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Original Research Article

Contraceptive methods continuation and its determinants among acceptors on repeat visits to a Nigerian University Teaching Hospital: a 10-year review

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ABSTRACT

Background: Family planning is a known reproductive health modality for reducing the high maternal mortality in Nigeria. Contraceptive use and continuation is thus necessary to achieve its benefits. The study aimed to determine the contraceptive options and the factors associated with the continuation of contraceptive choices among women on repeat visits.
Methods: This was a 10-year retrospective study of the family planning clinic register of all clients who presented for a repeat visit for contraceptive method continuation at the University of Uyo Teaching Hospital.
Results: There were 6939 contraceptive acceptors on repeat visits aged between 14 and 50 years (mean 31.6 years, SD 5.4). The majority were 26 to 30 years (32.9%), had secondary education (54.6%), were multiparous (90.9%) and chose the subdermal implant (34.9%) and the intrauterine contraceptive devices (27.7%) for continuation. There was a significant association between the women`s age (Df=3, F=10.81, p<0.0001), their educational status (Df=6, X^2=38.5583, p<0.0001), their parity (Df= 15, X^2 =76.8644, p<0.0001) and the contraceptive method continued.
Conclusions: An interest in long-acting reversible contraceptives for continuation was found, and this is significantly associated with their sociodemographic and obstetric characteristics; however, we recommend cross-sectional and focus-group inquiries among clients in the different contraceptive-specific categories for further information on the reasons for their choices at subsequent visits.

Keywords: Contraceptives, Family planning, Methods, Continuation, Determinants

INTRODUCTION

Despite a decline in its maternal mortality ratio over the past two decades in Nigeria, together with India, it still accounts for about 34% of the global maternal mortality burden.[1] World Health Organisation (WHO) documents have shown that the lifetime risk of a Nigerian woman dying during pregnancy, childbirth, postpartum, or post-abortion is 1 in 22 which contrasts sharply from 1 in 4900 in the developed world.[2] Unintended pregnancy and lack of birth spacing as well as other factors contribute to these unpleasant statistics, hence the need for proper integration of reproductive health services.

Family planning using contraceptives is one of the three components of reproductive health and has been estimated to reduce maternal mortality statistics globally by 44%.[3,4] Worldwide, disparities in the contraceptive prevalence rate (CPR) and demand for family planning vary within and across countries with higher rates in

developed countries and lower rates in low- and middle-income (LMICs) countries.[5,6] Nigeria has a low contraceptive prevalence rate of 17% for all methods, and 12 % for modern methods among married women but has a high total fertility rate of 5.3 children per woman.[7] There is, therefore, the need not just to ensure access to modern contraceptive options, but also for availability to ensure the continued use of these methods, which are cost-effective modalities for total fertility rate (TFR) reduction.

Contraceptives which may be ultrashort, short, and long-acting with specifics such as the barrier method, hormonal method, long-acting reversible contraceptives (LARC), emergency contraception, and sterilisation (bilateral tubal ligation and vasectomy) have varying use rates.[8,9] The University of Uyo Teaching Hospital family planning unit offers the barrier methods(male and female condom), the implants (Jadelle, Norplant, Implanon) and the permanent methods (bilateral tubal ligation and vasectomy). Other available options include hormonal contraceptives (combined contraceptive pills, progesterone-only pills, and injectables such as medroxyprogesterone acetate and noristherat), as well as intrauterine contraceptive devices (IUCD).

The determinants for continued use or the sustenance of contraceptive choices are hinged on factors such as client`s age, marital status, educational level of both spouses, total number of living children, the total number of dead children, desire for more children, and desire for male offspring as well as side effects of the methods.[10-12]

There has been no study reviewing contraceptive method choices for continuation exclusively among acceptors on repeat visits at the University of Uyo Teaching Hospital. The study aimed to determine options and the factors associated with the continuation of contraceptive choices after the initial acceptance and use. The paucity of research work highlights the need to identify factors that encourage continued use of contraceptive methods and this may be beneficial in the stocking and client counseling.

METHODS

This was a retrospective observational study which is a follow-up to our earlier review of women's choices at their first visit to the family planning unit (new acceptor).[13] A review of secondary data from the family planning clinic over 10 years (January 2011 to December 2020) of all clients who presented to the family planning clinic for a repeat/subsequent visit only to the University of Uyo Teaching Hospital, Uyo was carried out. The family planning clinic attendance register was the primary source of data. Information extracted from the register included the date of presentation, clients` sex, age, educational status, parity, weight, blood pressure, whether or not they were old clients, and the contraceptive method chosen/administered. The information for those on repeat visits was entered into an Excel spreadsheet and analysed with the STATA pack version 13. The continuous data were summarized using measures of central tendency and measures of dispersion while the categorical variables were summarized using frequency proportions. Chi-square was used to determine any relationship between variables. A p value of less than 0.05 was termed significance. Results were presented in tables.

Excluded from this data was information on all new acceptors/ first-time clients and their contraceptive choices.

RESULTS

There were 6939 contraceptive acceptors on repeat visits during the 10 years between January 2011 and December 2020. The age range of the clients ranged between 14 and 50 years (mean 31.6 years, SD 5.4). The majority were in the age ranges of 26 to 30 years (32.9%) and 31 to 35 years (32.6%), while 46 to 50years was the least (1.4%). Most of the women had Secondary education (54.6%) while 34.1 and 11.6% had tertiary and primary levels of education respectively. The majority of the women were multiparous (90.9%) while 7.9 and 1.2% of them were primiparous and nulliparous respectively (Table 1).

Table 1: Sociodemographic characteristics of women who presented for contraceptive continuation on Repeat visits to the University of Uyo Teaching Hospital from January 2011 to December 2020.

Socio-demographic Characteristics	Number/ frequency	Percentage
Age (years)		
20 and below	116	1.7
21-25	715	10.3
26-30	2281	32.9
31-35	2266	32.6
36-40	1171	16.9
41-45	291	4.2
46-50	99	1.4
Mean (SD)	31.6 (5.4)	
Level of education		
Primary	782	11.3
Secondary	3787	54.6
Tertiary	2370	34.1
Parity		
0	81	1.2
1	546	7.9
2	1381	19.9
3	1895	27.3
4	1590	22.9
5 and above	1446	20.8
Total	6939	100

The contraceptive method most utilised by women on repeat visits during the period was the subdermal implant (34.9%), followed by the intrauterine contraceptive

devices, the injectables, and the oral contraceptive pills at 27.7%, 19.6%, and 17.8% respectively (Table 2).

Table 2: Contraceptive methods versus frequency of continuation among Acceptors on repeat visits to the family planning clinic in the University of Uyo Teaching Hospital from 2011-2020.

Contraceptive method	Frequency	Percentage
Implants	2422	34.9
IUCD	1920	27.7
Injectable	1363	19.6
OCPs	1234	17.8
Total	6939	100

OCPs-oral contraceptive pills.

There was a variation in the yearly choice especially between the long-acting reversible methods with the IUCDs being higher in 2011-2013 and in 2020 and subdermal implants in the other years (Table 3).

There was a very significant relationship between their age (Df=18, X^2=42.9265, p=0.001; Df=3, F=10.81, p<0.0001) and methods of contraception chosen. Those on oral contraceptive pills (OCPs) were significantly younger than those on Implants and those on Injectables, while implants had the highest proportion in the age group 41-45 years. Women who were above 45 years were more likely to use IUCDs while OCPs was the choice among the younger age groups (below 40 years). Women with a tertiary level of education were more likely to use implants (Df=6, X^2=38.5583, p<0.0001), while women who had not delivered before (nulliparous) were more likely to use OCPs, the use of implant increased with parity from 1 to 3 (Df=15, X^2=76.8644, p<0.0001) (Table 4).

Table 3: Yearly distribution of various methods of contraceptives continued among women who repeated visits to the family planning clinic at the University of Uyo Teaching Hospital from 2011-2020.

Methods	2011	2012	2013	2014	2015	2016
IUCD (%)	308 (38.2)	248 (33.3)	308 (29.2)	260 (28.3)	91(13.6)	137 (25.8)
Implant (%)	117 (14.5)	190 (25.5)	286 (27.2)	413 (45.0)	446 (66.7)	137 (25.8)
Injectables (%)	250 (31.0)	181 (24.3)	165 (15.7)	103 (11.2)	52(7.8)	78 (14.7)
OCPs (%)	132 (16.3)	126 (16.9)	294 (27.9)	142 (15.5)	80 (11.9)	179 (33.7)
Total (%)	807	745	1053	918	669	531

	2017	**2018**	**2019**	**2020**	**Total**
IUCD (%)	171 (32.6)	124 (17.2)	53(16.1)	220 (34.4)	1920 (27.7)
Implant (%)	136 (25.9)	409 (56.7)	174 (52.7)	114 (17.8)	2422 (34.9)
Injectables (%)	98(18.7)	168 (23.3)	82 (24.8)	186 (29.1)	1363 (19.6)
OCPs (%)	120 (22.9)	21(2.9)	21(6.4)	109 (18.6)	1234 (17.8)
Total (%)	525	722	330	639	6939

Table 4. The relationship between age, level of education, and parity of women on repeat visits to the contraceptive methods of choice for continuation at the family planning clinic of the UUTH from 2011-2020.

Socio-demographic Characteristics	Methods of contraception used N (%)				Statistical indices
	IUCD (n=1920)	**Implant (n=2422)**	**Injectables (n=1363)**	**OCPs (n=1234)**	
Age (years)					
20 and below	30 (25.9)	30(25.9)	25 (21.6)	31 (26.7)	Df=18 X^2 =249.4187 P<0.0001 Df=3 F=58.16 P<0.0001
21-25	212 (29.7)	207 (29.0)	118 (16.5)	178 (24.9)	
26-30	552 (24.2)	725 (31.8)	456 (20.0)	548 (24.0)	
31-35	698 (30.8)	865 (38.2)	391 (17.3)	312 (13.8)	
36-40	286 (24.4)	464 (39.6)	281 (24.0)	140 (12.0)	
41-45	96(33.0)	109 (37.5)	65(22.3)	21(7.2)	
46-50	47(47.0)	22(22.0)	27(27.0)	4(4.0)	
Mean (SD)	32.3 (5.7)	32.0 (5.8)	32.1 (5.3)	29.9 (5.0)+	
Level of education					Df=6 X^2 =125.4762 P<0.0001
Primary	180 (23.0)	249 (31.8)	237 (30.3)	116 (14.8)	
Secondary	1089 (28.8)	1256 (33.2)	799 (21.1)	643 (17.0)	
Tertiary	651 (27.5)	917 (38.7)	327 (13.8)	475 (20.0)	
Parity					Df= 15 X^2 =363.5146 P<0.0001
0	13(16.1)	24(29.6)	4(4.9)	40(49.4)	
1	129 (23.6)	171 (31.3)	68(12.4)	178 (32.6)	
2	376 (27.2)	500 (36.2)	206 (14.9)	299 (21.7)	
3	491 (25.9)	762 (40.2)	327 (17.3)	315 (16.6)	
4	460 (28.9)	557 (35.0)	316 (19.9)	257 (16.2)	
5 and above	451 (31.2)	408 (28.2)	442 (30.6)	145 (10.0)	

+ It's significantly different from other categories

DISCUSSION

The subdermal implant was the contraceptive method most reused by women on repeat visits for continuation followed by the intrauterine contraceptive device in this study. An earlier review of new acceptors of contraception on their first visit to the same facility showed a similar preference for the long-acting reversible contraceptives over the short-acting methods.[13] This may be a result of the primary intention or purpose of choosing the methods which were most likely for child-spacing and the satisfaction achieved from the previous/maiden use. The longer-term nature of these contraceptives does not require daily motivation on the part of users, or frequent visits to health providers, thus saving time, effort, and money and lessening the patient load of health care facilities and thus higher continuation and effectiveness.[14]

The major determinants of contraceptive method continuation from this review were age, parity, and educational status. In this study, level of education shows a strong relationship with methods used as those with a tertiary level of education were more likely to use implants while the use of injectables tended to decrease with the level of education. A Northern Nigerian study from a review of the National Demographic Health Survey (NDHS) showed that women's socio-economic status was positively associated with the use of modern contraceptives.[15]

In a Southwestern Nigeria study, it was found that women with a tertiary level of education were three times more likely to use contraception than those without formal education.[16] Also, two community-based Ethiopian studies similarly found the utilization of long-acting and permanent contraceptive methods was significantly associated with the women's educational level, their occupation, parities, and other factors.[17,18] The significant relationship between Educational status and preference for Long-acting reversible contraceptives was found in other African countries like Ghana and Zimbabwe.[19,20] The relationship between knowledge, information, and decision-making is well known and documented[21]and may explain the rationale for the initial and continuous-use option of contraceptives by our clients.

The clients` age was a significant determinant of contraceptive choice and method continuation as those using the oral contraceptive pills (OCPs) were significantly younger than those using the other methods, especially the LARCs. Data extracted and studied from the most recent Demographic and Health Surveys (DHS) of twenty-four countries in sub-Saharan Africa also shows age, education, and information among the factors associated with and determine contraceptive continuation.[22] A study to examine the effect of age on continuation rates of reversible contraceptive methods showed that the continuation of LARCs was high for different age groups, but variable between younger and older women while the continuation rate for non-LARC methods was lower for younger women.[23] The effect of age on contraceptive choices and methods continuation is highly variable both from our study and others possibly due to important predictors and confounders such as marital status, number of sexual partners, education, contraceptive awareness, methods availability, contraceptive purpose, and indication, and the changes in these variables with time. This is more so as it has been found that different and multiple methods may be used by different age groups as increasing the contraceptive method mix was found to reduce discontinuation rates.[24] A study among the subdermal contraceptive (Jadelle) users showed that discontinuation was more among younger clients with a desire for pregnancy being the commonest reason.[25]

CONCLUSION

In conclusion, the contraceptive methods preferred for subsequent and continual use among family planning clients on repeat visits were the long-acting reversible contraceptives. The continuation and persistence of use was significantly associated with the clients` sociodemographic and obstetric characteristics like age, educational status, and parity. While we believe that these choices may be related to the satisfaction with the advantages and peculiarities of the methods used as found in other studies, the reasons for these are the subject of the cross-sectional and focus-group inquiries and discussions among the different contraceptive-specific categories which we hope to carry out even as we recommend similar larger studies.

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