A Re-assessment of Drivers of Contraceptive Acceptance, Use and Discontinuation among Young Females in Nigeria

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Abstract

Family planning interventions have focused on young people in Nigeria for over one decade, yet their uptake of modern contraceptives is still very low, with grave consequences. This study hypothesized that prevailing drivers of acceptance, use and discontinuation are accountable. It deployed the 2013 NDHS data to re-assesse the drivers. The analysis suggests that contraceptive acceptance is not a crucial problem among young women in Nigeria because a high level of acceptance prevails. However, use of modern methods remains low (about 3% in core north and 32% in south) and is also compounded by high rate of discontinuation. Critical reasons for non-use and discontinuation demanding policy action include self-opposition and fear of side effects. Re-assessment of the drivers of current use of modern contraceptives suggests that sexually experienced young women from south west than the core north (north west and north east), with at least primary schooling, who were Catholic Christians and of rich wealth status were more likely to report current use of modern contraceptive ($p<0.05$). Whereas young women from the north east and north west, with secondary or more schooling, who considered three or more male children as ideal were more likely to report modern contraception discontinuation ($p<0.05$). Intervention programmes designed to promote modern contraception among young women in Nigeria should therefore concentrate on addressing opposition to modern contraception and, to some extent, the perceived side effects of the methods. In addition, expanding education among young women, particularly in the core north, remains an imperative.

Introduction

Contraceptive prevalence is a critical determinant of fertility level and women health condition, which are germane to the socio-economic development of society. If Nigeria would harness the benefits of demographic dividend, improved contraception among young women who are expected to play key roles in the process of sustained fertility decline and economic production, which are critical components of demographic dividend, is certainly an imperative (Cleland 2012; Wusu and Amoo 2014). Benefits of contraception cut through enabling young women to prevent unwanted childbirth in order to pursue quality education, attain improved sexual and reproductive health, prevent early marriage, prevent abortion, take advantage of formal labour market in order to make economic contributions and attain

financial independence (Castle 2003; Frost and Lindberg 2012; Marston and Cleland 2003; Rakhi and Sumathi 2010; Sathar, Singh, Rashida, Shah, and Niazi 2014). Actualisation of these benefits among young women demands that we remove the barriers to contraception. In Nigeria, national family planning programmes in collaboration with local and international non-governmental organisations have concentrated on improving contraceptive prevalence rate (CPR) in the last few decades. Yet, uptake of contraceptives, especially modern methods, among female youth in Nigeria remains low in spite of near universal knowledge. Current use of modern methods among young females age 15-19 is between 4.8% and 13.2% (National Population Commission [Nigeria] and ICF International 2014). In view of the high level of sexual activities, with between 43.8% and 84% of young females being sexually experienced, the dangers are numerous and thus cast doubt on the possibility of demographic dividend in Nigeria (Bajoga, Atagame, and Okigbo 2015; National Population Commission [Nigeria] and Icf International 2014; Rakhi and Sumathi 2010; Smith 2004; Temin *et al.* 1999).

Obviously the degree of investment on family planning in Nigeria and CPR among young females do not correspond appropriately (Goliber, Sanders, and Ross 2009). Why is CPR so low among young females in spite of almost universal level of knowledge? Population based information available on the prevailing driving forces of CPR among young females in Nigeria are limited. Most of the available information stem typically from hospital based studies that are not nationally representative (for example, Ibekwe and Ibekwe 2012; Idowu, Deji, Ogunlaja, and Olajide 2015; Njoku, Emechebe, Agbarakweh, and Abeshi 2014) . Hence, this study sought to employ latest nationally representative data to re-assess the drivers of acceptance, use and discontinuation of modern contraceptives among young females. The objective is to figure out the critical drivers of those components, which should become veritable tool in intervention programmes. The study hypothesized that prevailing social, cultural, economic and demographic forces driving modern contraceptive

acceptability, use and discontinuation among young females are accountable for high knowledge and low adoption in Nigeria.

Background

'Contraception is defined as the intentional prevention of conception through the use of various devices, sexual practices, chemicals, drugs, or surgical procedures' (Rakhi and Sumathi 2012: 626). In spite of high level of contraceptive knowledge among young people in Nigeria, use remains low among young females (National Population Commission [Nigeria] and ICF International 2014). Although young women were reported as more likely to use contraceptives than adult women, their level of adoption is still low (Idowu *et al.* 2015). Efforts to increase the uptake of modern contraceptives have to tackle three essential areas. These include contraceptive acceptance, use and discontinuation, which have been variously described to be affected by demographic, cultural, economic and social factors.

In family planning literature, not much have been done on contraceptive acceptability. Contraceptive acceptance has been reported to be significantly associated with age, education, number of living children, sex preference, source of availability, religion and socio-economic status and counselling against fears and misconceptions (Ibekwe and Ibekwe 2012; Manna and Basu 2011). Those studies report existence of positive association between rising age of women, education, number of living children, socio-economic status, availability and contraceptive acceptance. As highlighted in those studies, religious beliefs that oppose contraception is a determinant of acceptability of contraceptives. A related factor that has been considered critical in contraceptive acceptance are fears and misconceptions that are pervasive among women against contraception. Studies have observed the interconnected duo as important barriers that must be overcome in order to promote acceptance, especially fear of future infertility (Katz, Johnson, Janowitz, and Carranza 2002; Manna and Basu 2011; Njoku *et al.* 2014; Otoide, Oronsaye, and Okonofua 2001; Path

2015). Acceptability of contraceptives is also a function of the method. For instance, IUD and injectable are among the very popular methods among women in Nigeria while hormonal implants are quite unpopular (Ibekwe and Ibekwe 2012; Isa and Mairiga 2012; Madugu, Abdul, Bawa, and Kolawole 2015).

Drivers of contraceptive use that have been highlighted in previous studies that have examined the subject among young women can be categorized into four, namely personal characteristics, parental attitude related factors, community or intervention factors and providers attitude. Personal characteristics that influence modern contraceptives include educational status, age, religious affiliation, fear of future infertility, misconceptions about modern methods, prolonged adverse side effects, personal risk perception (Blanc, Tsui, Croft, and Trevitt 2009; Meekers and Klein 2002; Otoide *et al.* 2001; Path 2015). Also, parental attitude towards young people contraceptive adoption and providers restrictions have been reported as significant determinants of contraception among young women (Meekers and Klein 2002; Sidze *et al.* 2014). In addition, interventions such as campaigns and media exposures, aimed at influencing contraceptive use among young women has been reported as a major factor promoting adoption of various modern methods (Babalola, Folda, and Babayaro 2008; Bajoga *et al.* 2015; Garcia *et al.* 2008; Meekers and Klein 2002). Other determinants of contraceptives use among women in general highlighted in the literature, which are likely to affect young women, include degree of autonomy and wealth status, number of living children, partner's' approval, woman perception of conflict with husband's fertility preferences, quality of service and attitude of providers (Casterline, Sathar, and Ul Haque 2001; Datta 2013; Okech, Wawire, and Mburu 2011; Tuoane, Diamond, and Madise 2003; Woodsong 2004).

Adoption of modern contraceptives among young people will only achieve the desired goal if premature discontinuation is avoided. This becomes imperative in settings where pre-

marital sexual activity is high. Young women desire to prevent pregnancy in order to pursue life improving investment in education before marriage or delay another pregnancy in marriage. Consistent use of modern contraceptives is therefore a critical requirement. Discontinuation occurs when a women stops using contraceptives within a year or so of use (Step Up 2014). Studies have identified drivers of contraception discontinuation among single and married young women. Some of the crucial drivers of contraception discontinuation among unmarried young women highlighted in previous studies include menstrual disruption, social consequences of contraception side effects, method related problem and method failure (Ali, Cleland, and Shah 2012; Castle 2003; Mishra, Retherford, Nair, and Feeney 1999; Step Up 2014). Among married young women, the frequently mentioned drivers of contraception discontinuation are side effects or health concerns, desire for another pregnancy, absence of interpersonal communication with partner, accidental pregnancy, desired family size not yet achieved, history of terminated pregnancy, menstrual irregularity, husband's attitude towards contraception and intention to limit birth (Barden-O'fallon, Speizer, Calix, and Rodriguez 2011; Burke and Ambasa-Shisanya 2014; Modey, Aryeetey, and Adanu 2014; Njoku *et al.* 2014; Step Up 2014). Studies have also highlighted the variations of contraception discontinuation across methods. For instance, in a few studies that examined the subject among women in West Africa, the IUD and hormonal implant methods were reported to suffer highest discontinuation (Ibekwe and Ibekwe 2012; Madugu *et al.* 2015; Modey *et al.* 2014).

As mentioned above, available current information in Nigeria on the three key components of modern contraception among young women are limited and are mostly based on samples that are not nationally representative. In view of the implications of the persistent low CPR for health and fertility planning in the country, population based nationally representative studies, such as this, are definitely significant. It is against this background that

this study employed the latest nationally representative Nigeria Demographic and Health Survey (NDHS) data to examine the factors driving acceptance, use and discontinuation of modern contraception among young females who are key players in sexual and reproductive health.

Data and Methods

This study analysed the latest NDHS data collected in 2013. The survey employed stratified sampling design that involved three stages. Other details are contained in the NDHS report on pages 378-380 (National Population Commission [Nigeria] and ICF International 2014). Analysis utilised data on young females between ages 15 and 24 years, the selection yielded a sample size (N) of 14,619. The study chose young females because they are key players in the sexual and reproductive arena that have direct association with women health and realisation of the demographic dividend.

The dependent variables apparent in the title are acceptance, use and discontinuation of contraception. Although DHS does not have a direct question on acceptability, the study employed variable 3A081 (reason not using: respondent opposed) as a proxy of whether contraceptives are acceptable to respondents or not. The variable was recoded such that the 'not opposed' category was coded 'yes = 1' (representing acceptance) while 'opposed' category was coded 'no = 0'. The analysis used DHS variable 313 on 'current contraceptive use by method' for the purpose of measuring current modern contraceptive use. It was recoded to modern method = 1 and others (never use, traditional and folkloric) became 0. The study used the DHS variable on discontinuation in the last five years before the survey (V359) to capture contraception discontinuation. The version in the logistic regression was recoded from the list of methods discontinued to generate 'modern method discontinued = 1' and 'otherwise = 0'. Variables 3A08A through 3A08U generated the list of reasons for not

using contraceptives advanced by the study sample. On the other hand, V360 was used to produce reasons for contraceptive discontinuation.

Selected demographic, cultural, economic, and social variables constituted independent variables. Specifically, the analysis involved age, age at marriage, education, employment status, ever had sex, marital status, number of living children, number of sons, place of residence, region, religion and wealth status as independent variables capturing driving forces. It is important to note that the position of the literature and rigorous process of model building guided the selection of the independent variables in the analysis.

Statistical analysis used descriptive tools at univariate and bivariate levels. Univariate level of analysis described the socio-demographic characteristics of the respondents, contraceptive methods discontinued five years before the survey, reasons for not using contraceptives and reasons for contraception discontinuation. Bivariate analysis examined association between the dependent and independent variables using chi-square statistical technique. Multivariate analysis employed the Logistic regression technique to develop three models on the recoded variables on contraceptive acceptance, current use and discontinuation in order to demonstrate the drivers in study population. The analysis employed the SPSS version 21 at all levels.

Results

The first two columns of Table 1 show the socio-demographic and economic background characteristics of the study sample. Striking among the characteristics are that majority were of rural residence, attained minimum of secondary education, unemployed, of Christian faith, sexually experienced, never married, had at least one child and had contraceptive knowledge. Among those who were sexually experienced, over a quarter have had first sex by age 19 years. Also important was that out of those married, 43% got married within age group 15-17

years and roughly 30% at age 14 years or below. In addition, it is worthy of demographic note that over half of the respondents considered two or less male children as ideal.

The first and third through fifth columns demonstrate the bivariate association between the background characteristics and the dependent variables. Apparently most of the characteristics were significantly associated with modern contraceptive acceptance, use and discontinuation at bivariate level of analysis (Table 1). Except for the childbearing related variables, all other independent characteristics were significantly associated with acceptance. The proportions that reported acceptance ranged between 80% and 98%. This indicates that modern contraceptives were generally acceptable in the study sample. All the independent variables were significantly associated with current use in the sample. Current use was relatively higher among young women in urban areas, in southern regions, those with at least secondary education, of rich wealth status, of Christian faith, of age 19 or below, unmarried and those who considered two or less children as ideal. With respect to discontinuation, all independent variables were significantly associated except four (employment status, religion, age at first marriage and knowledge) and the proportion of respondents who discontinued modern contraceptives in the five years before the survey was very high across all categories, ranging between 42% and 78%.

-Table 1 about here-

Table 2 presents the proportions of sexually experienced respondents who reported current use and discontinued per each identified modern contraceptives. Obviously the most popular method of contraception among the sampled young women was the condom (72.4%) followed by pill (14.0%) and thirdly injectable (6.6%). Similarly, the methods that suffered highest discontinuation were condom, pill and the injectable in that order of magnitude. Breastfeeding was the most common reason given by the respondents for not using modern contraceptives (Table 3). Other reasons for not using modern contraceptives that enjoyed the

mention of the respondents were sexual abstinence, self-opposition to contraception, being unmarried, partner's opposition and fear of side effects or health concerns. In the same vein, the three most popular reasons for discontinuation reported by the respondents were pregnancy, decision to abstain from sex and fear of side effects (Table 4). Considerations about the effectiveness of the various methods was also mentioned by relatively important number of respondents who indicated discontinuation.

-Table 2, 3, 4 are about here-

Odds ratios of multivariate logistic regression analysis presented in Table 5 demonstrate variables that significantly predicted modern contraceptive acceptance, use and discontinuation in the study sample. The multivariate logistic model constructed for contraceptive acceptance shows that region, knowledge of modern contraceptives, age at first sex and ideal number of male children significantly predicted acceptance. It is surprising to observe that while respondents from north western region were two and half times more likely, their counterparts from south-south were less likely, to report modern contraceptive acceptance compared to those from south western region. Also, it was surprising that young women who indicated having knowledge of modern contraceptives were less likely to report modern contraceptive acceptance than their counterparts who claimed no knowledge. Similarly, the model reveals negative association between age at first sex and acceptance. Conversely, the association between ideal number of male children and contraceptive acceptance was positive. Respondents who indicated three or more ideal male children were one and a half times more likely than those who felt two or less male children were ideal, to report modern contraceptive acceptance.

The logistic model constructed to figure out the prevailing drivers of current use of modern contraceptives among the study sample is shown in the third column of Table 5. The odds ratios show that region, education, religion and wealth status significantly predicted

current contraceptive use among sexually experienced young women. The odds ratios suggest that young women from north east, north west and south east were less likely to report current use compared to those from south west. Conversely, association between education and current use reveals that while respondents with primary education were almost four times more likely, those with secondary education or more were about six times more likely, to report current use of modern contraceptives than those with no formal schooling. Religion, on the other hand, shows that non-Catholic Christians and Muslims were all less likely to report current use than their Catholic Christian counterparts. The data also suggest positive association between wealth status of the study sample and current use. Those who indicated rich wealth status were two and half times more likely to report current use of modern contraceptives relative to those in poor wealth category.

The last column of the table presents the odds ratios of the test of association between the independent variables and modern contraception discontinuation in the study sample. Positive associations were observed between education, region and modern contraception discontinuation relative to the reference categories. Conversely, the relationships between religions, ideal number of male children and discontinuation were negative. Expectedly, respondents from north east and north west were over three times more likely to discontinue contraception than those from south west. In contrast, those from south east and south-south were less likely to report contraception discontinuation compared to their counterparts from south west. With respect to education, it is astonishing to observe that young women with secondary education were over four times more likely to report contraception discontinuation than those with no formal education. Islam significantly predicted contraception discontinuation. Young women of Muslim faith were less likely to discontinue modern contraception compared to their Catholic Christian counterparts. Surprisingly, respondents

who considered three or more male children as ideal were less likely to report discontinuation relative those who considered two or less as ideal.

-Table 5 is about here-

Discussion

This study has re-assessed the drivers of contraceptive acceptance, use and discontinuation among young females in Nigeria. Most of the young women sampled were from rural areas of the country, which corresponds to the population pattern of the country where majority are rural dwellers. Data analysis reveals that most of the sample were sexually experienced; by age 19 years over a quarter have had first sexual experience. Although modern contraceptive acceptance was pretty high in the study population, current use among the sexually experienced was very low and discontinuation quite high. The obvious discordance between acceptance and use in the face of high sexual activity coupled with rampant early marriage suggests existence of dire sexual and reproductive health challenges among young females in Nigeria. If concerted efforts are not made to address this situation Nigeria's dreamed demographic dividend may never find expression (Cleland 2012). Thus, further analysis was carried out to figure out the driving forces behind the level of acceptance, use and discontinuation with the aim of using current data to re-assess the barriers to modern contraception.

The bivariate analysis suggests that nine of the 13 independent variables involved in this study were significantly associated with acceptance of modern contraceptive. However, the multivariate analysis indicates that significant drivers of modern contraceptive acceptance were region, knowledge, age at first sex and ideal number of male children. It is surprising that young women from the north western part of Nigeria were more likely to report modern contraceptive acceptance than their southern counterparts. It is expected that acceptance rate will be higher in the south, which is demographically advanced and where level of literacy is

relatively higher. A plausible explanation in this case may be young people in the north were more likely to report high acceptance because they confused traditional contraceptive practices with modern methods during the survey. Another reason was that maybe the survey question was not explicit enough on the difference between the two method categories to make it easier for those with no formal schooling to differentiate between traditional and modern contraceptives. Off course, more of young women with no schooling are from the northern part of Nigeria (Wusu 2012). More astonishing is the observation that young women who claimed they were knowledgeable about modern contraceptives were less likely to report contraceptive acceptance. A question that one may ask is what type of contraceptive knowledge young people possess in Nigeria, especially in the northern region. The two surprises may stem from poor modern contraceptive knowledge or the possibility for young people to exaggerate their sexual and reproductive related experiences (Wusu 2013). In that case the sampled young women might have exaggerated their level of contraceptive awareness. Consequently, the exaggerated awareness failed to correspond with the rate of acceptance. Another probability is that the young women may be knowledgeable but remain opposed to its acceptance because of misconception and, to some extent, fear of side effects (Idowu *et al.* 2015; Manna and Basu 2011; Njoku *et al.* 2014; Otoide *et al.* 2001).

The unexpected positive association between ideal numbers of male children and modern contraceptive acceptance is not surprising in view of the fact that in patriarchal societies like Nigeria son preference is highly prevalent. Contraceptive acceptance may be meaningless to many young women who believe having many sons is a way of securing their matrimonial home and future economic security (Caldwell 2005). In addition, association between age at first sex and contraceptive acceptance was positive among the young women. It is expected that young people who became sexually experienced early in life might be sexually exposed enough to possess positive attitude towards modern contraceptives. This

observed association appears an addition to knowledge because available literature does not have any information on this association. However, encouraging early sexual experience may not be positive policy action line.

The data analysed here, at the bivariate level, suggest that the condom was the most popular method of contraception in the study sample. Among the reasons advanced by young women not using, breastfeeding was the most popular. The implication of this is that most of those who reported non-use were young mothers with babies while sexual abstinence was possibly common among the unmarried. Unlike findings of previous studies carried out in the country (for instance, Idowu *et al.* 2015; Otoide *et al.* 2001), side effect was the sixth reason mentioned in the study sample. This may suggest that fear of side effects of modern contraceptive use is likely declining among young people. Although current use of modern contraceptive was generally low in the study sample, it was higher among young women with at least secondary education, of rich wealth status, who were Christians, age 19 years or below, unmarried, sexually experienced and two or less male children being acceptable. However, the multivariate analysis suggests that young women from south west than the core north (north west and north east), with at least primary schooling, Catholic Christians and of rich wealth status were more likely to report current modern contraception. Previous studies in Nigeria and elsewhere reported similar findings about predictors of contraceptives (Blanc *et al.* 2009; Otoide *et al.* 2001; Sidze *et al.* 2014). The finding suggests that young women from the core part were less likely to report current use of modern contraceptive probably because of high level of no formal schooling, the dominance of Islamic religion and widespread poverty (Wusu 2015).

Unlike earlier studies that found IUD and implant as most discontinued methods, this study found that condom and pill were the first and second most discontinued among the young women (Ibekwe and Ibekwe 2012; Madugu *et al.* 2015). The fact that most of those

studies were hospital-based may account for the difference in methods discontinued between previous and this studies. Also, two methods that enjoyed patronage (of utilisation) among the women. This suggest that with high use of condom and the pill relatively, which also suffered highest level of discontinuation, CPR rate must be expectedly low since try-and-stop characterises use. This is important because it affects the possibility of benefiting from modern contraception in the population in areas of sexual health and effective fertility control. In addition, similar to findings of earlier studies, this study found that pregnancy, decision to observe sexual abstinence and fear of side effects were the three most important reasons for discontinuation (Burke and Ambasa-Shisanya 2014; Modey *et al.* 2014).

Assessment of the drivers of discontinuation in multivariate model reveals that most of the independent variables that were significantly related to it at bivariate level of analysis became insignificant. Significant predictors in the multivariate model were education, ideal number of male children, region and religion. The data suggest that the few young women who attempt to use modern contraceptive in the north are more vulnerable to discontinuation compared to those in the south. Thus, expected effects of the less than 3% use in the region on fertility behaviour is eroded through high level discontinuation. This situation is facilitated by the low level of education and Islamic fundamentalism that has been resisting virtually all forms of Western civilisation in the region (Wusu 2012, 2015). The case in the south is a little better, relatively higher level of use and lower likelihood of discontinuation. A plausible explanation for the negative association observed between education and discontinuation is the fact that young women with at least secondary education are less likely to have achieved their desired family size because of delayed entry into marriage. Such women are more likely to discontinue contraceptives anytime they are ready to have another pregnancy. Their counterparts with no formal education who might have gotten married very early, particularly in the north, are likely to have achieved desired family size and may be unwilling to have

more children. Contraception is generally lower among Muslim women in Nigeria, but there are exceptions (Wusu 2015). Highly educated women or those who have medical reasons are often allowed to embrace modern contraceptives (Raimi 2000). Such women may not discontinue contraception without a serious cause. Also, Muslims who are likely to get married early may achieve their desired family size and wish to limit childbearing. Therefore, it is not surprising that they are less likely to report discontinuation. Those who consider three or more male children as ideal may still be more prone to pregnancy-induced contraception discontinuation in order to have as many sons as possible in view of the high fertility pattern as well as high son preference that pervades the society (Caldwell 2005).

Before this discussion is concluded it is important to acknowledge a few limitations of the study. This is a cross sectional study, it is usually not amendable to cause-and-effect interpretation. Therefore, the interpretations of the findings reported here were not designed to portray cause-and-effect relationships between dependent and independent variables. In addition, the questions used to measure contraceptive discontinuation suffered from high non-response rate. Only a few of the young people selected for this study answered the question, leading to the small sample size deployed in the analysis. This is likely to have affected the multivariate model on the dependent variable. Finally, because the data used does not have any direct variable on modern contraceptive acceptance, the study derived the indicator for acceptance from the question on respondents' opposition to contraceptives as reason for non-use. It was assumed that this question was designed to capture opposition to modern methods. It is possible that the question captured or misinterpreted to capture opposition to traditional methods, especially in a poor contraceptive knowledge setting. This is likely to have had distortion effect on the analysis conducted in this regard. Further qualitative studies that aim to interrogate contraceptive knowledge and acceptance among young women in Nigeria may be required to cast brighter light on the situation and perhaps uncover the underlining factors.

In spite of the limitations acknowledged above, the findings have demonstrated the prevailing modern contraceptive drivers among young women with respect to acceptance, use and discontinuation. The data suggest that most of the sample were sexually experienced and by age 19 over a quarter have had first sexual experience. Although modern contraceptive acceptance was pretty high in the study population, current use among the sexually experienced was very low and discontinuation quite high. The current use and discontinuation situations remains more critical in the core north. The two most popular modern contraceptive used in the study sample include condom and pill. Incidentally, the two methods suffered highest rate of discontinuation. While breastfeeding, sexual abstinence and opposition to modern contraception were the three most popular reasons for non-use, pregnancy, sexual abstinence and fear of side effects or health concerns were the three critical reasons for discontinuation.

The analysis suggests that contraceptive acceptance is not a crucial problem among young women in Nigeria because a high level of acceptance prevails. However, use of modern methods remains low and is compounded by high rate of discontinuation. Re-assessment of the drivers of current use of modern contraceptives suggests that young women from south west than the core north (north west and north east), with at least primary schooling, who were Catholic Christians and of rich wealth status were more likely to report current use of modern contraceptive. Whereas young women from the north east and north west, with secondary or more schooling, who considered three or more male children as ideal were more likely to report modern contraceptive discontinuation. Finally, intervention programmes designed to promote modern contraception among young women in Nigeria should therefore concentrate on addressing opposition to modern contraception and the perceived side effects of the methods. In addition, expanding education among young women, particularly in the core north, remains an imperative.

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Table 1: Percentage distribution of respondents by selected characteristics and by modern contraceptive acceptance, use and discontinuation, NDHS 2013

Characteristics	Percent (n)	Chi-Square Test of Association		
	(N=14,619)	Acceptance (N=2,441)	Current Use (N=9,178)	Discontinued (N=734)
Age				
15-19	54.1(7905)	89.4 (831)**	12.7(426)***	77.5(100)**
20-24	45.9(6714)	85.8(1297)**	16.0(928)***	63.0(381)**
Place of residence				
Urban	39.9(5831)	90.6(722)***	25.6(763)***	70.0(280)**
Rural	60.1(8788)	85.5(1406)***	9.5(591)***	60.2(201)**
Region				
North Central	16.6(2431)	92.3(386)***	14.0(189)***	73.9(88)***
North East	17.3(2531)	76.9(407)***	2.4(44)***	71.1(27)***
North West	24.5(3580)	88.6(597)***	2.2(60)***	76.0(38)***
South East	11.3(1647)	92.1(82)***	31.5(251)***	41.6(37)***
South-South	16.7(2439)	86.5(295)***	31.2(473)***	58.1(150)***
South West	13.6(1990)	92.6(361)***	32.2(337)***	78.3(141)***
Education				
None	27.5(4025)	83.0(821)***	0.5(19)***	45.7(16)***
Primary	12.7(1858)	87.1(304)***	7.8(100)***	52.3(57)***
Secondary +	59.8(8736)	90.9(1003)***	28.0(1235)***	69.2(408)***
Employment				
Not working	61.4(8979)	87.5(1122)	15.4(735)*	64.6(181)
Working	38.6(5640)	86.8(1006)	14.0(619)*	66.1(300)
Wealth status				
Poor	34.8(5091)	84.5(931)***	2.9(113)***	56.4(53)**
Middle	22.2(3248)	86.7(449)***	15.0(299)***	59.0(98)**
Rich	43.0(6280)	91.1(748)***	28.6(942)***	69.6(330)**
Religion				
Catholic Christians	11.0(1602)	93.8(150)***	29.3(249)***	58.6(68)
Other Christians	40.2(5881)	89.9(765)***	27.0(895)***	67.8(310)
Muslims	47.8(6983)	84.9(1189)***	4.3(204)***	64.1(98)
Traditionalists/Others	1.0(153)	80.0(24)***	5.9(6)***	62.5(5)
Ever had sex				
No	37.2(5441)	98.3(395)***	-	-
Yes	62.8(9178)	85.0(1733)***	-	-
Age at first sex				
Never had sex	37.2(5441)	98.3 (395)***	-	
14 and below	4.6(679)	87.0(100)***	16.8(114)***	63.4(52)*

15-19	21.3(3119)	89.8(459)***	27.9(870)***	69.5(285)*
20 +	36.8(5380)	83.1(1174)***	6.9(370)***	59.5(144)*
Marital status				
Never married	56.0(8186)	95.2(576)***	38.0(1045)***	77.1(216)***
Ever married	44.0(6433)	84.5(1552)***	4.8(309)***	58.4(265)***
Age at first marriage				
14 and below	29.4(1894)	84.0(462)	1.8(34)***	49.3(35)
15-17	42.7(2749)	83.3(662)	3.7(103)***	58.3(84)
18 and above	27.8(1790)	87.2(428)	9.6(172)***	61.1(146)
Number of living children				
One	55.1(2810)	86.0(806)	8.3(234)**	63.1(152)**
2 or more	44.9(2290)	83.5(777)	6.4(146)**	50.2(109)**
Ideal number of living male children				
Two or less	57.8(8444)	87.4(1174)	11.4(963)***	70.9(351)***
Three or more	42.2(6175)	87.0(954)	6.3(391)***	54.4(130)***
Modern contraceptive knowledge				
No	19.8(2896)	88.3(386)	-	-
Yes	80.2(11723)	86.9(1742)	18.0(1354)***	65.6(481)

*Significant at p<0.05; **Significant at p<0.01; ***Significant at p<0.001*

Note: *variations in N are due to non-response rate in affected specific questions.*

Table 2: Percentage distribution of ever had sex respondents by current contraceptive use methods and method contraception discontinued in last 5 years before survey, NDHS 2013

Contraceptive methods	Current use	Discontinued
Pill	14.0(185)	23.6(114)
IUD	0.8(11)	1.0(5)
Injectable	6.6(87)	9.1(44)
Condom (female/male)	72.4(959)	56.9(275)
Other modern methods	6.2(82)	9.1(44)
Total	**1324**	**483**

Table 3: Percentage distribution of young females by reasons for not using modern contraceptives, NDHS 2013

Reasons	**Not using (%) (N = 2 441)**
Not married	11.8 (287)
Not having sex	19.1 (467)
Infecund/postpartum amenorrhea	6.2 (151)
Breastfeeding	32.9 (804)
Fatalistic	4.3 (106)
Opposed to it	12.8 (313)
Partner/others opposed to it	9.6 (235)
Religious prohibition	7.9 (192)
Knows no method	7.9 (193)
Knows no source/access/expensive	8.4 (205)
Fear of side effects/health concerns/inconvenient to use	9.4 (230)

Table 4: Percentage distribution of young females by reasons for discontinuing contraceptive during last five years before survey, NDHS 2013

Reasons	**Percent discontinuation**
Pregnancy	57.6 (327)
Husband's disapproval	3.7 (21)
Fear of side effects, health concerns and inconveniences	9.0 (51)
Access, availability and cost	1.9 (11)
Effectiveness considerations	7.0 (40)
Sexual abstinence	18.0 (102)
Others	2.8 (16)
Total	**568**

Table 5: **Odds ratios (with 95% confidence interval) of logistic regression on the association between socio-economic characteristics and modern contraceptive acceptability, use and discontinuation among female youth in Nigeria, NDHS 2013**

Characteristics	**Acceptance**	**Current use**	**Discontinuation**
	Odds ratios (95%CI)	Odds ratios (95%CI)	Odds ratios (95%CI)
Age	0.94(0.69-1.28)	1.53(0.96-2.42)	0.84(0.37-1.87)
Place of residence			
Urban	1.01(0.69-1.50)	1.07(0.79-1.49)	1.14(0.66-1.97)
Rural(r)	-	-	-
Regions			
North Central	1.99(0.98-4.07)	0.96(0.64-1.44)	0.10(0.47-2.12)
North East	0.70(0.35-1.39)	0.36(0.20-0.64)**	3.45(1.15-10.34)*
North West	2.46(1.18-5.11)*	0.45(0.26-0.78)**	3.23(1.13-9.18)*
South East	1.08(0.39-2.96)	0.38(0.22-0.66)**	0.21(0.09-0.49)***
South-South	0.43(0.21-0.85)*	0.83(0.55-1.25)	0.30(0.15-0.60)**
South West (r)	-	-	-
Education			
No education (r)	-	-	-
Primary	1.19(0.78-1.82)	3.68(2.00-6.75)***	2.11(0.73-6.10)
Secondary +	1.29(0.80-2.06)	5.63(3.11-10.22)***	4.10(1.49-11.32)**
Religion			
Catholics (r)	-	-	-
Other Christians	0.93(0.43-2.03)	0.66(0.44-0.99)*	0.86(0.43-1.73)
Islam	0.63(0.27-1.44)	0.39(0.24-0.64)***	0.41(0.18-0.97)*
Traditional	0.34(0.10-1.18)	0.16(0.02-1.21)	1.24(0.17-9.27)
Wealth status			
Poor (r)	-	-	-
Medium	0.94(0.64-1.39)	1.55(0.99-2.41)	1.04(0.51-2.15)
Rich	1.21(0.74-1.98)	2.55(1.64-3.98)***	1.07(0.52-2.23)
Employment			
Not working	1.01(0.77-1.33)	1.13(0.88-1.49)	0.87(0.54-1.41)
Working (r)	-	-	
Knowledge of modern contraceptives			
No (r)	-	a	a
Yes	0.61(0.43-0.88)**	a	a
Age at first sex	0.99(0.98-0.99)***	0.10(0.99-1.00)	0.10(0.99-1.00)
Age at first marriage	1.00(0.94-1.06)	1.04(0.98-1.11)	1.01(0.91-1.12)
Number of living			

children			
One child (r)	a	-	-
Two or more children	a	1.26(0.94-1.68)	0.71(0.42-1.19)
Ideal number of male children			
Two or less(r)	-	-	-
Three or more	1.46(1.11-1.92)**	0.89(0.67-1.17)	0.62(0.38-0.99)*
Model χ^2	108.63***	468.52***	71.10***
N	1832	4674	395

*Significant at p<0.05; **Significant at p<0.01; ***Significant at p<0.001; a= not included in the model.*