.12(2.86-3.41)	*1.35(1.20-1.51)
Education		
No Education	*14.62(12.2-17.5)	*3.23(2.60-4.02)

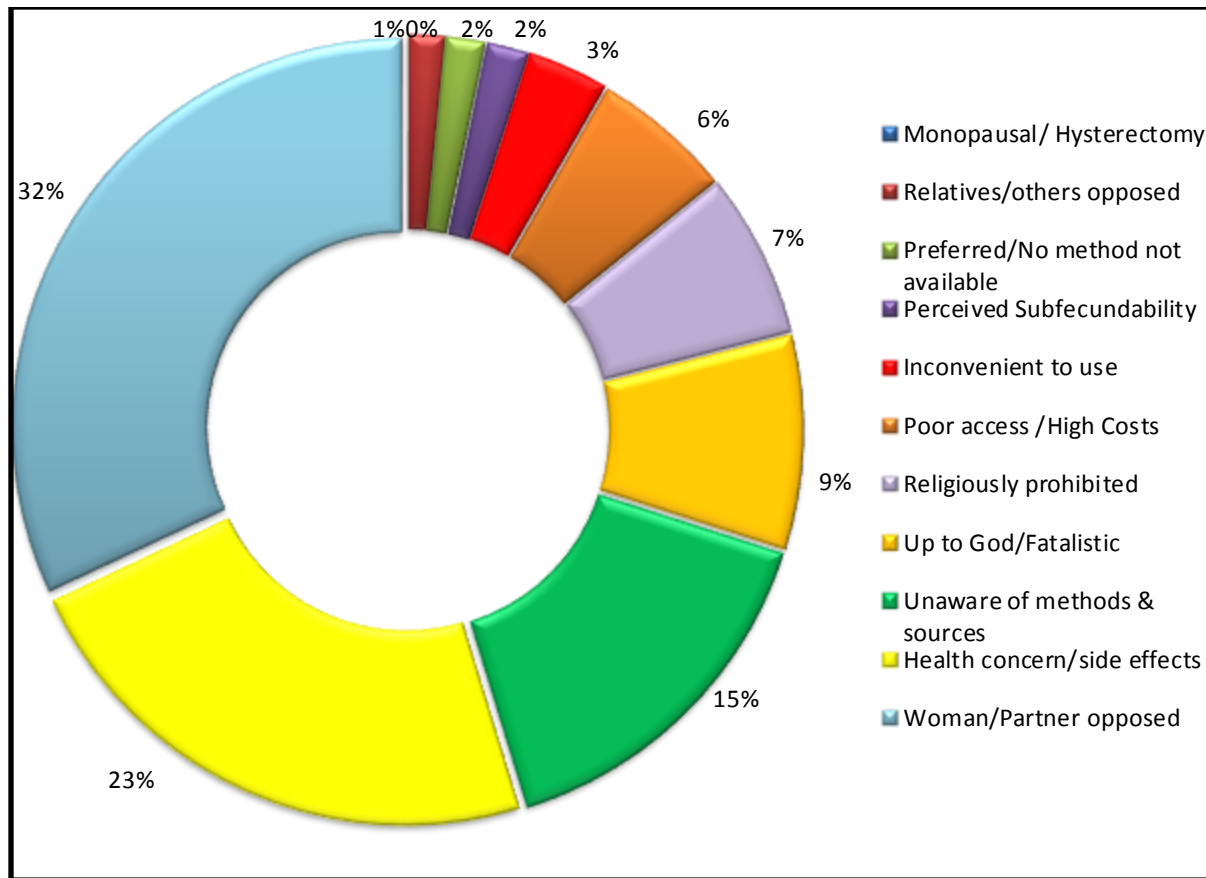


Primary/Qur'anic	*3.05(2.59-3.58)	*1.76(1.47-2.11)
Secondary	*1.96(1.68-2.29)	*1.43(1.21-1.69)
Higher^		
Religion		
Catholics^		
Other Christian	1.15(0.99-1.32)	*1.24(1.05-1.45)
Islam	*3.85(3.33-4.46)	*1.81(1.48-2.21)
Others	*3.42(2.24-5.24)	*2.11(1.31-3.39)
Tribe		
Hausa/Fulani	*17.84(14.9-21.3)	*5.47(3.61-8.29)
Yoruba^		
Igbo/Ibiobio	1.16(0.99-1.53)	*1.34(0.95-1.89)
Others	*3.47(3.10-3.91)	*2.04(1.62-2.58)
Economic status		
Lowest	*7.88(6.97-8.90)	*2.27(1.92-2.68)
Middle	*2.62(2.34-2.92)	*1.51(1.32-1.73)
Highest^		
Autonomy in income		
Yes	*1.52(1.37-1.68)	*1.43(1.24-1.65)
Access to HH resources		
No	*3.28(3.00-3.59)	*1.43(1.24-1.65)
Experienced Violence		
No	*1.18(1.06-1.31)	1.17(0.99-1.36)
Can move freely		
No	*1.22(1.11-1.35)	*1.21(1.08-1.19)

OR Odd Ratio aOR adjusted Odd Ratio CI Confidence Interval ^Reference

We identified main barriers to contraceptive use among the respondents to include opposition by the women or their spouses to use of contraception (32%), health concerns and side effects (23%) and poor awareness of sources and methods of contraceptive (15%). Other reported barriers to use of contraceptives were leaving chances to God (9%), religious prohibition (7%), and accessibility and affordability (6%)

Figure 2: Barriers to contraceptive use among in-union women with unmet needs



## Discussion

In this study, we investigated the distribution, drivers, barriers and issues relating to demand and unmet needs of contraception among sexually active in-union women in Nigeria with the aim of providing information that will help restructure contraceptive programming as it relates to women sexual and reproductive health in Nigeria. The study analysed the 2013 NDHS data as reported by currently married or in union women who were assumed to be sexually active. We found that total demand for contraceptives in Nigeria is generally low as only a third of the respondents had a demand for contraceptives. Only about a half of the demands were met while a half were unmet. Barely 16% of the women had unmet needs which differed by individual, household and community characteristics of the women surveyed. While the demand for contraceptives are low, the supply is equally low as evidenced by the level of unmet needs (Austin 2015). Also, the major barriers to demand and unmet need of contraceptives were found to be opposition by the women or their spouses, health concerns and side effects and poor awareness of sources and methods of contraceptive. Our findings are similar to the reported distribution of reasons preventing women with unmet needs in sub-Saharan Africa from using contraceptives (Darroch et al. 2011).

The results showed that unmet need for modern contraceptive use among sexually active in-union women was 16.1% in 2013, which is higher than the rates in Botswana (9%) (Letamo & Navaneetham 2015), at par with the reported level of 15.5% in Zimbabwe in 2005/2006 but relatively low compared with 26.6% in Zambia in 2007 (Bradley et al. 2012). The low level of

unmet need in Nigeria could be ascribed to the fact that only a half of all demands for contraceptives were met although the demands were low at 31% compared with 80% in Botswana(Letamo & Navaneetham 2015). It is not certain if the low HIV prevalence of 3.4% reported in Nigeria(FMoH 2013) compared with over 30% rate in Botswana could have affected the low contraceptive demand(Letamo & Navaneetham 2015). However, literature is replete on the fact that high prevalence of contraceptives may not affect HIV since most contraceptives are not condoms and are commonest among older women than younger women who actually have higher contribution to HIV epidemics (Horney 2003; Letamo & Navaneetham 2015).

Nevertheless, the low demand for contraceptives in Nigeria is a fallout of her high TFR of 5.5 (National Population Commission (Nigeria) and ICF International. 2014). This assertion is intuitive because low fertility levels reported in certain countries been linked to higher demands for contraceptives (Letamo & Navaneetham 2015), though research gap existed whether the purpose of the high contraceptive use was to control births or prevent HIV. Currently, an average sexually active in-union women in Nigeria desired 7 children. This varied across their individual characteristics. Women in Urban areas desired less children compared with those in rural areas, 5 among those with secondary education or higher compared with 9 among those with no formal education. Despite a strong desire for large family sizes among the women, there were unmet needs for demands for contraception to space births(Austin 2015). Austin et al affirmed that contraceptive campaigns in Nigeria could only be successful if it is not targeted at limiting childbearing but rather on birth spacing and improvement of the health of the mother and child as the former might not be culturally acceptable.

Across board, unmet need for spacing was higher than unmet need for limiting number of births. We found age of sexually active in-union women to be associated with levels of unmet need. While unmet need for limiting increased as women age gets older, unmet need for spacing peaked among those aged 20-24 years and declined thereafter. Also unmet need for limiting was higher among urban dwellers than rural dwellers but the reverse was the case for unmet need for spacing. The likelihood of having unmet need also differed across geopolitical zones where the women reside in Nigeria

Demand for contraceptives and unmet need also differed by economic status of the respondents. Women of lower economic status had higher unmet needs compared to those with higher economic status. Conversely, those with higher economic status had higher contraceptive demand, higher demand satisfied, and lower family size desire. Also, women educational attainment also influenced the levels of demand and unmet need for contraceptives. Sexually active in-union women with higher education had higher demands and lower unmet needs. These findings are similar to other previous documentations(Adebowale & Palamuleni 2014; Austin 2015; Letamo & Navaneetham 2015). The significance found among education, economic status, demands and unmet need of contraceptives suggested that women should be adequately empowered not only in terms of finance but also in education so as to improve knowledge and awareness of methods and sources of contraceptives which has been cited as a major barrier to contraceptive use(Adebowale & Palamuleni 2014).

We found higher demands for contraceptive among sexually active in-union women practicing Catholic and other Christian religions than the Muslims who also had higher odds of unmet

needs compared with other religions. This is consistent with previous finding that Muslim women who mostly live in the Northern part of Nigeria were less likely to have demand for contraceptives as they have desire for large families(Austin 2015; Doctor et al. 2013). The few demands made by the Muslim women are rarely met. As other studies have shown, involvement of women in household decisions and particularly in decisions that affect women health can improve contraceptive demands and lower unmet needs both for limiting and spacing(Austin 2015; Adebowale & Palamuleni 2014). This is of high importance as male spouses have been found to oppose use of contraceptives.

We found opposition by the women or their spouses to use of contraception, health concerns and side effects and poor awareness of sources and different methods of contraceptive to be commonest reasons why sexually active women in Nigeria have unmet demand and in some cases has no demands for contraceptives. Similar reasons have been reported elsewhere(Bradley et al. 2012; Bradley et al. 2009; Sedgh et al. 2014; Adebowale & Palamuleni 2014; Letamo & Navaneetham 2015; Austin 2015) though with different magnitudes. Opposition to use of contraceptives by women and their spouses constituted a great challenge to use of contraceptives in Nigeria. This is probably due to the fact that they wanted a large family size. This suggests that men are no longer push overs in sexual and reproductive outcomes of their spouses. They should both be focused in sexual and reproductive health programming, if meaningful changes are expected. Cited health concerns and side effects by the respondents could lead to eventual discontinuation of methods by users and none uptake of methods by non-users. There is need for proper reorientation of women, their spouses and the community at large through a functional contraceptive education and promotion, information campaigns, and behavioural change communication programmes as the current high knowledge of contraceptives in Nigeria did not translate to usage. The education and promotion will overcome the barriers of carefree attitudes, leaving chances, religious prohibition, myths, misconceptions and hearsays. Accessibility and affordability are other threats to increased demand and met contraceptive needs in Nigeria. This is consistent with reports of a Burkina Faso study(Adebowale & Palamuleni 2014) and an earlier study in Nigeria (Ezire et al. 2013; Fagbamigbe et al. 2011). Gates Foundation have also identified “insufficient donor and funding in developing countries, lack of appropriate FP methods that meet users’ needs, unreliable distribution systems, cultural and knowledge barriers” as hurdles to scale in eradicating unmet needs (Gates Foundation 2015).

## Conclusion

Although unmet need among the women was low, the met needs and the total demand for contraceptives were also low. This poses a damaging effect on sexual and reproductive health of women. Despite high knowledge of contraceptives in Nigeria and the political will by the federal government of Nigeria, through the Federal Ministry of Health, CPR has remained low at 15% compared with her neighbouring countries. Considering the high fertility desire among the women, the low unmet need should not be mistaken for a good progress in family planning in Nigeria. The success of family planning programme in Nigeria is better measured using CPR, level of contraceptive demands and the proportions of demand satisfied.

To achieve a remarkable and desired increase in the CPR, cost barriers should be removed so that even the very poor can have unlimited access to contraceptives provided all other barriers have been dealt with effectively. Government and other stake holders should do more in ensuring

accessibility and affordability as well as ensuring an increased effectiveness of sexual and reproductive health programmes in Nigeria. There is need to reverse the unabated population growth in Nigeria through fertility control. This can only be achieved by combined efforts targeted at encouraging households to lower their desired number of children which would in turn improve demands for contraceptives and removing barriers to unmet needs for contraceptives.

Efforts must be geared towards discouraging high-fertility preferences and improving contraception education among Nigeria women and their spouses so as to increase demand and thereby ensure optimal sexual and reproductive health for women. For Nigeria to meet her set goal of 36% contraceptive prevalence rate by 2018, interventions to enhance formal education, increase the knowledge of modern contraceptives and to improve women's decision-making power should be embraced urgently to serve demand for contraceptives and to reach the unmet. The poor, uneducated and rural women are at greatest risk of low contraceptive demand s and unmet needs.

### **Strengths and Limitations**

The usage of new DHS approved computation of unmet needs has made our findings much more reliable and comparable to other estimates from any part of the globe. However, the exclusion of sexually active but unmarried women in the computations might have strongly underestimate the burden of unmet need for contraceptives. All the indicators used in computing the demands and unmet needs were self-reported by the respondents which might have suffered recall bias. However, the largeness of the data, its national representativeness as well as the high response rates coupled with pretested, consistent and standardized data collection procedures might have eliminated effect of any recall bias.

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### **Competing Interest**

The authors declare no competing interest

### **Authors Contributions**

AFF conceived and designed the study, analyzed and wrote the results, partook in writing the introduction, methodology and discussions. ESA partook in study design. All authors proofread the final version of the manuscript.

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